

ADDRESS CHART					
UNIT NO.	STREET ADDRESS	UNIT NO.	STREET ADDRESS	UNIT NO.	STREET ADDRESS
1	0710 ENDLESS OCEAN WAY	27	0722 ENDLESS OCEAN WAY	53	0776 ENDLESS OCEAN WAY
2	0712 ENDLESS OCEAN WAY	28	0724 ENDLESS OCEAN WAY	54	0778 ENDLESS OCEAN WAY
3	0714 ENDLESS OCEAN WAY	29	0727 ENDLESS OCEAN WAY	55	0775 ENDLESS OCEAN WAY
4	0716 ENDLESS OCEAN WAY	30	0729 ENDLESS OCEAN WAY	56	0777 ENDLESS OCEAN WAY
5	0718 ENDLESS OCEAN WAY	31	0731 ENDLESS OCEAN WAY	57	0779 ENDLESS OCEAN WAY
6	0720 ENDLESS OCEAN WAY	32	0733 ENDLESS OCEAN WAY	58	0781 ENDLESS OCEAN WAY
7	0722 ENDLESS OCEAN WAY	33	0735 BREAKING WAVE DRIVE	59	0783 ENDLESS OCEAN WAY
8	0724 ENDLESS OCEAN WAY	34	0737 BREAKING WAVE DRIVE	60	0785 ENDLESS OCEAN WAY
9	0726 ENDLESS OCEAN WAY	35	0739 BREAKING WAVE DRIVE	61	0787 ENDLESS OCEAN WAY
10	0728 ENDLESS OCEAN WAY	36	0741 ENDLESS OCEAN WAY	62	0789 ENDLESS OCEAN WAY
11	0730 ENDLESS OCEAN WAY	37	0743 ENDLESS OCEAN WAY	63	0791 ENDLESS OCEAN WAY
12	0732 ENDLESS OCEAN WAY	38	0745 ENDLESS OCEAN WAY	64	0793 ENDLESS OCEAN WAY
13	0734 ENDLESS OCEAN WAY	39	0747 ENDLESS OCEAN WAY	65	0795 ENDLESS OCEAN WAY
14	0736 ENDLESS OCEAN WAY	40	0749 ENDLESS OCEAN WAY	66	0797 ENDLESS OCEAN WAY
15	0738 ENDLESS OCEAN WAY	41	0751 ENDLESS OCEAN WAY	67	0799 ENDLESS OCEAN WAY
16	0740 ENDLESS OCEAN WAY	42	0753 ENDLESS OCEAN WAY	68	0801 ENDLESS OCEAN WAY
17	0742 ENDLESS OCEAN WAY	43	0755 ENDLESS OCEAN WAY	69	0803 ENDLESS OCEAN WAY
18	0744 ENDLESS OCEAN WAY	44	0757 ENDLESS OCEAN WAY	70	0805 ENDLESS OCEAN WAY
19	0746 ENDLESS OCEAN WAY	45	0759 ENDLESS OCEAN WAY	71	0807 ENDLESS OCEAN WAY
20	0748 ENDLESS OCEAN WAY	46	0761 ENDLESS OCEAN WAY	72	0809 ENDLESS OCEAN WAY
21	0750 ENDLESS OCEAN WAY	47	0763 ENDLESS OCEAN WAY	73	0811 ENDLESS OCEAN WAY
22	0752 ENDLESS OCEAN WAY	48	0765 ENDLESS OCEAN WAY	74	0813 ENDLESS OCEAN WAY
23	0754 ENDLESS OCEAN WAY	49	0767 ENDLESS OCEAN WAY	75	0815 ENDLESS OCEAN WAY
24	0756 ENDLESS OCEAN WAY	50	0769 ENDLESS OCEAN WAY	76	0817 ENDLESS OCEAN WAY
25	0758 ENDLESS OCEAN WAY	51	0771 ENDLESS OCEAN WAY	77	0819 ENDLESS OCEAN WAY
26	0760 ENDLESS OCEAN WAY	52	0773 ENDLESS OCEAN WAY	78	0821 ENDLESS OCEAN WAY

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY AND MSHA STANDARDS, IF APPLICABLE.
- 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.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT (800) 257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB OR FACE OF BUILDING UNLESS OTHERWISE NOTED.
- THE EXISTING TOPOGRAPHY AND BOUNDARY INFORMATION WERE PROVIDED BY GUTSCHICK LITTLE & WEBER, P.A.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLAN COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS NOS. 3708, 3709 AND 370A WERE USED FOR THIS PROJECT.
- EXISTING WATER IS PUBLIC (CONTRACT NO. 24-3858-D, LITTLE PATUXENT).
- EXISTING SEWER IS PUBLIC (CONTRACT NO. 24-3858-D, LITTLE PATUXENT).
- STORMWATER MANAGEMENT FOR THIS SITE WAS INCLUDED IN THE DESIGN FOR THE SNOWDEN RIVER BUSINESS PARK SECTION 1, AREA 1, PARCELS 'A' THRU 'D', & LOTS 1 THRU 5. DRAINAGE FROM PARCEL C-1 IS TREATED IN THREE FACILITIES. FACILITY 1 IS A DETENTION FACILITY (DRY POND) LOCATED ON OPEN SPACE LOT 9, WHICH IS TO BE DEDICATED TO THE COLUMBIA ASSOCIATION FOR PUBLIC MAINTENANCE. FACILITY 2 IS THE SAME AS FACILITY 1, LOCATED ON OPEN SPACE LOT 8. FACILITY 3 IS A DETENTION/RETENTION FACILITY (WET POND) ON OPEN SPACE LOT 6 TO BE CONVEYED TO COLUMBIA ASSOCIATION AND PUBLICLY MAINTAINED.
- EXISTING UTILITY INFORMATION WAS PROVIDED BY PLANS PREPARED BY GUTSCHICK, LITTLE & WEBER, P.A. APPROVED BY HOWARD COUNTY, DPZ REFERENCE NUMBER F-01-142 AND CONTRACT NO. 24-3858-D.
- THERE ARE NO FLOODPLAINS ON THIS SITE.
- THERE ARE NO WETLANDS ON THIS SITE.
- THE TRAFFIC STUDY PERFORMED BY WELLS AND ASSOCIATES APPROVED FOR THE FINAL PLAN WAS UPDATED FOR THIS PROJECT.
- DPZ REFERENCE NUMBERS:
 F0P-239 - SNOWDEN RIVER BUSINESS PARK SECTION 1 AREA 1 FINAL DEVELOPMENT PLAN (ALLOWS USE BY RIGHT)
 F-01-142 - SNOWDEN RIVER BUSINESS PARK SECTION 1, AREA 1, PARCELS 'A' THRU 'D' & LOTS 1 THRU 5 RECORDED AS PLAT NO. 15182 THRU 15188
 F-01-142 - SNOWDEN RIVER BUSINESS PARK SECTION 1, AREA 1, PARCELS 'A' THRU 'D' & LOTS 1 THRU 5 CONSTRUCTION PLAN
 F-04-15 - SNOWDEN RIVER BUSINESS PARK SECTION 1, AREA 1, PARCELS 'A-1', 'B-1', 'C-1', 'D-1', AND E & LOTS 6 THRU 10 RECORDED AS PLAT NO. 16185 THRU 16191
 F-04-73 - SNOWDEN RIVER BUSINESS PARK SECTION 1, AREA 1, PARCELS 'C-1' AND E & LOTS 6 RECORDED AS PLAT NO. 16493 THRU 16498 (RESUBDIVISION OF PLATS 16185 THRU 16191)
 CONTRACT NO. 24-3858-D EXISTING PUBLIC WATER AND SEWER PLANS
 CONTRACT NO. 24-3858-D EXISTING PUBLIC WATER AND SEWER PLANS
 WP-03-110 - WAIVER PETITION FOR REDUCTION OF MINIMUM PUBLIC ROAD FRONTAGE
- STREET LIGHTS - BGE CONTRACT.
- TO THE BEST OF OUR KNOWLEDGE AND PER PUBLIC RECORD, NO CEMETERIES OR BURIAL GROUNDS EXIST ON-SITE.
- SPOT ELEVATIONS SHOWN FOR CURB ARE BOTTOM OF CURB UNLESS OTHERWISE NOTED.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
- A NOISE STUDY FOR THIS PROJECT IS NOT REQUIRED.
- A GEOTECHNICAL STUDY WAS PREPARED BY GEO-TECHNOLOGY ASSOCIATES, INC. ON JANUARY 30, 2003.
- THE CONTRACTOR SHALL TEST PIT ALL EXISTING UTILITIES AT LEAST FIVE (5) DAYS PRIOR TO STARTING ANY WORK SHOWN ON THESE DRAWINGS.
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- THIS PROJECT IS EXEMPT FROM FOREST CONSERVATION BY VIRTUE OF THE FACT THAT IT IS PART OF THE COLUMBIA NEW TOWN, SUBDIVISION SECTION 16.1202(b)(1)(v), A PUD APPROVED PRIOR TO 12/31/92.
- ALL CURB RADIUS 5' UNLESS OTHERWISE NOTED.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 A. WIDTH - 12' (14' SERVING MORE THAN ONE RESIDENCE);
 B. SURFACE - 6" OF COMPACTED CRUSHER RUN BASE W/ TAR AND CHIP COATING (1-1/2" MIN.);
 C. GEOMETRY - MAX. 15% GRADE, MAX. 10% GRADE CHANGE AND MIN. 45' TURNING RADIUS;
 D. STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING);
 E. DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE;
 F. MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING IN THE AMOUNT OF \$50,100.00 HAS BEEN POSTED AS A PART OF THE DEVELOPER'S AGREEMENT.
- THIS PLAN HAS BEEN PREPARED TO MEET THE NEW TOWN "GUIDELINES FOR RESIDENTIAL PLANTING", PREPARED BY THE ROUSE COMPANY FOR COLUMBIA, MD.
- ARTICLES OF INCORPORATION FOR THE AGE RESTRICTED ADULT HOUSING COMMUNITY, THE KENDALL OVERLOOK CONDOMINIUM, INC. WERE RECORDED ON 12/16/03, RECORDING NUMBER(S) LIBER 00592 FOLIO 1660. THE KENDALL OVERLOOK DECLARATIONS WERE RECORDED ON 2/10/04, RECORDING NUMBER(S) LIBER 01010 FOLIO 1660. RECEIVED RECEIPT NO. 09104.
- THIS PLAN IS SUBJECT TO THE FIFTH EDITION OF THE SUBDIVISION REGULATIONS.
- WAIVER PETITION, WP-03-110, WAS APPROVED BY THE PLANNING DIRECTOR ON SEPTEMBER 4, 2003. THE PETITION WAIVES SECTIONS 16.1202(c)(1) TO PERMIT THE REQUIRED MINIMUM PUBLIC ROAD FRONTAGE OF 60 FEET TO BE REDUCED TO ZERO FEET FOR COMMERCIAL, INDUSTRIAL OR APARTMENT PARCELS/LOTS, AND 16.121(b)(1) TO PERMIT THE REQUIRED MINIMUM PUBLIC ROAD FRONTAGE OF 40 FEET TO BE REDUCED TO ZERO FEET FOR OPEN SPACE LOTS. THE APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
 1. SIDEWALKS AND STREET TREES SHALL BE PROVIDED ALONG BOTH SIDES AND THE CUL-DE-SAC OF THE PROPOSED PRIVATE ROAD SECTION.
 2. THE ENCLOSED SHA COMMENTS.
 3. PRIVATE ACCESS AND MAINTENANCE EASEMENTS SHALL PROVIDE VEHICULAR ACCESS TO ALL OF THE PARCELS AND OPEN SPACE LOTS THAT WILL NOT HAVE FRONTAGE ON THE PUBLIC ROAD.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE NEW TOWN ALTERNATIVE COMPLIANCE PROVISIONS SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL.
- ON OCTOBER 22, 2003, THE DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING APPROVED A WAIVER REQUEST FROM SECTION 5.4B5 OF THE HOWARD COUNTY DESIGN MANUAL VOLUME II WATER AND SEWER, WHICH REQUIRES A MINIMUM 10' HORIZONTAL CLEARANCE BETWEEN ANY PERMANENT STRUCTURE AND THE EDGE OF THE UTILITY EASEMENT. THE APPROVAL LETTER STATED "IT IS OUR UNDERSTANDING THAT THE UTILITY EASEMENT COINCIDES WITH THE PRIVATE ROAD RIGHT-OF-WAY. THEREFORE, THE UTILITY EASEMENT IS WIDER THAN THAT REQUIRED UNDER THE HOWARD COUNTY DESIGN MANUAL. ALTHOUGH THE REFERENCED UNITS ARE CLOSER TO THE EASEMENT LINE THAN PERMITTED UNDER THE CLEARANCE REQUIREMENTS, THE UNITS ARE LOCATED MORE THAN 20 FEET FROM THE WATER MAIN."
- THE PRIVATE LANDSCAPE AND MAINTENANCE EASEMENTS SHOWN ON THIS PLAN WILL BE MAINTAINED BY THE HOMEOWNER'S ASSOCIATION.

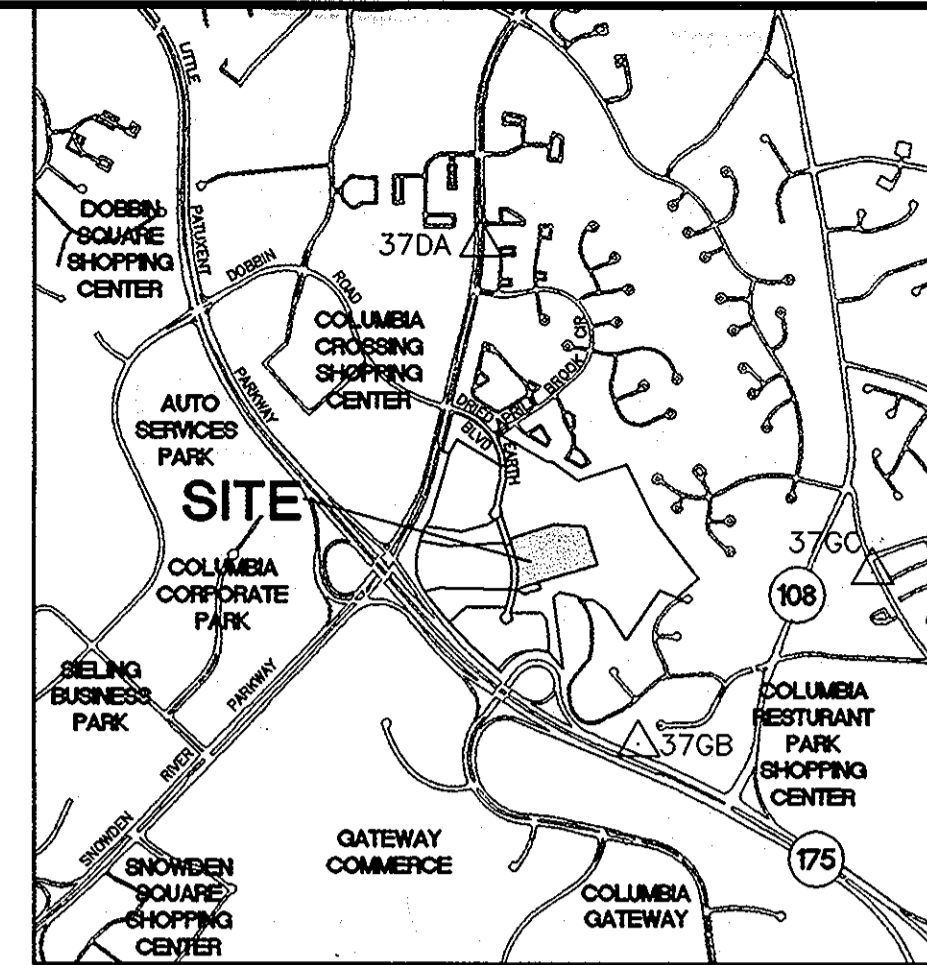
SITE DEVELOPMENT PLAN SNOWDEN RIVER BUSINESS PARK SECTION 1 AREA 1 PARCEL C-1 AND PART OF PARCEL E KENDALL OVERLOOK 2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

△ BENCHMARKS

BENCHMARK # 3708
HOWARD COUNTY GEODETIC SURVEY CONTROL
N 553,452.828 E 1,368,503.19 ELEVATION=325.233'
BENCHMARK # 370C
HOWARD COUNTY GEODETIC SURVEY CONTROL
N 555,250.797 E 1,370,946.37 ELEVATION=331.192'
BENCHMARK # 370A
HOWARD COUNTY GEODETIC SURVEY CONTROL
N 558,667.518 E 1,366,857.48 ELEVATION=379.786'

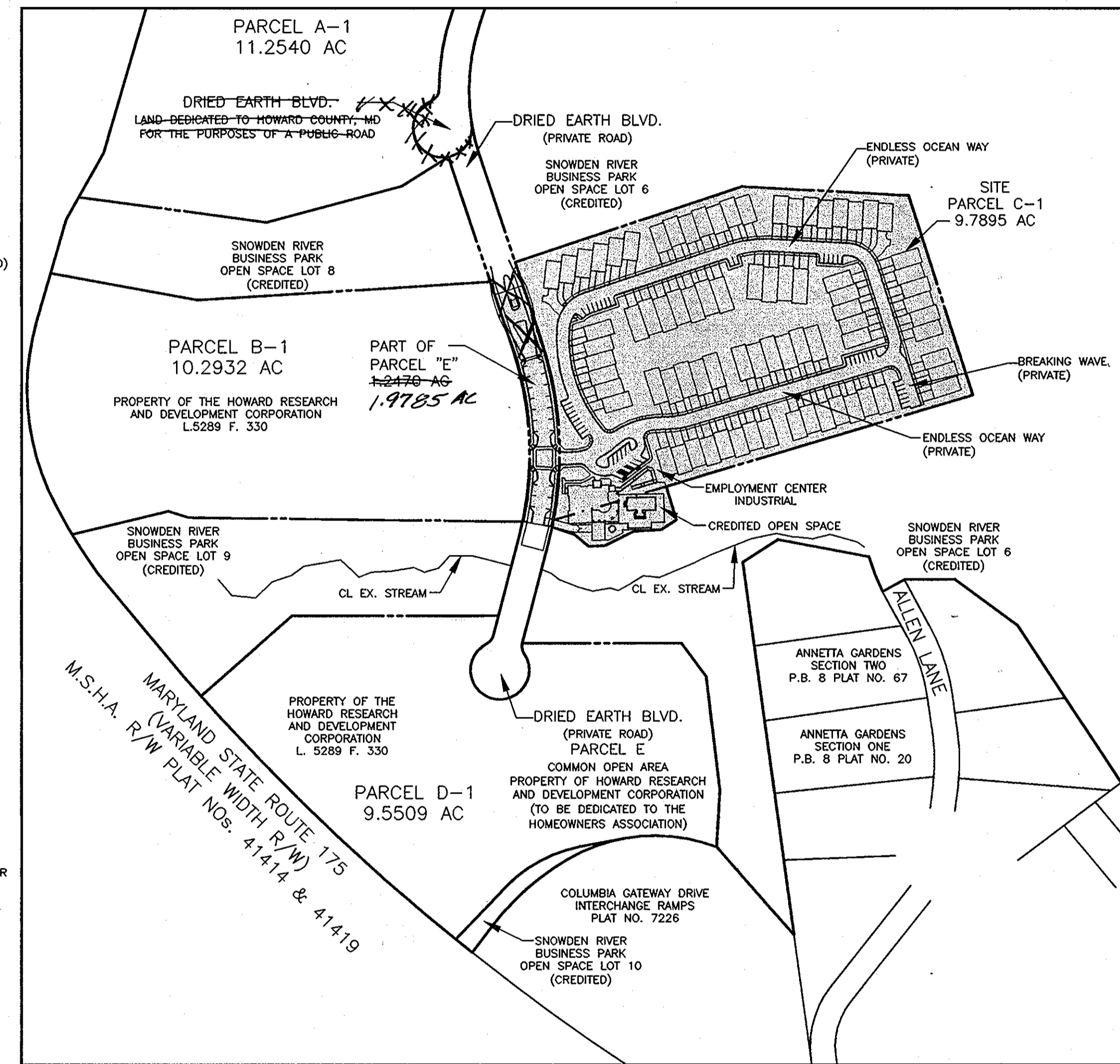
SHEET INDEX

- C-1 TITLE SHEET
- C-2 SITE DEVELOPMENT PLAN
- C-3 SITE DEVELOPMENT PLAN
- C-4 RECREATIONAL AREA PLAN
- C-5 SITE DETAILS
- C-6 PAVING PLAN
- C-7 ROAD PROFILES
- C-8 ROAD PROFILES
- C-9 UTILITY PLAN
- C-10 STORM DRAIN PROFILES
- C-11 STORM DRAIN PROFILES
- C-12 SEDIMENT & EROSION CONTROL PHASE I
- C-13 SEDIMENT & EROSION CONTROL PHASE II
- C-14 SEDIMENT & EROSION CONTROL NOTES & DETAILS
- C-15 SEDIMENT & EROSION CONTROL NOTES & DETAILS
- C-16 DRAINAGE AREA MAP
- C-17 LANDSCAPE PLAN
- C-18 LANDSCAPE DETAILS
- C-19 STRUCTURAL DETAILS



VICINITY MAP

SCALE: 1" = 2,000'
COPYRIGHT ADC THE MAP PEOPLE
PERMITTED USE NO. 20602149
MAP NO. 16 GRIDS E,10



LOCATION MAP

SCALE: 1"=200'

SITE ANALYSIS

- TOTAL PROJECT AREA:
 PARCEL C-1 9,789.5 AC
 PART OF PARCEL E 1,247.0 AC
 TOTAL AREA 11,036.5 AC OR 480,750 SF
- LIMIT OF DISTURBANCE: 11.03 AC OR 480,750 SF
- PRESENT ZONING PARCEL C-1: 9.4298 AC NT-EMPLOYMENT CENTER, INDUSTRIAL
 0.3597 AC CREDITED OPEN SPACE
 (SEE FINAL DEVELOPMENT PLAN 239)
- TOTAL NUMBER OF AGE RESTRICTED ADULT HOUSING UNITS PERMITTED:
 100 UNITS ALLOWED PER HOWARD RESEARCH AND DEVELOPMENT
- TOTAL NUMBER OF UNITS PROPOSED: (DENSITY PERMITTED UNDER COLUMBIA AUTHORIZATION PLAN)
 22-30'x70' UNITS (BUILDING COVERAGE AREA 2,100 SF)
 56-30'x56' UNITS (BUILDING COVERAGE AREA 1,680 SF)
 TOTAL: 78 UNITS
 GATEHOUSE 167 SF
 CLUBHOUSE 11,300 SF (BUILDING COVERAGE AREA 7,434 SF)
- NUMBER OF PARKING SPACES REQUIRED:
 UNITS:
 1 SPACE PER 3 LIVING UNITS
 (1 SPACE/3 UNITS) x 78 UNITS = 26 SPACES
 CLUBHOUSE:
 10 SPACES PER 1,000 SF PLUS ONE FOR EACH EMPLOYEE
 (10 SPACES/1,000 SF) x 5,650' SF = 57 SPACES
 (1 SPACE/EMPLOYEE) x 2 EMPLOYEE = 2 SPACES
 *SF OF CLUBHOUSE IS BASED ON FIRST LEVEL ONLY. BASEMENT LEVEL IS DEDICATED TO POOL USES
 POOL:
 1 SPACE PER 10 PERSONS IN POOL
 HEALTH DEPT. REQUIRES MIN. POOL SIZED FOR 5% OF MEMBERSHIP
 MEMBERSHIP WILL BE A TOTAL OF 274 UNITS FROM PARCEL B-1, C-1, AND D-1
 274 UNITS x (1.89 PERSONS/UNIT) = 518 PERSONS
 518 x 5% = 26 PERSONS
 PROPOSED POOL = 1,800 SF
 NEED A MINIMUM OF 12 SF OF SURFACE AREA PER PERSON
 1,800 SF x (12 SF/PERSON) = 150 PERSONS
 150 PERSONS x (1.0 SPACE/10 PERSONS) = 15 SPACES
 TOTAL REQUIRED PARKING SPACES = 100 SPACES
- NUMBER OF PARKING SPACES PROVIDED:
 GARAGE:
 ONE CAR (ASSUME 25% OF THE TOTAL UNITS HAVE A ONE CAR GARAGE)**
 20 UNITS x 1 SPACE = 20 SPACES
 TWO CAR (ASSUME 75% OF THE TOTAL UNITS HAVE A TWO CAR GARAGE)**
 58 UNITS x 2 SPACES = 116 SPACES
 20 + 116 = 136 SPACES
 DRIVEWAY:
 ALL UNITS TO HAVE 2 PARKING SPACES
 78 UNITS x 2 SPACES = 156 SPACES
 VISITOR: 37 LOCATED ON PARCEL C-1
 16 LOCATED ON PARCEL E
 37 + 16 = 53 SPACES**
 CLUBHOUSE: 10 SPACES
 TOTAL PROVIDED PARKING SPACES = 355 SPACES
 ** BASED ON MARKET RESEARCH THE OWNER PREDICTS THAT NO MORE THAN 25% OF THEIR TARGET BUYERS WILL PURCHASE A ONE CAR GARAGE UNIT.
 *** PARCELS B-1 AND D-1 WILL ALSO CONTRIBUTE TO THE VISITOR PARKING.
- TOTAL SQUARE FOOT BUILDING COVERAGE/PERCENTAGE OF COVERAGE:
 PARCEL C-1
 30x56 UNITS (56) 94,080 SF
 30x70 UNITS (22) 46,200 SF
 CLUBHOUSE 7,513 SF
 POOLS 1,813 SF
 TOTAL 149,706 SF / 35.1%
 BY LAND USE:
 NT-EMPLOYMENT CENTER INDUSTRIAL 145,035 SF / 35.3%
 NT-OPEN SPACE-CREDITED 4,671 SF / 29.8%
- PARCEL E
 GATEHOUSE 167 SF / 0.2%

APPROVED
PLANNING AND ZONING
COMMISSION
HOWARD COUNTY
DATE: 01/08/04

PERMIT INFORMATION CHART			
Subdivision Name	Section/Area	Parcel No.	
SNOWDEN RIVER BUSINESS PARK	SECTION 1 / AREA 1	C-1 & PART OF E	
PLAT #	Grid #	Zoning	Fox Map No./Elect Distr./ Census Tract
16493-16498	19	NT	37 6 6067.03
Water Code	E06	Sewer Code	3450000

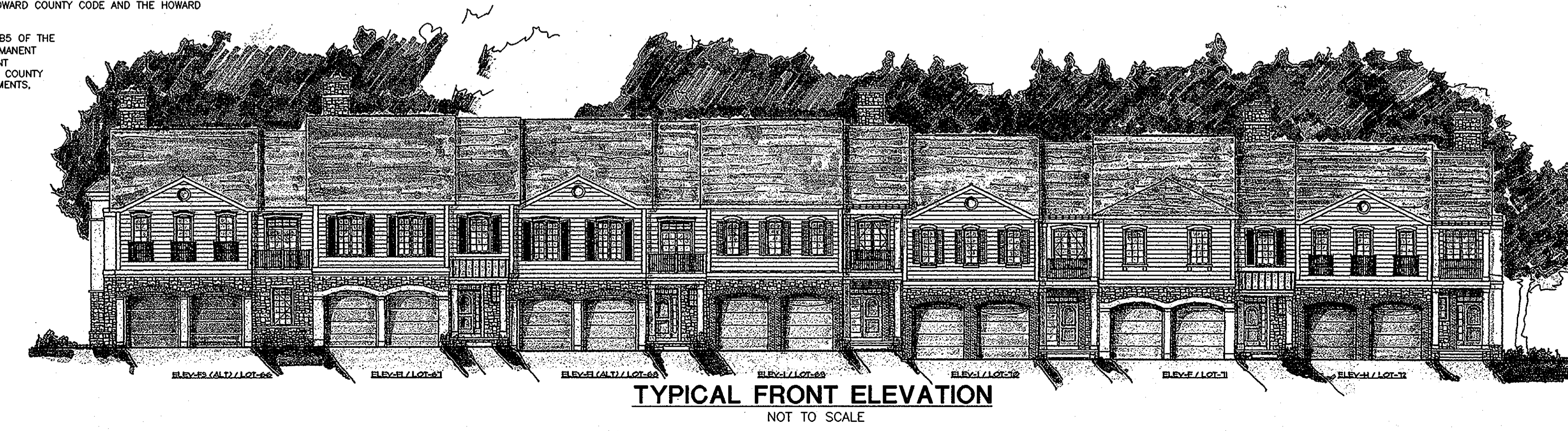
OWNER: **BRIAN KNAUFF** FAX NO: (410) 712-9864
 B. DAYTIME TELEPHONE: (410) 712-7012
 COMPANY: **THE RYLAND GROUP, INC.**
 ADDRESS: **7250 PARKWAY DRIVE, SUITE 520**
 CITY: **HANDOVER** STATE: **MD** ZIP: **21076**

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
 Dean Donatelli, M.P.E.
 COUNTY HEALTH OFFICER
 HOWARD COUNTY HEALTH DEPARTMENT
 DATE: 4-7-04

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 DATE: 3/30/04

Chief, Division of Land Development
 DATE: 4/14/04

Director
 DATE: 4/15/04



TYPICAL FRONT ELEVATION
NOT TO SCALE

MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

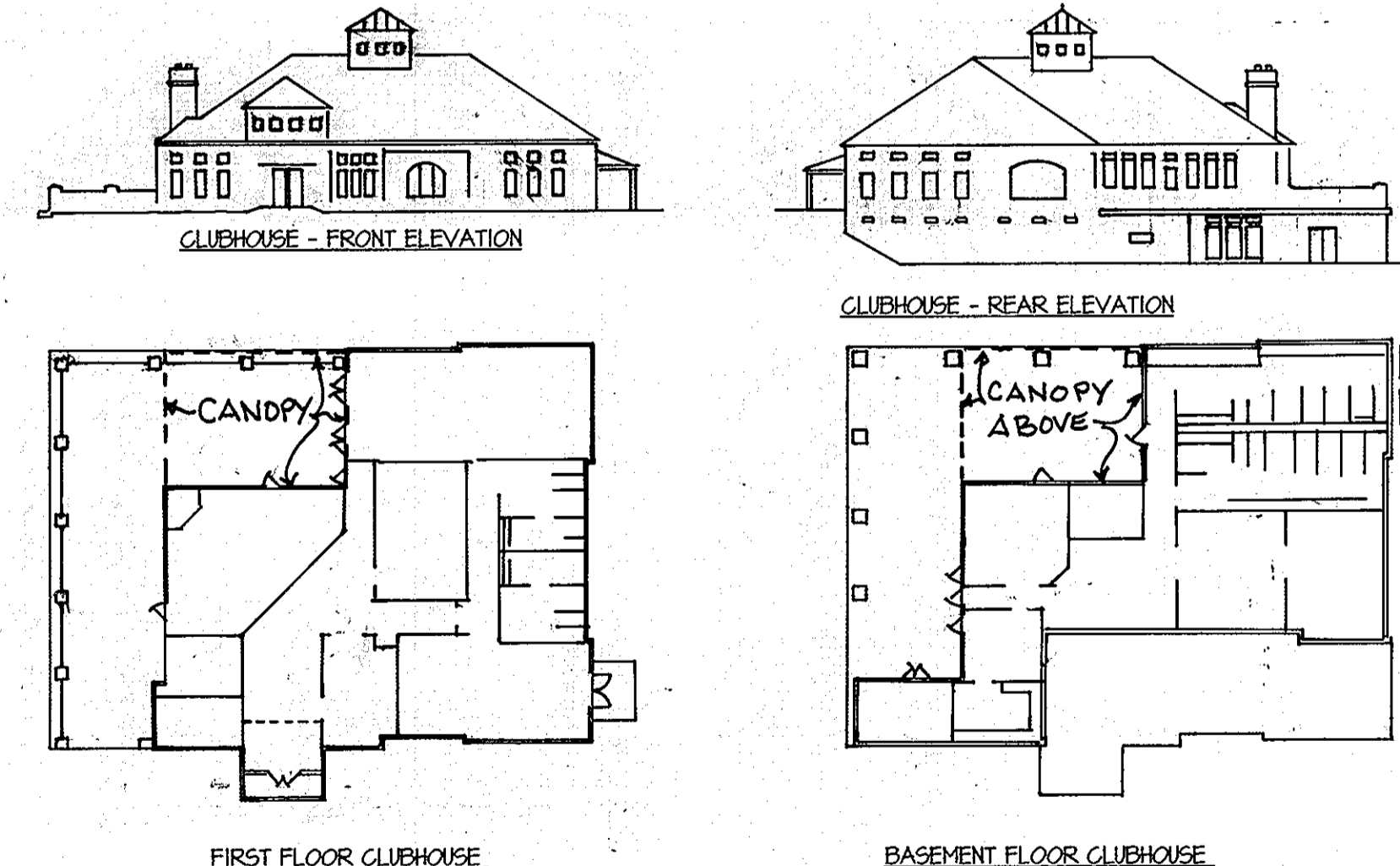
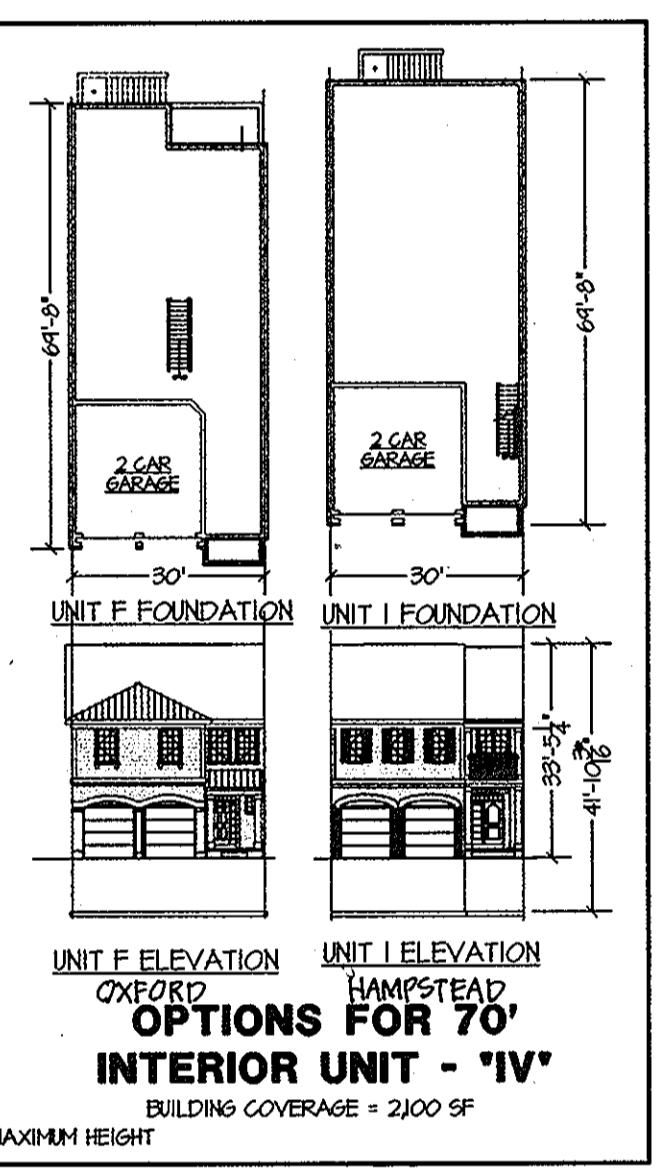
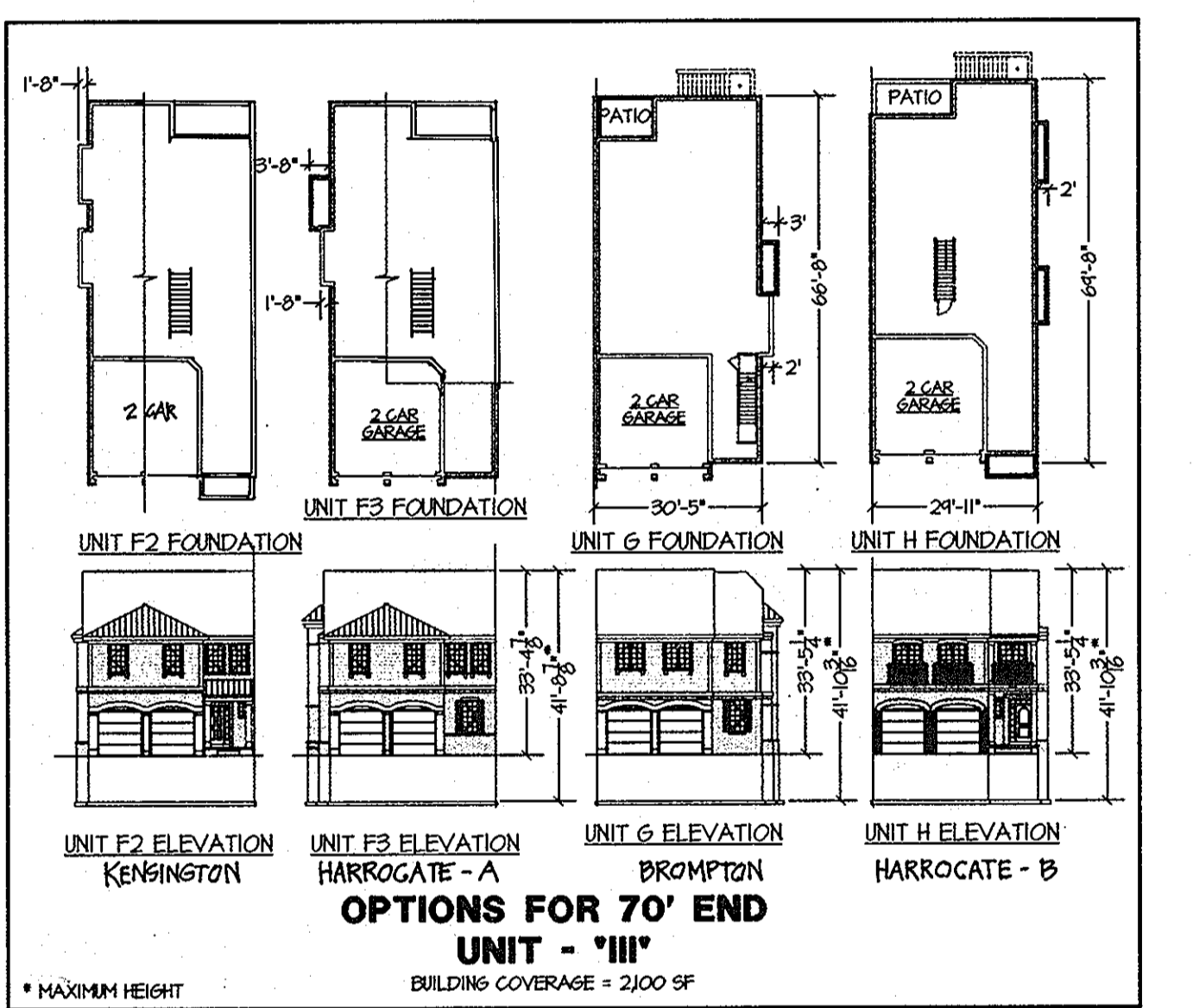
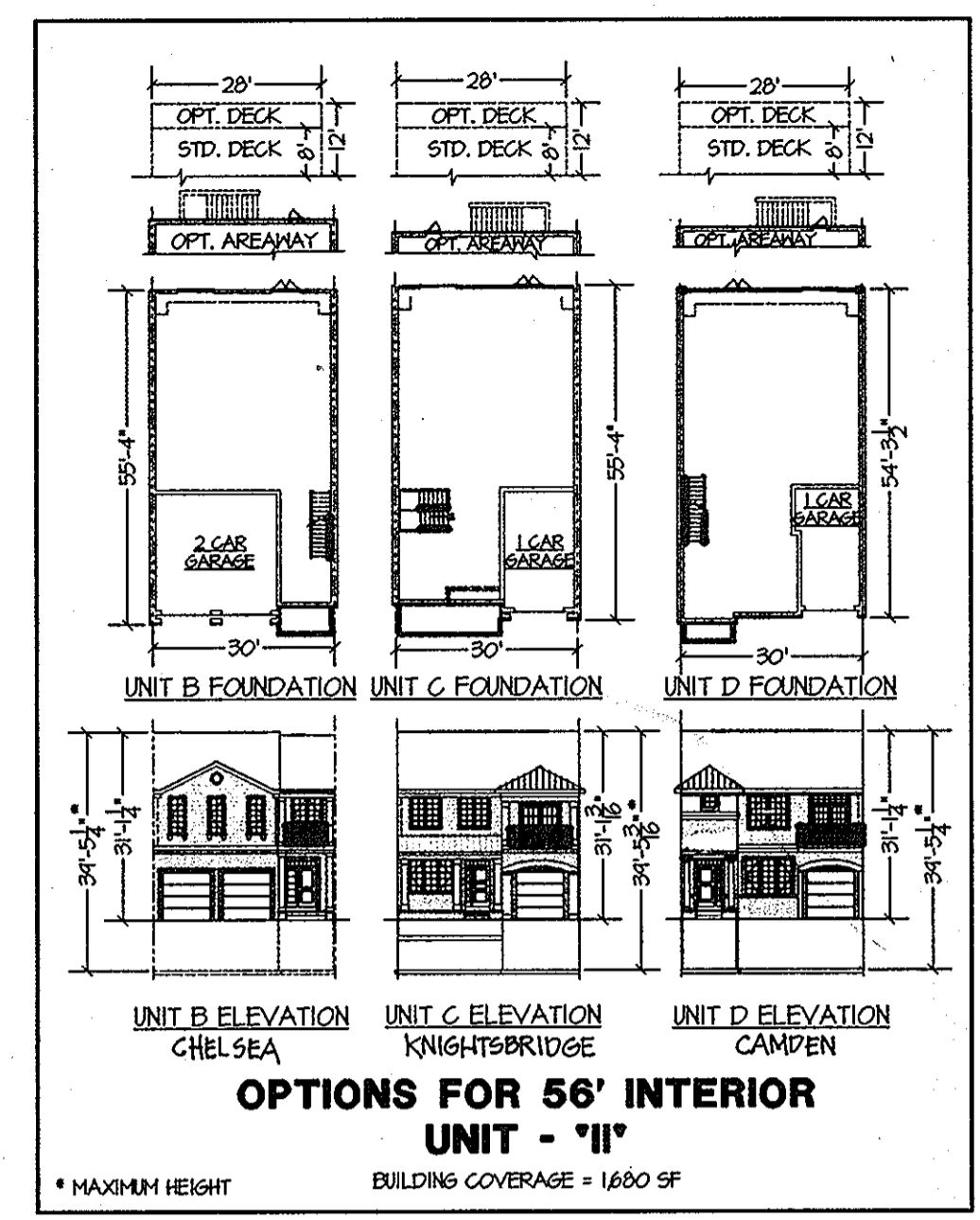
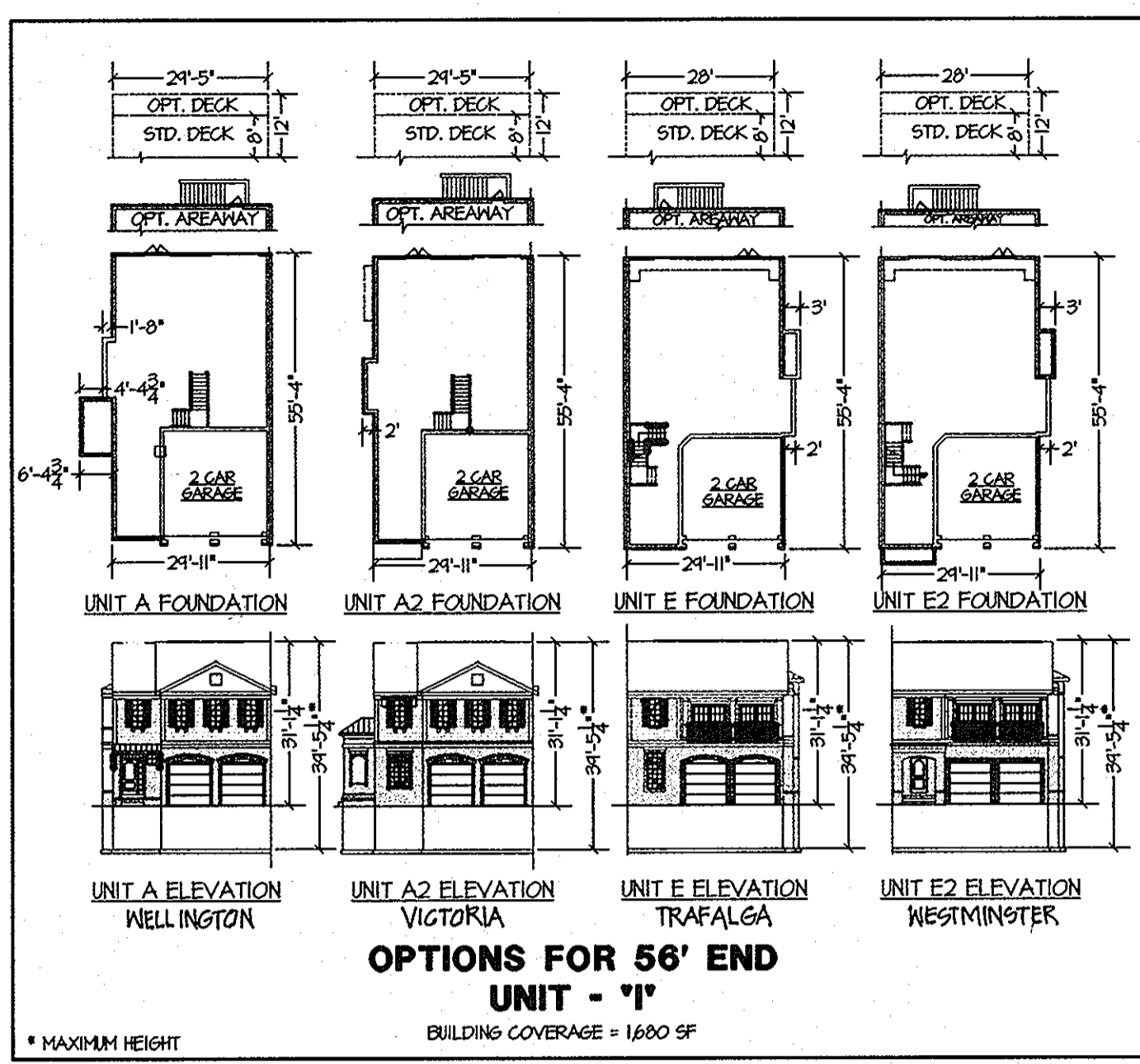
9080 JUNCTION DRIVE, SUITE 9
 ANNAPOLIS JUNCTION, MARYLAND 20701
 (410) 792-8792 or (301) 778-1690
 FAX (410) 792-7395

SNOWDEN RIVER BUSINESS PARK
 SECTION 1 AREA 1, PARCEL C-1 AND PART OF PARCEL E
 KENDALL OVERLOOK
 AGE RESTRICTED ADULT HOUSING
TITLE SHEET

L 7720 F. 271
 ZONED: NT TAX MAP: 37 GRID: 19 PARCEL 725
 ELECTION DISTRICT NO.: 6 HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO:	12735
8-29-04	REVISED GATEHOUSE LOCATION, GRADES, BLDG ENVELOPES, ADDED ARCHITECTURAL ELEVATIONS, REVISED CLUBHOUSE WALL DETAILS.	SCALE:	AS SHOWN
DATE		DATE:	03/10/04
		DRAWN BY:	BRS/GRL
2-4-05	GATEHOUSE RELOCATION & SHEET NUMBERING	DESIGN BY:	GRL/CAO
		REVIEW BY:	PVM
		SHEET:	1 OF 23

SDP-03-163



Professional Certification: I hereby certify that these documents were prepared or supervised by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 20559, Expiration Date: 7-22-12

FOR CHANGES BY BENCHMARK ENGINEERING, INC. ONLY. B.E.T.

STATE OF MARYLAND
PIERO VAN WELLS
REGISTERED PROFESSIONAL ENGINEER
3-10-04

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

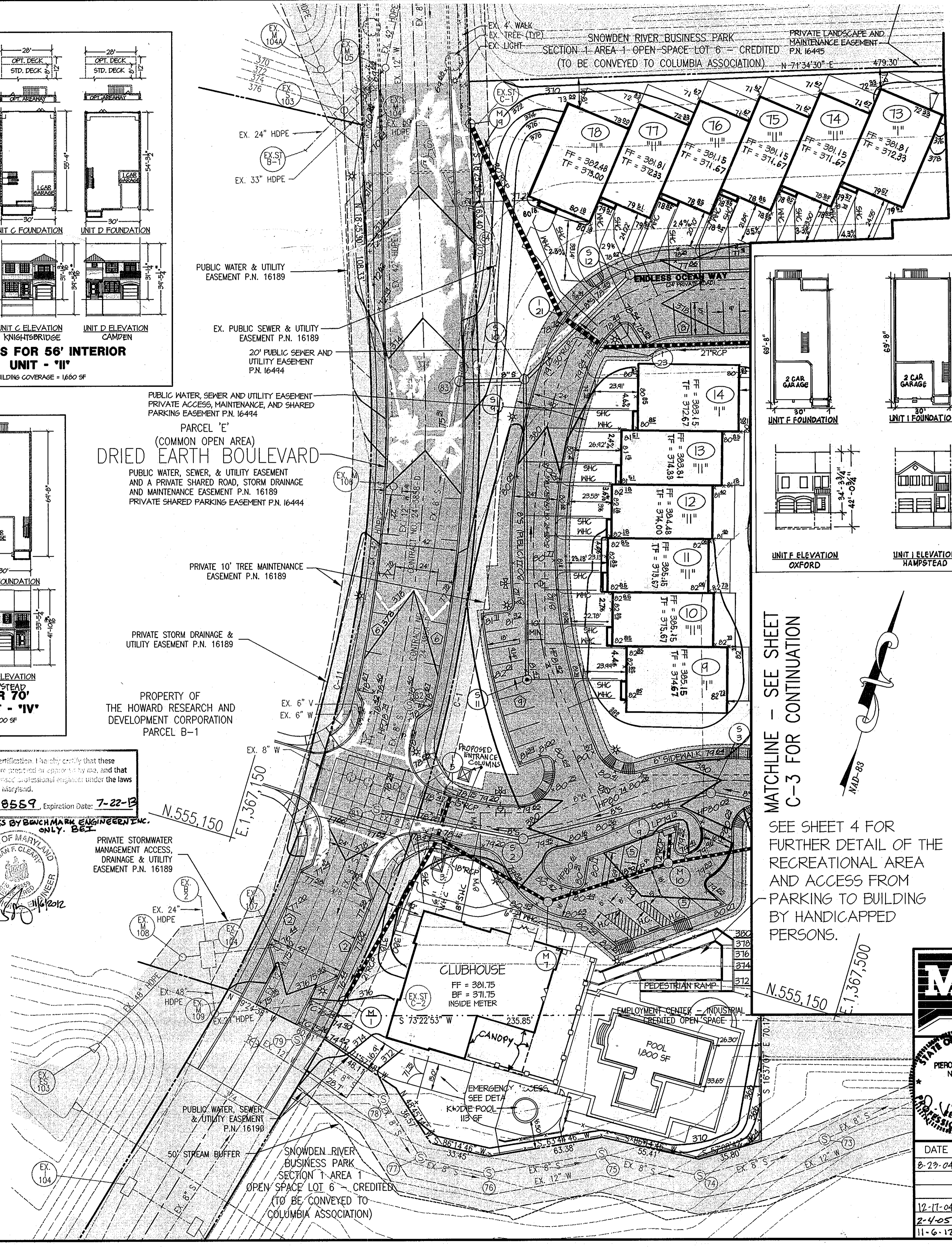
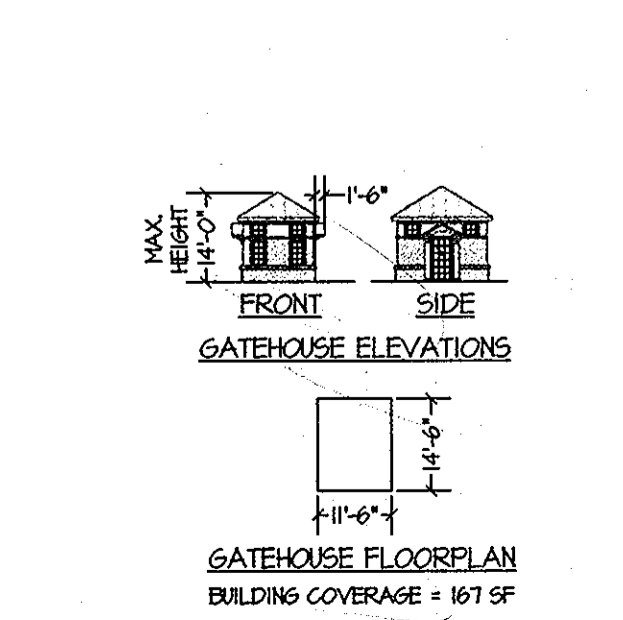
Denny Branton MPE/SE 4-7-04 DATE
COUNTY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED DEPARTMENT OF PLANNING AND ZONING

Chris Roman 3/30/04 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION

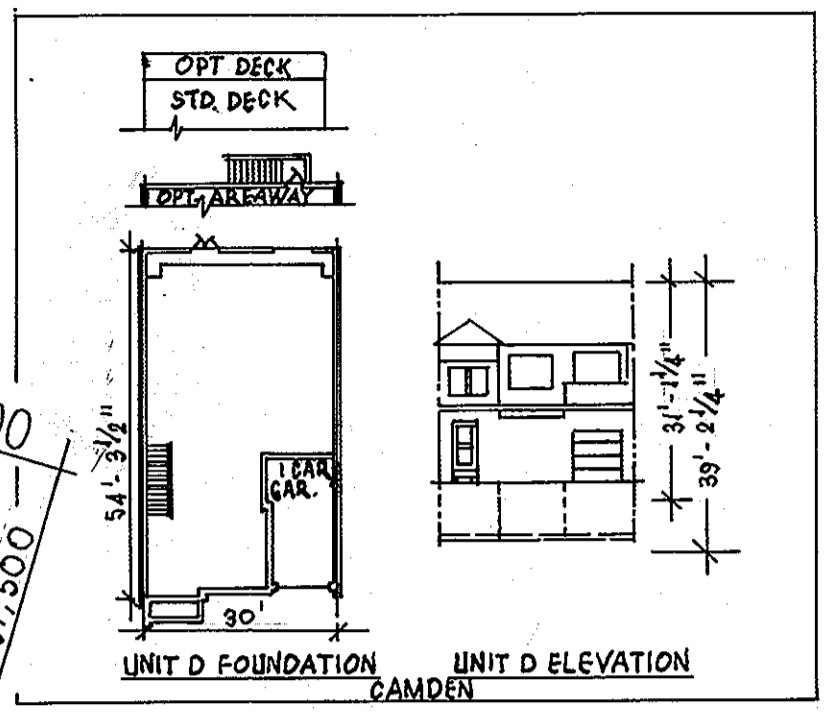
Chris Roman 4/14/04 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT

Frank L. Lough 4/15/04 DATE
DIRECTOR



PROPERTY LINE CURVE TABULATION

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C-1	730.00	368.68	188.36	384.77	N 03°57'24" W	28°56'11"
C-11	670.00	1,352.61	180.49	348.56	N 03°20'53" W	30°09'15"



LEGEND

- 2.5B --- EXISTING 2' CONTOUR
- --- EXISTING EASEMENT
- --- EXISTING CURB
- N41°08'00"E 598.31' --- EXISTING PROPERTY LINE
- --- EXISTING ZONING LINE
- EX 6" S --- EXISTING SANITARY SEWER
- EX 15" HDPE --- EXISTING STORM DRAIN
- EX 8" W --- EXISTING WATER LINE
- --- PROPOSED CURB & GUTTER
- --- PROPOSED DRIVEWAY
- --- PROPOSED TOWNHOUSE
- --- CENTER LINE OF ROAD
- --- PROPOSED TOWNHOUSE UNIT NUMBER
- 10 --- PROPOSED UNIT TYPE
- 260 --- PROPOSED 10' CONTOUR
- 258 --- PROPOSED 2' CONTOUR
- 3044 --- PROPOSED SPOT ELEVATIONS
- FF= 302.23 --- FINISHED FLOOR ELEVATION
- BF= 312.23 --- BASEMENT FLOOR ELEVATION
- 8" SPC --- PROPOSED PUBLIC SANITARY SEWER
- --- PROPOSED PRIVATE STORM DRAIN
- --- PROPOSED 4" SEWER HOUSE CONNECTION
- --- PROPOSED STREET LIGHT
- --- PROPOSED WATER HOUSE CONNECTION
- --- PROPOSED PUBLIC WATER LINE
- --- PROPOSED PUBLIC FIRE HYDRANT
- --- PROPOSED PUBLIC WATER VALVE
- --- PROPOSED PUBLIC WATER TEE (W/ 2 VALVES)
- --- PROPOSED FITTING/HYDRANT NO.
- --- PUBLIC WATER & UTILITY EASEMENT
- --- PUBLIC SEWER & UTILITY EASEMENT
- --- PUBLIC WATER, SEWER & UTILITY EASEMENT PRIVATE ACCESS, MAINTENANCE, & SHARED PARKING EASEMENT
- --- PRIVATE LANDSCAPE & MAINTENANCE EASEMENT
- --- PREVIOUSLY RECORDED EASEMENT

NOTE: ALL UNITS TO HAVE WATER METERS LOCATED INSIDE.

APPROVED
PLANNING BOARD
HOWARD COUNTY
DATE 01/08/04

OWNER: B. DAYTIME TELEPHONE: (410) 712-9864

A. NAME: BRIAN KNAUFF B. DAYTIME TELEPHONE: (410) 712-7012

C. COMPANY: THE RYLAND GROUP, INC.

D. ADDRESS: 7250 PARKWAY DRIVE, SUITE 520

E. CITY: HANOVER STATE, MD ZIP: 21076

MATCHLINE - SEE SHEET C-3 FOR CONTINUATION

SEE SHEET 4 FOR FURTHER DETAIL OF THE RECREATIONAL AREA AND ACCESS FROM PARKING TO BUILDING BY HANDICAPPED PERSONS.

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

9090 JUNCTION DRIVE, SUITE 9
ANNAPOLIS JUNCTION, MARYLAND 20701
(410) 792-9792 or (301) 776-1890
FAX (410) 792-7395

SNOWDEN RIVER BUSINESS PARK
SECTION 1 AREA 1, PARCEL C-1 AND PART OF PARCEL E
KENDALL OVERLOOK
AGE RESTRICTED ADULT HOUSING
SITE DEVELOPMENT PLAN

L 7720 F, 213
ZONED: NT TAX MAP: 37 GRID: 19 PARCEL 725
ELECTION DISTRICT NO.: 6 HOWARD COUNTY, MARYLAND

MRA
PIERO VAN WELLS
No. 21875
REGISTERED PROFESSIONAL ENGINEER
3-10-04

DATE	REVISIONS	JOB NO:
8-29-04	REVISED GRADES, ARCHITECTURAL ELEVATIONS, UNIT, CLUBHOUSE & POOL FOOTPRINTS.	12735
12-17-04	CURB IN DRIED EARTH PLVD.	SCALE: 1" = 30'
2-4-05	REVISED FF ELEV'S AND GRADES	DATE: 03/10/04
11-6-12	GATEHOUSE RELOCATION & SHEET NUMBERING	DRAWN BY: BRS/GR/L
	ADD CANOPY TO CLUBHOUSE	DESIGN BY: GRL/CAO
		REVIEW BY: PVM

DATE: 11-6-12 SHEET: 2 OF 258

MATCHLINE - SEE SHEET C-2 FOR CONTINUATION



LEGEND

- 258 --- EXISTING 2' CONTOUR
- 260 --- EXISTING EASEMENT
- 260 --- EXISTING CURB
- 260 --- EXISTING PROPERTY LINE
- 260 --- EXISTING ZONING LINE
- 260 --- EXISTING SANITARY SEWER
- 260 --- EXISTING STORM DRAIN
- 260 --- EXISTING WATER LINE
- 260 --- PROPOSED CURB & GUTTER
- 260 --- PROPOSED DRIVEWAY
- 260 --- PROPOSED TOWNHOME
- 260 --- CENTER LINE OF ROAD
- 260 --- PROPOSED TOWNHOME UNIT NUMBER
- 260 --- PROPOSED UNIT TYPE
- 260 --- PROPOSED 10' CONTOUR
- 260 --- PROPOSED 2' CONTOUR
- 260 --- PROPOSED SPOT ELEVATIONS
- 260 --- FINISHED FLOOR ELEVATION
- 260 --- BASEMENT FLOOR ELEVATION
- 260 --- PROPOSED PUBLIC SANITARY SEWER
- 260 --- PROPOSED PRIVATE STORM DRAIN
- 260 --- PROPOSED 4" SEWER HOUSE CONNECTION
- 260 --- PROPOSED STREET LIGHT
- 260 --- PROPOSED WATER HOUSE CONNECTION
- 260 --- PROPOSED PUBLIC WATER LINE
- 260 --- PROPOSED PUBLIC FIRE HYDRANT
- 260 --- PROPOSED PUBLIC WATER VALVE
- 260 --- PROPOSED PUBLIC WATER TEE (W/ 2 VALVES)
- 260 --- PROPOSED FITTING/HYDRANT NO.
- 260 --- PUBLIC WATER & UTILITY EASEMENT
- 260 --- PUBLIC SEWER & UTILITY EASEMENT
- 260 --- PRIVATE ACCESS, MAINTENANCE & SHARED PARKING EASEMENT
- 260 --- PRIVATE LANDSCAPE & MAINTENANCE EASEMENT
- 260 --- PREVIOUSLY RECORDED EASEMENT

PROPERTY LINE CURVE TABULATION

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C-1	730.00	388.88	188.36	364.77	N 03°57'24" W	28°56'11"
C-11	670.00	352.61	180.49	348.56	N 03°20'53" W	30°09'15"

NOTE:
ALL UNITS TO HAVE WATER METERS LOCATED INSIDE.

APPROVED
PLANNING BOARD
HOWARD COUNTY
DATE: 01/08/04

OWNER: B. NAME: BRIAN KNAUFF FAX NO: (410) 712-9864
 A. COMPANY: THE RYLAND GROUP, INC. B. DAYTIME TELEPHONE: (410) 712-7012
 C. ADDRESS: 7250 PARKWAY DRIVE, SUITE 520
 D. CITY: HANDOVER STATE: MD ZIP: 21076
 E.

SHEET: C-3



MORRIS & RITCHE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

9090 JUNCTION DRIVE, SUITE 9
ANNAPOLIS JUNCTION, MARYLAND 20701
(410) 792-9792 or (301) 776-1890
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SNOWDEN RIVER BUSINESS PARK
SECTION 1 AREA 1, PARCEL C-1 AND PART OF PARCEL E
KENDALL OVERLOOK
AGE RESTRICTED ADULT HOUSING
SITE DEVELOPMENT PLAN

L 7720 F. 271
ZONED: NT TAX MAP: 37 GRID: 19 PARCEL 725
ELECTION DISTRICT NO.: 6 HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO:
8-23-01	REVISED GRADES AND BUILDING FOOTPRINTS	12735
12-17-04	REVISED FF, ELEV'S AND GRADES	SCALE: 1" = 30'
2-4-05	GATEHOUSE RELOCATION & SHEET NUMBERING	DATE: 03/10/04
		DRAWN BY: BRS/GR/L
		DESIGN BY: GRL/CAO
		REVIEW BY: PVM
		SHEET: 3 OF 20

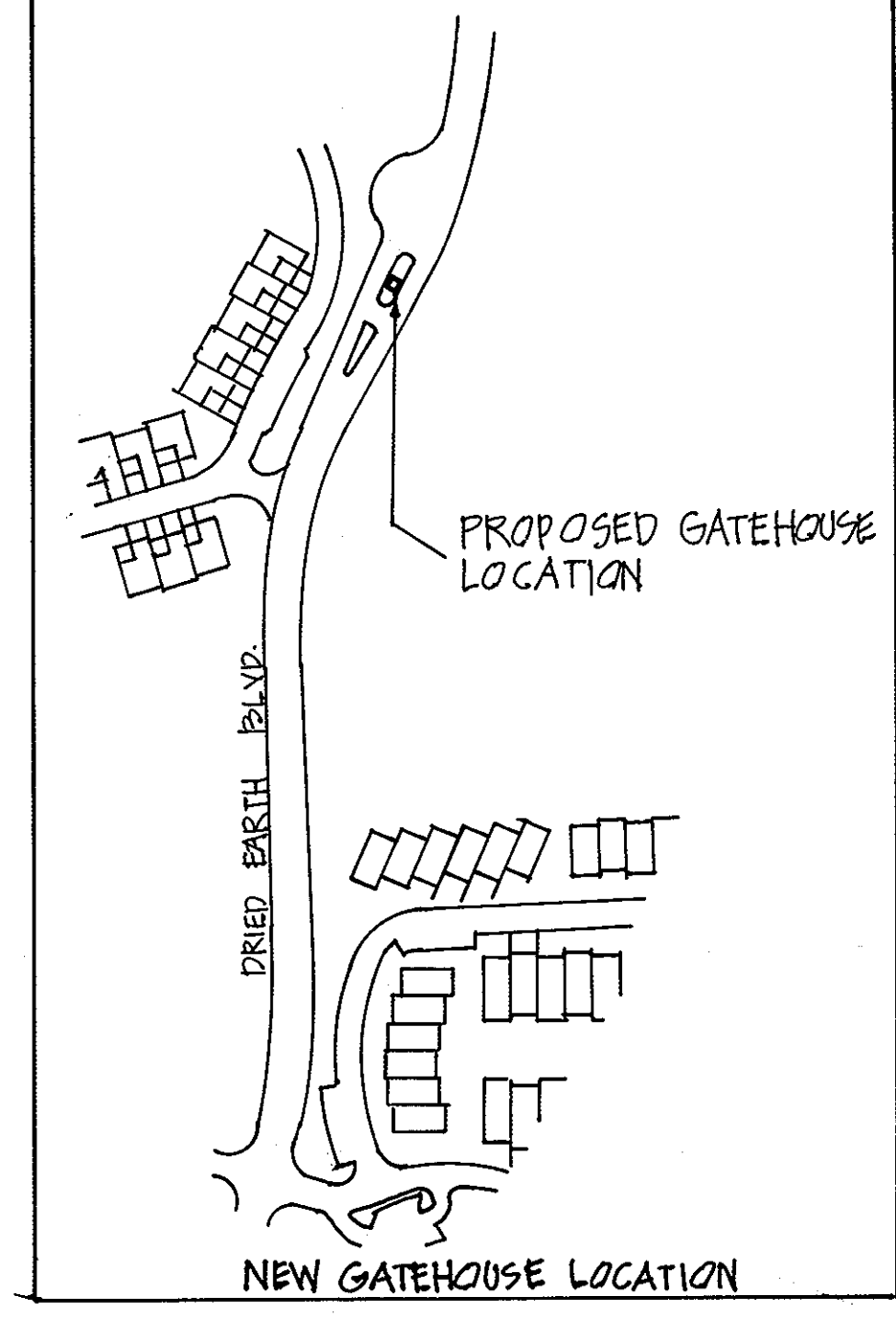
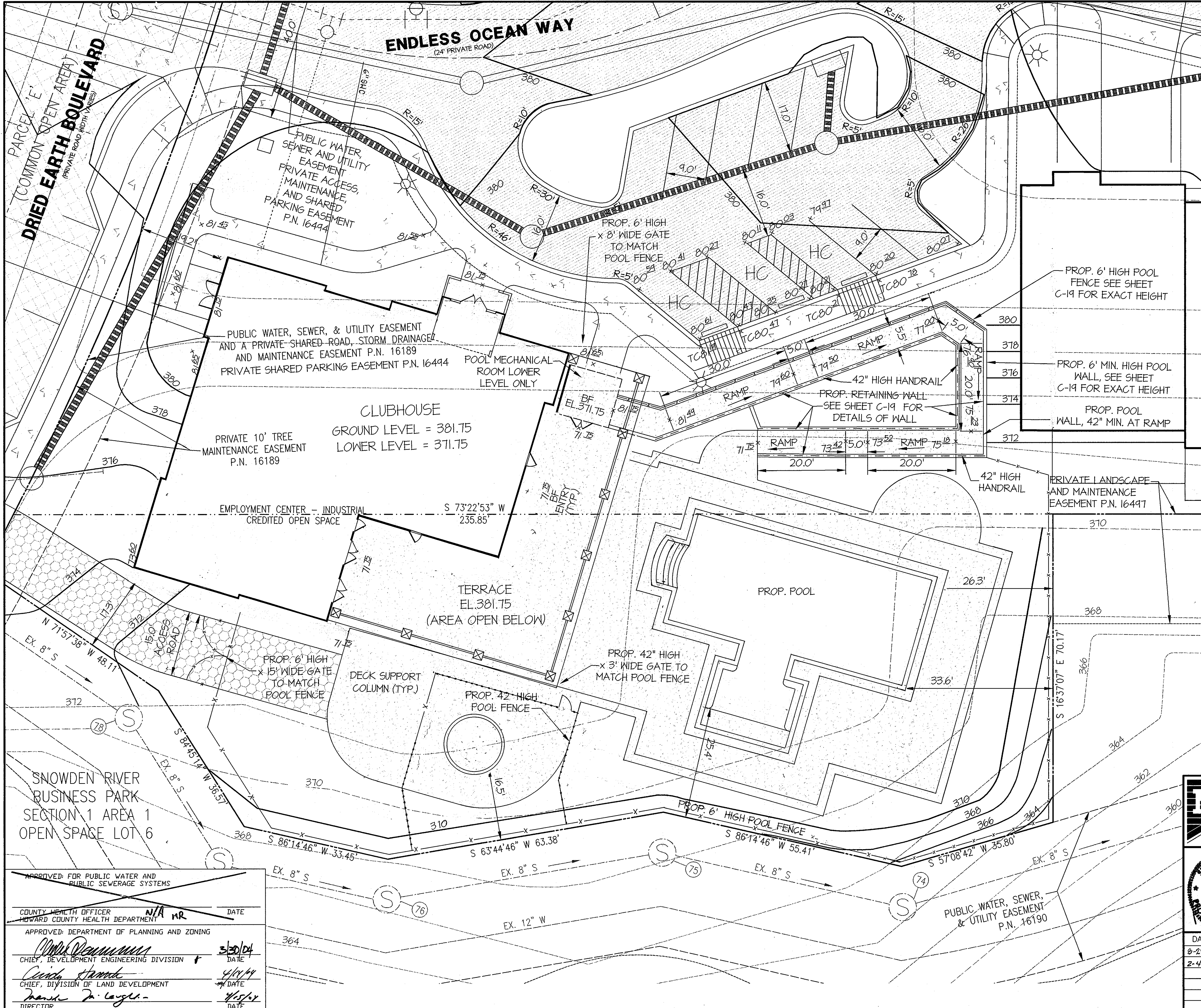
APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
 Penny Bonarone, M.P.S.E. 4-7-04 DATE
 COUNTY HEALTH OFFICER
 HOWARD COUNTY HEALTH DEPARTMENT

APPROVED DEPARTMENT OF PLANNING AND ZONING
 [Signature] 3/30/04 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 4/14/04 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 4/15/04 DATE
 DIRECTOR

SNOWDEN RIVER BUSINESS PARK
SECTION 1 AREA 1 OPEN SPACE LOT 6 - CREDITED
(TO BE CONVEYED TO COLUMBIA ASSOCIATION)



APPROVED
 PLANNING BOARD
 of HOWARD COUNTY
 DATE: 01/08/04

- NOTES:
- REFER TO SHEET NO. 19 FOR DETAILS OF WALL CONSTRUCTION.
 - POOL DECK AND ROOF DRAINAGE IS TO BE DESIGNED TO BE CONVEYED THRU AN ENCLOSED DRAINAGE SYSTEM AND DISCHARGED TO AN OUTLET POINT WITH OUTLET PROTECTION AT THE EASTERLY CORNER OF THE RECREATION AREA.
 - REFER TO SHEET C-5 FOR DETAILS OF POOL FENCE.
 - TOTAL BUILDING COVERAGE FOR RECREATIONAL AREA PARCEL C-1:
 CLUBHOUSE 7,513 SF
 POOLS 1,913 SF
 TOTAL 9,426 SF
- BY LAND USE:
 NT-EMPLOYMENT CENTER INDUSTRIAL 4,755 SF
 NT-OPEN SPACE-CREDITED 4,671 SF

OWNER: BRIAN KNAUFF
 COMPANY: THE RYLAND GROUP, INC.
 ADDRESS: 7250 PARKWAY DRIVE, SUITE 520
 CITY: HANDOVER STATE: MD ZIP: 21076

SHEET: **C-4**

MRA
MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
 9090 JUNCTION DRIVE, SUITE 9
 ANNAPOLIS JUNCTION, MARYLAND 20701
 (410) 782-9792 or (301) 776-1690
 FAX (410) 782-7395

PROFESSIONAL ENGINEER
 PIERO VAN MELLITS
 No. 21875

SNOWDEN RIVER BUSINESS PARK
 SECTION 1 AREA 1, PARCEL C-1 AND PART OF PARCEL E
KENDALL OVERLOOK
 AGE RESTRICTED ADULT HOUSING
RECREATIONAL AREA PLAN
 L 7720 F. 271
 ZONED: NT TAX MAP: 37 GRID: 19 PARCEL 725
 ELECTION DISTRICT NO.: 6 HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO:
8-23-04	REVISED UNIT, CLUBHOUSE & POOL FOOTPRINT	12735
2-4-05	GATEHOUSE RELOCATION & SHEET NUMBERING	SCALE: 1" = 10'
		DATE: 03/10/04
		DRAWN BY: KKB
		DESIGN BY: KKB/CAO
		REVIEW BY: PVM
		SHEET: 4 OF 20

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

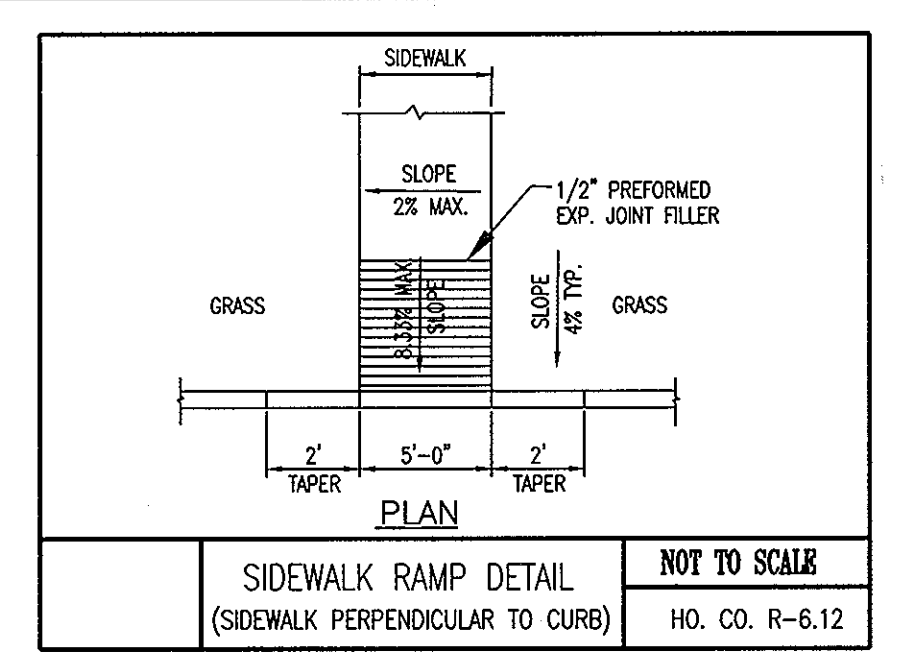
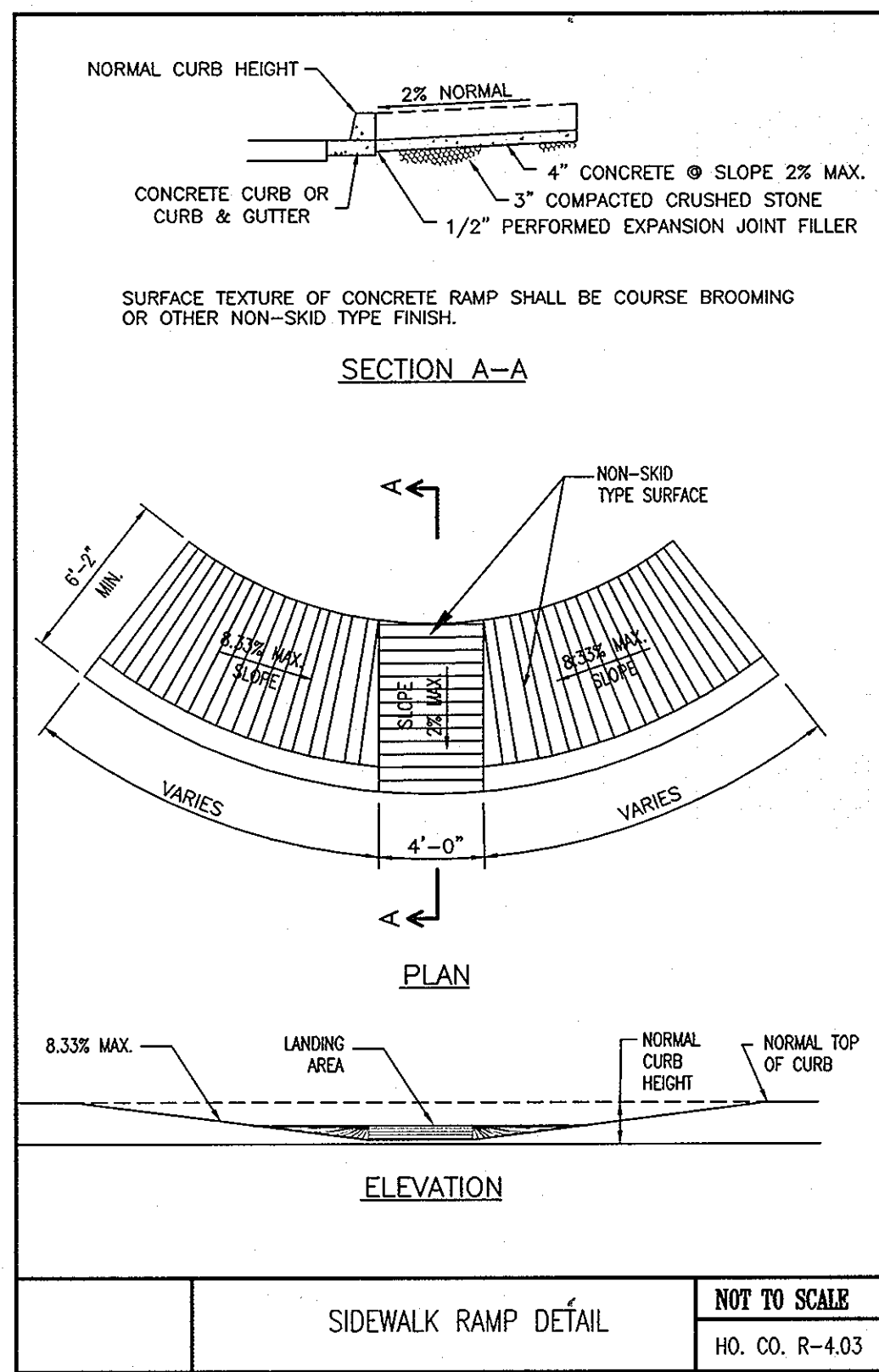
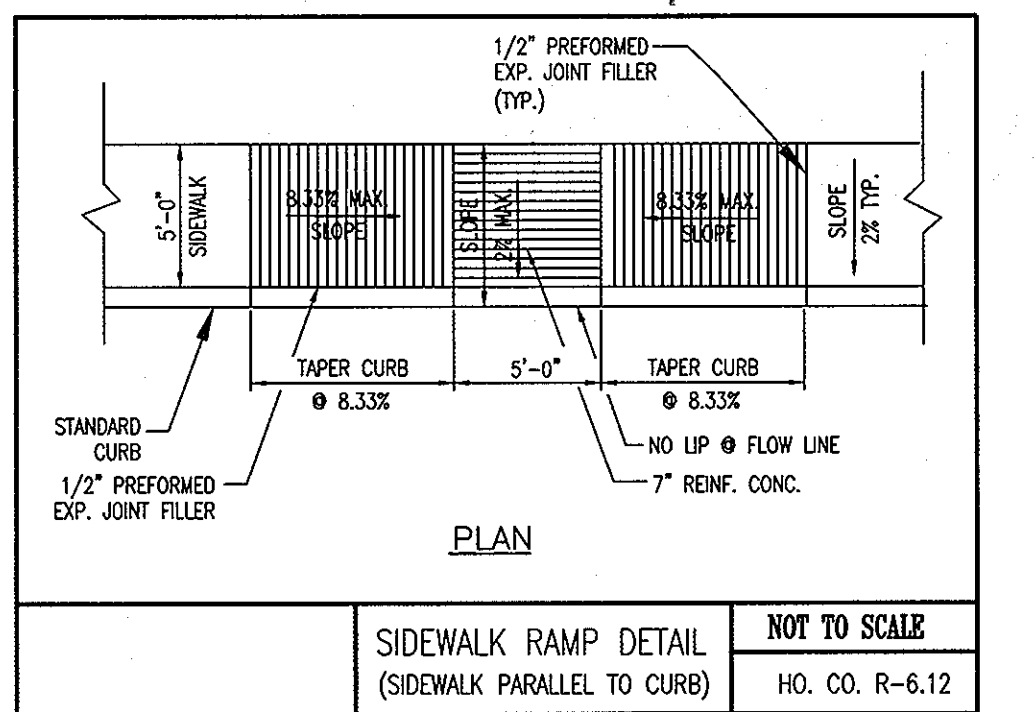
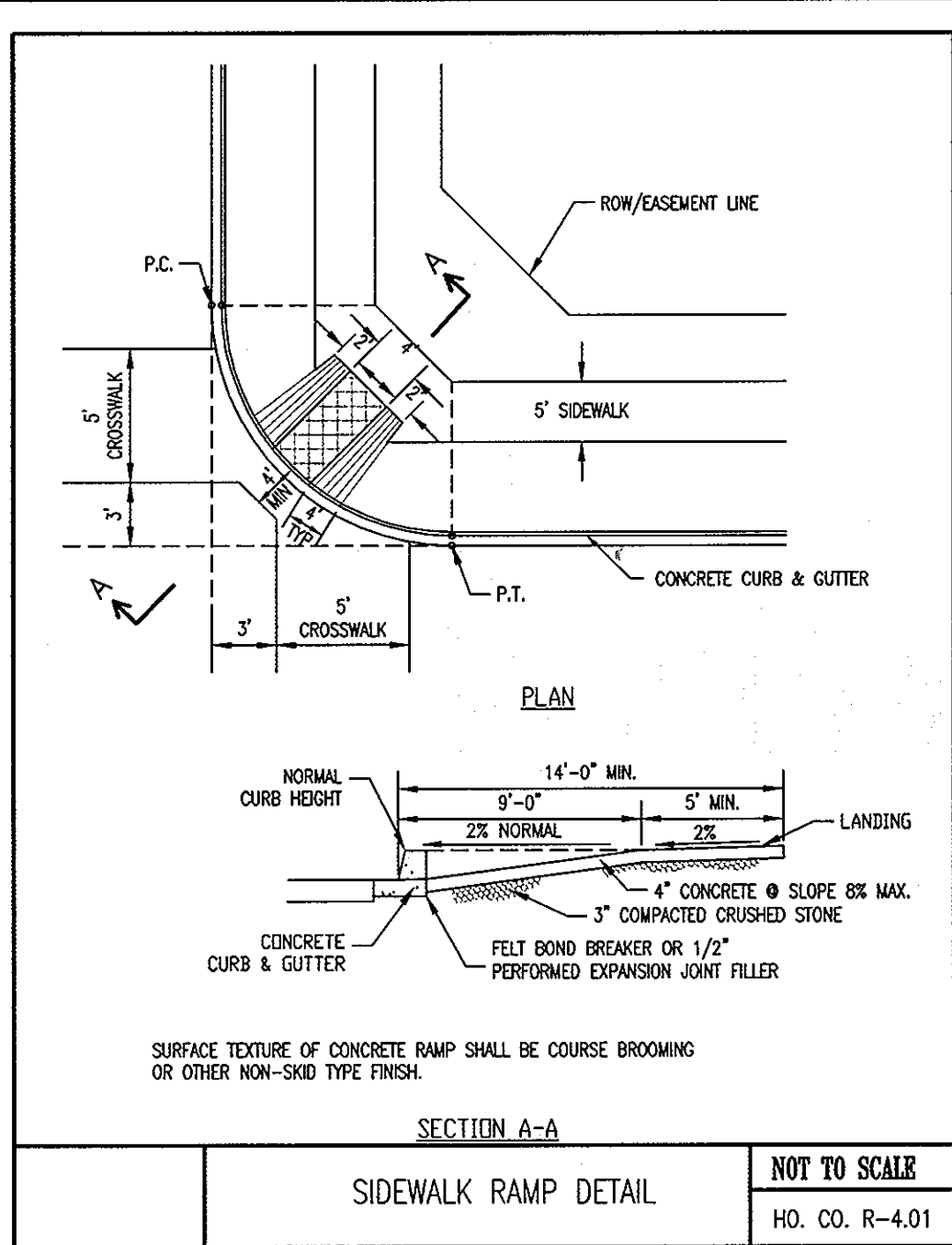
COUNTY HEALTH OFFICER: *N/A* DATE: *3/30/04*
 HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] DATE: *4/14/04*
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] DATE: *4/15/04*
 CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] DATE: *4/15/04*
 DIRECTOR



SYSTEM FEATURES: Spectrail Residential (SR) aluminum fencing offers a combination of durability, strength and clean appearance, and will keep their attractive finish over a lifetime. Spectrail residential grade fence is the perfect choice to complement any architectural or landscape design. Like all Spectrail systems, matching gates are available for all of the styles.

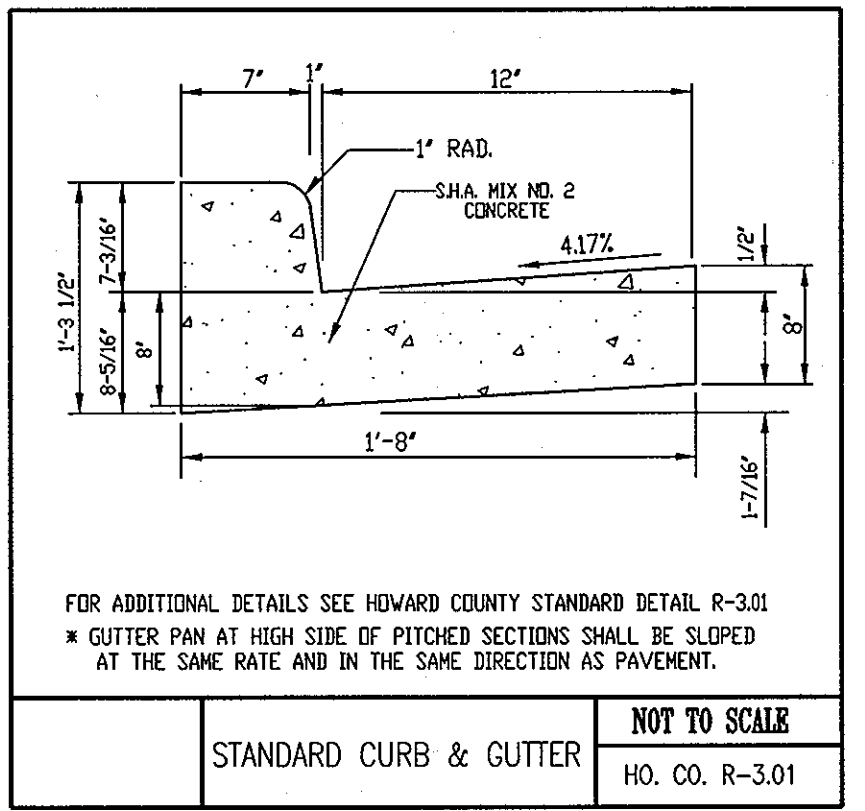
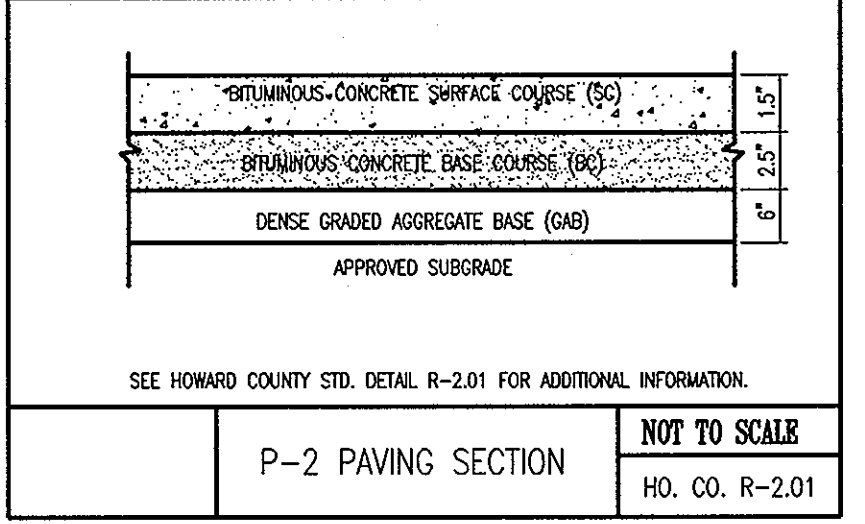
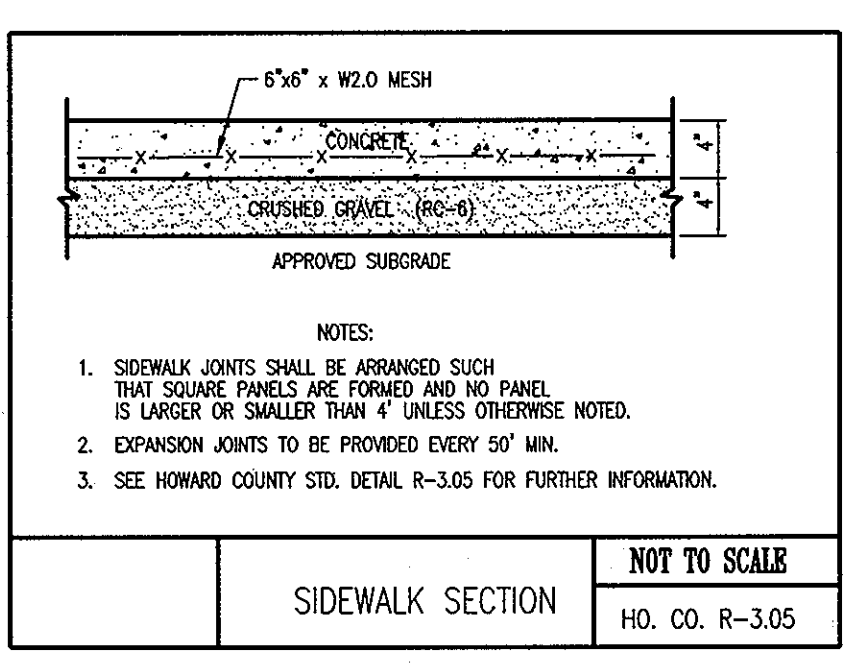
Spectrail Residential grade fencing is fully assembled in six foot (6') sections. Pickets are screwed to rails with stainless steel fasteners. Post are pre-punched to accept rails. Rails are connected to posts with stainless steel TEK screws. Sections will easily rattle to allow for change in ground level. Field work is reduced to a minimum.

APPLICATIONS: The Spectrail Residential aluminum fence system can be applied to a wide range of residential uses. To define property lines, or enclose a swimming pool, Spectrail fence will provide safety, function and beauty for years to come.

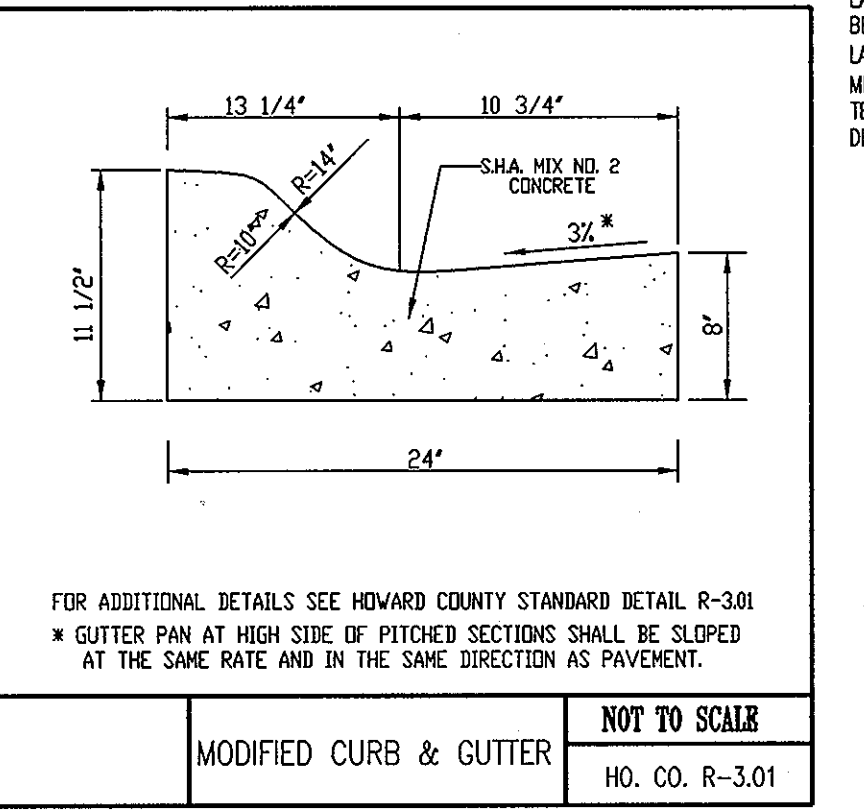
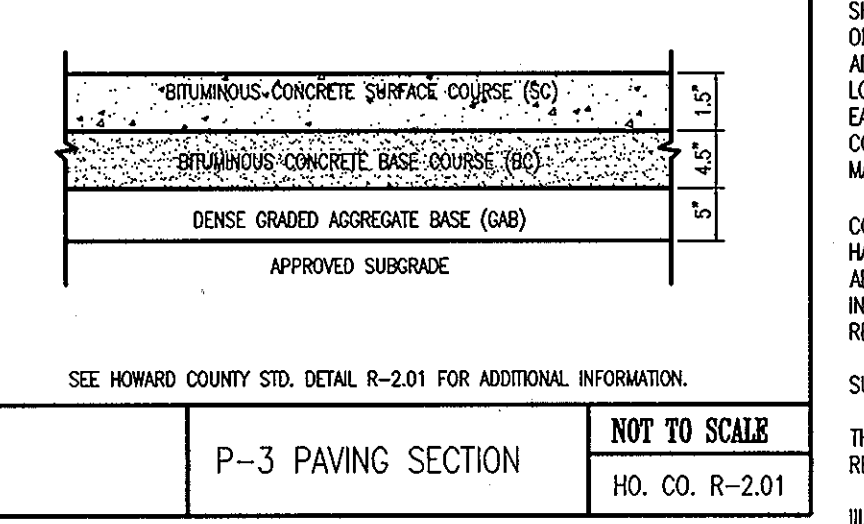
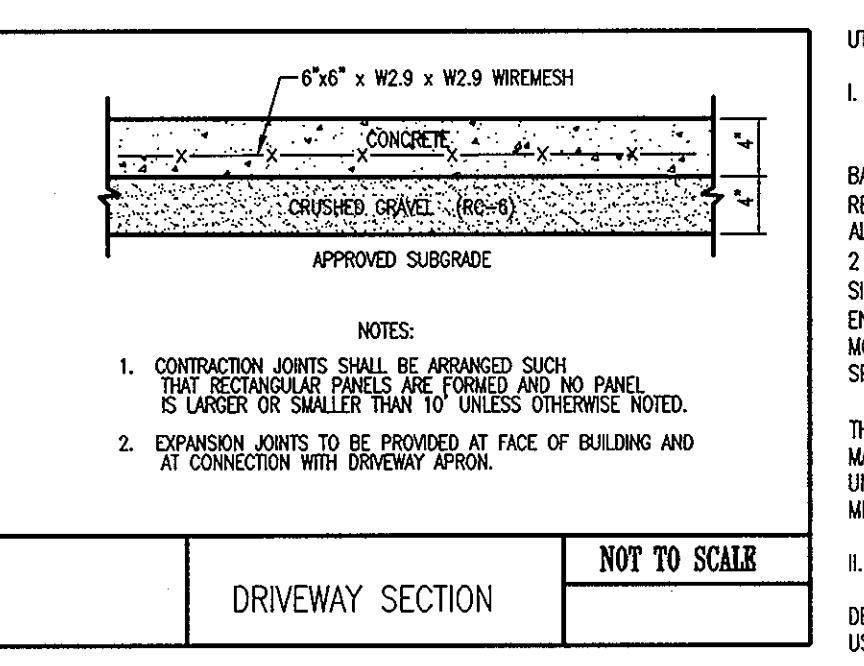
In accordance with local municipal swimming pool BOCA codes Spectrail has developed a style 54 inches tall to meet or exceed these codes.

PICKETS	625 x 625 x .050
STRINGERS	1.00 x 1.063 x 1.00
Side Wall	.060
Top Wall	.060
POSTS	2" x 2"
Walls	0.060
GATE POST WALLS	0.125
PICKET SPACING	3.75, 4.375" O.C.
Style SR 7 &	1.5025
HEIGHTS AVAILABLE	36", 42", 48", 60", 72"

SEE SHEET C-4 FOR FENCE HEIGHTS, POOL FENCE (OR APPROVED EQUAL) N.T.S.



SEE SHEET 8 FOR CURB TRANSITION DETAILS



SEE SHEET 8 FOR CURB TRANSITION DETAILS

UTILITY TRENCH BACKFILL

I. MATERIALS

A. PIPE BEDDING MATERIAL - PIPE BEDDING MATERIAL SHALL CONSIST OF GRADED ASPHALT BASE (GAB).

B. BACKFILL MATERIALS - USE GAB AS BACKFILL MATERIAL TO THE MINIMUM EXTENT SHOWN ON THE PLANS. THE BACKFILL FOR THE REMAINDER OF THE TRENCH SHALL CONSIST OF ON-SITE OR OFF-SITE SOILS CONFORMING TO THE REQUIREMENT OF THE GEOTECHNICAL REPORT AND CITY/COUNTY SPECIFICATIONS. NO STONES LARGER THAN 2 INCHES SHOULD BE ALLOWED WITHIN 2 FEET OF THE UTILITY. LARGER STONE, UP TO 6 INCHES IN THE LARGEST DIMENSION CAN BE USED IN LIFTS 2 FEET ABOVE THE UTILITY. NO ORGANIC MATERIAL SHALL BE ALLOWED. FOR GRANULAR SOILS (LESS THAN 35% PASSING #200 SIEVE), THE SOIL MOISTURE SHOULD BE WITHIN 3 PERCENTAGE POINTS OF OPTIMUM UNLESS OTHERWISE DIRECTED BY PROJECT ENGINEER OR COUNTY SPECIFICATIONS. FOR FINE-GRAINED SOILS (GREATER THAN 35% PASSING #200 SIEVE), THE SOIL MOISTURE SHOULD BE WITHIN 0 TO PLUS 4 PERCENT OF OPTIMUM UNLESS OTHERWISE DIRECTED BY ENGINEER OR COUNTY SPECIFICATIONS.

THE COMPACTION REQUIREMENT SHALL BE 92 PERCENT OF THE MODIFIED PROCTOR (ASTM D-1557) MAXIMUM DRY DENSITY FOR MATERIAL PLACED BELOW THE TOP 12-INCHES OF ROADWAY SUBGRADE. THE TOP 12 TO 24 INCHES OF SOIL MAY BE REQUIRED TO MEET CERTAIN MATERIAL PROPERTIES FOR SUBGRADE SUPPORT FOR PAVEMENTS.

II. BACKFILLING PROCEDURES

A. CONTRACTOR SHALL PLACE LEVEL LIFTS OF SOIL ADJACENT AND ABOVE THE UTILITY. THE LIFT THICKNESS SHALL BE DEPENDENT UPON THE TYPE OF EQUIPMENT BEING USED FOR COMPACTION AND THE MATERIALS. THE FOLLOWING SHALL BE USED AS A GUIDE:

1. FINE-GRAINED MATERIALS - FINE-GRAINED MATERIALS (MATERIALS WITH MORE THAN 35% PASSING #200 SIEVE) SHOULD BE COMPACTION WITH SHEEPS-FOOT TYPE ROLLER. THE LIFT THICKNESS SHOULD NOT EXCEED 4 INCHES IF HAND OPERATED EQUIPMENT IS USED. HAND EQUIPMENT WILL BE REQUIRED FOR COMPACTION AROUND MANHOLES, STRUCTURES AND ADJACENT TO AND OVER THE UTILITY. IF HEAVY CONSTRUCTION SHEEPS-FOOT COMPACTION EQUIPMENT IS USED, A MAXIMUM LOOSE LIFT THICKNESS SHOULD BE NO GREATER THAN THE LENGTH OF THE SHEEPS-FOOT OR A MAXIMUM OF EIGHT INCHES. EACH LIFT SHOULD BE UNIFORMLY COMPACTION WITH A SUFFICIENT NUMBER OF PASSES TO OBTAIN THE REQUIRED DEGREE OF COMPACTION. THE SOIL CLOS AND VOIDS MUST BE ELIMINATED DURING BACKFILLING, RESULTING IN A HOMOGENEOUS SOIL MATRIX.

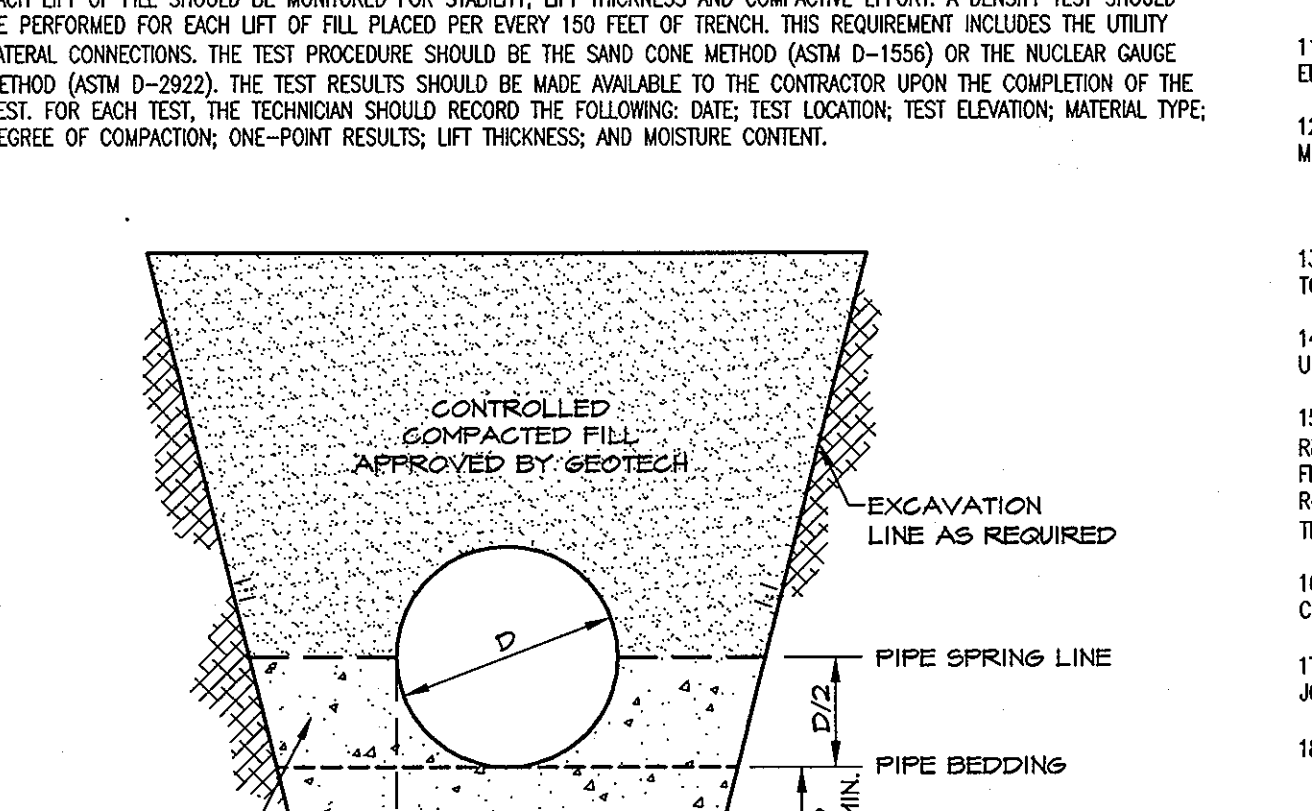
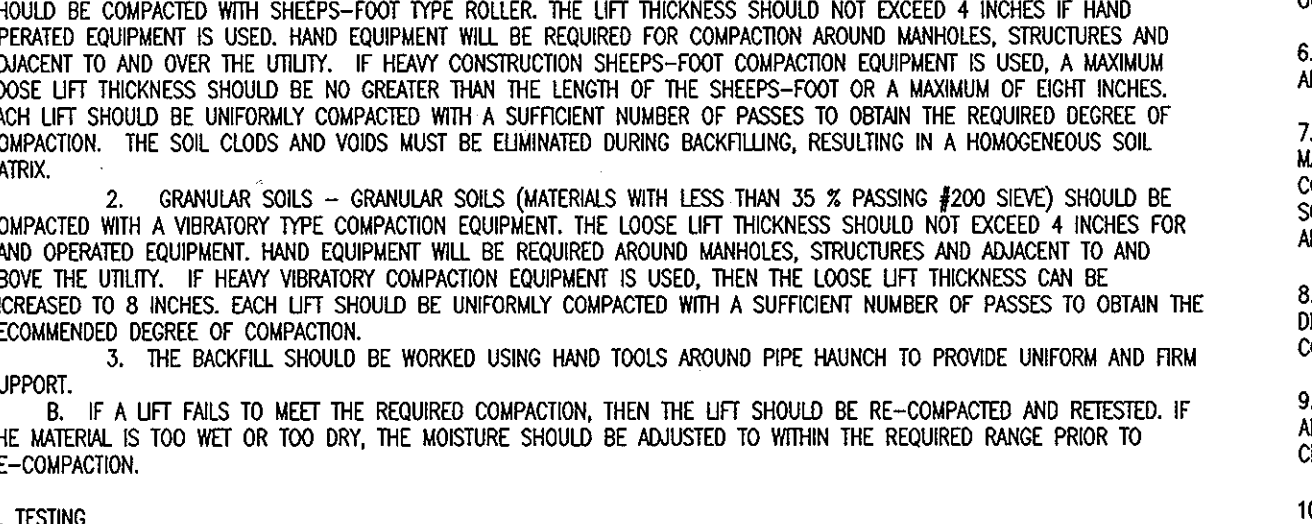
2. GRANULAR SOILS - GRANULAR SOILS (MATERIALS WITH LESS THAN 35% PASSING #200 SIEVE) SHOULD BE COMPACTION WITH A VIBRATORY TYPE COMPACTION EQUIPMENT. THE LOOSE LIFT THICKNESS SHOULD NOT EXCEED 4 INCHES FOR HAND OPERATED EQUIPMENT. HAND EQUIPMENT WILL BE REQUIRED AROUND MANHOLES, STRUCTURES AND ADJACENT TO AND ABOVE THE UTILITY. IF HEAVY VIBRATORY COMPACTION EQUIPMENT IS USED, THEN THE LOOSE LIFT THICKNESS CAN BE INCREASED TO 8 INCHES. EACH LIFT SHOULD BE UNIFORMLY COMPACTION WITH A SUFFICIENT NUMBER OF PASSES TO OBTAIN THE RECOMMENDED DEGREE OF COMPACTION.

3. THE BACKFILL SHOULD BE WORKED USING HAND TOOLS AROUND PIPE HANCHO TO PROVIDE UNIFORM AND FIRM SUPPORT.

B. IF A LIFT FAILS TO MEET THE REQUIRED COMPACTION, THEN THE LIFT SHOULD BE RE-COMPACTION AND RETESTED. IF THE MATERIAL IS TOO WET OR TOO DRY, THE MOISTURE SHOULD BE ADJUSTED TO WITHIN THE REQUIRED RANGE PRIOR TO RE-COMPACTION.

III. TESTING

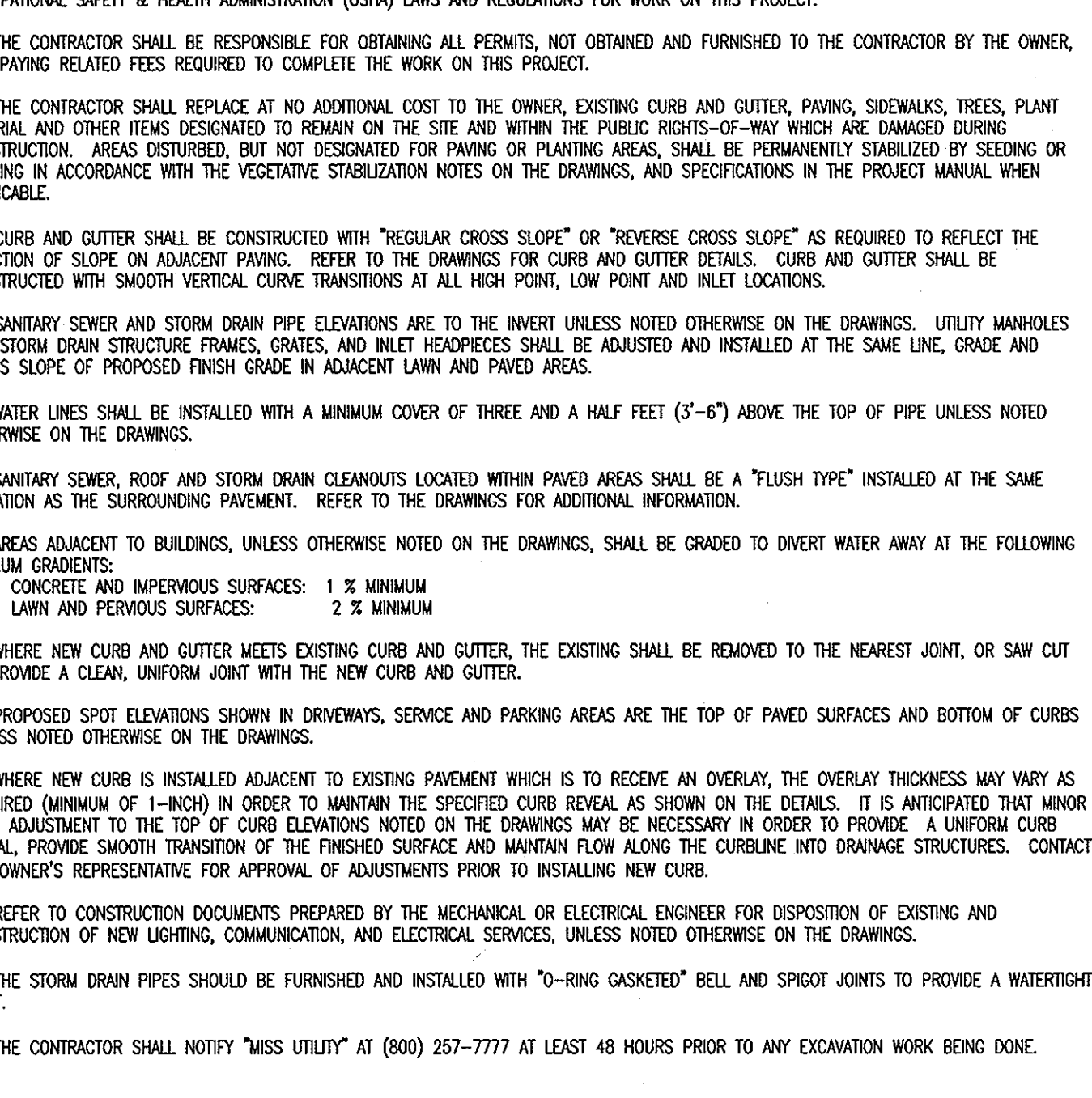
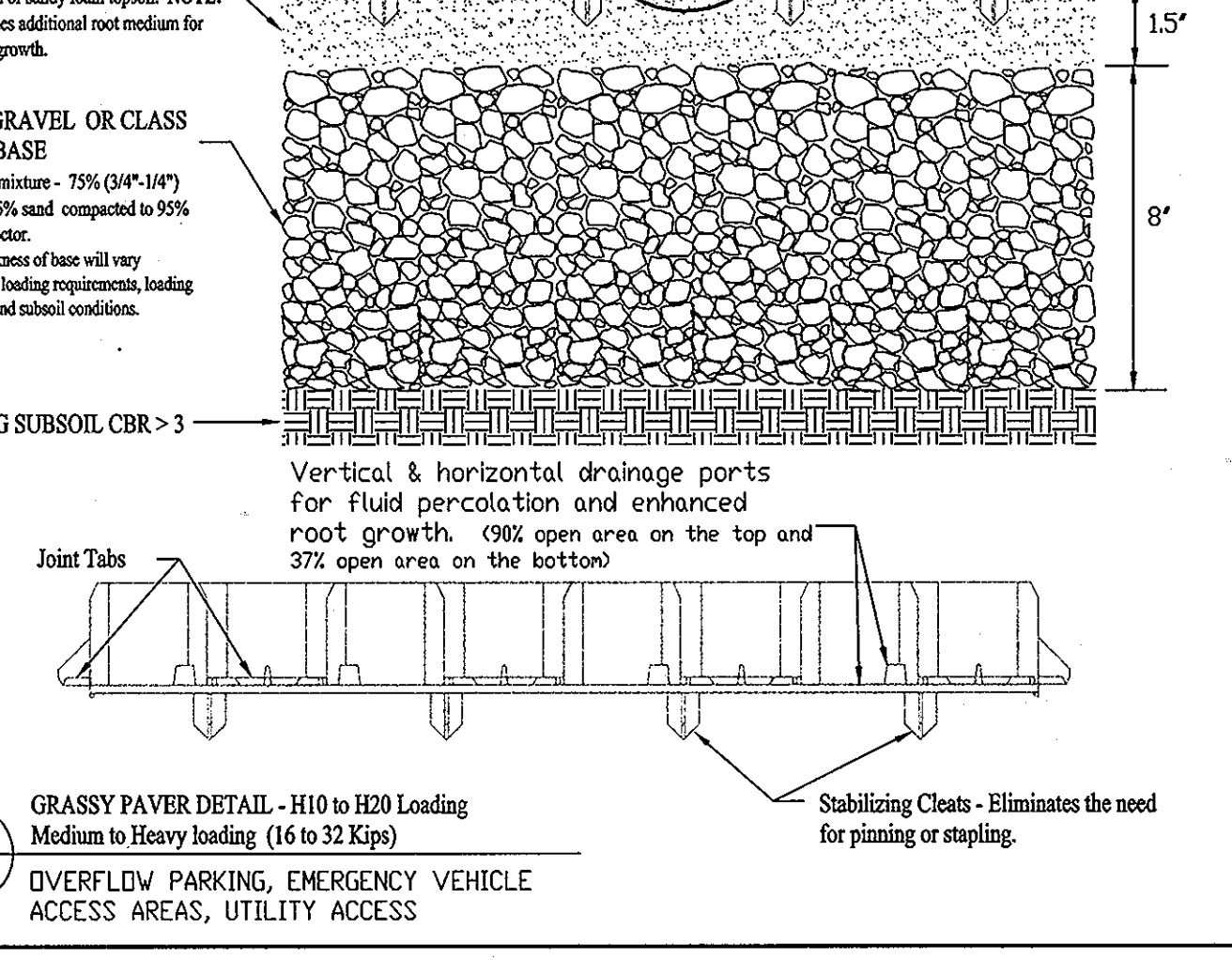
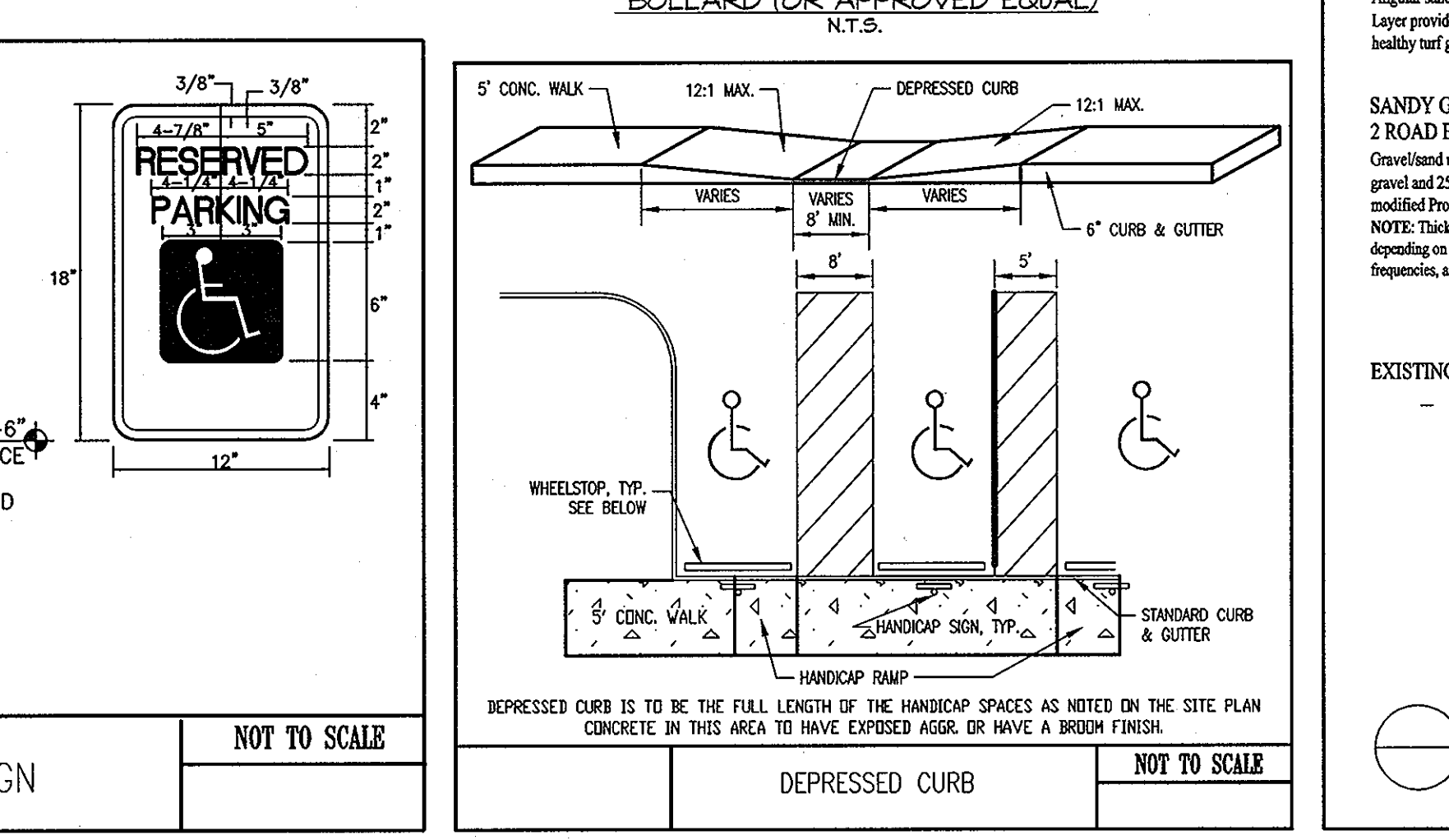
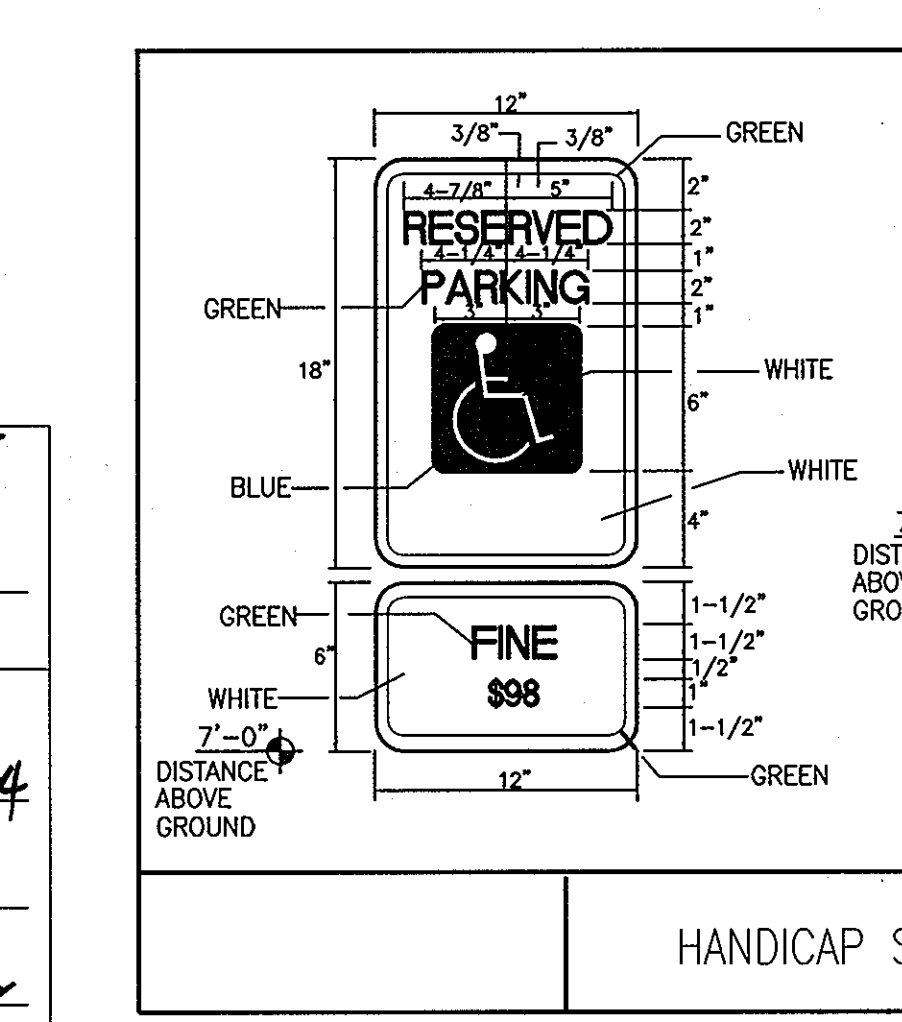
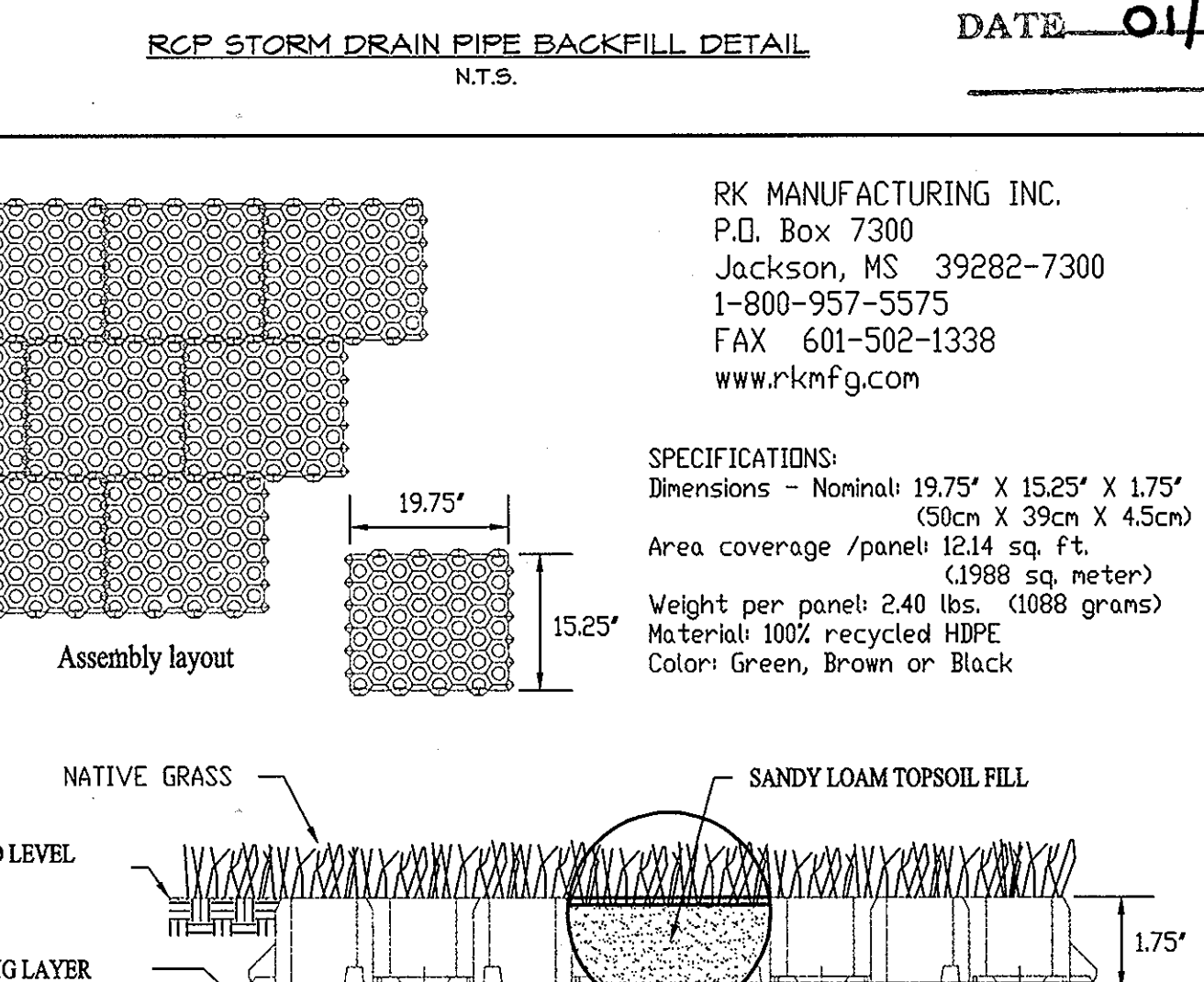
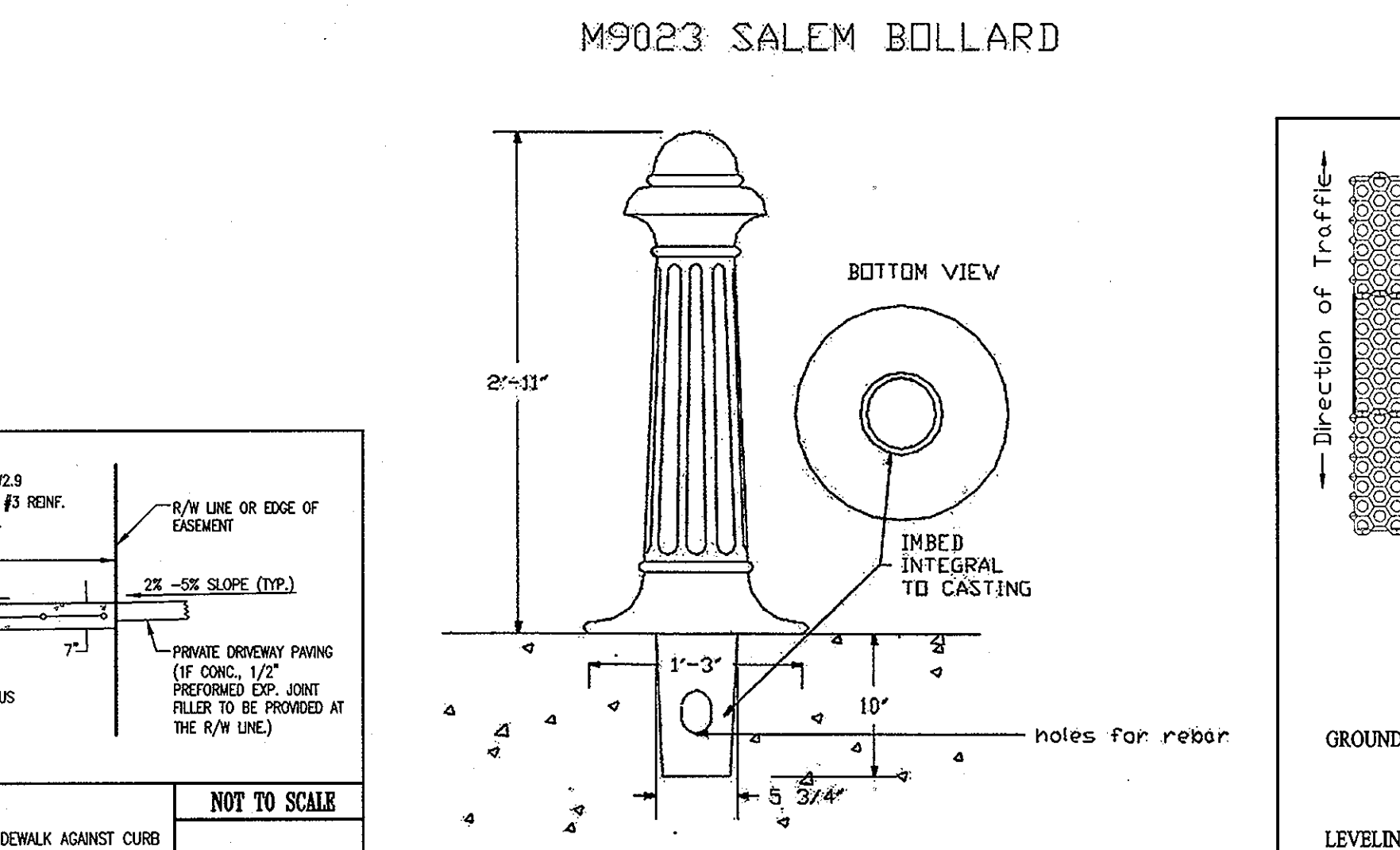
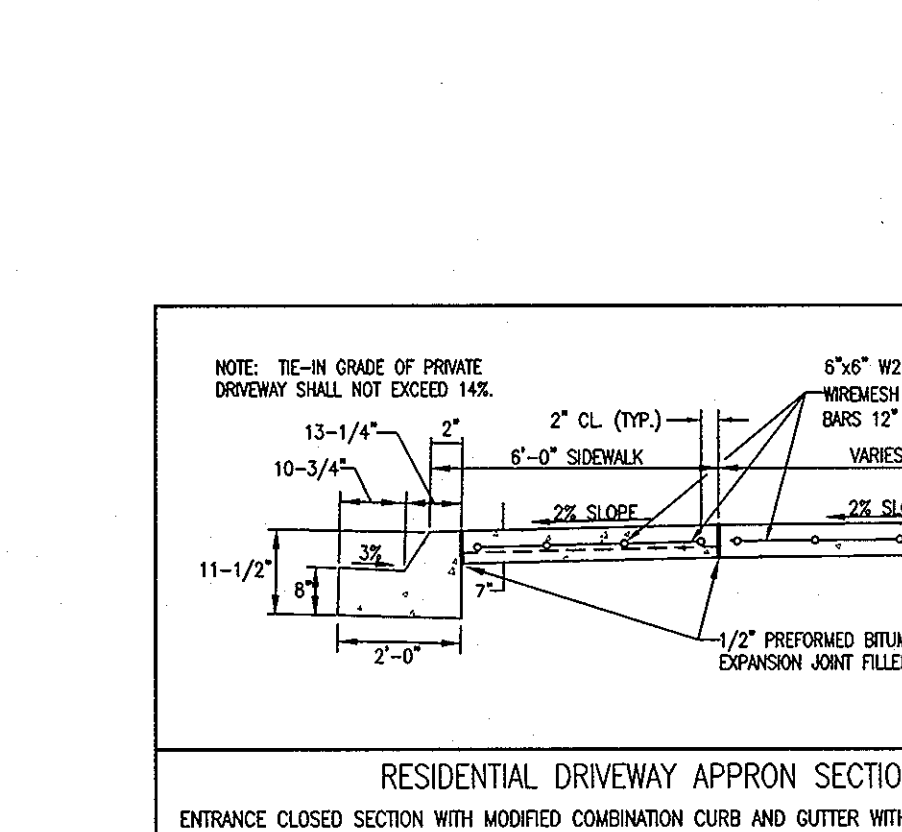
EACH LIFT OF FILL SHOULD BE MONITORED FOR STABILITY, LIFT THICKNESS AND COMPACTION EFFORT. A DENSITY TEST SHOULD BE PERFORMED FOR EACH LIFT OF FILL PLACED PER EVERY 150 FEET OF TRENCH. THIS REQUIREMENT INCLUDES THE UTILITY LATERAL CONNECTIONS. THE TEST PROCEDURE SHOULD BE THE SAND CONE METHOD (ASTM D-1556) OR THE NUCLEAR GAUGE METHOD (ASTM D-2922). THE TEST RESULTS SHOULD BE MADE AVAILABLE TO THE CONTRACTOR UPON THE COMPLETION OF THE TEST. FOR EACH TEST, THE TECHNICIAN SHOULD RECORD THE FOLLOWING: DATE; TEST LOCATION; TEST ELEVATION; MATERIAL TYPE; DEGREE OF COMPACTION; ONE-POINT RESULTS; LIFT THICKNESS; AND MOISTURE CONTENT.



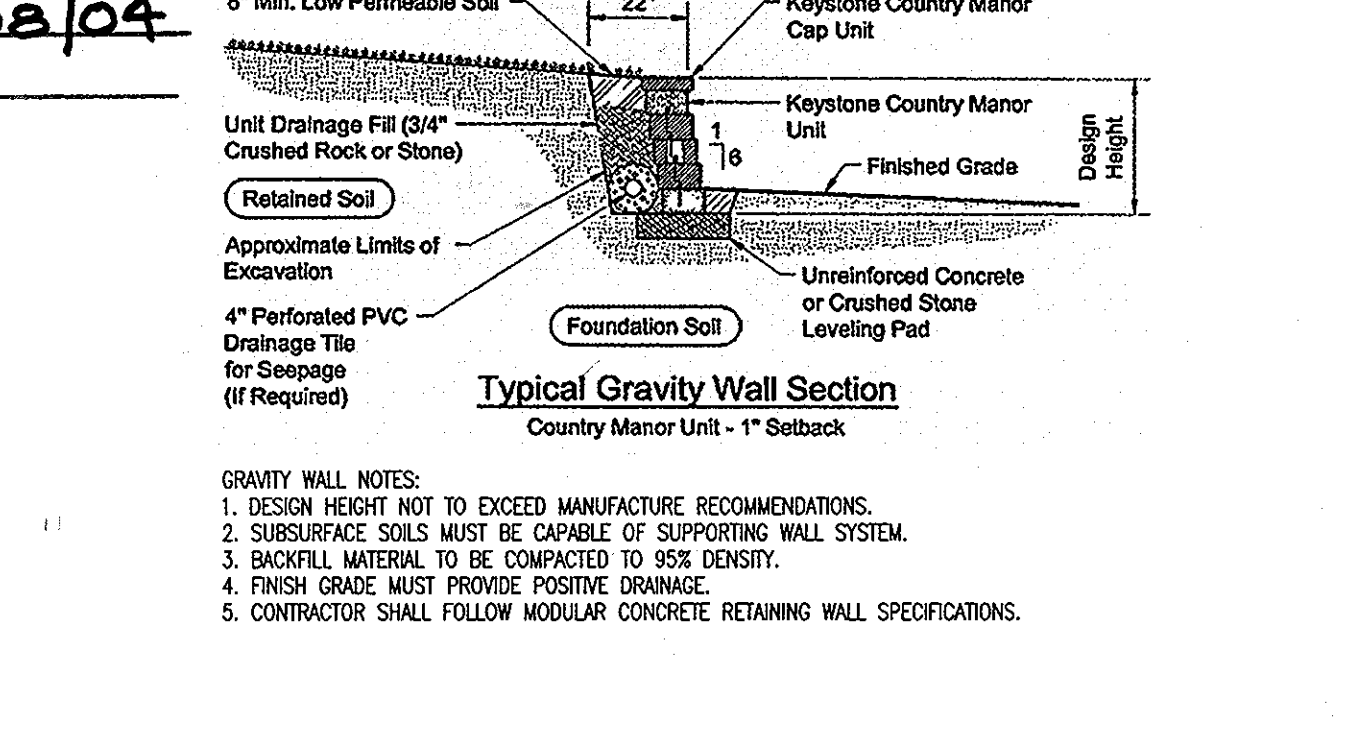
APPROVED PLANNING BOARD OF HOWARD COUNTY
DATE 01/08/04

GENERAL SITEWORK NOTES

- THE CORRECTNESS OR COMPLETENESS OF EXISTING INFORMATION SHOWN ON THE DRAWINGS IS NOT WARRANTED OR GUARANTEED. THE CONTRACTOR SHALL VERIFY THE LOCATION OF UTILITIES AND UNDERGROUND FACILITIES, BY TEST PITS OR OTHER METHODS APPROVED BY THE OWNER'S REPRESENTATIVE, AS REQUIRED TO VERIFY EXACT LOCATIONS AND DEPTHS WITHIN THE LIMIT OF DISTURBANCE (LOD). ALL DISCREPANCIES BETWEEN INFORMATION SHOWN ON THE DRAWINGS AND THAT VERIFIED IN THE FIELD SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK.
- EXISTING UTILITIES ARE TO REMAIN AND SHALL BE ADJUSTED TO PROPOSED FINISH GRADE UNLESS NOTED OTHERWISE ON THE DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS AND WORK REQUIRED TO ADJUST EXISTING AND INSTALL PROPOSED UTILITIES TO FINISH GRADE WITHIN THE LIMIT OF DISTURBANCE (LOD), INCLUDING OFF-SITE EASEMENTS AND PUBLIC RIGHTS-OF-WAY, AS APPLICABLE.
- THE CONTRACTOR SHALL STAKE OUT THE LIMIT OF DISTURBANCE (LOD), THE LOCATION OF PROPOSED BUILDING AND RETAINING WALL LINES AND CORNERS, UTILITIES, ROAD AND DRIVEWAY CENTERLINES, AND PARKING AREAS FOR REVIEW AND APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK.
- EXISTING CURB AND GUTTER, PAVING AND BASE, WALKWAYS, STEPS, AND OTHER EXISTING SURFACES AND FEATURES WITHIN THE LIMIT OF DISTURBANCE (LOD) SHALL BE REMOVED UNLESS NOTED OTHERWISE ON THE DRAWINGS, OR AS SPECIFIED BY THE APPLICABLE SPECIAL CONSTRUCTION NOTES.
- CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STANDARD DETAILS AND SPECIFICATIONS ALONG WITH APPLICABLE FEDERAL, STATE, COUNTY AND LOCAL REGULATIONS, STANDARDS AND SPECIFICATIONS. REFER TO THE DRAWINGS, AND PROJECT MANUAL, IF PART OF THE CONTRACT DOCUMENTS, FOR DESIGNATED MODIFICATIONS AND ADDITIONAL INFORMATION. CONTRACTOR SHALL COMPLY WITH APPLICABLE OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) LAWS AND REGULATIONS FOR WORK ON THIS PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS, NOT OBTAINED AND FURNISHED TO THE CONTRACTOR BY THE OWNER, AND PAYING RELATED FEES REQUIRED TO COMPLETE THE WORK ON THIS PROJECT.
- THE CONTRACTOR SHALL REPLACE AT NO ADDITIONAL COST TO THE OWNER, EXISTING CURB AND GUTTER, PAVING, SIDEWALKS, TREES, PLANT MATERIAL AND OTHER ITEMS EXCISED TO REMAIN ON THE SITE AND WITHIN THE PUBLIC RIGHTS-OF-WAY WHICH ARE DAMAGED DURING CONSTRUCTION. AREAS DISTURBED, BUT NOT DESIGNATED FOR PAVING OR PLANTING AREAS, SHALL BE PERMANENTLY STABILIZED BY SEEDING OR SOODING IN ACCORDANCE WITH THE VEGETATIVE STABILIZATION NOTES ON THE DRAWINGS, AND SPECIFICATIONS IN THE PROJECT MANUAL WHEN APPLICABLE.
- CURB AND GUTTER SHALL BE CONSTRUCTED WITH "REGULAR CROSS SLOPE" OR "REVERSE CROSS SLOPE" AS REQUIRED TO REFLECT THE DIRECTION OF SLOPE ON ADJACENT PAVING. REFER TO THE DRAWINGS FOR CURB AND GUTTER DETAILS. CURB AND GUTTER SHALL BE CONSTRUCTED WITH SMOOTH VERTICAL CURVE TRANSITIONS AT ALL HIGH POINT, LOW POINT AND INLET LOCATIONS.
- SANITARY SEWER AND STORM DRAIN PIPE ELEVATIONS ARE TO THE INVERT UNLESS NOTED OTHERWISE ON THE DRAWINGS. UTILITY MANHOLES AND STORM DRAIN STRUCTURE FRAMES, GRATES, AND INLET HEADPIECES SHALL BE ADJUSTED AND INSTALLED AT THE SAME LINE, GRADE AND CROSS SLOPE OF PROPOSED FINISH GRADE IN ADJACENT LAWN AND PAVED AREAS.
- WATER LINES SHALL BE INSTALLED WITH A MINIMUM COVER OF THREE AND A HALF FEET (3'-6") ABOVE THE TOP OF PIPE UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- SANITARY SEWER, ROOF AND STORM DRAIN CLEANOUTS LOCATED WITHIN PAVED AREAS SHALL BE A "FLUSH TYPE" INSTALLED AT THE SAME ELEVATION AS THE SURROUNDING PAVEMENT. REFER TO THE DRAWINGS FOR ADDITIONAL INFORMATION.
- AREAS ADJACENT TO BUILDINGS, UNLESS OTHERWISE NOTED ON THE DRAWINGS, SHALL BE GRADED TO DIVERT WATER AWAY AT THE FOLLOWING MINIMUM GRADIENTS:
CONCRETE AND IMPERVIOUS SURFACES: 1% MINIMUM
LAWN AND PERVIOUS SURFACES: 2% MINIMUM
- WHERE NEW CURB AND GUTTER MEETS EXISTING CURB AND GUTTER, THE EXISTING SHALL BE REMOVED TO THE NEAREST JOINT, OR SAW CUT TO PROVIDE A CLEAN, UNIFORM JOINT WITH THE NEW CURB AND GUTTER.
- PROPOSED SPOT ELEVATIONS SHOWN IN DRIVEWAYS, SERVICE AND PARKING AREAS ARE THE TOP OF PAVED SURFACES AND BOTTOM OF CURBS UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- WHERE NEW CURB IS INSTALLED ADJACENT TO EXISTING PAVEMENT WHICH IS TO RECEIVE AN OVERLAY, THE OVERLAY THICKNESS MAY VARY AS REQUIRED (MINIMUM OF 1-INCH) IN ORDER TO MAINTAIN THE SPECIFIED CURB REVEAL AS SHOWN ON THE DETAILS. IT IS ANTICIPATED THAT MINOR FIELD ADJUSTMENT TO THE TOP OF CURB ELEVATIONS NOTED ON THE DRAWINGS MAY BE NECESSARY IN ORDER TO PROVIDE A UNIFORM CURB REVEAL. PROVIDE SMOOTH TRANSITION OF THE FINISHED SURFACE AND MAINTAIN FLOW ALONG THE CURBLINE INTO DRAINAGE STRUCTURES. CONTACT THE OWNER'S REPRESENTATIVE FOR APPROVAL OF ADJUSTMENTS PRIOR TO INSTALLING NEW CURB.
- REFER TO CONSTRUCTION DOCUMENTS PREPARED BY THE MECHANICAL OR ELECTRICAL ENGINEER FOR DISPOSITION OF EXISTING AND CONSTRUCTION OF NEW LIGHTING, COMMUNICATION, AND ELECTRICAL SERVICES, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- THE STORM DRAIN PIPES SHOULD BE FURNISHED AND INSTALLED WITH "O-RING GASKETED" BELL AND SPIGOT JOINTS TO PROVIDE A WATER-TIGHT JOINT.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT (800) 257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- CONTRACTOR TO ADHERE TO ALL FEDERAL, STATE, AND LOCAL CODE AND PERMIT REQUIREMENTS.



APPROVED PLANNING BOARD OF HOWARD COUNTY
DATE 01/08/04



OWNER: B. NAME: BRIAN KNAUFF B. DAYTIME TELEPHONE: (410) 712-9864
C. COMPANY: THE RYLAND GROUP, INC.
D. ADDRESS: 7250 PARKWAY DRIVE, SUITE 520
E. CITY: HANOVER STATE: MD ZIP: 21076

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
COUNTY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT
APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION
CHIEF, DIVISION OF LAND DEVELOPMENT
DIRECTOR

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
9090 JUNCTION DRIVE, SUITE 9
ANNAPOLIS JUNCTION, MARYLAND 20701
(410) 792-9792 or (301) 776-1690
FAX (410) 792-7395

SNOWDEN RIVER BUSINESS PARK
SECTION 1 AREA 1, PARCEL C-1 AND PART OF PARCEL E
KENDALL OVERLOOK
AGE RESTRICTED ADULT HOUSING
SITE DETAILS
L. 7720 F. 271
ZONED: MT TAX MAP: 37 GRID: 19 PARCEL 725
ELECTION DISTRICT NO.: 6 HOWARD COUNTY, MARYLAND

DATE: 2-4-05 REVISIONS: GATEHOUSE RELOCATION & SHEET NUMBERING
JOB NO.: 12735
SCALE: AS SHOWN
DATE: 03/10/04
DRAWN BY: BRS/GR/L
DESIGN BY: GR/L/CAO
REVIEW BY: PVM
SHEET: 5 OF 209

LEGEND

- ===== EXISTING CURB
- EXISTING PROPERTY LINE
- EXISTING ZONING LINE
- PROPOSED DRIVEWAY
- PROPOSED TOWNHOME CENTER LINE OF ROAD
- PROPOSED TOWNHOME UNIT NUMBER
- PROPOSED P-3 PAVEMENT SECTION
- PROPOSED P-2 PAVEMENT SECTION
- PROPOSED GRASSY PAVED SECTION
- PROPOSED SIDEWALK SECTION
- PROPOSED MODIFIED CURB & GUTTER
- PROPOSED STANDARD CURB & GUTTER
- PROPOSED STREET LIGHT

PROPERTY LINE CURVE TABULATION

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C-1	750.00	368.88	188.36	364.77	S 03°27'24" W	28°56'11"
C-11	670.00	352.81	180.49	348.56	N 03°20'53" W	30°09'15"

ROAD CENTERLINE CURVE TABULATION

CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C-2	1200.00	86.63	45.30	84.76	S 70°04'23" W	41°21'48"
C-3	1500.00	99.37	51.56	97.51	S 85°21'55" W	37°58'11"
C-4	1000.00	24.34	12.23	24.28	S 80°21'16" W	15°58'47"
C-5	42.00	68.75	42.79	59.95	S 27°50'57" W	81°03'51"
C-6	50.00	62.91	35.95	59.14	S 52°20'26" E	69°18'56"
C-7	200.00	74.79	37.84	74.36	N 82°17'18" E	21°25'37"
C-8	67.00	79.14	44.92	74.62	N 37°44'03" E	67°40'54"
C-9	300.00	233.01	122.74	227.20	N 18°21'28" W	44°30'07"
C-10	30.00	21.13	11.02	20.69	N 37°51'53" W	46°21'11"

ROAD CENTERLINE LINE TABULATION

LINE	BEARING	DISTANCE
L-1	N 49°23'29" E	8.17
L-2	S 58°07'09" E	11.84
L-3	S 40°36'31" E	26.48

APPROVED
PLANNING BOARD
 of HOWARD COUNTY
 DATE: 01/08/04

- NOTE:
- ① 5' TRANSITION FROM STANDARD TO MODIFIED CURB & GUTTER, SEE DETAIL ON SHEET C-8.
 - ② 5' TRANSITION FROM MODIFIED TO STANDARD CURB & GUTTER, SEE DETAIL ON SHEET C-8.
- CURB AND GUTTER SHALL MEET HOWARD COUNTY STANDARD DETAIL R-3.01.

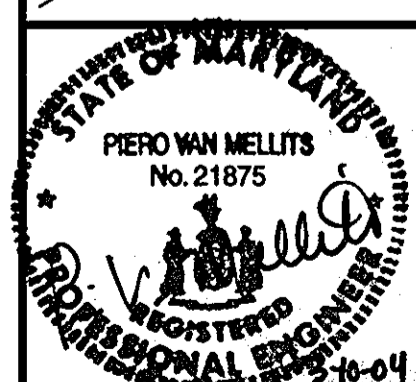
OWNER: _____ FAX NO: (410) 712-9864
 A. NAME: BRIAN KNAUFF B. DAYTIME TELEPHONE: (410) 712-7012
 C. COMPANY: THE RYLAND GROUP, INC.
 D. ADDRESS: 7250 PARKWAY DRIVE, SUITE 520
 E. CITY: HANOVER STATE: MD ZIP: 21076

SHEET: **C-6**



MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

8090 JUNCTION DRIVE, SUITE 9
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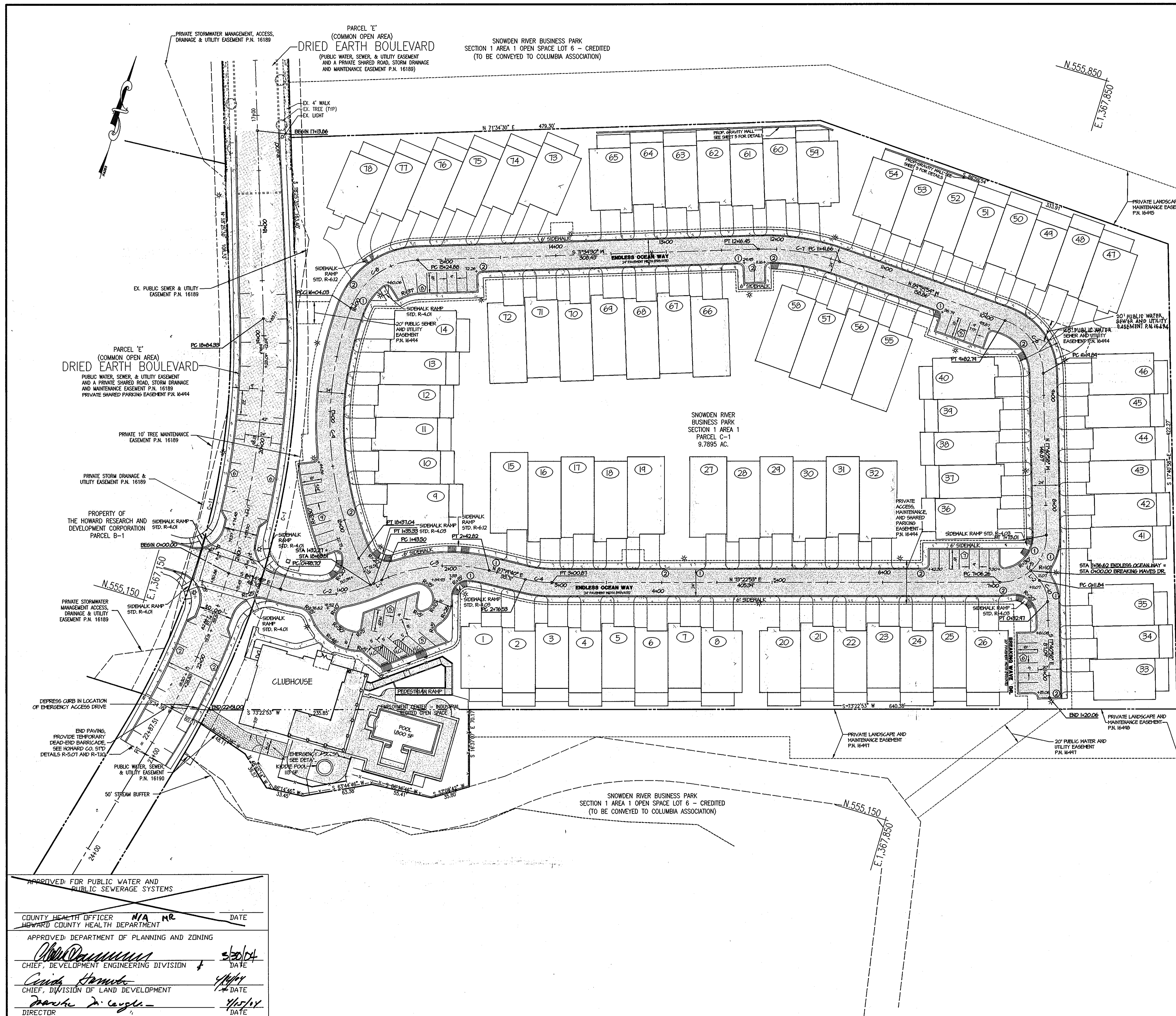


SNOWDEN RIVER BUSINESS PARK
 SECTION 1 AREA 1, PARCEL C-1 AND PART OF PARCEL E
KENDALL OVERLOOK
 AGE RESTRICTED ADULT HOUSING
PAVING PLAN

L 7720 F. 271
 ZONED: NT TAX MAP: 37 GRID: 19 PARCEL 725
 ELECTION DISTRICT NO.: 6 HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO:	12735
8-29-04	REVISED UNIT, CLUBHOUSE & POOL FOOTPRINTS.	SCALE:	1" = 40'
	CURB LAYOUT IN DRIED EARTH PLVD. ADDED UTILITY ESMT.	DATE:	03/10/04
2-4-05	GATEHOUSE RELOCATION & SHEET NUMBERING	DRAWN BY:	BRS/GRL
		DESIGN BY:	GRL/CAO
		REVIEW BY:	PVM
		SHEET:	6 OF 20

SDP-03-163



APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

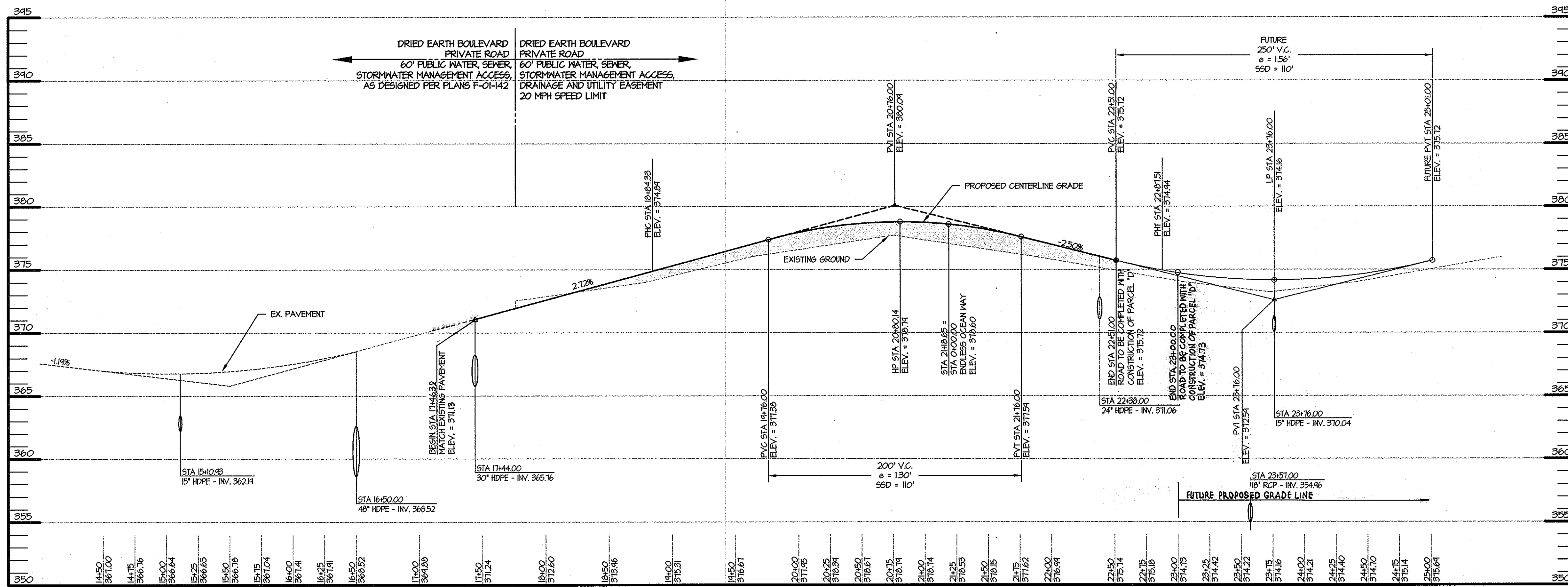
COUNTY HEALTH OFFICER: N/A MR DATE: _____
 HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 5/20/04
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

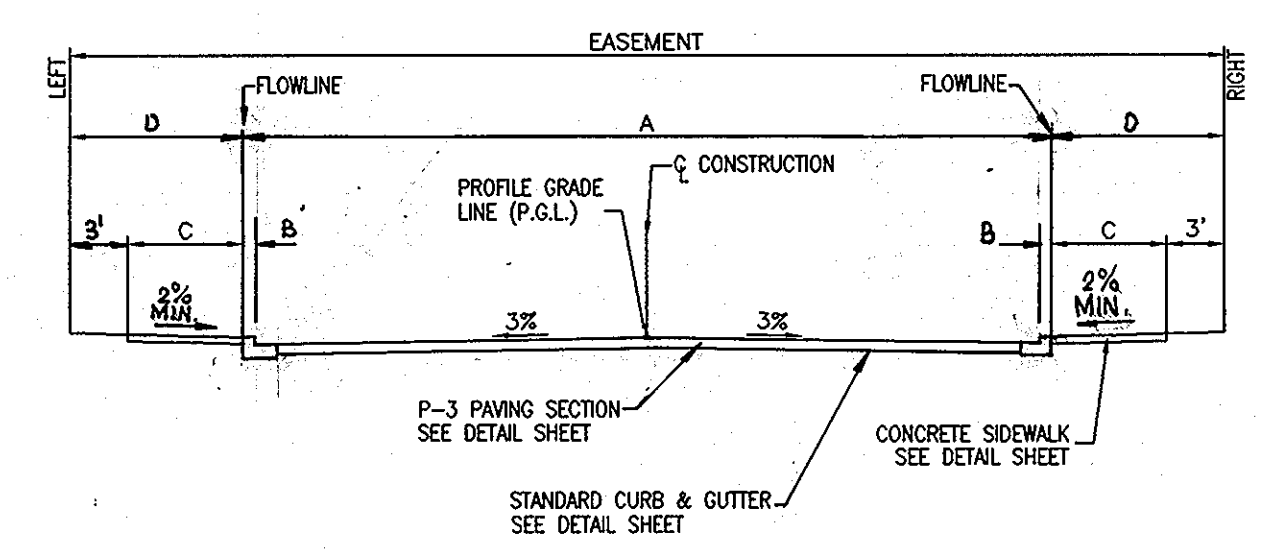
[Signature] 4/16/04
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 4/15/04
 DIRECTOR DATE



DRIED EARTH BLVD. (PRIVATE)
SPEED LIMIT - 20 MPH

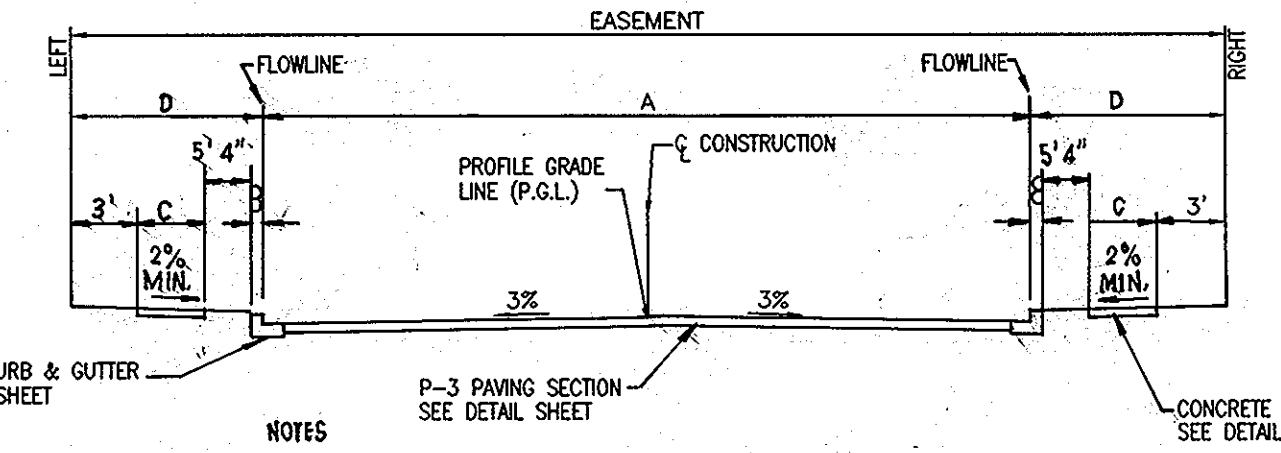
HOR. 1" = 50'
 VERT. 1" = 5'



NOTES
 1. STREET TREES MAY BE PLANTED IN SPACE BETWEEN SIDEWALK AND CURB.

A	B	C	D	EASEMENT
42"	8"	6"	8"	60'

ROAD CROSS SECTION A
STANDARD CURB



NOTES
 1. STREET TREES MAY BE PLANTED IN SPACE BETWEEN SIDEWALK AND CURB.

A	B	C	D	EASEMENT
30"	8"	6"	15"	60'

ROAD CROSS SECTION B
STANDARD CURB

STATION	SECTION	TRANSITION
17+46.32	NOM. TYPICAL SECTION * 38' WIDE	NON-TYPICAL SECTION-A
18+46.32	A	NONE
20+64.17	TRANSITION	A-B
20+74.04	B	NONE
21+66.26	TRANSITION	B-A
21+73.13	A	NONE
23+00.00	A	NONE

* SEE PLAN FOR DETAILED GRADING

APPROVED
 PLANNING BOARD
 of HOWARD COUNTY

DATE 01/08/04

PROVIDE CONTROLLED FILL TO 95%
 COMPACTION PER AASHTO T-180.
 PLACEMENT TO BE APPROVED BY THE
 GEOTECHNICAL ENGINEER.

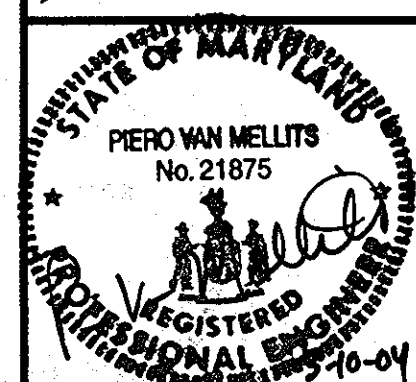
OWNER		FAX NO. (410) 712-9864	
A. NAME: BRIAN KNAUFF	B. DAYTIME TELEPHONE: (410) 712-7012		
C. COMPANY: THE RYLAND GROUP, INC.			
D. ADDRESS: 7250 PARKWAY DRIVE, SUITE 520			
E. CITY: HANDOVER STATE: MD ZIP: 21076			

SHEET: **C-7**



MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

9090 JUNCTION DRIVE, SUITE 9
 ANNAPOLIS JUNCTION, MARYLAND 20701
 (410) 792-9792 or (301) 776-1690
 FAX (410) 792-7396



SNOWDEN RIVER BUSINESS PARK
 SECTION 1 AREA 1, PARCEL C-1 AND PART OF PARCEL E
KENDALL OVERLOOK
 AGE RESTRICTED ADULT HOUSING
ROAD PROFILES

L 7720 F. 271
 ZONED: NT TAX MAP: 37 GRID: 19 PARCEL 725
 ELECTION DISTRICT NO.: 6 HOWARD COUNTY, MARYLAND

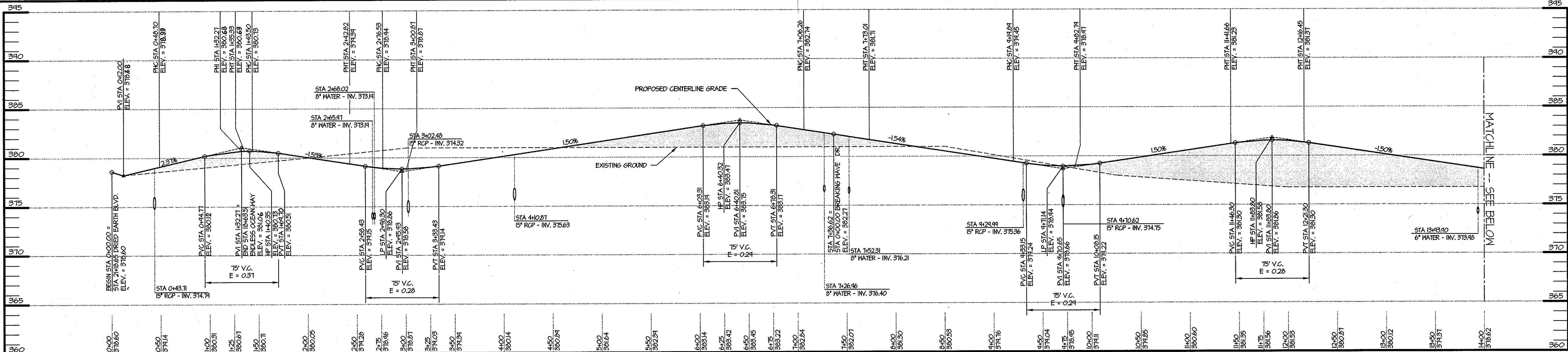
DATE	REVISIONS	JOB NO:
8-29-04	REVISED ROAD SECTIONS & SECTION TABLE AND ROAD PROFILE.	12735
2-4-05	GATEHOUSE RELOCATION & SHEET NUMBERING	SCALE: AS SHOWN
		DATE: 03/10/04
		DRAWN BY: BRS/GRL
		DESIGN BY: GRL/CAO
		REVIEW BY: PVM
		SHEET: 7 OF 297

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

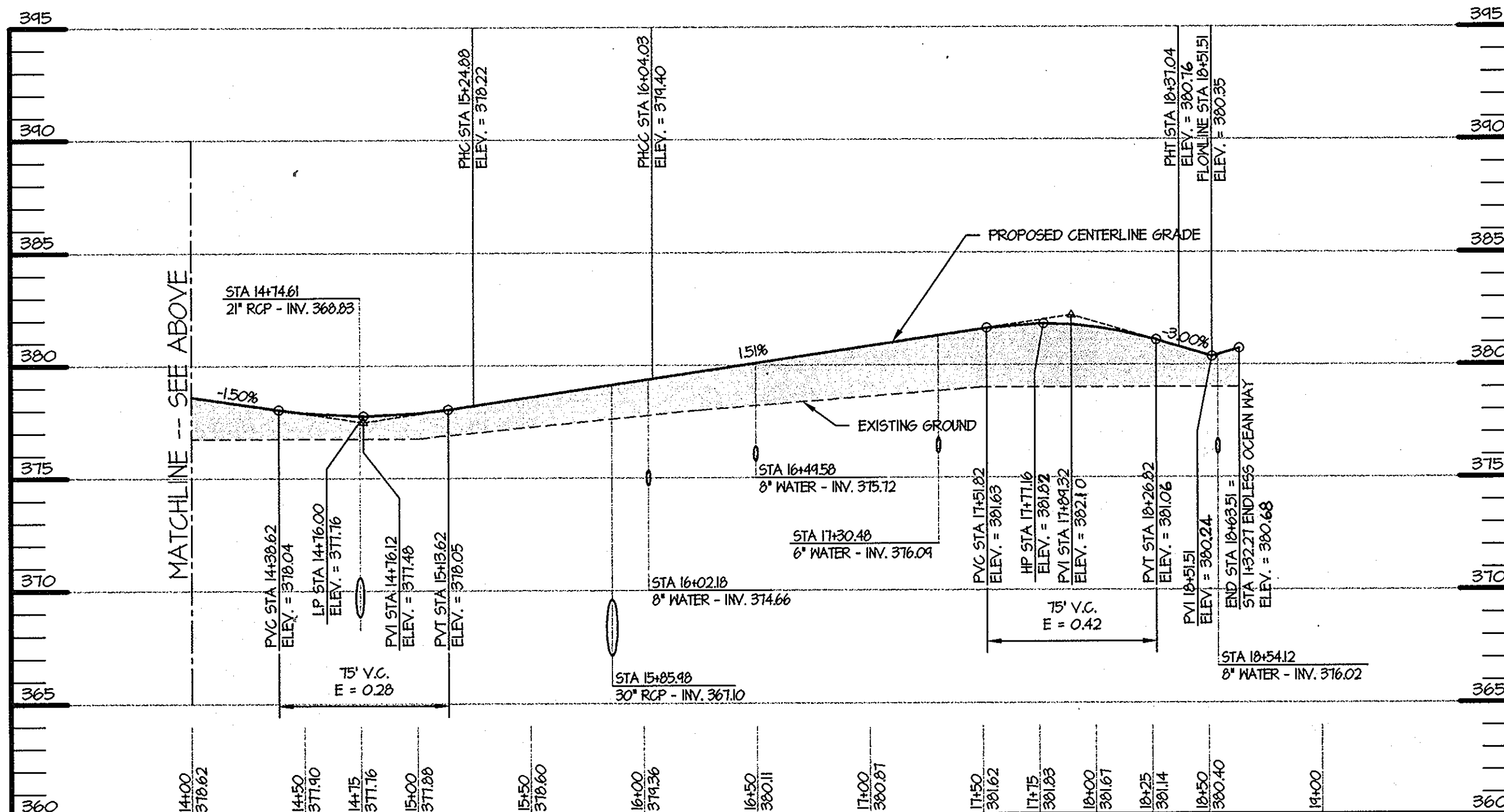
COUNTY HEALTH OFFICER: *N/A* DATE: _____
 HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

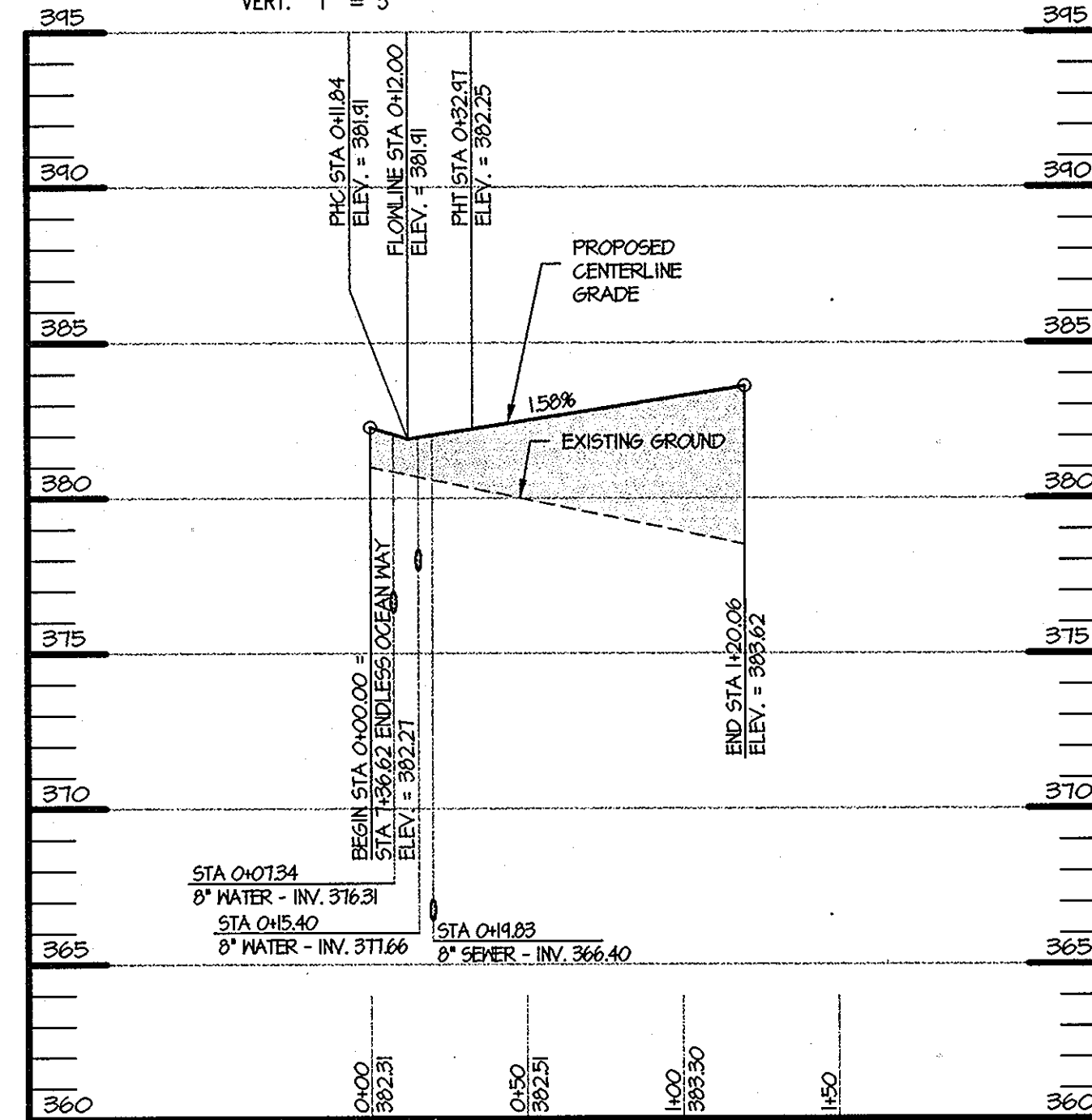
Chief, Development Engineering Division: *[Signature]* DATE: 2/20/04
 Chief, Division of Land Development: *[Signature]* DATE: 2/11/04
 Director: *[Signature]* DATE: 2/11/04



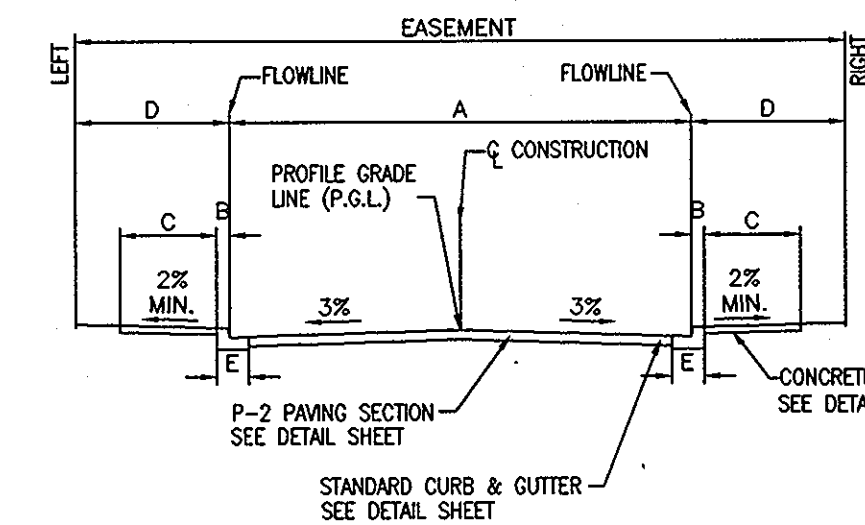
**ENDLESS OCEAN WAY- SPEED LIMIT 15MPH
ROAD CROSS SECTION 'C'**



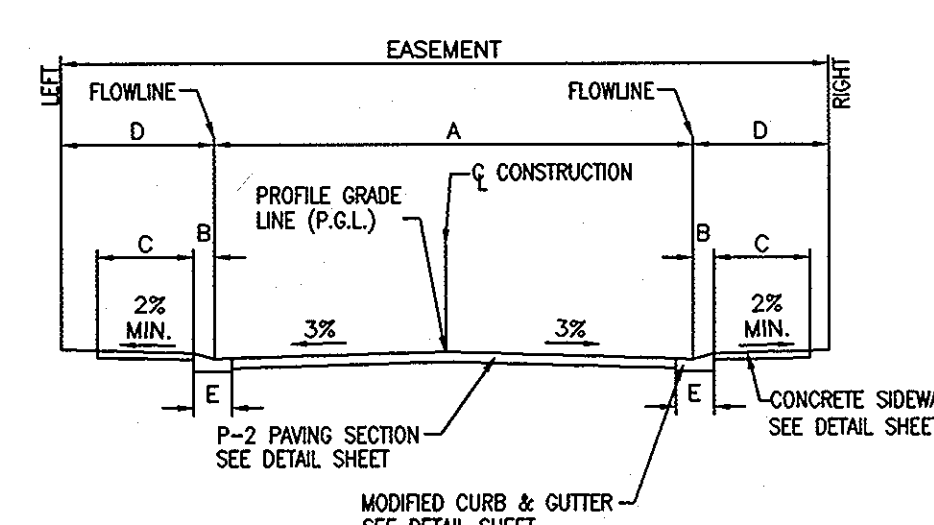
**ENDLESS OCEAN WAY - SPEED LIMIT 15MPH
ROAD CROSS SECTION 'C'**



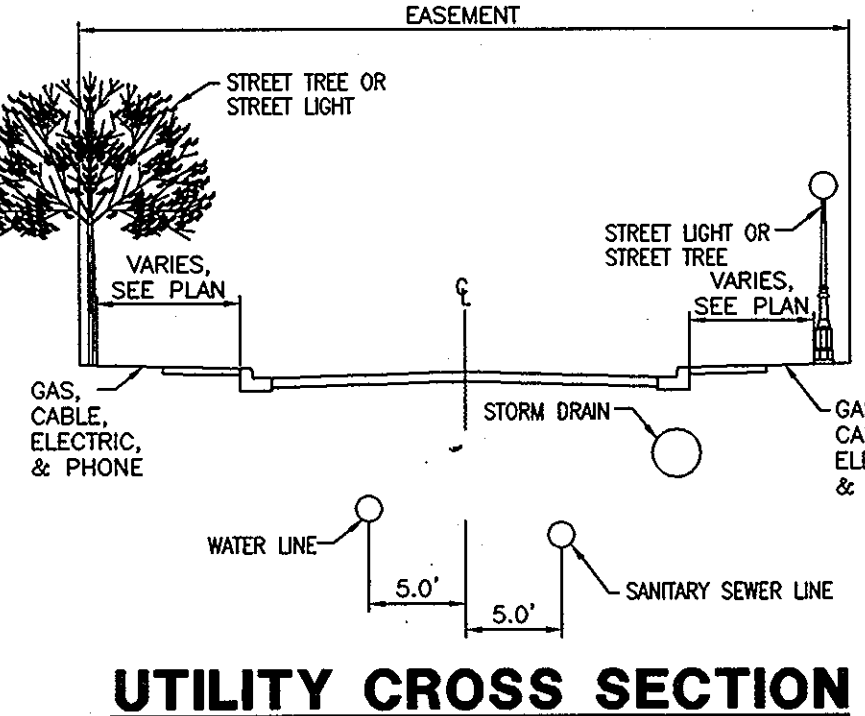
**BREAKING WAVE DRIVE- SPEED LIMIT 15MPH
ROAD CROSS SECTION 'D'**



**ROAD CROSS SECTION 'C'
STANDARD CURB**



**ROAD CROSS SECTION 'C'
ALTERNATE FOR 2' MODIFIED CURB**



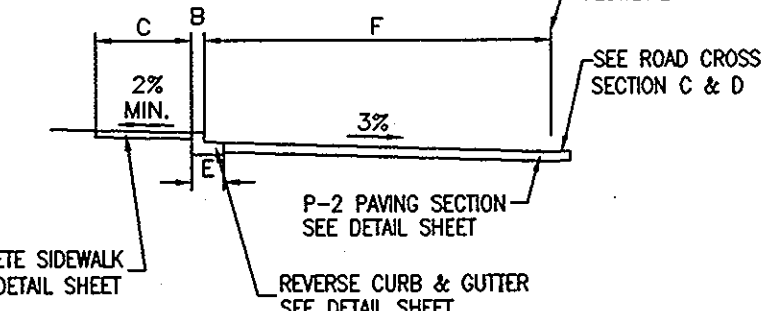
UTILITY CROSS SECTION

PROVIDE CONTROLLED FILL TO 95% COMPACTION PER AASHTO T-180. PLACEMENT TO BE APPROVED BY THE GEOTECHNICAL ENGINEER.

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE: 01/08/04

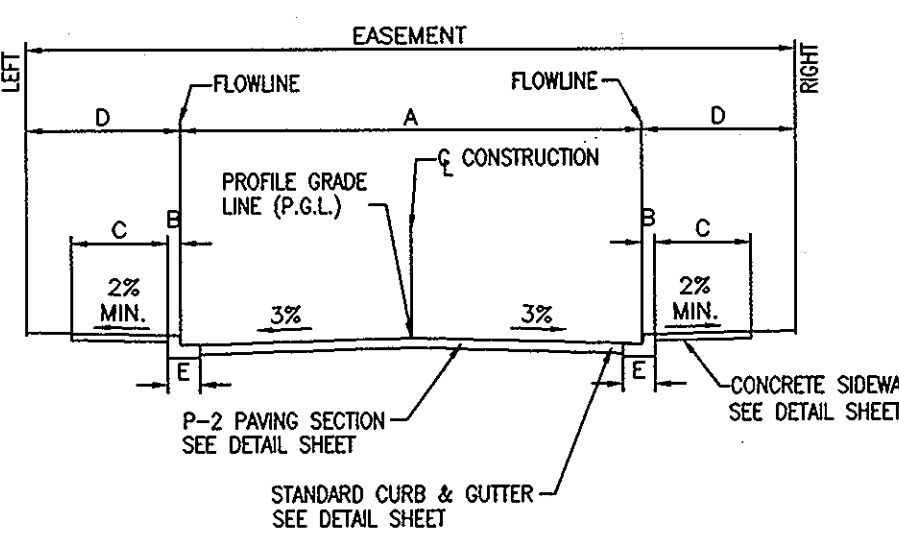
DIVISION: **BRIAN KNAUFF** FAX NO: (410) 712-9864
A. NAME: **BRIAN KNAUFF** B. DAYTIME TELEPHONE: (410) 712-7012
C. COMPANY: **THE RYLAND GROUP, INC.**
D. ADDRESS: **7250 PARKWAY DRIVE, SUITE 520**
E. CITY: **HANDOVER** STATE: **MD** ZIP: **21076**

SHEET: **C-8**

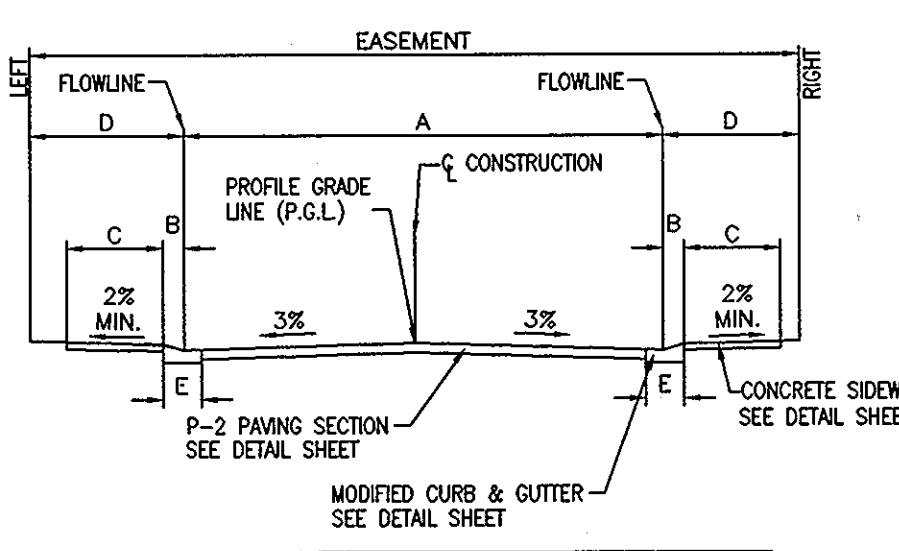


**ROAD-SIDE PARKING SECTION
STANDARD CURB**

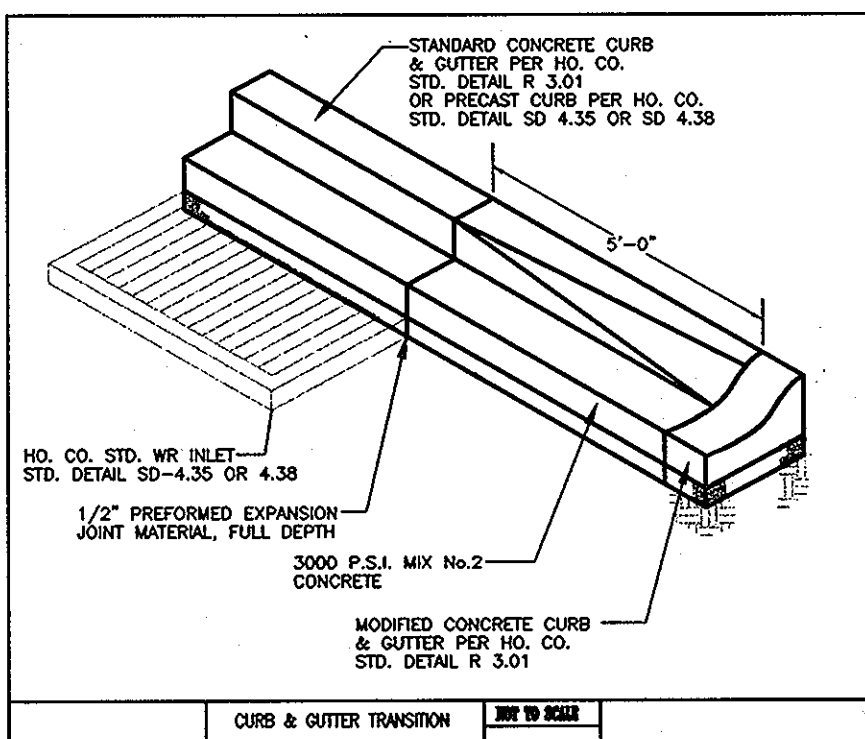
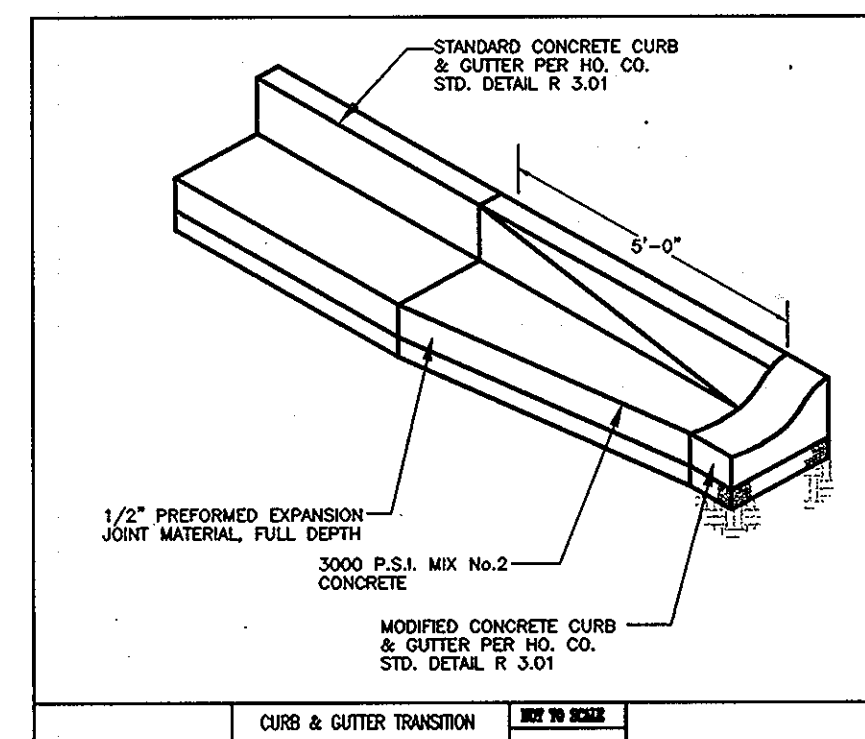
SEE ROAD PLANS FOR LOCATION OF STANDARD CURB, MODIFIED CURB AND CURB TRANSITION AREAS.



**ROAD CROSS SECTION 'D'
STANDARD CURB**



**ROAD CROSS SECTION 'D'
ALTERNATE FOR 2' MODIFIED CURB**



MORRIS & RITCHIE ASSOCIATES, INC.
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FAX (410) 792-7395

SNOWDEN RIVER BUSINESS PARK
SECTION 1 AREA 1, PARCEL C-1 AND PART OF PARCEL E
KENDALL OVERLOOK
AGE RESTRICTED ADULT HOUSING
ROAD PROFILES

L 7720 F. 271
ZONED: NT TAX MAP: 37 GRID: 19 PARCEL 725
ELECTION DISTRICT NO.: 6 HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO:
8-27-04	REVISED STREET GRADE ELEVATIONS	12735
2-4-05	GATEHOUSE RELOCATION & SHEET NUMBERING	SCALE: AS SHOWN
		DATE: 03/10/04
		DRAWN BY: BRS/GRL
		DESIGN BY: GRL/CAO
		REVIEW BY: PVM
		SHEET: 8 OF 29

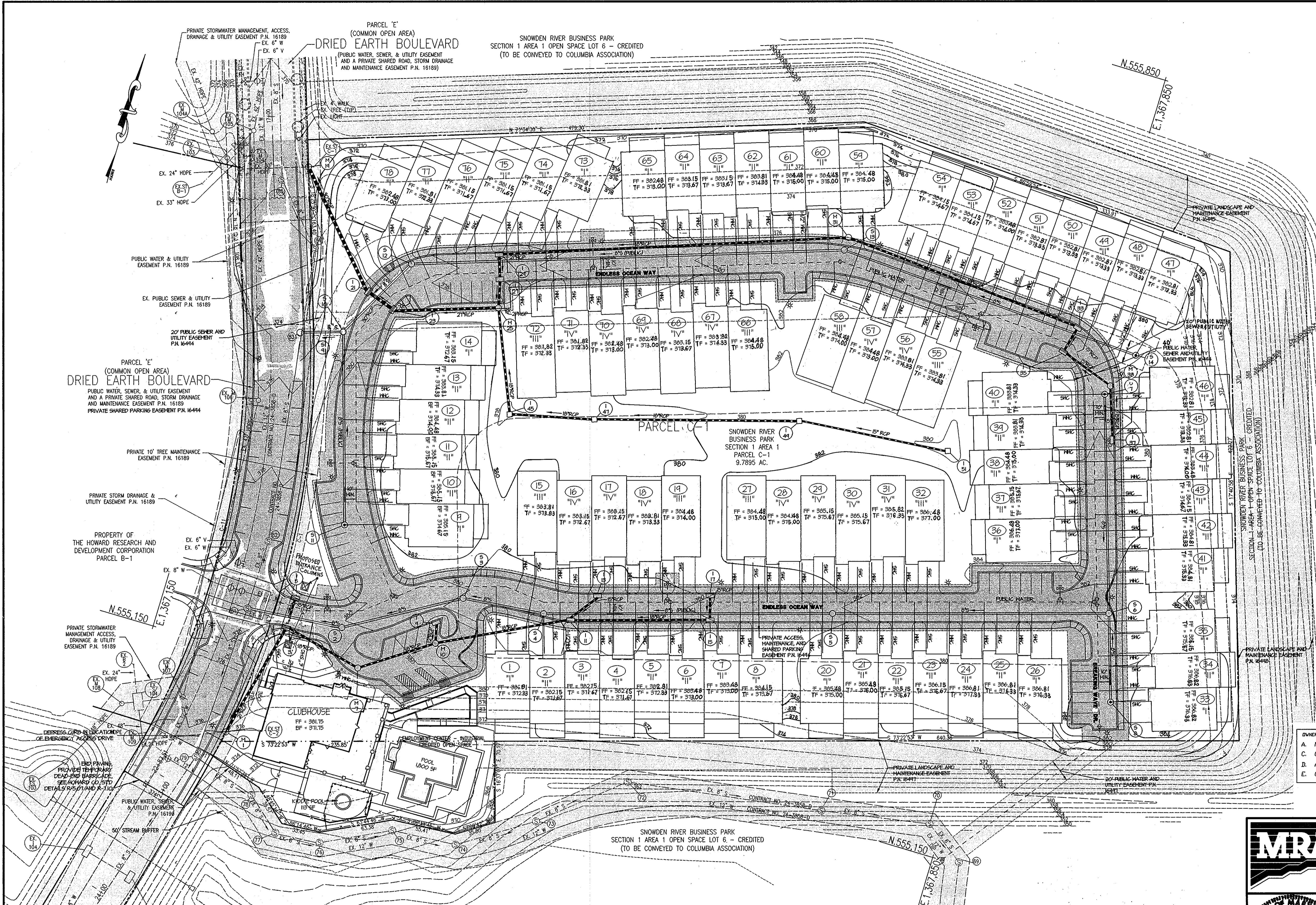
NOTES:
1. SECTION SHALL BE MIRRORED FOR PARKING ON OTHER SIDE OF ROAD.
2. SEE TYPICAL PARKING SECTION FOR PRIVATE ROADWAY, HO. CO. R-5-11.

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT
DATE: 3/25/04

APPROVED: DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY HEALTH DEPARTMENT
DATE: 4/15/04

APPROVED: **DEPARTMENT OF PLANNING AND ZONING**
DATE: 4/15/04

CHIEF, DEVELOPMENT ENGINEERING DIVISION
CHIEF, DIVISION OF LAND DEVELOPMENT
DIRECTOR



LEGEND

- 258 --- EXISTING 2' CONTOUR
- EXISTING EASEMENT
- ===== EXISTING CURB
- EXISTING PROPERTY LINE
- EXISTING ZONING LINE
- EX. 8" S --- EXISTING SANITARY SEWER
- EX. 15" HDPE --- EXISTING STORM DRAIN
- EX. 8" W --- EXISTING WATER LINE
- PROPOSED CURB & GUTTER
- PROPOSED DRIVEWAY
- PROPOSED TOWNHOME
- 260 --- PROPOSED 10' CONTOUR
- 258 --- PROPOSED 2' CONTOUR
- 8" S --- PROPOSED PUBLIC SANITARY SEWER
- 15" HDPE --- PROPOSED PRIVATE STORM DRAIN
- 8" W --- PROPOSED 4" SEWER HOUSE CONNECTION
- * --- PROPOSED STREET LIGHT
- MKC --- PROPOSED WATER HOUSE CONNECTION
- --- PROPOSED PUBLIC WATER LINE
- --- PROPOSED PUBLIC FIRE HYDRANT
- --- PROPOSED PUBLIC WATER TEE
- --- PROPOSED PUBLIC WATER VALVE (W/ 2 VALVES)
- PUBLIC WATER & UTILITY EASEMENT
- PUBLIC SEWER & UTILITY EASEMENT
- PRIVATE ACCESS, MAINTENANCE, & SHARED PARKING EASEMENT
- PRIVATE LANDSCAPE & MAINTENANCE EASEMENT
- PREVIOUSLY RECORDED EASEMENT

NOTE:
ALL UNITS TO HAVE WATER METERS LOCATED INSIDE.

APPROVED
FOR PUBLIC WATER AND
SEWERAGE SYSTEMS
DATE: 01/08/04

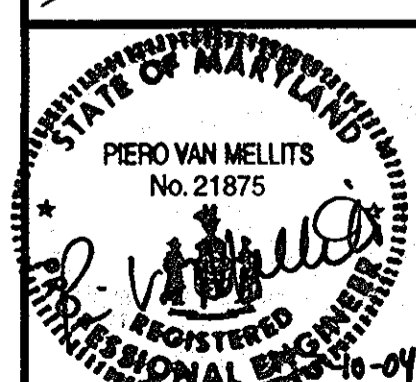
OWNER: B. NAME: BRIAN KNAUFF FAX NO: (410) 712-9864
 A. COMPANY: THE RYLAND GROUP, INC. B. DAYTIME TELEPHONE: (410) 712-7012
 C. ADDRESS: 7250 PARKWAY DRIVE, SUITE 520
 D. CITY: HANDOVER STATE: MD ZIP: 21076
 E. CITY: HANDOVER STATE: MD ZIP: 21076

SHEET: **C-9**



MORRIS & RITCHIE ASSOCIATES, INC.
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UTILITY PLAN

L 7720 F. 271
ZONED: NT TAX MAP: 37 GRID: 19 PARCEL 725
ELECTION DISTRICT NO.: 6 HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO:	12735
8-27-04	REVISED GRADES, BLDG. FOOTPRINTS, SANITARY SEWER LOCATION, CURB LAYOUT IN DRIED EARTH BLDY., AND ADDED UTILITY EASEMENT.	SCALE:	1" = 40'
12-17-04	REVISED FF ELEV'S AND GRADES	DATE:	03/10/04
2-4-05	GATE HOUSE RELOCATION & SHEET NUMBERING	DRAWN BY:	BRS/GRL
		DESIGN BY:	GRL/CAO
		REVIEW BY:	PVM
		SHEET:	9 OF 29

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER: *N/A* DATE: _____
 HOWARD COUNTY HEALTH DEPARTMENT

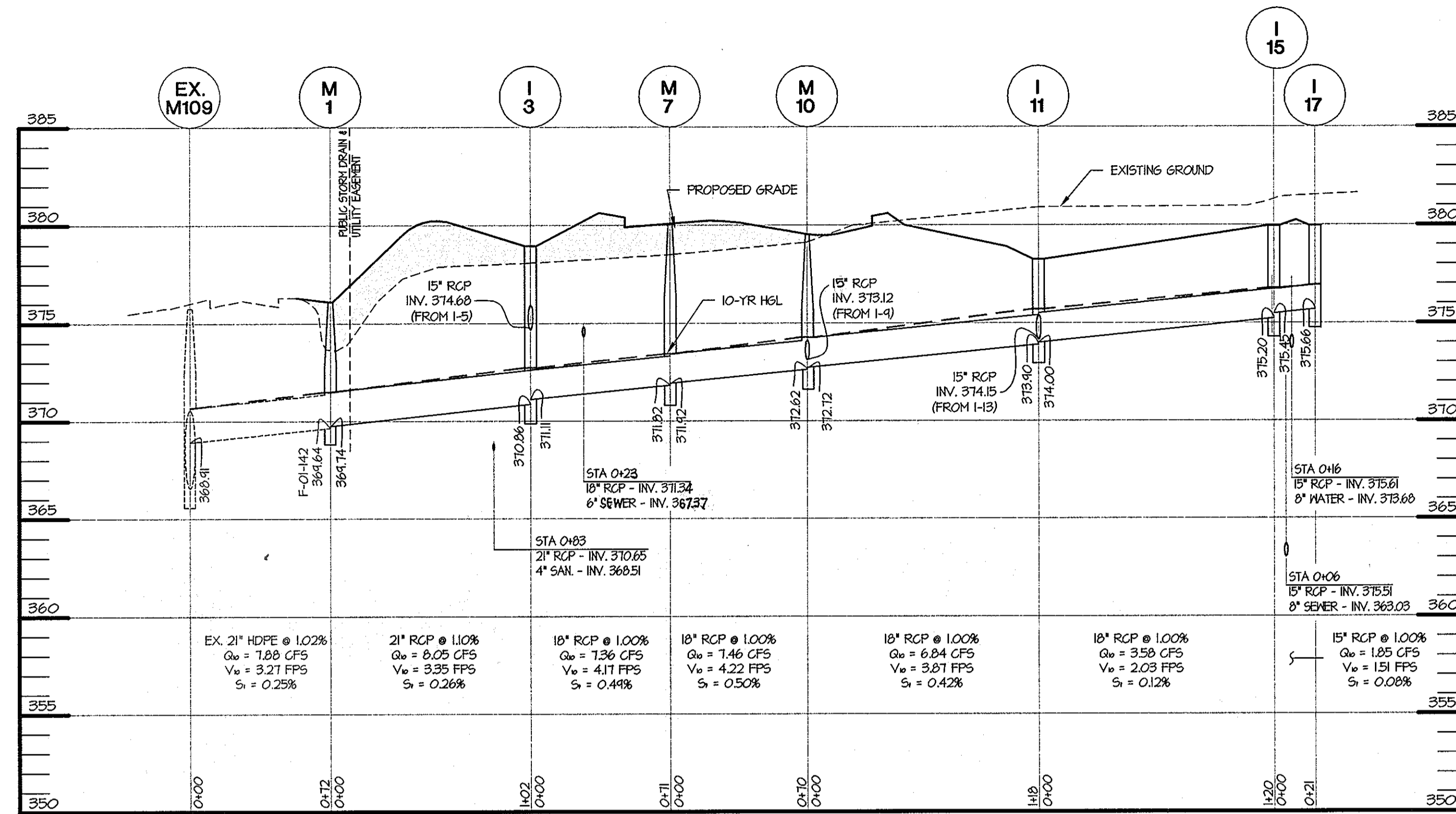
APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] DATE: 3/22/04
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] DATE: 4/14/04
 CHIEF, DIVISION OF LAND DEVELOPMENT

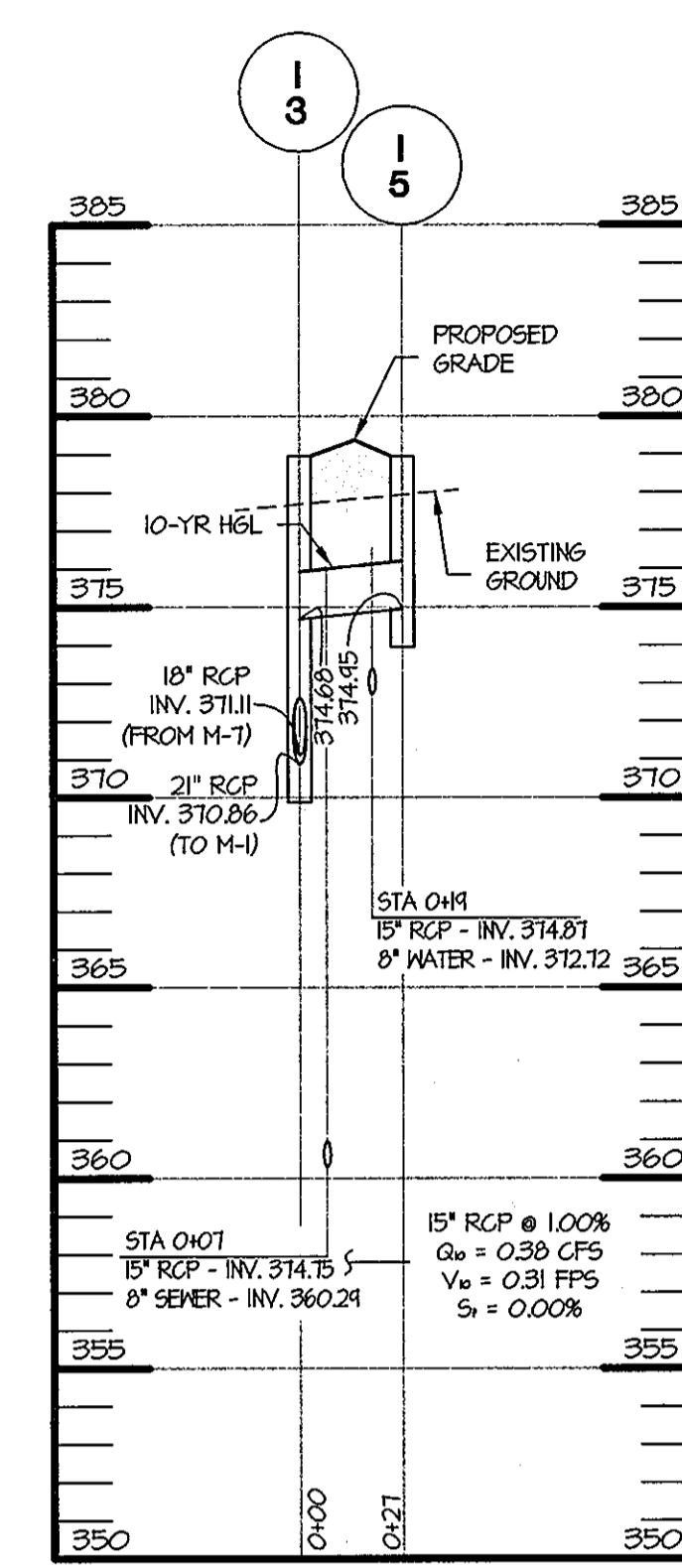
[Signature] DATE: 4/15/04
 DIRECTOR

FOR PUBLIC WATER AND SEWER LINE PLANS AND PROFILES SEE CONTRACT # 24-4130-D



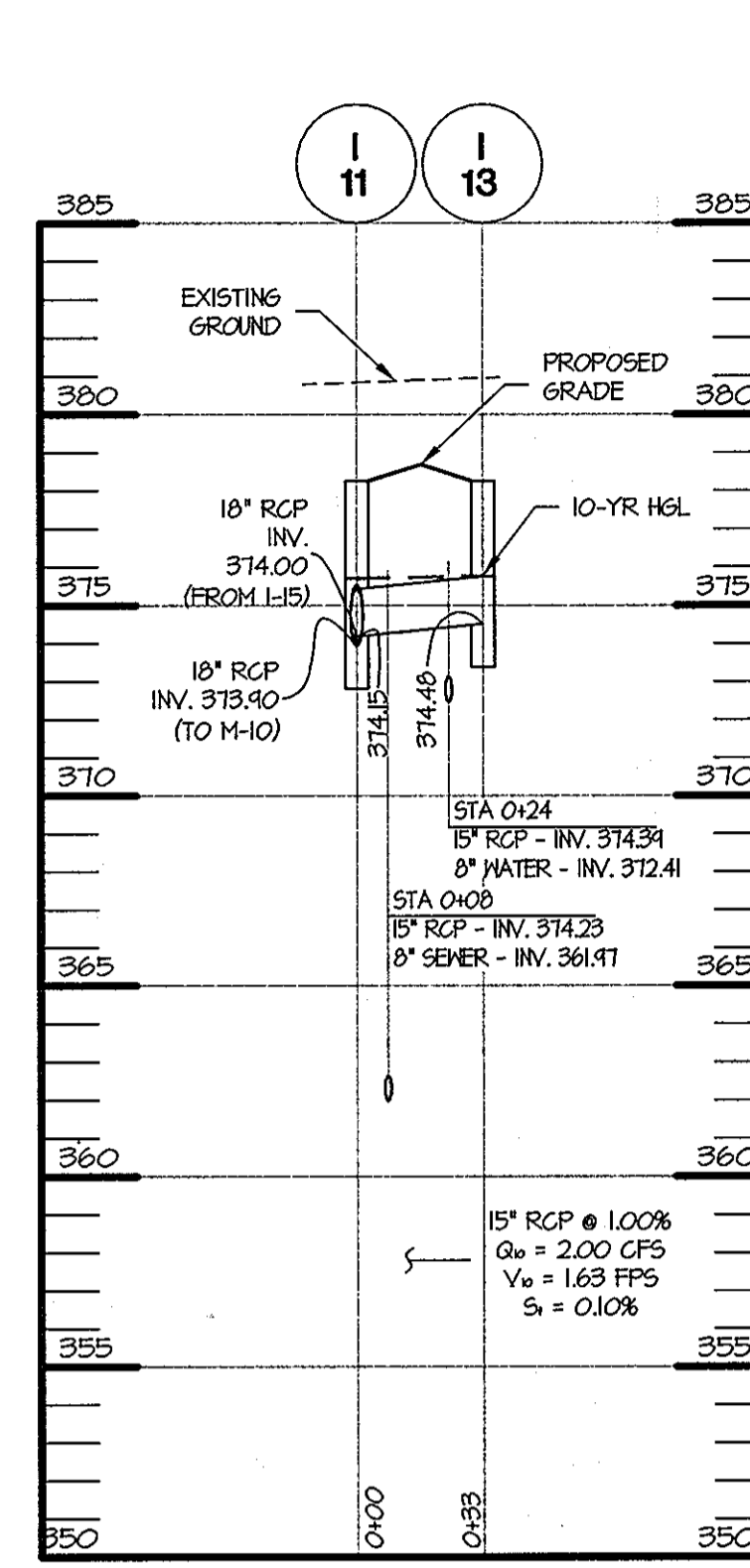
STORM DRAIN PROFILE

HOR. 1" = 50'
VERT. 1" = 5'



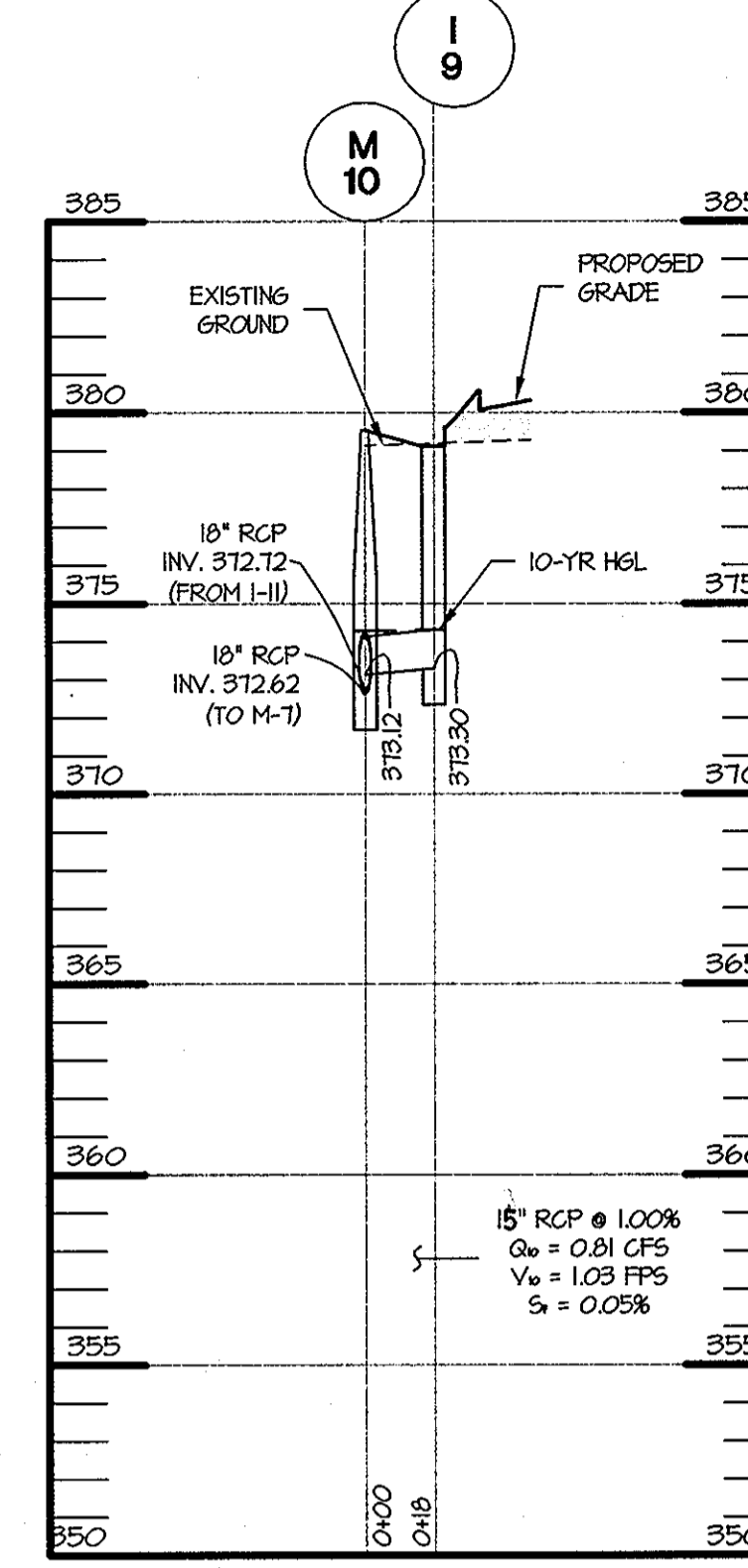
STORM DRAIN PROFILE

HOR. 1" = 50'
VERT. 1" = 5'



STORM DRAIN PROFILE

HOR. 1" = 50'
VERT. 1" = 5'



STORM DRAIN PROFILE

HOR. 1" = 50'
VERT. 1" = 5'

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE: 01/08/04

- COORDINATES TO CENTER OF STRUCTURE AT FACE OF CURB FOR INLETS SET WITH THE CURB, CENTER OF STRUCTURE FOR MANHOLES, YARD INLETS, AND INLETS SET IN THE PAVEMENT
- * TOP OF GRATE ELEVATION AT CENTER OF STRUCTURE AT FACE OF CURB, UNLESS TOP OF CURB (TC) ELEVATION IS NOTED. MANHOLE AND YARD INLET ELEVATIONS ARE AT CENTER OF RIM AND GRATE
- ** FOR INLET SETTING & PLACEMENT, SEE MDOT SHA STD. TYPE S INLET, MD379.03

OWNER	FAX NO: (410) 712-9864
A. NAME: BRIAN KNAUFF	B. DAYTIME TELEPHONE: (410) 712-7012
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D. ADDRESS: 7250 PARKWAY DRIVE, SUITE 520	
E. CITY: HANDOVER	STATE: MD ZIP: 21076

SIZE	TYPE	LENGTH
15"	RCP CL IV	350'
18"	RCP CL IV	1,233'
21"	RCP CL IV	148'
27"	RCP CL IV	91'
30"	RCP CL IV	144'

STR NO.	TOP ELEV	INV IN	INV OUT	TYPE	REMARKS	NORTHING	EASTING
M-1	376.00	369.74	369.64	STANDARD 4" PRECAST MANHOLE, HOWARD CO. STD. DETAIL G5.12		555,080.36	1,367,236.01
I-3	TC 379.04	374.68	371.11	PRECAST STANDARD TYPE A-5 INLET, HOWARD CO. STD. DETAIL SD4.40		555,182.63	1,367,260.04
I-5	TC 379.04	---	374.95	PRECAST STANDARD TYPE A-5 INLET, HOWARD CO. STD. DETAIL SD4.40		555,206.62	1,367,260.50
M-7	380.80	371.92	---	STANDARD 4" PRECAST MANHOLE, HOWARD CO. STD. DETAIL G5.12		555,165.50	1,367,329.07
I-9	379.13	---	373.30	STANDARD DOUBLE TYPE 'S' INLET, HOWARD CO. STD. DETAIL SD4.23 **		555,223.23	1,367,381.72
M-10	379.55	372.72	372.62	STANDARD 4" PRECAST MANHOLE, HOWARD CO. STD. DETAIL G5.12		555,204.98	1,367,387.03
I-11	378.50	374.15	374.00	STANDARD DOUBLE TYPE 'S' INLET, HOWARD CO. STD. DETAIL SD4.23 **		555,256.48	1,367,493.08
I-13	378.50	---	374.48	STANDARD DOUBLE TYPE 'S' INLET, HOWARD CO. STD. DETAIL SD4.23 **		555,285.63	1,367,508.62
I-15	379.94	375.45	375.20	STANDARD DOUBLE TYPE 'S' INLET, HOWARD CO. STD. DETAIL SD4.23 **		555,290.31	1,367,608.20
I-17	379.94	---	375.66	STANDARD DOUBLE TYPE 'S' INLET, HOWARD CO. STD. DETAIL SD4.23 **		555,313.33	1,367,601.41
M-19	370.92	365.99	365.89	STANDARD 5" PRECAST MANHOLE, HOWARD CO. STD. DETAIL G5.13		555,567.79	1,367,165.01
I-21	TC 379.36	367.03	366.93	PRECAST STANDARD TYPE A-5 INLET, HOWARD CO. STD. DETAIL SD4.40		555,478.81	1,367,246.18
I-23	TC 379.36	367.41	367.16	PRECAST STANDARD TYPE A-5 INLET, HOWARD CO. STD. DETAIL SD4.40		555,470.83	1,367,268.86
M-25	378.65	368.37	368.62	STANDARD 5" PRECAST MANHOLE, HOWARD CO. STD. DETAIL G5.13		555,497.87	1,367,356.38
I-27	377.40	368.72	368.62	STANDARD DOUBLE TYPE 'S' INLET, HOWARD CO. STD. DETAIL SD4.23 **		555,521.91	1,367,350.57
I-29	377.40	369.18	368.93	STANDARD DOUBLE TYPE 'S' INLET, HOWARD CO. STD. DETAIL SD4.23 **		555,543.50	1,367,343.38
M-31	381.50	372.29	372.19	SHALLOW 4" PRECAST MANHOLE, HOWARD CO. STD. DETAIL G5.12		555,642.24	1,367,627.77
I-33	378.58	374.66	374.41	STANDARD DOUBLE TYPE 'S' INLET, HOWARD CO. STD. DETAIL SD4.23 **		555,624.84	1,367,839.45
I-35	TC 379.16	375.00	374.90	PRECAST STANDARD TYPE A-5 INLET, HOWARD CO. STD. DETAIL SD4.40		555,601.56	1,367,833.35
M-33	379.12	375.60	375.50	STANDARD PRECAST MANHOLE, HOWARD CO. STD. DETAIL G5.12	SEE NOTE 2	555,583.86	1,367,880.31
I-37	379.78	---	376.07	STANDARD DOUBLE TYPE 'S' INLET, HOWARD CO. STD. DETAIL SD4.23 **		555,539.90	1,367,896.38
I-45	377.73	369.64	369.54	STANDARD TYPE 'K' INLET, HOWARD CO. STD. DETAIL SD4.12		555,412.72	1,367,391.78
I-47	378.05	370.47	370.37	STANDARD TYPE 'K' INLET, HOWARD CO. STD. DETAIL SD4.12		555,429.35	1,367,462.81
I-49	380.50	372.48	372.23	STANDARD TYPE 'K' INLET, HOWARD CO. STD. DETAIL SD4.12		555,478.29	1,367,632.36
I-51	379.50	---	373.78	STANDARD TYPE 'K' INLET, HOWARD CO. STD. DETAIL SD4.12		555,490.05	1,367,762.29

NOTES: 1. SEE GENERAL NOTE 17 ON DETAIL SHEET.
2. ROTATE THE SLOPED SIDE OF THE CONICAL TOP SECTION OF THE MANHOLE TOWARDS THE CENTER OF THE ROAD TO AVOID CONFLICT WITH THE GUTTER PAN AND CURB.

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

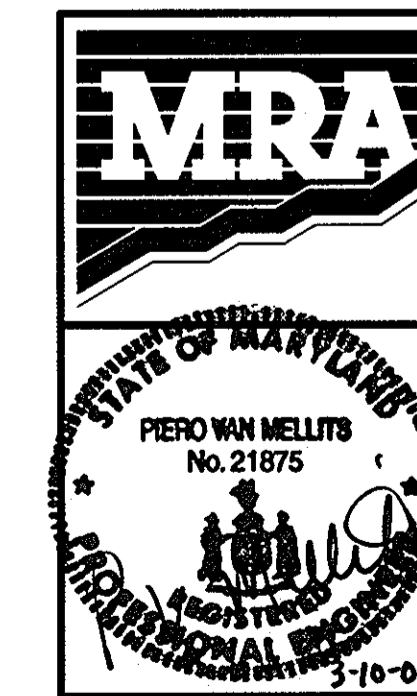
CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION OF LAND DEVELOPMENT

DIRECTOR

DATE: 3/20/04

DATE: 4/15/04



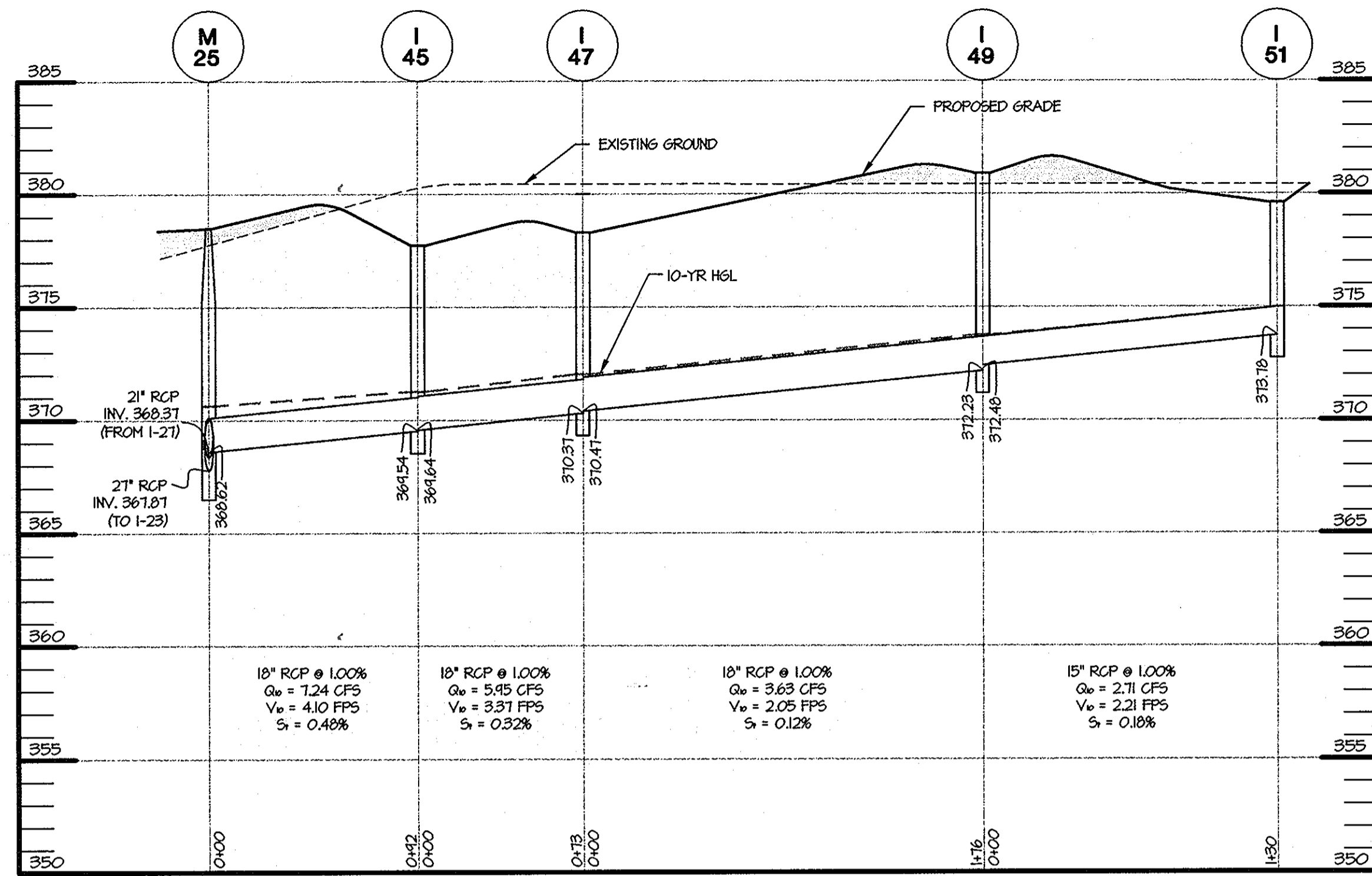
MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

9080 JUNCTION DRIVE, SUITE 9
ANNAPOLIS JUNCTION, MARYLAND 20701
(410) 792-9792 or (301) 776-1890
FAX (410) 792-7395

SNOWDEN RIVER BUSINESS PARK
SECTION 1 AREA 1, PARCEL C-1 AND PART OF PARCEL E
KENDALL OVERLOOK
AGE RESTRICTED ADULT HOUSING
STORM DRAIN PROFILES

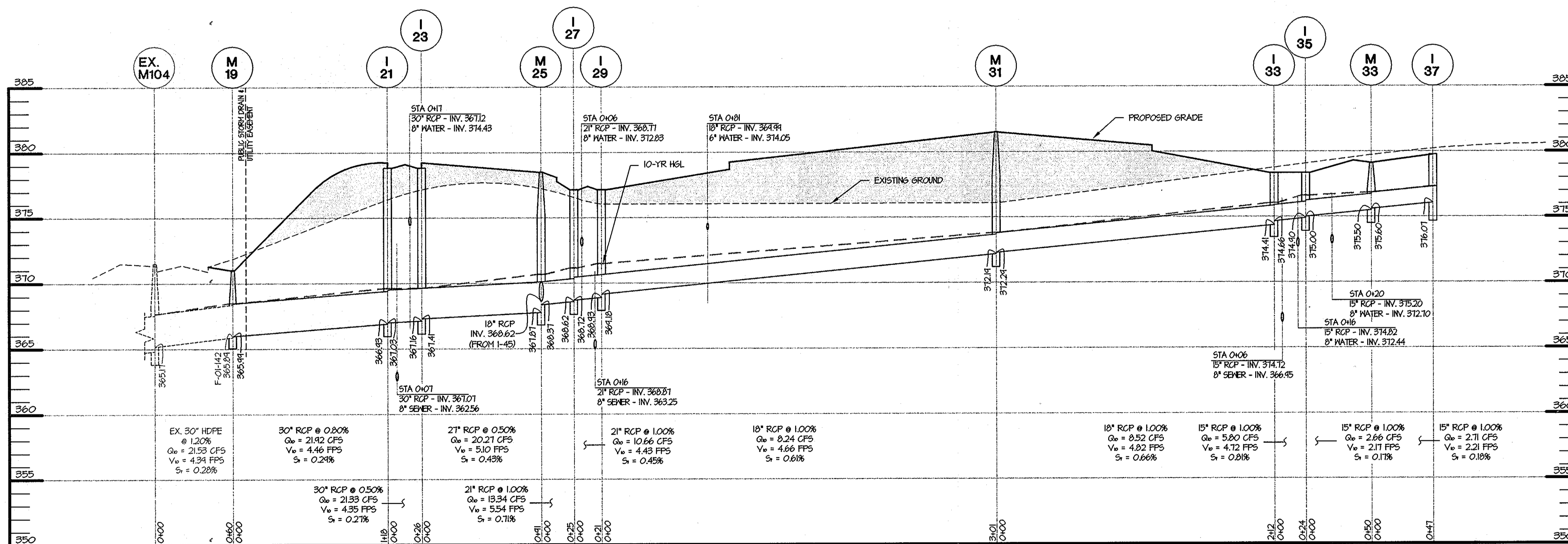
L. 7720 F. 271
ZONED: NT TAX MAP: 37 GRID: 19 PARCEL 725
ELECTION DISTRICT NO.: 6 HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO:
8-23-04	REVISED PIPE INVERT & SIZE ON PROFILE AND PIPE & STRUCTURE SCHEDULE	12735
2-4-05	GATEHOUSE RELOCATION & SHEET NUMBERING	SCALE: AS SHOWN DATE: 03/10/04 DRAWN BY: BRS/GRL DESIGN BY: GRL/CAO REVIEW BY: PVM SHEET: 10 OF 28



STORM DRAIN PROFILE

HOR. 1" = 50'
VERT. 1" = 5'



STORM DRAIN PROFILE

HOR. 1" = 50'
VERT. 1" = 5'

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE 01/08/04

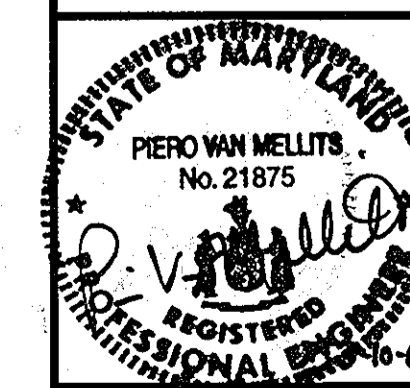
OWNER		FAX NO: (410) 712-9864	
A. NAME: BRIAN KNAUFF	B. DAYTIME TELEPHONE: (410) 712-7012		
C. COMPANY: THE RYLAND GROUP, INC.			
D. ADDRESS: 7250 PARKWAY DRIVE, SUITE 520			
E. CITY: HANDVER		STATE: MD	ZIP: 21076

SHEET: C-11



MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

9090 JUNCTION DRIVE, SUITE 9
ANNAPOLIS JUNCTION, MARYLAND 20701
(410) 792-9792 or (301) 776-1690
FAX (410) 792-7395



SNOWDEN RIVER BUSINESS PARK
SECTION 1 AREA 1, PARCEL C-1 AND PART OF PARCEL E
KENDALL OVERLOOK
AGE RESTRICTED ADULT HOUSING
STORM DRAIN PROFILES

L. 7720 F. 271
ZONED: NT TAX MAP: 37 GRID: 19 PARCEL 725
ELECTION DISTRICT NO.: 6 HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO:	12735
2-4-05	GATEHOUSE RELOCATION & SHEET NUMBERING	SCALE:	AS SHOWN
		DATE:	03/10/04
		DRAWN BY:	BRS/GRL
		DESIGN BY:	GRL/CAO
		REVIEW BY:	PJM
		SHEET:	11 OF 28

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

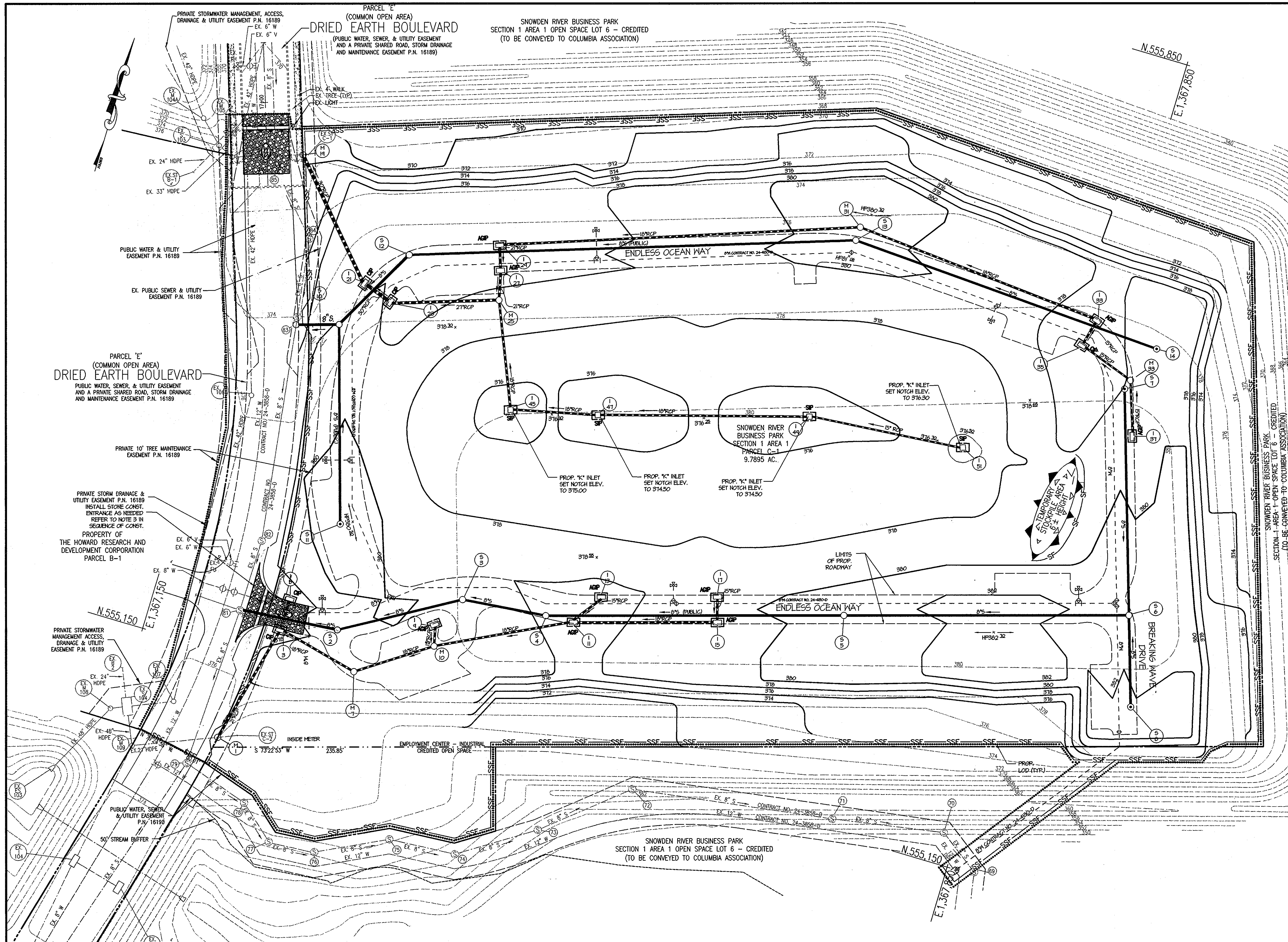
COUNTY HEALTH OFFICER: N/A MR. DATE: _____
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

DATE: 2/20/04
CHIEF, DEVELOPMENT ENGINEERING DIVISION

DATE: 2/14/04
CHIEF, DIVISION OF LAND DEVELOPMENT

DATE: 1/15/04
DIRECTOR



LEGEND

---	EXISTING EASEMENT
=====	EXISTING CURB
-----	EXISTING PROPERTY LINE
---	EXISTING ZONING LINE
EX. 8" S	EXISTING SANITARY SEWER
EX. 15" HDPE	EXISTING STORM DRAIN
EX. 8" W	EXISTING WATER LINE
260	PROPOSED 10' CONTOUR
258	PROPOSED 2' CONTOUR
93.66	PROPOSED SPOT ELEVATIONS
FF= 302.33	FINISHED FLOOR ELEVATION
BF= 312.33	BASEMENT FLOOR ELEVATION
[Symbol]	TEMPORARY STOCKPILE AREA
[Symbol]	PROPOSED TEMP. CONST. ENTRANCE
[Symbol]	PROPOSED INLET PROTECTION
.....	PROPOSED LIMIT OF DISTURBANCE
SSS	PROPOSED SUPER SILT FENCE
8" S	PROPOSED PUBLIC SANITARY SEWER
15" RCP	PROPOSED PRIVATE STORM DRAIN
---	PROPOSED PUBLIC WATER LINE
[Symbol]	PROPOSED PUBLIC FIRE HYDRANT
[Symbol]	PROPOSED PUBLIC WATER VALVE
[Symbol]	PROPOSED PUBLIC WATER TEE (W/ 2 VALVES)
[Symbol]	PROPOSED FITTING/HYDRANT NO.

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
 DATE: 01/02/04

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
Jim Myers 3/25/04
 USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT
John R. Robertson 3/25/04
 HOWARD SCD DATE

CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

OWNER	FAX NO: (410) 712-9864
A. NAME: BRIAN KNAUFF	B. DAYTIME TELEPHONE: (410) 712-7012
C. COMPANY: THE RYLAND GROUP, INC.	
D. ADDRESS: 7250 PARKWAY DRIVE, SUITE 520	
E. CITY: HANOVER	STATE: MD ZIP: 21076

SHEET: **C-12**

MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

9090 JUNCTION DRIVE, SUITE 9
 ANNAPOLIS JUNCTION, MARYLAND 20701
 (410) 792-9792 or (301) 776-1690
 FAX (410) 792-7395

SNOWDEN RIVER BUSINESS PARK
 SECTION 1 AREA 1, PARCEL C-1 AND PART OF PARCEL E
KENDALL OVERLOOK
 AGE RESTRICTED ADULT HOUSING
SEDIMENT & EROSION CONTROL
PHASE I
 L 7720 F. 271
 ZONED: NT TAX MAP: 37 GRID: 19 PARCEL 725
 ELECTION DISTRICT NO.: 6 HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO:	12735
8-29-01	REVISED SANITARY LAYOUT	SCALE:	1" = 40'
2-4-05	GATEHOUSE RELOCATION & SHEET NUMBERING	DATE:	03/10/04
		DRAWN BY:	GRL
		DESIGN BY:	GRL/CAO
		REVIEW BY:	PVM
		SHEET:	12 OF 29

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER: *N/A* DATE: _____
 HOWARD COUNTY HEALTH DEPARTMENT

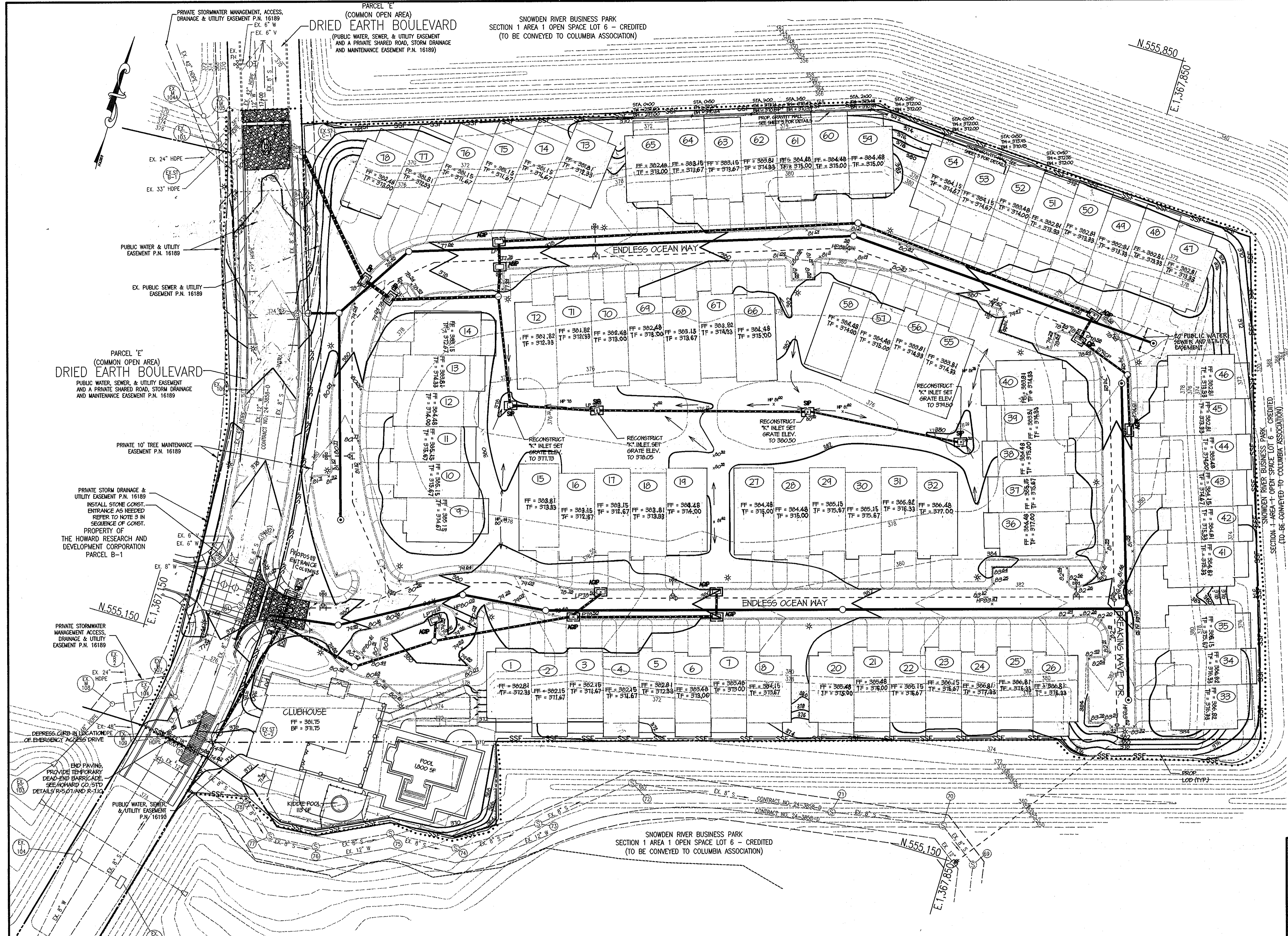
APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] 3/20/04
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 4/14/04
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 4/14/04
 DIRECTOR DATE

ROAD GRADES SHOWN
 ARE FOR SUBGRADE

THIS PLAN IS TO BE USED
 FOR SEDIMENT CONTROL
 PURPOSES ONLY.



LEGEND

260	EXISTING 10' CONTOUR
258	EXISTING 2' CONTOUR
=====	EXISTING EASEMENT
=====	EXISTING CURB
---	EXISTING PROPERTY LINE
EX. 8" S	EXISTING SANITARY SEWER
EX. 15" HDPE	EXISTING STORM DRAIN
EX. 8" W	EXISTING WATER LINE
260	PROPOSED 10' CONTOUR
258	PROPOSED 2' CONTOUR
39.4	PROPOSED SPOT ELEVATIONS
FF = 302.33	FINISHED FLOOR ELEVATION
BF = 312.33	BASEMENT FLOOR ELEVATION
[Symbol]	PROPOSED TEMP. CONST. ENTRANCE
[Symbol]	PROPOSED INLET PROTECTION
.....	PROPOSED LIMIT OF DISTURBANCE
---SSF---	PROPOSED SUPER SILT FENCE
---SF---	PROPOSED SILT FENCE
---15" RCP---	PROPOSED PRIVATE STORM DRAIN
(10)	PROPOSED TOWNHOME
(10)	PROPOSED TOWNHOME UNIT NUMBER
8"	PROPOSED PUBLIC SANITARY SEWER
15" RCP	PROPOSED PRIVATE STORM DRAIN
---	PROPOSED PUBLIC WATER LINE
[Symbol]	PROPOSED PUBLIC FIRE HYDRANT
[Symbol]	PROPOSED PUBLIC WATER VALVE
[Symbol]	PROPOSED PUBLIC WATER TEE (W/ 2 VALVES)

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE: 01/08/04

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
Jim Mauldin 3/25/04
 USDA NATURAL RESOURCES CONSERVATION SERVICE
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
John K. Robertson 3/25/04
 HOWARD SCD DATE

OWNER: B. NAME: BRIAN KNAUFF B. DAYTIME TELEPHONE: (410) 712-9864
 C. COMPANY: THE RYLAND GROUP, INC. (410) 712-7012
 D. ADDRESS: 7250 PARKWAY DRIVE, SUITE 520
 E. CITY: HANDOVER STATE: MD ZIP: 21076

SHEET: **C-13**

MRA
MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
 9090 JUNCTION DRIVE, SUITE 9
 ANNAPOLIS JUNCTION, MARYLAND 20701
 (410) 792-9792 or (301) 776-1690
 FAX (410) 792-7395

STATE OF MARYLAND
 PIERO VAN MELLITS
 No. 21875
 PROFESSIONAL ENGINEER
 SNOWDEN RIVER BUSINESS PARK
 SECTION 1 AREA 1, PARCEL C-1 AND PART OF PARCEL E
KENDALL OVERLOOK
 AGE RESTRICTED ADULT HOUSING
SEDIMENT & EROSION CONTROL
PHASE II
 L. 7720 F. 271
 ZONED: NT TAX MAP: 37 GRID: 19 PARCEL 725
 ELECTION DISTRICT NO.: 6 HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO:
8-27-04	REVISED GRADES, BLDG FOOTPRINTS, CURB LAYOUT	12735
12-17-04	IN DRIED EARTH BLVD. ADDED UTILITY EASEMENT	SCALE: 1" = 40'
2-4-05	CLUBHOUSE RELOCATION & SHEET NUMBERING	DATE: 03/10/04
		DRAWN BY: GRL
		DESIGN BY: GRL/CAO
		REVIEW BY: PVM
		SHEET: 13 OF 24

THIS PLAN IS TO BE USED FOR SEDIMENT CONTROL PURPOSES ONLY.

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER: *NFA ml* DATE: _____
 HOWARD COUNTY HEALTH DEPARTMENT

APPROVED DEPARTMENT OF PLANNING AND ZONING
[Signature] 3/25/04
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 4/15/04
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 4/15/04
 DIRECTOR DATE

**HOWARD SOIL CONSERVATION DISTRICTS
STANDARDS, SEDIMENT CONTROL NOTES**

1. A MIN. OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD CO. DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855)

2. ALL VEGETATION AND STRUCTURAL 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, DICES, PERMETER 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 THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.

5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SDC (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.

6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

7. SITE ANALYSIS:
TOTAL AREA OF THE SITE 11.03 AC
AREA TO BE DISTURBED 11.03 AC
AREA TO BE STRUCTURALLY STABILIZED 7.69 AC
AREA TO BE VEGETATIVELY STABILIZED 3.34 AC
TOTAL CUT 21.389 CU. YDS.
TOTAL FILL 22.727 CU. YDS.
TOTAL IMPORT 1,336 CU. YDS.

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTRIBUTED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

10. ON ALL SITES WITH DISTURBED AREAS IN ACCESS 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 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.

STANDARDS AND SPECIFICATION FOR TOPSOIL

DEFINITION
PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

PURPOSE
TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW pH MATERIAL, TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

CONDITIONS WHEN PRACTICE APPLIED
THIS PRACTICE IS LIMITED TO AREAS HAVING 6:1 OR FLATTER SLOPES WHERE:

- THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
- THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTAINING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
- THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
- THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

11. FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION AREA HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

CONSTRUCTION AND MAINTENANCE SPECIFICATIONS

I. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE SHALL BE DETERMINED BY REPRESENTATIVE SOIL PROFILE SECTIONS IN THE SOIL SURVEY PUBLISHED BY USDRS/USDA IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.

II. TOPSOIL SPECIFICATIONS-SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:

- 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 AGRICULTURIST 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, GRAVELS, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.
- TOPSOIL SHALL BE FREE OF PLANTS OR PLANT PARTS SUCH AS BARKING GRASSES, RUBBERWOODS, HORSENESS, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
- WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF +8 TONS/ACRE (600-800 POUNDS PER 1,000 SF) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER THE ENTIRE AREA AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.

12. FOR SITE HAVING DISTURBED AREAS UNDER 5 ACRES

- PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN SOIL VEGETATIVE STABILIZATION-SECTION 1-VEGETATIVE STABILIZATION METHODS AND MATERIALS.
- TOPSOIL APPLICATION
 - WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH BIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
 - GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4" OR HIGHER IN ELEVATION.
 - TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4"-6" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT STONING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
 - TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

13. 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.

- 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 CONFORM TO THE FOLLOWING REQUIREMENTS:
 - 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 ENVIRONMENT UNDER CD06K 26.04.06.
 - COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 15 PERCENT PHOSPHOROUS, AND 0.8 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 TO MEET THE REQUIREMENTS PRIOR TO USE.
 - COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SF.
- COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4 LB/1,000 SF, AND 1/3 THE NORMAL LIME APPLICATION RATE.

REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SEEDING, MD-VA, PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTE, REVISED 1973.

STANDARDS AND SPECIFICATIONS FOR LAND GRADING

DEFINITION
RESHAPING OF THE EXISTING LAND SURFACE IN ACCORDANCE WITH A PLAN AS DETERMINED BY ENGINEERING SURVEY AND LAYOUT.

PURPOSE
THE PURPOSE OF A LAND GRADING SPECIFICATION IS TO PROVIDE FOR EROSION CONTROL AND TO STABILIZE THE EXISTING LAND SURFACE IS TO BE RESHAPED BY GRADING ACCORDING TO PLAN.

DESIGN CRITERIA
THE GRADING PLAN SHOULD BE BASED UPON THE INCORPORATION OF BUILDING DESIGN AND STREET LAYOUTS THAT FIT AND UTILIZE EXISTING TOPOGRAPHY AND DESIRABLE NATURAL SURROUNDINGS TO AVOID EXTREME GRADIENT MODIFICATIONS. INFORMATION SUBMITTED MUST PROVIDE SUFFICIENT TOPOGRAPHIC SURVEYS AND SOIL INVESTIGATIONS TO DETERMINE LIMITATIONS THAT MUST BE IMPOSED ON THE GRADING OPERATION RELATED TO SLOPE STABILITY, EROSION CONTROL, PROPERTIES AND DRAINAGE PATTERNS, MEASURES FOR DRAINAGE AND WATER REMOVAL AND VEGETATIVE TREATMENT, ETC.

MANY COUNTIES HAVE REGULATIONS AND DESIGN PROCEDURES ALREADY ESTABLISHED FOR LAND GRADING AND CUT AND FILL SLOPES. WHERE THESE REQUIREMENTS EXIST, THEY SHALL BE FOLLOWED. THE PLAN MUST SHOW EXISTING AND PROPOSED CONTOURS OF THE AREAS TO BE GRADED. THE PLAN SHALL ALSO INCLUDE PRACTICES FOR EROSION CONTROL, SLOPE STABILIZATION AND PROPOSED CONTOURS OF THE AREAS TO BE GRADED. WHERE NECESSARY, THE PLAN SHALL SHOW MEASURES FOR DRAINAGE AND WATER REMOVAL AND VEGETATIVE TREATMENT, ETC.

11. FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION AREA HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

CONSTRUCTION AND MAINTENANCE SPECIFICATIONS

- PROVISIONS SHALL BE MADE TO SAFELY CONDUCT SURFACE RUNOFF TO OTHER DRAINAGE STRUCTURES OR TO STABLE WATER COURSES TO INSURE THAT SURFACE RUNOFF WILL NOT DAMAGE SLOPES OR OTHER GRADED AREAS.
- CUT AND FILL SLOPES THAT ARE TO BE STABILIZED WITH GRASSES SHALL NOT BE STEEPER THAN 2:1, WHERE THE SLOPE IS TO BE SEED, THE SLOPE SHOULD BE NO STEEPER THAN 3:1, AS IS PREFERRED BECAUSE OF SAFETY FACTORS RELATED TO MOVING STEEP SLOPES. SLOPES EXCEEDING 6:1 SHALL REQUIRE SPECIAL DESIGN AND STABILIZATION CONSIDERATIONS THAT SHALL BE ADEQUATELY SHOWN ON THE PLANS.
- REVERSE BENCHES SHALL BE PROVIDED WHENEVER THE VERTICAL INTERVAL HEIGHT OF ANY 6:1 SLOPE EXCEEDS 20 FEET FOR 9:1 SLOPES, EXCEPT WHERE THE SLOPE IS 2:1 AND FOR 4:1 TO 10 FEET. BENCHES SHALL BE LOCATED TO DIVIDE THE SLOPE FACE AS EQUALLY AS POSSIBLE AND SHALL CONVEY THE WATER TO STABLE DITCHES, CREEKS, ROCK OUTCROPS, ETC. SHALL ALSO BE TAKEN INTO CONSIDERATION WHEN DESIGNING BENCHES.
 - BENCHES SHALL BE A MINIMUM OF SIX FEET WIDE TO PROVIDE FOR EASE OF MAINTENANCE.
 - BENCHES SHALL BE DESIGNED WITH A REVERSE SLOPE OF 6:1 OR FLATTER TO THE TOP OF THE UPPER SLOPE OF THE BENCH AND WITH A MINIMUM OF ONE FOOT IN DEPTH.
 - THE FLOW LENGTH WITHIN A BENCH SHALL NOT EXCEED 800' UNLESS ACCOMPANIED BY APPROPRIATE DESIGN AND COMPUTATIONS.

12. SURFACE WATER SHALL BE DIVERTED FROM THE FACE OF ALL CUT AND/OR FILL SLOPES BY THE USE OF EARTH DICES, DITCHES AND SWALES OR CONVERTED DOWNSLOPE BY THE USE OF A DESIGNED STRUCTURE, EXCEPT WHERE:

- THE FACE OF THE SLOPE IS OR SHALL BE STABILIZED AND THE FACE OF ALL GRADED SLOPES SHALL BE PROTECTED FROM SURFACE RUNOFF UNTIL THEY ARE STABILIZED.
- THE FACE OF SLOPE SHALL NOT BE SUBJECT TO ANY CONCENTRATED FLOWS OF SURFACE WATER SUCH AS FROM NATURAL DRAINAGEWAYS, GRADED SWALES, DOWNSPOUTS, ETC.
- THE FACE OF THE SLOPE WILL BE PROTECTED BY SPECIAL EROSION CONTROL PRACTICES TO INCLUDE, BUT NOT LIMITED TO APPROVED VEGETATIVE STABILIZATION PRACTICES (SEE SECTION 9), RIP-RAP OR OTHER DEEMED STABILIZATION METHODS.

13. CUT SLOPES OCCURRING IN RIPABLE ROCK SHALL BE SERATED AS SHOWN ON THE FOLLOWING DIAGRAM. THESE SERATIONS SHALL BE MADE WITH CONVENTIONAL EQUIPMENT AS THE EXCAVATION IS MADE. EACH STEP OR SERATION SHALL BE CONSTRUCTED ON THE CONTOUR AND WILL HAVE STEPS CUT AT NOMINAL TWO-FOOT INTERVALS WITH NOMINAL THREE-FOOT HORIZONTAL SHELVES. THESE STEPS WILL VARY DEPENDING ON THE SLOPE RATIO OR THE CUT SLOPE. THE NOMINAL STEPS AND BENCHES SHALL BE 1 1/2 INCHES IN DIAMETER AND ACT TO HOLD MOISTURE, LIME, FERTILIZER AND SEED THIS PRODUCING A MUCH QUICKER AND LONGER LIVED VEGETATIVE COVER AND BETTER SOIL STABILIZATION. OVERLAND FLOW SHALL BE DIVERTED FROM THE TOP OF ALL SERATED CUT SLOPES AND CARRIED TO A SUITABLE OUTLET.

14. SUBSURFACE DRAINAGE SHALL BE PROVIDED WHERE NECESSARY TO INTERCEPT SEEPAGE THAT WOULD OTHERWISE ADVERSELY AFFECT SLOPE STABILITY OR CREATE EXCESSIVELY WET SITE CONDITIONS.

15. SLOPES SHALL NOT BE CREATED SO CLOSE TO PROPERTY LINES AS TO ENDANGER ADJOINING PROPERTIES WITHOUT ADEQUATELY PROTECTING SUCH PROPERTIES AGAINST SEDIMENTATION, EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED DAMAGES.

16. FILL MATERIAL SHALL BE FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS, AND OTHER OBJECTIONABLE MATERIAL. IT SHOULD BE FREE OF STONES OVER TWO (2) INCHES IN DIAMETER, WHEN COMPACTED BY HAND OR MECHANICAL TAMPERS OR OVER EIGHT (8) INCHES IN DIAMETER WHEN COMPACTED BY ROLLERS OR OTHER EQUIPMENT. FROZEN MATERIAL SHALL NOT BE PLACED IN THE FILL NOR SHALL THE FILL MATERIAL BE PLACED ON A FROZEN FOUNDATION.

17. STOCKPILES, BORROW AREAS AND SPILL SHALL BE SHOWN ON THE PLANS AND SHALL BE SUBJECT TO THE PROVISIONS OF THIS STANDARD AND SPECIFICATIONS.

18. ALL DISTURBED AREAS SHALL BE STABILIZED STRUCTURALLY OR VEGETATIVELY IN COMPLIANCE WITH SOIL STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION.

VEGETATIVE STABILIZATION

PERMANENT AND TEMPORARY SEEDING, SOODING AND MULCHING

I. SITE PREPARATION
PERMANENT OR TEMPORARY VEGETATION SHALL BE ESTABLISHED WITHIN SEVEN (7) DAYS OF THE SURFACE OF ALL SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, BERMS, WATERWAYS, SEDIMENT CONTROL BASINS, AND ALL SLOPES GREATER THAN 2 HORIZONTAL TO 1 VERTICAL, AND WITHIN 14 DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. MULCHING MAY ONLY BE USED ON DISTURBED AREAS AS TEMPORARY COVER WHERE VEGETATION IS NOT FEASIBLE OR WHERE SEEDING CAN NOT BE COMPLETED BECAUSE OF WEATHER.

II. SEEDING PREPARATION AND SEEDING APPLICATION
LOOSEN THE TOP LAYER OF THE SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT SUCH AS DISC HARROWS, CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. INCORPORATE THE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF THE SOIL BY DISING OR BY OTHER SUITABLE MEANS. ROCKY AREAS SHOULD NOT BE ROLLED OR DRAGGED SMOOTH, BUT LEFT IN A ROUGHENED CONDITION. STEEP SLOPES GREATER THAN 3:1 SHOULD BE TRACKED BY A DIGGER, LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL SHOULD BE LODGE AND FRABLE. PERMANENT COVER MAY REQUIRE AN APPLICATION OF TOPSOIL. IF SO, IT MUST MEET THE REQUIREMENTS SET FORTH IN SECTION 8.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL FROM THE 1994 STANDARDS AND SPECIFICATIONS.

III. SOIL AMENDMENTS
SOIL TESTS SHALL BE MADE ON SITES OVER FIVE ACRES TO DETERMINE THE EXACT REQUIREMENTS FOR BOTH LIME AND FERTILIZER. FOR SITES UNDER 5 ACRES, IN LIEU OF A SOIL TEST, APPLY THE FOLLOWING:
FERTILIZER NITROGEN 2 LBS/1000 SF (90 LBS/AC) P2O5 4 LBS/1000 SF (175 LBS/AC) K2O 1 LBS/1000 SF (474 LBS/AC)
GROUND LIMESTONE 2 TONS/AC

IV. SEDIMENT CONTROL PRACTICE SEEDING
SELECT A SEEDING MIXTURE FROM TABLE 25 OR 26 IN SECTION 'G' OF THE 1994 STANDARDS AND SPECIFICATIONS. DOCUMENT SEEDING MIXTURE, APPLICATION RATE AND SEEDING DATE ON THE APPROPRIATE CHART BELOW.

V. TEMPORARY/PERMANENT SEEDING MIXTURES AND RATES
SELECT A SEEDING MIXTURE FROM APPROPRIATE TABLE 25 OR 26 IN SECTION 'G' OF THE 1994 STANDARDS AND SPECIFICATIONS. DOCUMENT SEEDING ON THE EROSION AND SEDIMENT CONTROL PLAN USING APPROPRIATE CHART BELOW.

NOTE: IF SEDIMENT CONTROL PRACTICES ARE IN FOR LONGER THAN 18 MONTHS, PERMANENT SEEDING IS REQUIRED.

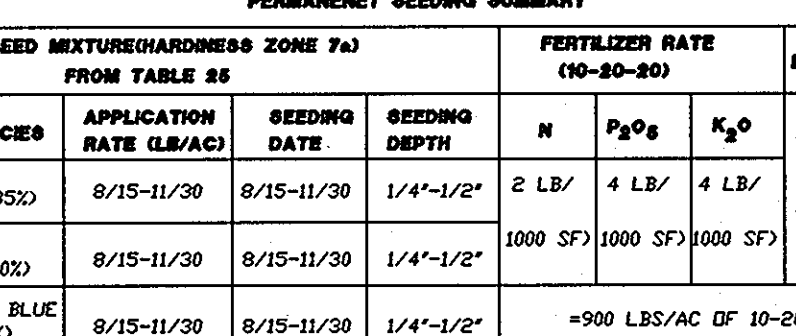
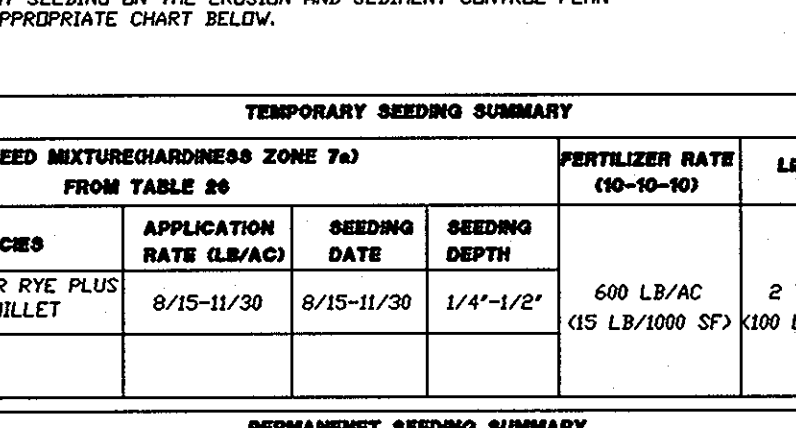
NOTE: USE OF THIS INFORMATION DOES NOT PRECLUDE MEETING ALL OF THE REQUIREMENTS OF THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS AND SEDIMENT CONTROL VEGETATIVE PRACTICES.

TEMPORARY SEEDING SUMMARY

SEED MIXTURE/HARDNESS ZONE 7a)				FERTILIZER RATE (10-00-80)	LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATE	SEEDING DEPTH	
1	BARLEY OR RYE PLUS FOXTAIL MILLET	8/15-11/30	8/15-11/30	1/4"-1/2"	500 LB/AC (15 LB/1000 SF) 2 TONS/AC (100 LB/1000 SF)

PERMANENT SEEDING SUMMARY

SEED MIXTURE/HARDNESS ZONE 7a)				FERTILIZER RATE (10-80-80)	LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATE	SEEDING DEPTH	N P ₂ O ₅ K ₂ O
2	TALL FESCUE (65%) CHEWINGS FESCUE (10%) KENTUCKY BLUE GRASS (25%)	8/15-11/30	8/15-11/30	1/4"-1/2"	2 LB/ 1000 SF 4 LB/ 1000 SF 2 TONS/AC (100 LB/ 1000 SF)



DETAIL 23A - STANDARD INLET PROTECTION

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 23B. The top of the frame (wire) 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.

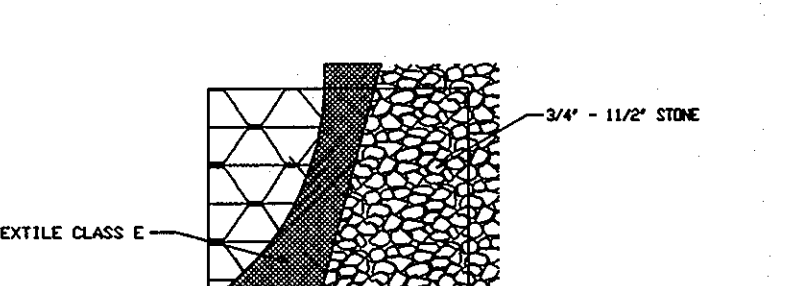
4. Stretch the Geotextile Class E tightly over the wire mesh with the geotextile extending from the top of the frame to 18" below the inlet notch elevation. Fasten the geotextile firmly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded, then fastened down.

5. Backfill around the inlet in compacted 6" layers until the layer of cover (notch elevation) 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.

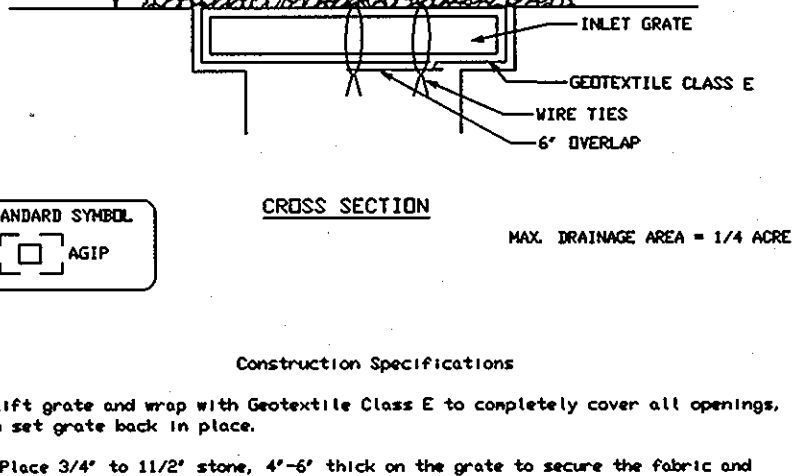
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E-18-3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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CONSTRUCTION SPECIFICATIONS

- Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.
- Place 3/4 x 1 1/2 inch, 4-6 inch thick on the grate to secure the fabric and provide additional filtration.

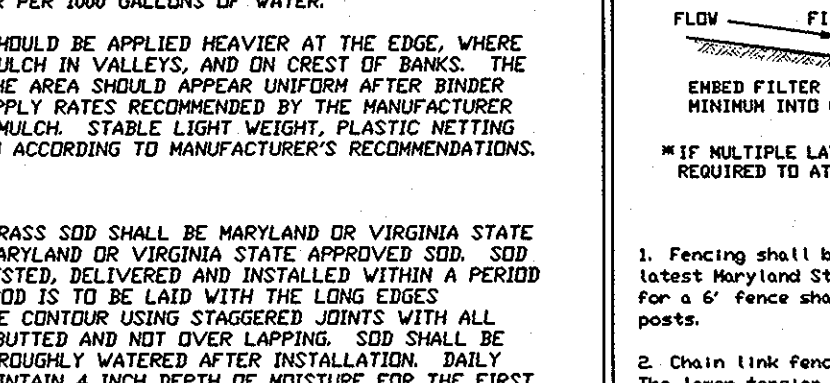
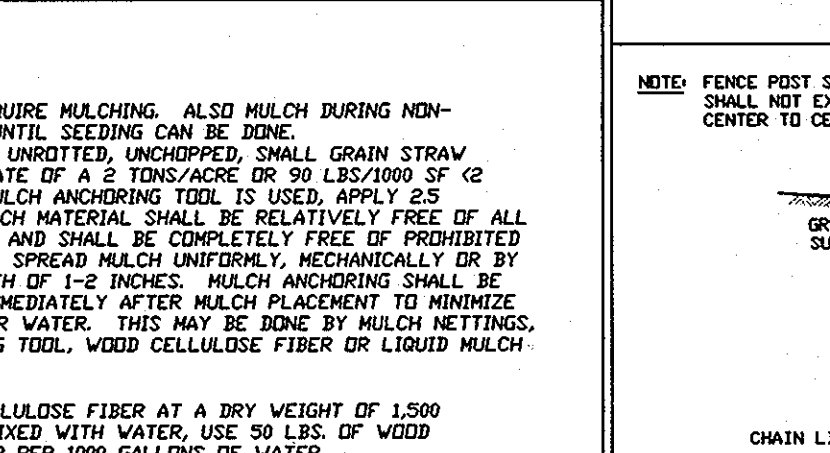
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E-18-3a	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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CONSTRUCTION SPECIFICATION

- Length - minimum of 50" (+30" for single residence lots).
- Width - 10" minimum, should be flared at the existing road to provide a turning radius.
- Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. The plan approval authority may not require single family residence to use geotextile.
- 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.
- Surface water - all surface water flowing to an inverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a houthouse berm with 3:1 slope and a minimum of 6" of stone on the pipe. Pipe has to be sized according to the drainage. When the SSE 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 drainage. The amount of runoff to be conveyed, a 6" minimum will be required.
- Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

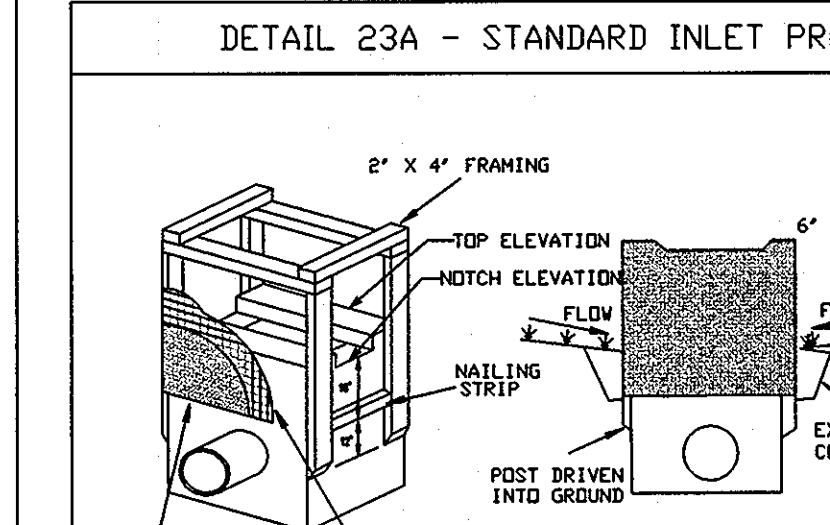
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E-19-3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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CONSTRUCTION SPECIFICATIONS

- Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Bureau for Chain Link Fencing. The specification for a 6" fence shall be used, substituting 42" fabric and 6" length posts.
- Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, fence end posts, drive anchors and post caps are not required except on the ends of the fence.
- Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
- Filter cloth shall be embedded a minimum of 6" into the ground.
- When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
- Maintenance shall be performed as needed and silt buildup removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.
- Filter cloth 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:

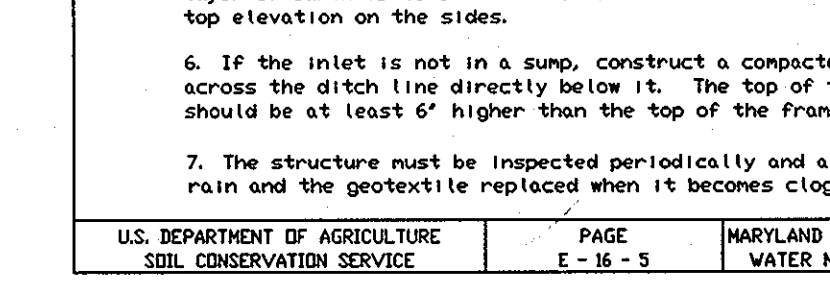
Tensile Strength	50 lbs/in (min)	Test: MHT 509
Tensile Modulus	20 lbs/in (min)	Test: MHT 509
Flow Rate	0.3 gal/ft ² /minute (max)	Test: MHT 382
Filtering Efficiency	75% (min)	Test: MHT 382



CONSTRUCTION SPECIFICATIONS

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- 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.
- Stretch the Geotextile Class E tightly over the wire mesh with the geotextile 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.
- Backfill around the inlet in compacted 6" layers until the layer of cover (notch elevation) is level with the notch elevation on the ends and top elevation on the sides.
- 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.
- 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-18-3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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CONSTRUCTION SPECIFICATION

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U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E-19-3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER *N/A MR* DATE *3/22/04*

APPROVED: DEPARTMENT OF PLANNING AND ZONING

David H. Leyle DATE *3/22/04*

CHIEF, DEVELOPMENT ENGINEERING DIVISION

David H. Leyle DATE *3/22/04*

CHIEF, DIVISION OF LAND DEVELOPMENT

David H. Leyle DATE *3/22/04*

DIRECTOR

APPROVED PLANNING BOARD OF HOWARD COUNTY

DATE: 01/08/04

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

USDA NATURAL RESOURCES CONSERVATION SERVICE DATE 3/25/04

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

HOWARD SCD DATE 3/25/04

DOWNER: BRIAN KNAUFF B. DAYTIME TELEPHONE: (410) 712-9864

C. COMPANY: THE RYLAND GROUP, INC.

D. ADDRESS: 7250 PARKWAY DRIVE, SUITE 520

E. CITY: HANDOVER STATE: MD ZIP: 21076

SHEET: **C-14**

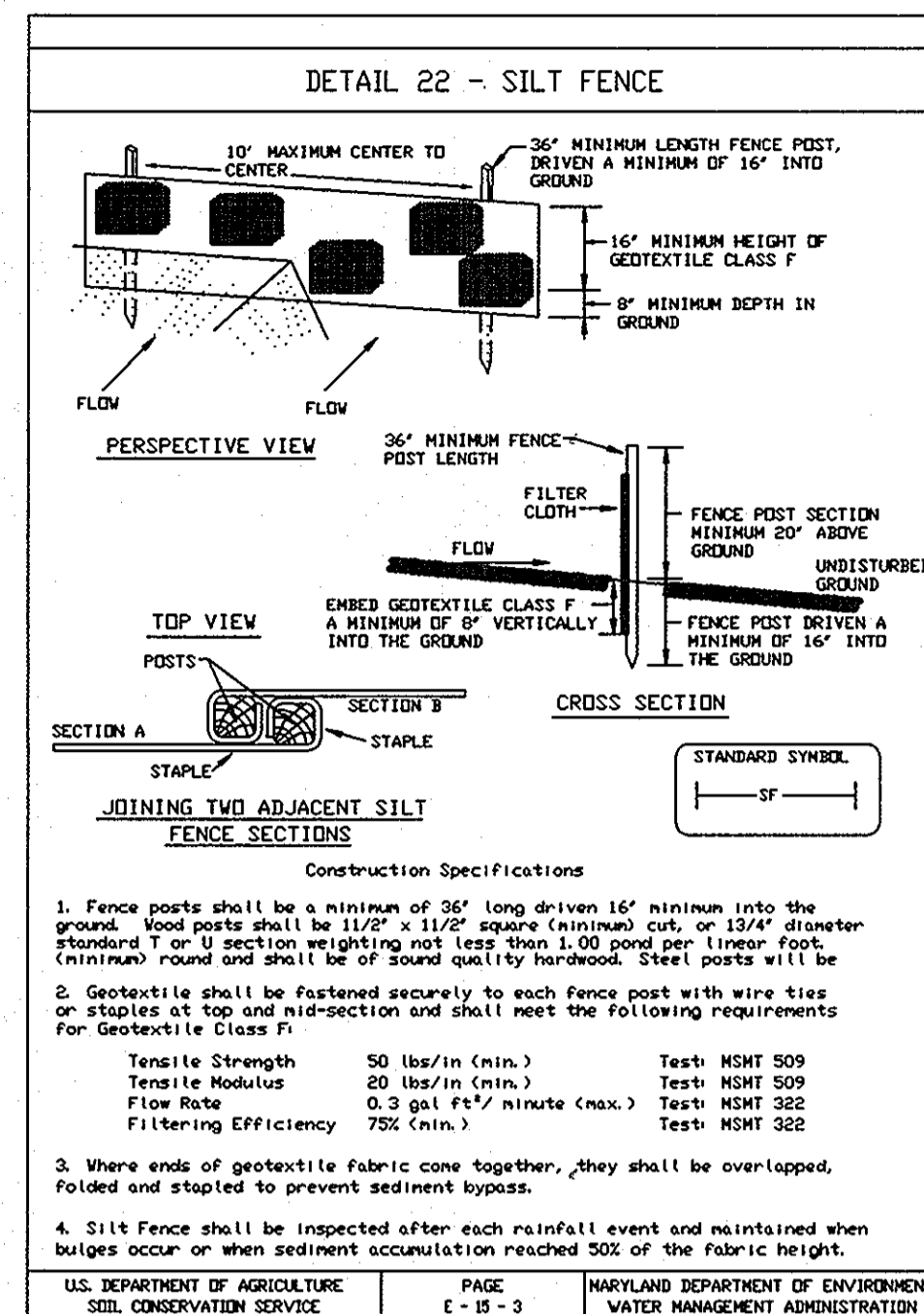
MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

9090 JUNCTION DRIVE, SUITE 9
ANNAPOLIS JUNCTION, MARYLAND 20701
(410) 792-9792 or (301) 778-1690
FAX (410) 792-7395

SNOWDEN RIVER BUSINESS PARK
SECTION 1 AREA 1, PARCEL C-1 AND PART OF PARCEL E
KENDALL OVERLOOK
AGE RESTRICTED ADULT HOUSING
SEDIMENT & EROSION CONTROL NOTES & DETAILS
L 7720 E. 271
ZONED: NT TAX MAP: 37 GRID: 19 PARCEL 725
ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO.
2-4-05	GATEHOUSE RELOCATION & SHEET NUMBERING	12735

SCALE: 1" = 40'
DATE: 03/10/04
DRAWN BY: GRL
DESIGN BY: GRL/CAO
REVIEW BY: PVM
SHEET: 14 OF 29



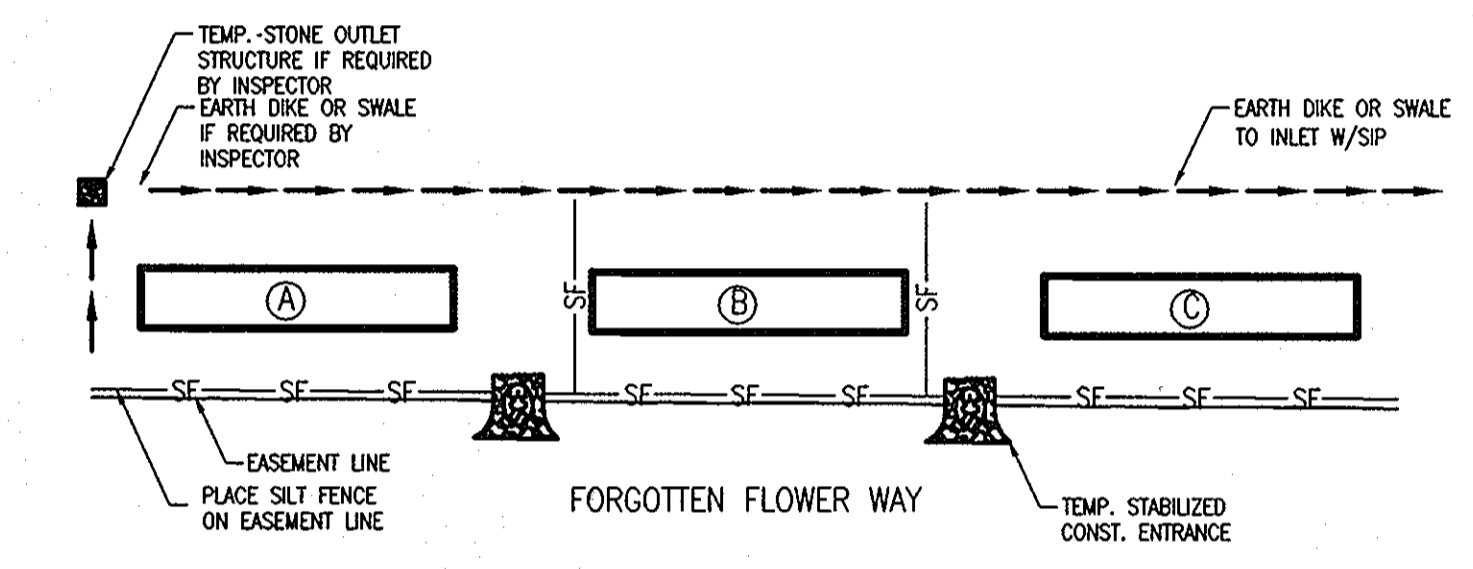
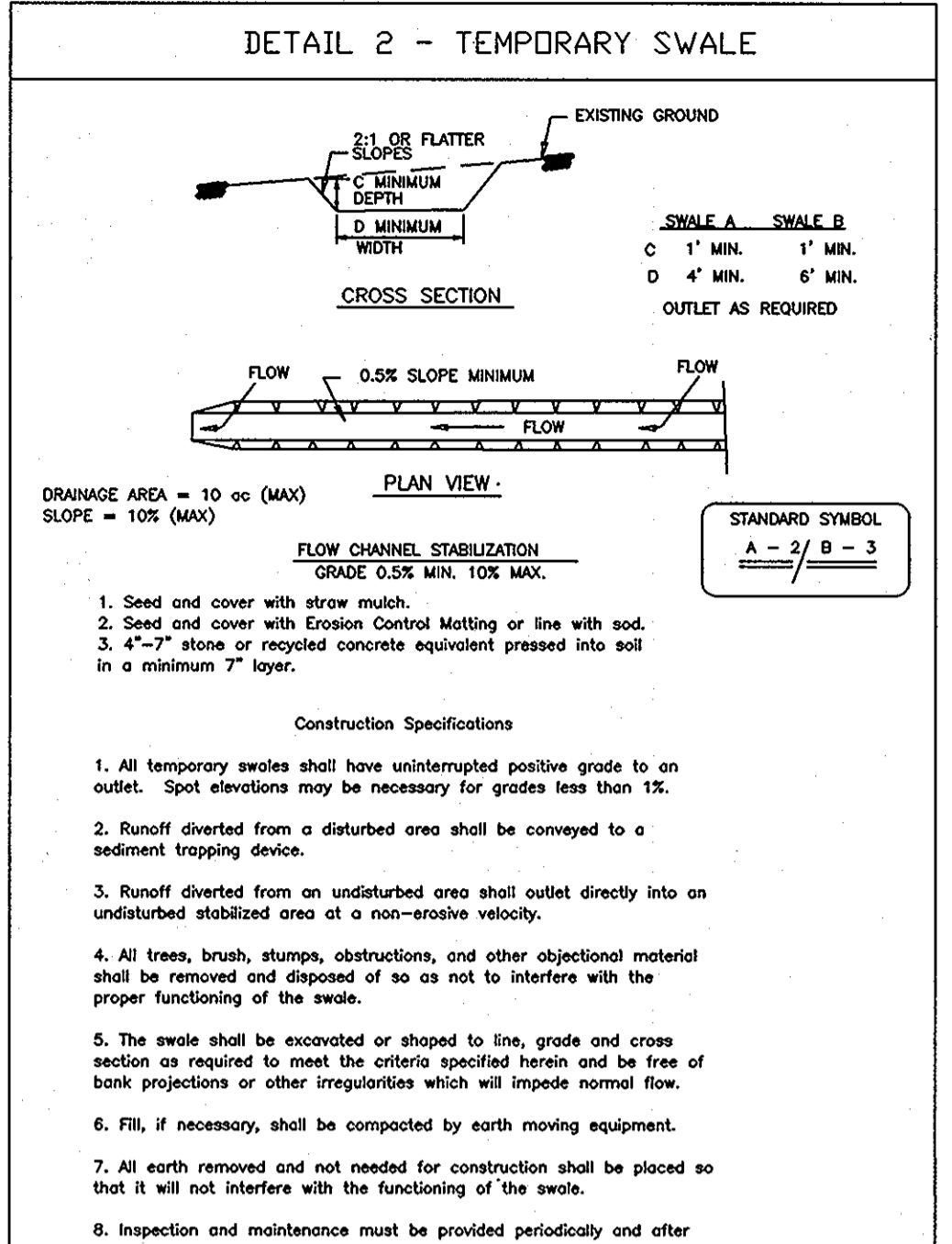
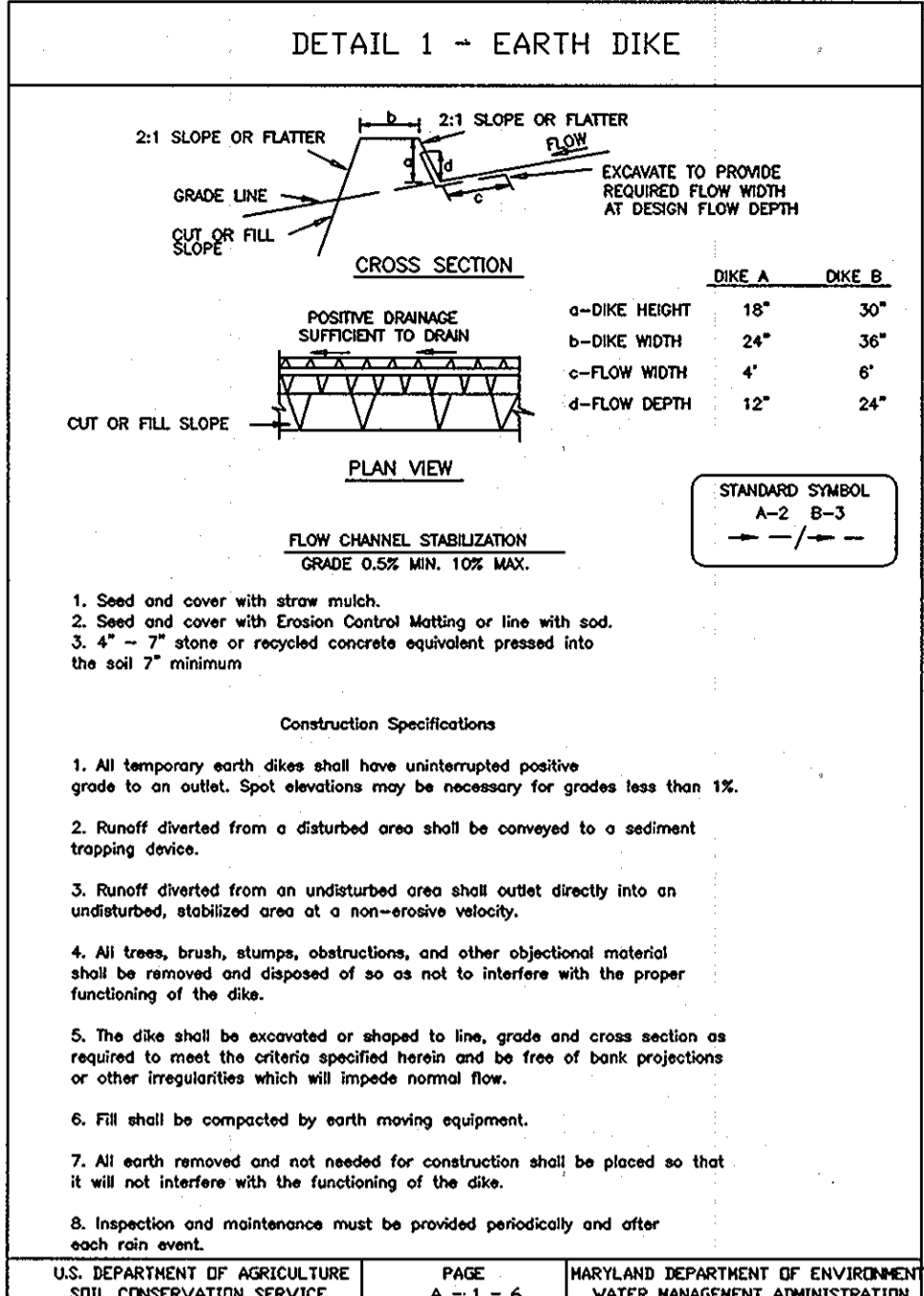
SILT FENCE

Silt Fence Design Criteria

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

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



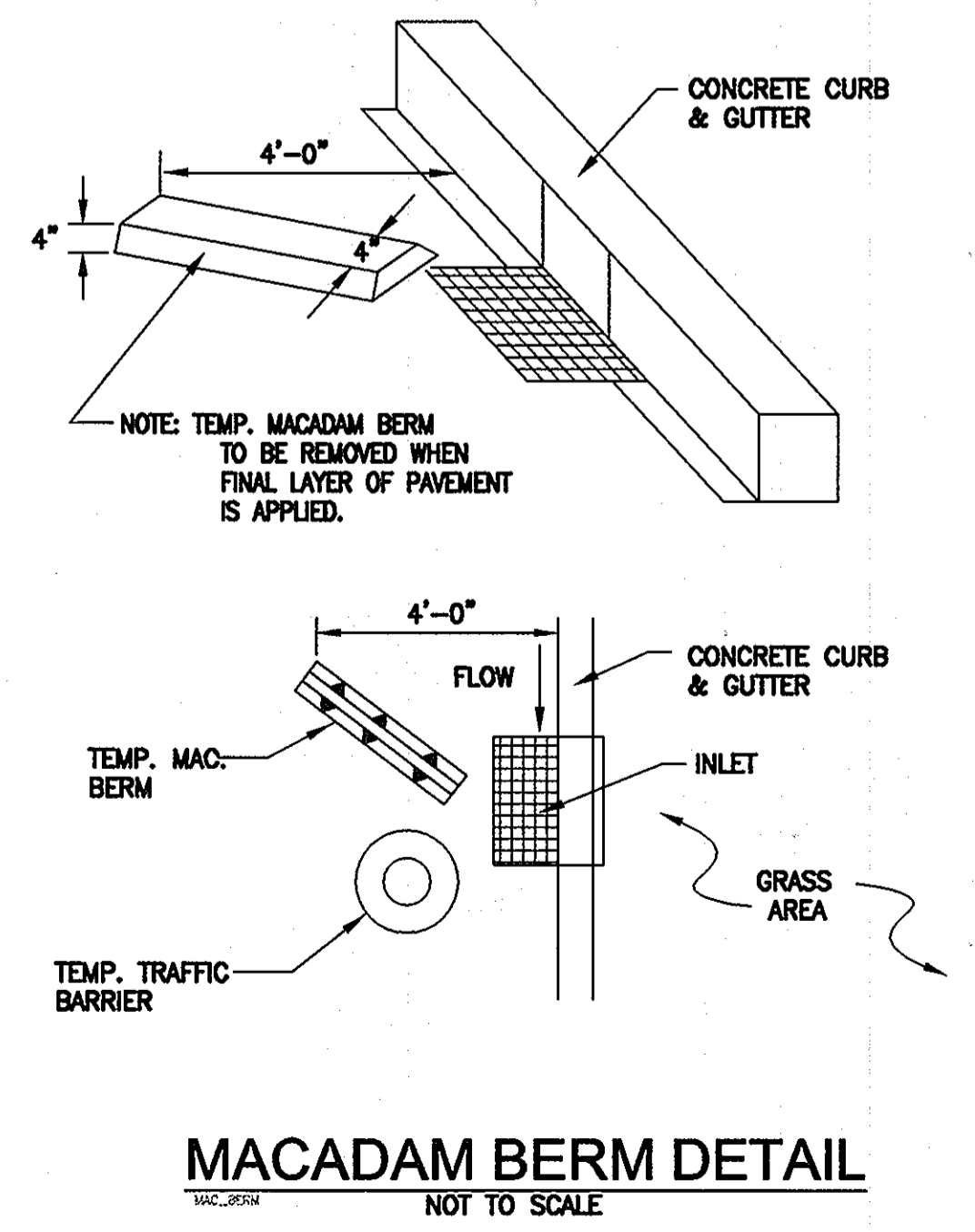
SEDIMENT CONTROL FOR TOWN HOUSE CONSTRUCTION

NOT TO SCALE

- INSURE THAT EARTH DIKE OR SWALES WITH TEMPORARY STONE OUTLET STRUCTURES ARE INSTALLED AT THE HIGH & LOW ENDS AND TO THE REAR OR FRONT (DEPENDENT UPON DRAINAGE FLOW) OF THE LOT GROUPS.
- WHICHEVER GROUP IS TO BE CONSTRUCTED FIRST CAN BE DONE SO WITHOUT ANY MODIFICATIONS.
- IF THE GROUPS ARE CONSTRUCTED "A" THAN "B" THAN "C", NO MODIFICATIONS WILL HAVE TO BE MADE THROUGHOUT THE CONSTRUCTION OF ALL THREE GROUPS.
- IF GROUP "C" IS CONSTRUCTED AND STABILIZED FIRST, EARTH DIKE OR SWALE AND T.S.O.S. WILL HAVE TO BE INSTALLED ON THE LOW SIDE OF GROUP "B".
- IF GROUP "B" IS CONSTRUCTED AND STABILIZED NEXT OR FIRST, THEN AN EARTH DIKE OR SWALE AND T.S.O.S. WILL HAVE TO BE INSTALLED ON THE LOW SIDE OF GROUP "A".
- IF EARTH DIKE IS EXISTING, IT IS TO BE BROKEN AND THE T.S.O.S. IS TO BE INSTALLED.
- A CLEAN WATER EARTH DIKE OR SWALE AND T.S.O.S. MAY BE NECESSARY ON THE UPHILL SIDE OF A PROPOSED LOT IF THE DRAINAGE AREA TO THE PROPOSED GROUP IS GREATER THAN 1/4 ACRE.

NOTE: IF HOMES ARE TO BE BUILT IN A DRAINAGE AREA CONTROLLED BY DIKES AND TRAP / BASIN, BREAK THE DIKE IN HALF ACRE DRAINAGE INCREMENTS ABOVE THE FIRST GROUP TO BE BUILT.

NOTE: IF HOMES ARE BUILT ON LOTS WITHOUT EARTH DIKES / SWALES, THEN SILT FENCE SHALL BE INSTALLED AS NECESSARY AROUND THE PERIMETER OF THE GROUP TO PREVENT ANY SEDIMENT LADEN MATERIAL FROM LEAVING THE LOT.



SEQUENCE OF CONSTRUCTION

- Phase I**
- OBTAIN ALL NECESSARY PERMITS. CONTACT THE HOWARD COUNTY OFFICE OF INSPECTIONS AT LEAST 48 HOURS PRIOR TO BEGINNING ANY WORK. CONTACT MISS WILLY. 1 DAY
 - CLEAR AND GRUB ONLY AREAS REQUIRED FOR INSTALLATION OF SEDIMENT CONTROLS. 2 DAYS
 - INSTALL ALL PERIMETER SEDIMENT AND EROSION CONTROL DEVICES PER PLAN. INSTALL STONE CONSTRUCTION ENTRANCE AS SHOWN ON THESE PLANS. IF THE PAVING ON DRIED EARTH BOULEVARD HAS BEEN COMPLETED, INSTALL A STONE CONSTRUCTION ENTRANCE AT THE INTERSECTION OF FORGOTTEN FLOWER WAY AND DRIED EARTH BOULEVARD. 5 DAYS
 - WITH SEDIMENT CONTROL INSPECTOR'S APPROVAL, CLEAR AND GRUB SITE. PROVIDE TEMPORARY STABILIZATION AS REQUIRED BY INSPECTOR. 3 DAYS
 - BEGIN ROUGH GRADING OF SITE, AS SHOWN ON THESE PLANS, INCLUDING FORMATION OF THE ROADWAY SUBGRADE. 20 DAYS
 - BEGIN INSTALLATION OF SANITARY SEWERS AS SHOWN ON THE SANITARY SEWER PLAN, AND SANITARY SEWER PROFILE PLAN. 25 DAYS
 - BEGIN INSTALLATION OF STORM DRAINAGE, AS SHOWN ON THE SITE DEVELOPMENT PLANS, AND THE STORM DRAIN PROFILE PLAN. STRUCTURES 1-45, 1-47, 1-49 & 1-51 SHOULD BE CONSTRUCTED PRIOR TO IMPLEMENTING THE ROUGH GRADING IN THE AREA OF THESE INLETS. THE PROPOSED "X" INLET NOTCH ELEVATIONS SHALL BE SET TEMPORARILY TO THE ELEVATIONS SHOWN ON THESE PLANS. PLACE INLET PROTECTION AT INLETS UPON COMPLETION. 20 DAYS
 - BEGIN INSTALLATION OF THE WATER MAIN AND SERVICES, AS SHOWN ON THE WATER MAIN PLAN AND PROFILE PLANS. 20 DAYS
 - BEGIN INSTALLATION OF THE REMAINING UNDERGROUND UTILITIES. 20 DAYS
- Phase II**
- BEGIN BUILDING CONSTRUCTION PROVIDING EROSION AND SEDIMENT CONTROLS PER SEDIMENT CONTROL FOR TOWNHOUSE CONSTRUCTION DETAIL (SEE SHEET C-15). 90 DAYS
 - BEGIN TO FINAL GRADE SITE. INSTALL PAVING, CURB AND GUTTER, SIDEWALK, LANDSCAPING AND ANY OTHER FEATURES AS SHOWN ON THESE PLANS. AFTER THE BASE COURSE IS COMPLETED, INSTALL SILT FENCE AT THE EASEMENT LINE ON BOTH SIDES OF FORGOTTEN FLOWER WAY AND SAGE BRUSH COURT FOR THEIR ENTIRE LENGTHS. REMOVE THE CURB INLET PROTECTION (CIP) AND AT-GRADE INLET PROTECTION (AIP) FROM INLETS LOCATED IN THE STREET. INSTALL TEMPORARY MACADAM BERMS TO DIRECT FLOW TO THE INLETS IN THE STREET (SEE DETAIL THIS SHEET). FOR INLETS 1-45, 1-47, 1-49 & 1-51, ADJUST THE GRATE ELEVATION TO THE FINAL GRADE UTILIZING BRICK AND MORTAR. COMPLETE THE FINAL GRADING TO EACH INLET AND RE-INSTALL INLET PROTECTION. 60 DAYS
 - COMPLETE THE FINAL STREET PAVING, AS THE SURFACE COURSE PAVING PROGRESSES, REMOVE THE TEMPORARY MACADAM BERMS. 10 DAYS
 - PROVIDE FINAL PERMANENT STABILIZATION FOR ALL DISTURBED AREAS. 5 DAYS
 - WITH SEDIMENT CONTROL INSPECTOR'S APPROVAL, REMOVE ANY REMAINING INLET PROTECTION AND FLUSH THE STORM DRAIN SYSTEM. REMOVE ANY REMAINING SEDIMENT. 3 DAYS
 - UPON SEDIMENT CONTROL INSPECTOR'S APPROVAL, REMOVE ANY REMAINING SEDIMENT CONTROL DEVICES AND PROVIDE PERMANENT STABILIZATION OF ANY REMAINING DISTURBED AREAS. 2 DAYS

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 01/08/04

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
3/25/04
JAN MUGLER
NATURAL RESOURCES CONSERVATION SERVICE
DATE
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
3/25/04
JAN R. ROBERTSON
HOWARD SCD
DATE

ENGINEER'S CERTIFICATE
"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
3-10-04
P. V. MELLITS
SIGNATURE OF ENGINEER - PRINTED NAME BELOW DATE
P. V. MELLITS P.E. # 21075

DEVELOPER'S CERTIFICATE
"I HAVE 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."
3/9/04
BRIAN KNAUFF
SIGNATURE OF DEVELOPER - PRINTED NAME BELOW DATE

DIVISION FAX NO: (410) 712-9864
A. NAME: BRIAN KNAUFF B. DAYTIME TELEPHONE: (410) 712-7012
C. COMPANY: THE RYLAND GROUP, INC.
D. ADDRESS: 7250 PARKWAY DRIVE, SUITE 520
E. CITY: HANDOVER STATE: MD ZIP: 21076

SHEET: C-15

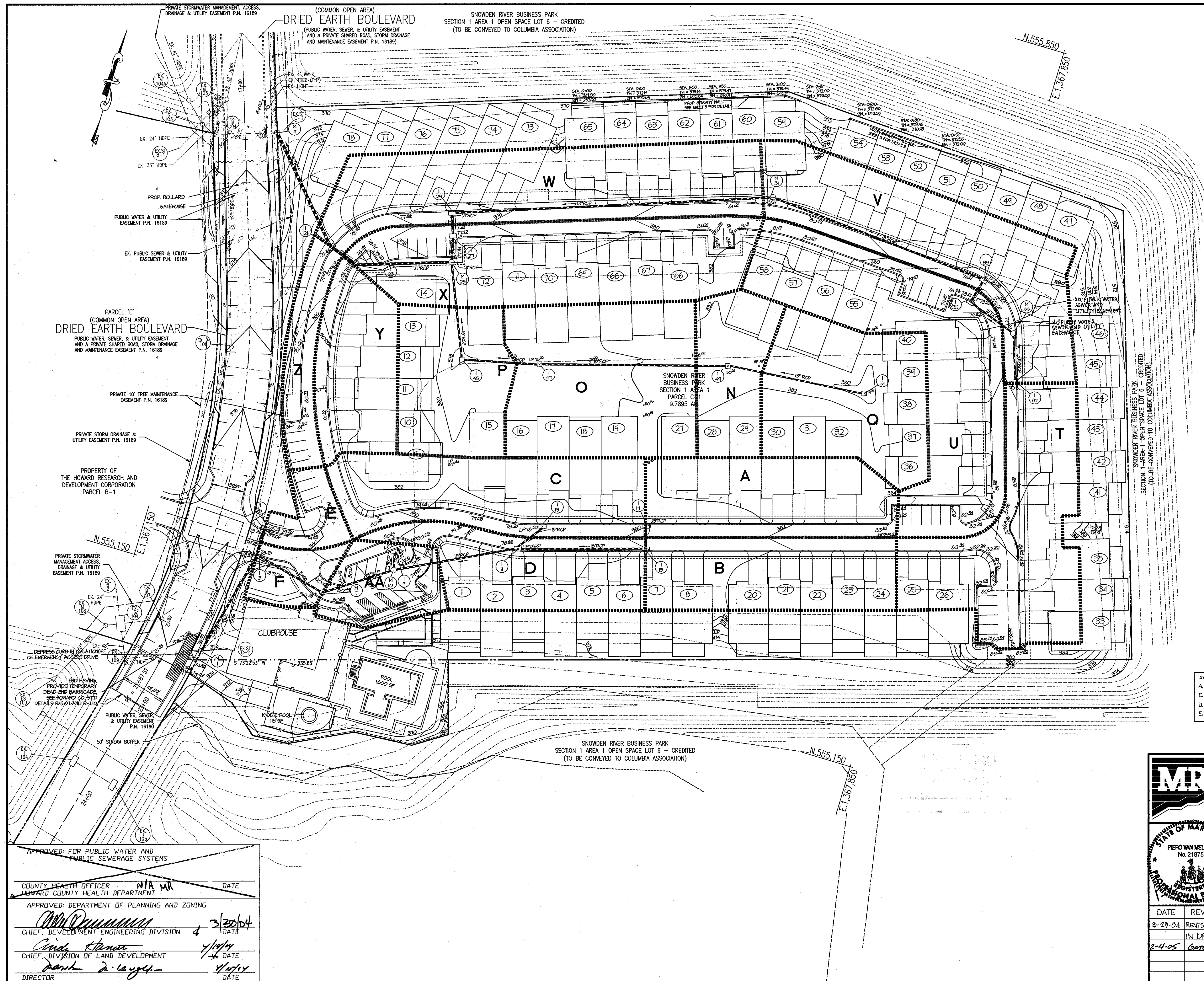
MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

9090 JUNCTION DRIVE, SUITE 9
ANNAPOLIS JUNCTION, MARYLAND 20701
(410) 792-9792 or (301) 776-1690
FAX (410) 792-7395

SNOWDEN RIVER BUSINESS PARK
SECTION 1 AREA 1, PARCEL C-1 AND PART OF PARCEL E
KENDALL OVERLOOK
AGE RESTRICTED ADULT HOUSING
SEDIMENT & EROSION CONTROL
NOTES & DETAILS
L 7720 F. 271
ZONED: NT TAX MAP: 37 GRID: 19 PARCEL 725
ELECTION DISTRICT NO.: 6 HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO:	SCALE:
2-4-05	GATEHOUSE RELOCATION & SHEET NUMBERING	12735	1" = 40'
			DATE: 03/10/04
			DRAWN BY: GRL
			DESIGN BY: GRL/CAO
			REVIEW BY: PVM
			SHEET: 15 OF 229

DATE: 3/30/04
COUNTY HEALTH OFFICER: N/A
HOWARD COUNTY HEALTH DEPARTMENT
APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION
CHIEF, DIVISION OF LAND DEVELOPMENT
DIRECTOR



AREA AND 'C' FACTOR TABULATION

INLET #	ZONING	SUBAREA	AREA	"C" FACTOR
I-17	NT	A	0.39	0.72
I-15	NT	B	0.37	0.72
I-13	NT	C	0.47	0.72
I-11	NT	D	0.34	0.72
I-9	NT	AA	0.17	0.72
I-5	NT	E	0.09	0.72
I-3	NT	F	0.10	0.72
I-37	NT	T	0.57	0.72
I-35	NT	U	0.69	0.72
I-33	NT	V	0.60	0.72
I-29	NT	W	0.65	0.72
I-27	NT	X	0.64	0.72
I-51	NT	Q	0.47	0.72
I-49	NT	N	0.23	0.72
I-47	NT	O	0.59	0.72
I-45	NT	P	0.33	0.72
I-23	NT	Y	0.28	0.72
I-21	NT	Z	0.15	0.72

NOTE:
 MASS GRADING WAS PERFORMED BY THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION AS DESIGNED BY GUTSCHICK, LITTLE & WEBER, P.A., CONSTRUCTION PLANS F-01-142 DATED REV. 3/28/03. SOIL GROUPS WERE DETERMINED TO CONSIST PRIMARILY OF HYDROLOGIC GROUPS B AND C AS STATED BY GUM'S STORM-WATER MANAGEMENT REPORT FOR SNOWDEN RIVER BUSINESS PARK DATED JUNE, 2001. DRAINAGE FROM THE PRIVATE PORTION OF DRIED EARTH BLVD. FLOWS INTO EXISTING INLETS I-102 AND I-103 TO THE NORTH OF THE EXISTING TEE TURNAROUND AND TO EXISTING INLETS I-104 AND I-105 TO THE SOUTH OF THE PROPOSED TEMPORARY DEAD END. THE DRAINAGE AREAS TO THESE INLETS AS DESIGNED BY GUM, HAVE BEEN SLIGHTLY ALTERED. HOWEVER, THE DEVIATIONS ARE NEGLIGIBLE.

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE: 01/08/04

OWNER
 A. NAME: BRIAN KNAUFF B. DAYTIME TELEPHONE: (410) 712-9864
 C. COMPANY: THE RYLAND GROUP, INC. FAX NO: (410) 712-7012
 D. ADDRESS: 7250 PARKWAY DRIVE, SUITE 520
 E. CITY: HANDOVER STATE: MD ZIP: 21076

SHEET: C-16

MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

9090 JUNCTION DRIVE, SUITE 9
 ANNAPOLIS JUNCTION, MARYLAND 20701
 (410) 792-9792 or (301) 776-1690
 FAX (410) 792-7395

SNOWDEN RIVER BUSINESS PARK
 SECTION 1 AREA 1, PARCEL C-1 AND PART OF PARCEL E
KENDALL OVERLOOK
 AGE RESTRICTED ADULT HOUSING
DRAINAGE AREA MAP

L. 7720 F. 271
 ZONED: NT TAX MAP: 37 GRID: 19 PARCEL 725
 ELECTION DISTRICT NO.: 6 HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO:	12735
3-29-04	REVISED GRADES, BLDG. FOOTPRINTS, CURB LAYOUT	SCALE:	1" = 40'
	IN DRIED EARTH BLVD. ADDED UTILITY EASEMENT	DATE:	03/10/04
2-4-05	GATEHOUSE RELOCATION & SHEET NUMBERING	DRAWN BY:	BRS/GR/L
		DESIGN BY:	GRL/CAO
		REVIEW BY:	PVM
		SHEET:	16 OF 29

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

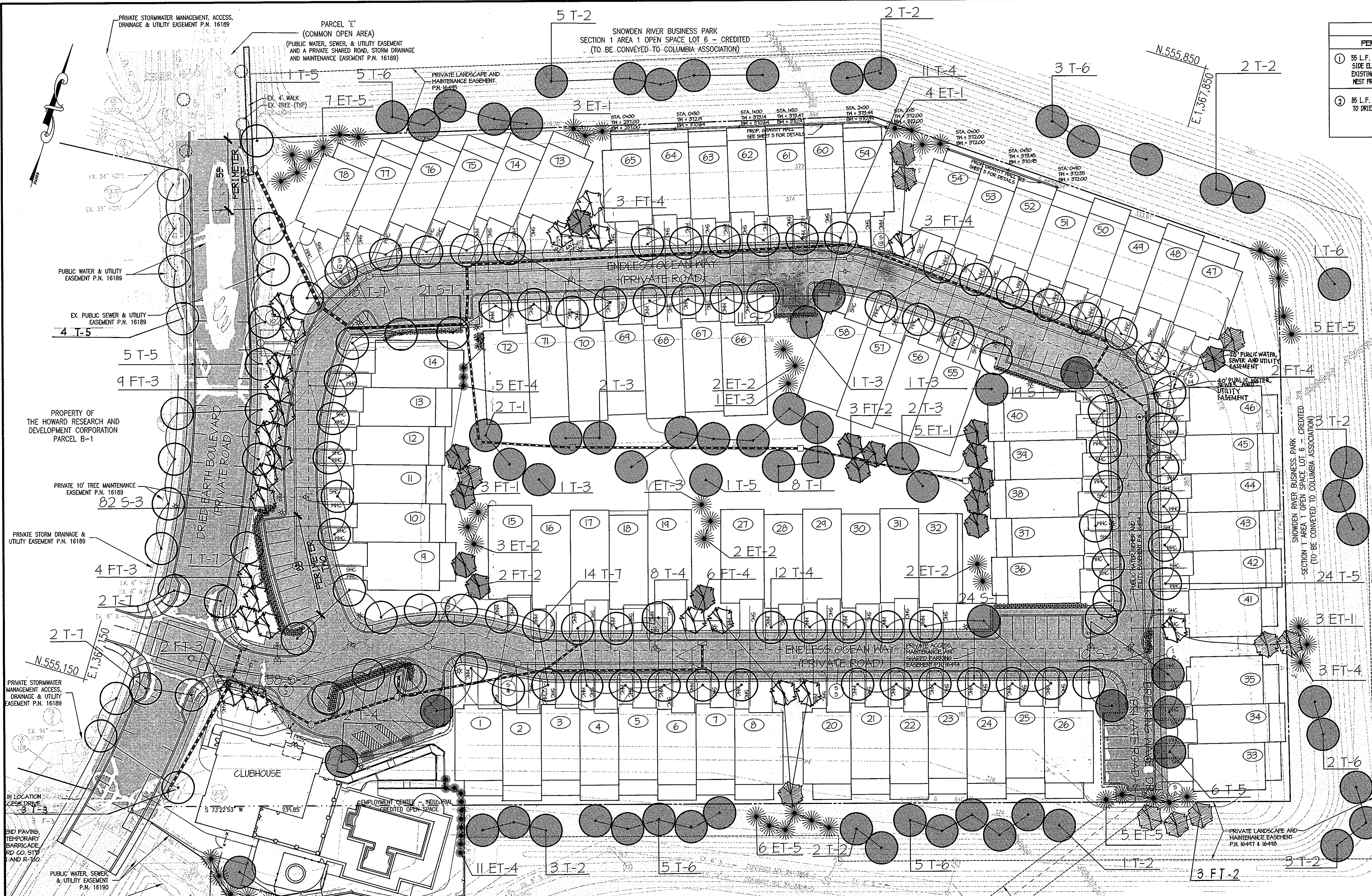
COUNTY HEALTH OFFICER: *N/A MK* DATE: _____
 HOWARD COUNTY HEALTH DEPARTMENT

APPROVED DEPARTMENT OF PLANNING AND ZONING

[Signature] DATE: 3/23/04
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] DATE: 4/14/04
 CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] DATE: 4/14/04
 DIRECTOR



SCHEDULE 'A' PERIMETER LANDSCAPE EDGE				
PERIMETER	CREDIT	PLANTS REQ'D	PLANTS PROVIDED	EDGE TYPE
1 55 L.F. RESIDENTIAL SIDE ELEVATION TO EXISTING COUNTY ROAD NEAR PROPERTY LINE	No Credit	55 LF 1 51/40' = 1 ST 20 ET/20' = 3 ET	1 SHADE TREE 3 EVERGREEN TREES	(C)
2 85 L.F. PARKING TO DRIED EARTH BLVD.	No Credit	85 LF 1 51/40' = 2 ST 1 SHRUB/4' = 20 SHRUBS	1 SHADE TREE 2 ORNAMENTAL TREES 14 SHRUBS	(E)

TOTAL PLANTING OBLIGATION	TOTAL PLANTS PROVIDED
3 SHADE TREES	2 SHADE TREES
3 EVERGREEN TREES	5 EVERGREEN TREES
20 SHRUBS	2 ORNAMENTAL TREES 14 SHRUBS

COMPOSITE STREET, PERIMETER, PARKING & INTERNAL PLANT LIST					
KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT
TREES					
T-1	10	Betula nigra	River Birch, Multi-Stem	2 1/2" - 3" cal. 12-14' Hgt.	B&B
T-2	21	Fraxinus americana 'Autumn Purple'	'Autumn Purple' Ash	2" cal. 10-12' Hgt.	B&B
T-3	10	Gleditsia triacanthos var. inermis 'Shademaster'	Shademaster Honey Locust	2 1/2" - 3" cal. 12-14' Hgt.	B&B
T-4	30	Prunus sargentii	Sargent Cherry	2 1/2" - 3" cal. 12-14' Hgt.	B&B
T-5	42	Quercus phellos	Willow Oak	2" cal. 12-14' Hgt.	B&B
T-6	21	Quercus rubra	Red Oak	2" cal. 10-12' Hgt.	B&B
T-7	43	Sophora japonica 'Regent'	Regent Japanese Pagodatree	3 - 3 1/2" cal. 12-14' Hgt.	B&B SPEC.
FLOWERING TREES					
FT-1	8	Chionanthus virginicus	Fringetree, Single stem	1" - 8" Hgt.	B&B
FT-2	8	Magnolia stellata	Star Magnolia	8" - 10" Hgt.	B&B
FT-3	15	Prunus cerasifera 'Thundercloud'	'Thundercloud' Purpleleaf Plum	8" - 10" Hgt.	B&B
FT-4	17	Prunus x yedoensis	Yoshino Cherry	10" - 12" Hgt.	B&B
EVERGREEN TREES					
ET-1	15	Abies fraseri	Fraser Fir	1" - 4" Hgt.	B&B
ET-2	4	Ilex opaca 'Miss Helen'	Miss Helen American Holly	8" - 10" Hgt.	B&B
ET-3	2	Ilex opaca 'Edible'	'Edible' American Holly	1" - 4" Hgt.	B&B
ET-4	16	Ilex x attenuata 'Fosteri'	Foster's Holly	1" - 4" Hgt.	B&B
ET-5	20	Pinus strobus	Eastern White Pine	5" - 6" Hgt.	B&B
SHRUBS					
S-1	64	Abelia x grandiflora 'Edward Goucher'	Edward Goucher Abelia	18" - 24"	#3 Cont.
S-2	79	Ilex ornata 'Compacta'	Convex Japanese Holly	24" - 36"	Cont.
S-3	82	Prunus laurocerasus 'Schipkaensis'	'Ship' Cherry Laurel	24" - 36"	Cont.

STREET TREES				
NO. OF DWELLING UNITS	PLANTS REQ'D	PLANTS PROVIDED		
78	1 ST/1 DU SFA 78 SHADE TREES	102 SHADE TREE 21 SMALL SHADE TREES		
TOTAL PLANTING OBLIGATION		TOTAL PLANTS PROVIDED		
78 SHADE TREES		102 SHADE TREE 21 SMALL TREES		

SCHEDULE 'B' PARKING LOT INTERNAL LANDSCAPE				
PARKING SPACES	PLANTS REQ'D	PLANTS PROVIDED	ISLANDS REQ'D	ISLANDS PROV'D
58	1 ST/10 Parking Spaces = 6 SHADE TREES	5 SHADE TREES 3 ORNAMENTAL TREES	6	6
TOTAL PLANTING OBLIGATION		TOTAL PLANTS PROVIDED		
6 SHADE TREES		5 SHADE TREES 3 ORNAMENTAL TREES		
TOTAL LANDSCAPED ISLAND OBLIGATION		TOTAL LANDSCAPED ISLANDS PROVIDED		
6 LANDSCAPED ISLANDS		6 LANDSCAPED ISLANDS		

SCHEDULE 'C' RESIDENTIAL INTERNAL LANDSCAPE				
NO. OF DWELLING UNITS	PLANTS REQ'D	PLANTS PROVIDED		
78	1 ST/1 DU SFA 78 SHADE TREES	64 SHADE TREES 20 ORNAMENTAL TREES 46 EVERGREEN TREES		
TOTAL PLANTING OBLIGATION		TOTAL PLANTS PROVIDED		
78 SHADE TREES		64 SHADE TREES 20 ORNAMENTAL TREES 46 EVERGREEN TREES		

NOTE:
THIS PLAN PREPARED TO MEET THE NEW TOWN 'GUIDELINES FOR RESIDENTIAL PLANTING' PREPARED BY THE ROUSE COMPANY FOR COLUMBIA, MD. THE APPROVAL LETTER FROM HRD IS ON SHEET 18, LANDSCAPE DETAILS, IN THIS SET OF PLANS.
THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE NEW TOWN ALTERNATIVE COMPLIANCE PROVISIONS SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL.
FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS A PART OF THE DPM DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$50,100.00.
CONTRACTOR SHALL INSTALL PLANT MATERIAL SO THAT PLANTS ARE NOT WITHIN A MINIMUM OF 5' FROM ALL UTILITIES.

LEGEND

- PROPOSED STREET TREE
- PROPOSED CANOPY TREE
- INTERNAL LANDSCAPE
- PROPOSED STREET FLOWERING TREE
- PROPOSED FLOWERING TREE
- INTERNAL LANDSCAPE
- PROPOSED EVERGREEN TREE
- PROPOSED SHRUB
- PROPOSED STREET LIGHT

Scale 1" = 40'

SHEET: **C-17**

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

8090 JUNCTION DRIVE, SUITE 9
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(410) 792-9792 or (301) 776-1690
FAX (410) 792-7395

SNOWDEN RIVER BUSINESS PARK
SECTION 1 AREA 1, PARCEL C-1 AND PART OF PARCEL E
KENDALL OVERLOOK
AGE RESTRICTED ADULT HOUSING
LANDSCAPE PLAN
L 7720 F. 271
ZONED: NT TAX MAP: 37 GRID: 19 PARCEL 725
ELECTION DISTRICT NO.: 6 HOWARD COUNTY, MARYLAND

DATE: 8-29-04
REVISIONS: REVISED PLANT MATERIAL QUANTITIES AND BLDG. FOOTPRINTS
2-4-05 GATEHOUSE RELOCATION & SHEET NUMBERING

DATE: 3/20/04
SCALE: 1" = 40'
DATE: 03/10/04
DRAWN BY: CLW
DESIGN BY: CLW
REVIEW BY: SD
SHEET: 17 OF 28

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

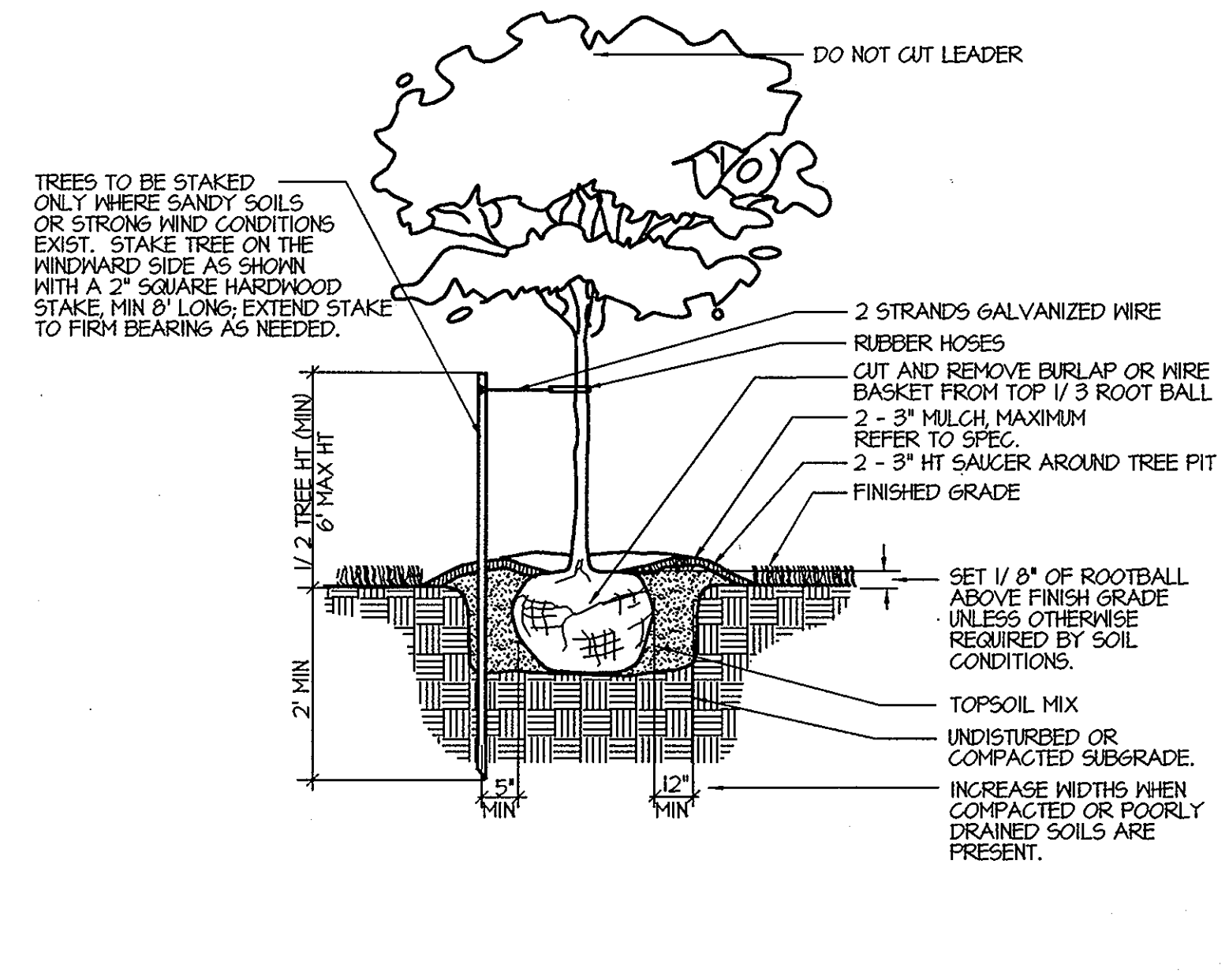
DATE: 3/20/04

DATE: 4/14/04

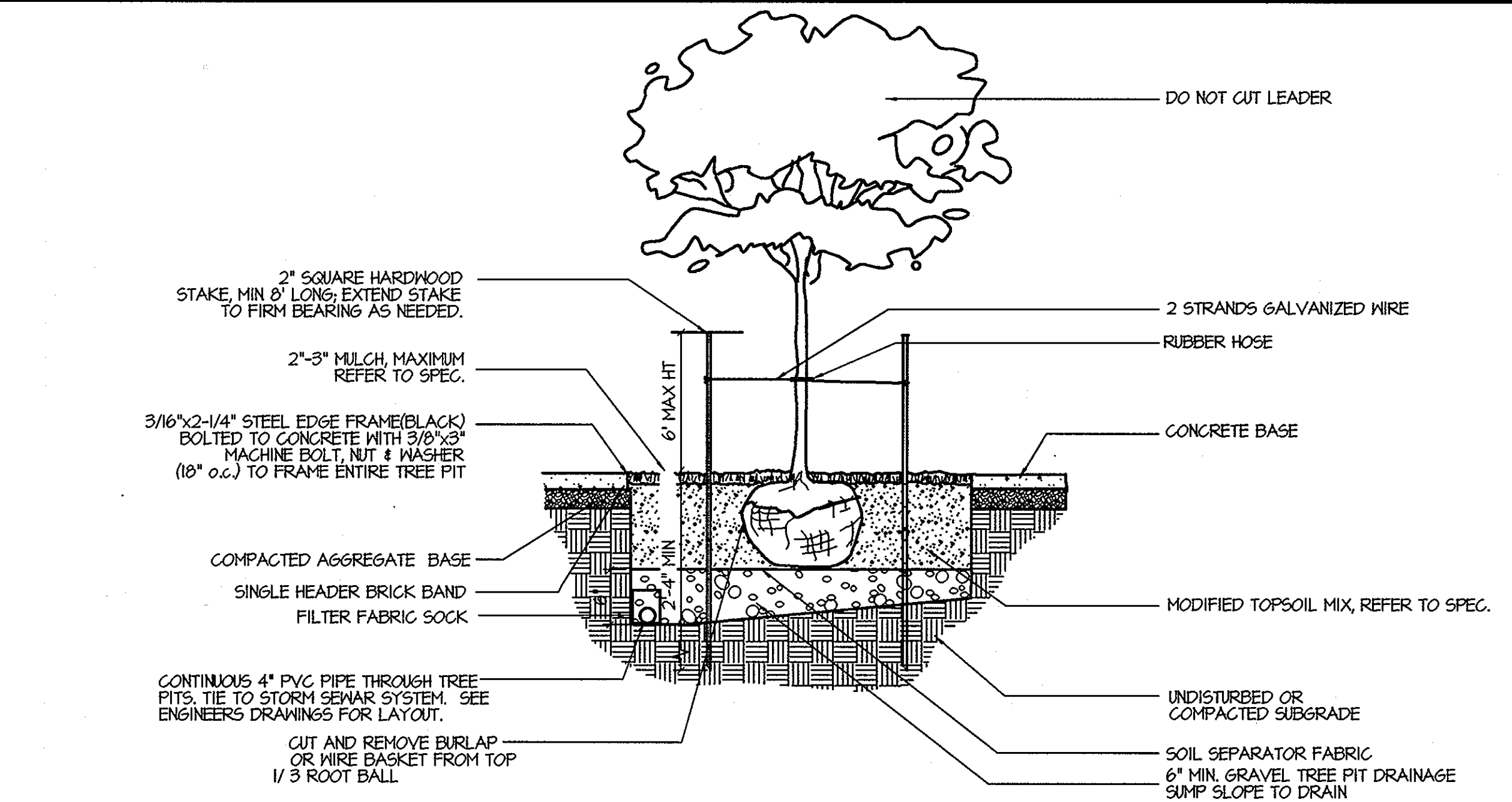
DATE: 3/14/04

NOTES ON PLANTING:

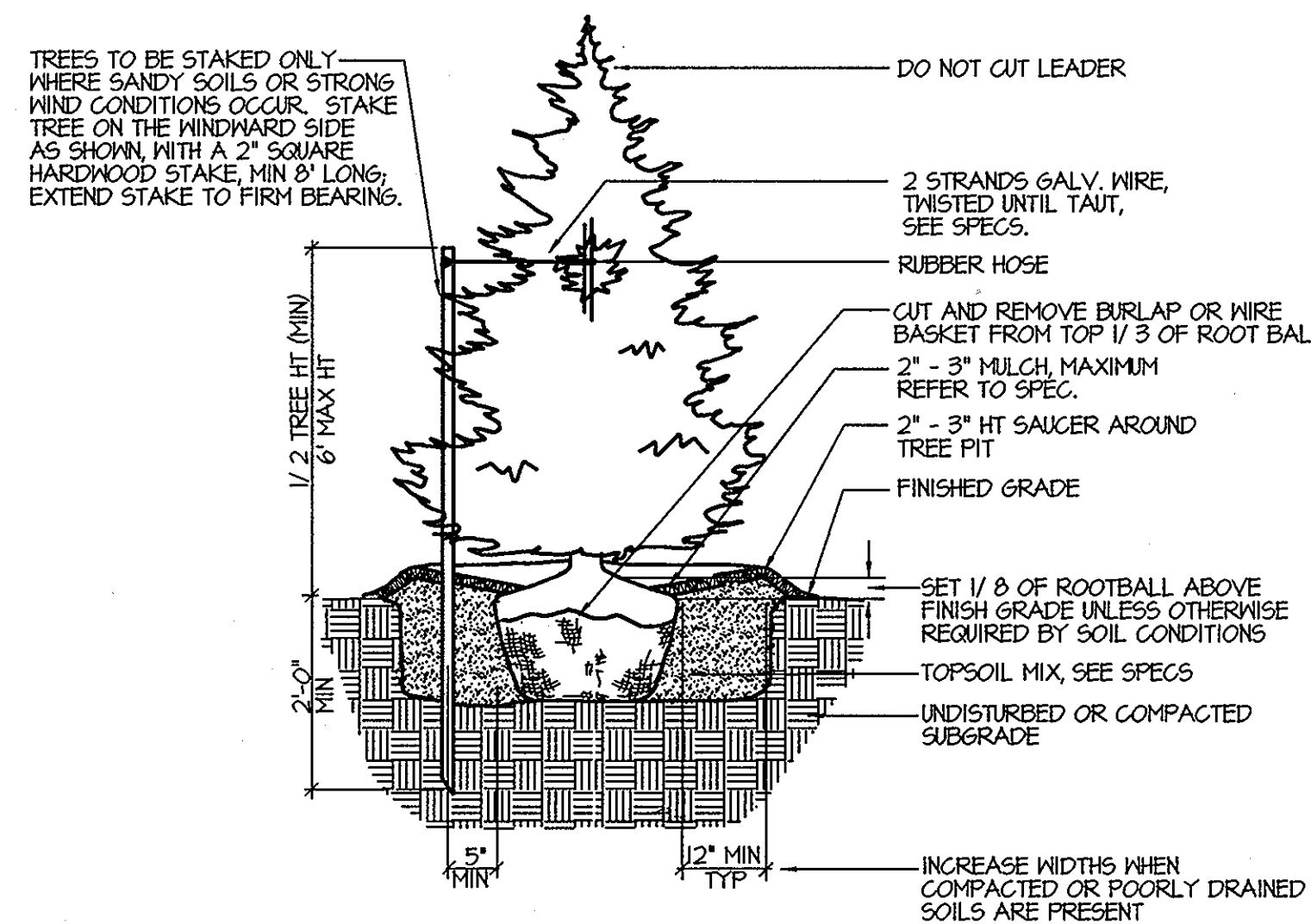
- A. CONTRACTOR SHALL CONTACT "MISS UTILITY" & SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES WITHIN THE PROJECT PRIOR TO INSTALLATION.
- B. IF NECESSARY, THE CONTRACTOR MAY SLIGHTLY ADJUST PLANT LOCATIONS IN THE FIELD TO BE CLEAR OF DRAINAGE SWALES AND UTILITIES. FINISHED PLANTING BEDS SHALL BE GRADED SO AS NOT TO IMPEDE DRAINAGE AWAY FROM BUILDINGS.
- 1. ALL PLANT MATERIAL SHALL CONFORM TO THE STANDARDS OF NURSERY STOCK OF THE AMERICAN ASSOCIATION OF NURSEYMEN.
- 2. TREES AND SHRUBS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY, HAVE NORMAL GROWTH HABITS, WELL DEVELOPED, DENSELY FOLIATED BRANCHES, AND VIGOROUS, FIBROUS ROOT SYSTEMS.
- 3. TREES AND SHRUBS SHALL BE FRESHLY DUG AND NURSERY GROWN. THEY SHALL HAVE BEEN GROWN UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT OR PROPERLY ACCLIMATED TO CONDITIONS OF THE LOCALITY OF THE PROJECT.
- 4. TREES AND SHRUBS SHALL BE FREE FROM DEFECTS AND INJURIES AND CERTIFIED BY APPROPRIATE FEDERAL AND STATE AUTHORITIES TO BE FREE OF DISEASES AND INSECT INFESTATIONS.
- 5. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE (1) FULL YEAR AFTER THE DATE OF SUBSTANTIAL COMPLETION AGAINST DEFECTS, UNSATISFACTORY GROWTH, DISEASE OR DEATH. UNSATISFACTORY, UNHEALTHY, DYING OR DEAD PLANT MATERIAL (IN THE OPINION OF THE LANDSCAPE ARCHITECT) SHALL BE REPLACED WITH THE SAME SIZE AND SPECIES.
- 6. IT SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO ADEQUATELY AND PROPERLY MAINTAIN THE LANDSCAPED AREAS, WHICH SHALL INCLUDE WATERINGS, CLEANING OF WEEDS AND DEBRIS, PRUNING AND TRIMMING, REPLACEMENT OF DEAD OR DISEASED PLANTINGS, AND FERTILIZING TO MAINTAIN HEALTHY GROWTH.
- 7. THE LANDSCAPE CONTRACTOR SHALL STAKEOUT PLANT LOCATIONS IN THE FIELD. THE LANDSCAPE ARCHITECT OR HIS REPRESENTATIVE SHALL OBSERVE THESE LOCATIONS PRIOR TO COMMENCING PLANT PIT EXCAVATION. THE LANDSCAPE CONTRACTOR SHALL MAKE ANY ADJUSTMENTS AS REQUESTED BY THE LANDSCAPE ARCHITECT.
- 8. ALL PLANT SAUCERS AND PLANT BEDS SHALL BE MULCHED WITH DOUBLE SHREDDED HARDWOOD MULCH, A MINIMUM OF 3" IN DEPTH.
- 9. NO SUBSTITUTIONS OF PLANT MATERIAL SHALL BE PERMITTED WITHOUT WRITTEN AUTHORIZATION OF THE LANDSCAPE ARCHITECT OR HIS REPRESENTATIVE. THIS SHALL APPLY TO SUBSTITUTIONS OF SPECIES, SIZE AND QUANTITY.
- 10. THE LANDSCAPE CONTRACTOR SHALL INSTALL SHREDDED HARDWOOD BARK MULCH TO A DEPTH OF 3" UNDER AND SURROUNDING ALL NEW LANDSCAPED MASS PLANTING AREAS TO PROVIDE A UNIFORM AND CONTINUOUS SURFACE AND APPEARANCE BETWEEN AND AROUND ALL PLANT MATERIAL, BUILDING LINES AND PAVED AREAS. IN GENERAL, THIS PERTAINS TO ALL PLANT MATERIAL THAT IS PLANTED CLOSER THAN SIX (6) FEET CENTER TO CENTER. IT IS THE INTENT OF THIS CONTRACT TO INSTALL LANDSCAPE MAT UNDER THE ENTIRE AREA OF SHREDDED BARK MULCH.
- 11. TREES SHALL BE LOCATED: 1. A MINIMUM OF 5' FROM SEWER/WATER CONNECTIONS. CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO ANY AND ALL PUBLIC AND PRIVATE UTILITIES, WATER AND SEWER LINES. 2. TREES SHALL BE LOCATED 3' FROM SIDEWALKS.
- 12. ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS AND ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION.
- 13. CONTRACTOR SHALL SLIGHTLY ADJUST PLANT LOCATIONS IN THE FIELD AS NECESSARY TO BE CLEAR OF DRAINAGE SWALES AND UTILITIES. FINISHED PLANTING BEDS SHALL BE GRADED SO AS NOT TO IMPEDE DRAINAGE AWAY FROM STRUCTURES.
- 14. TREE STAKING AND GUYING SHALL BE DONE PER DETAILS. CONTRACTOR SHALL ENSURE THAT TREES REMAIN PLUMB AND UPRIGHT FOR THE DURATION OF THE GUARANTEE PERIOD.
- 15. ALL TREE PITS, SHRUB BEDS, AND PREPARED PLANTING BEDS ARE TO BE COMPLETELY EXCAVATED IN ACCORDANCE WITH THE PLANTING DETAILS.
- 16. CROWN OF ROOT BALL SHALL BE HIGHER (AFTER SETTING) THAN ADJACENT SOIL.
- 17. SHADE TREES: HEIGHT SHALL BE MEASURED FROM THE CROWN OF THE ROOT BALL TO THE TOP OF MATURE GROWTH. SPREAD SHALL BE MEASURED TO THE END OF BRANCHING EQUALLY AROUND THE CROWN FROM THE CENTER OF THE TRUNK. MEASUREMENTS ARE NOT TO INCLUDE ANY TERMINAL GROWTH. SINGLE TRUNK TREES SHALL BE FREE OF 'V' CROTCHES THAT COULD BE POINTS OF WEAK LIMB STRUCTURE OR DISEASE INFESTATION.
- 18. CONTRACTOR MUST CONTACT THE OWNER AT LEAST TEN WORKING DAYS IN ADVANCE TO SCHEDULE ACCEPTANCE INSPECTION(S). CONTRACTOR MUST REPLACE ALL DEAD OR UNACCEPTABLE PLANTS DURING THE FOLLOWING RECOMMENDED PLANTING SEASON.
- 19. TREES & SHRUBS SHALL BE PLANTED DURING ACCEPTABLE PLANTING SEASONS: BETWEEN MARCH 15 AND MAY 15 AND BETWEEN AUGUST 15 AND NOVEMBER 15 OR AS APPROVED BY OWNERS REPRESENTATIVE.
- 20. ALL TREE STAKING AND GUYING SHALL BE REMOVED BY THE CONTRACTOR AFTER THE TREES ARE ESTABLISHED.
- 21. SEEDED AREAS THAT WASH OUT MUST BE FILLED AND GRADED AS NECESSARY AND THE RESEEDED. SOME TYPE OF ANCHORING METHOD SHOULD THEN BE USED TO HOLD SEED AND MULCH IN PLACE; THIS IS ESPECIALLY IMPORTANT AROUND WATER COURSED, IN SWALES AND AREAS OF CONCENTRATED FLOWS, AND ON SLOPES.
- 22. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- 23. QUANTITIES SHOWN ON THE PLANT LIST ARE FOR THE CONTRACTOR'S CONVENIENCE ONLY AND ARE NOT GUARANTEED TO BE ACCURATE. IN THE EVENT OF A DISCREPANCY BETWEEN QUANTITIES SHOWN ON THE PLAN AND QUANTITIES SHOWN ON THE PLANT LIST, THE QUANTITIES ON THE PLAN SHALL APPLY.
- 24. ALL PLANT BEDS SHALL BE CONTAINED WITH A SPADED EDGE UNLESS OTHERWISE NOTED ON DRAWINGS.
- 25. DEBRIS, RUBBISH & SUBSOIL SHALL BE CLEANED & REMOVED FROM THE SITE UPON COMPLETION OF PLANTING.



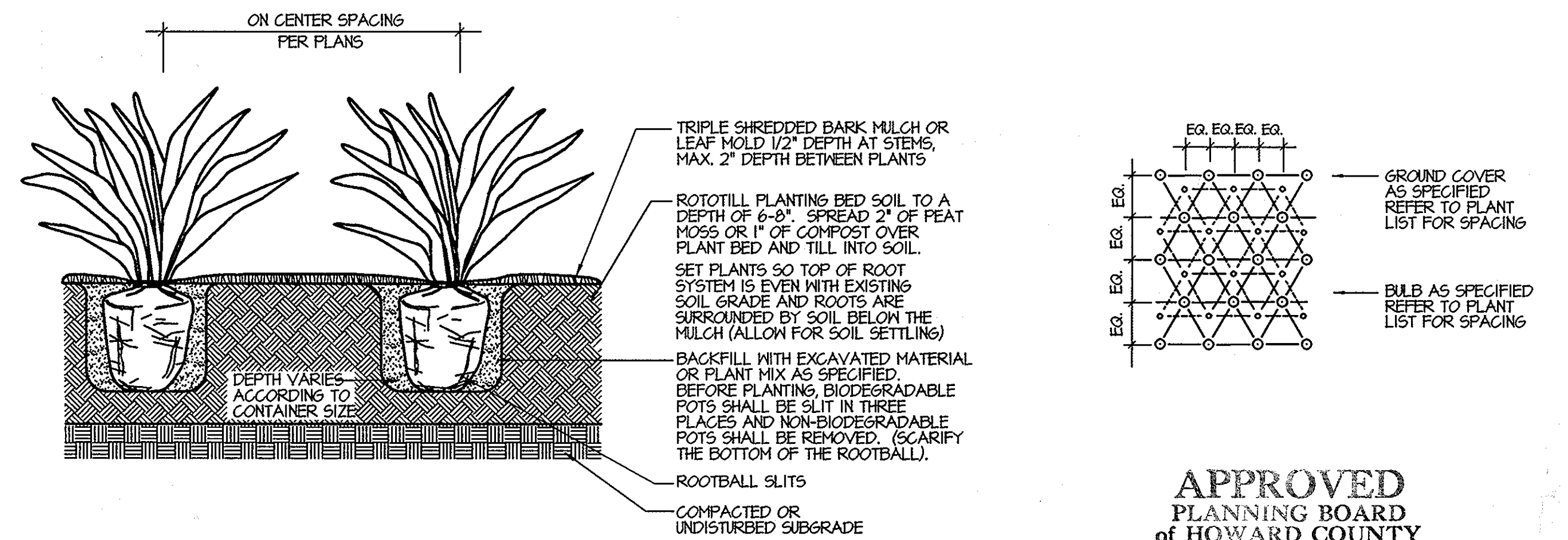
DECIDUOUS TREE PLANTING
NOT TO SCALE



DECIDUOUS TREE PLANTING IN TREE PIT
NOT TO SCALE

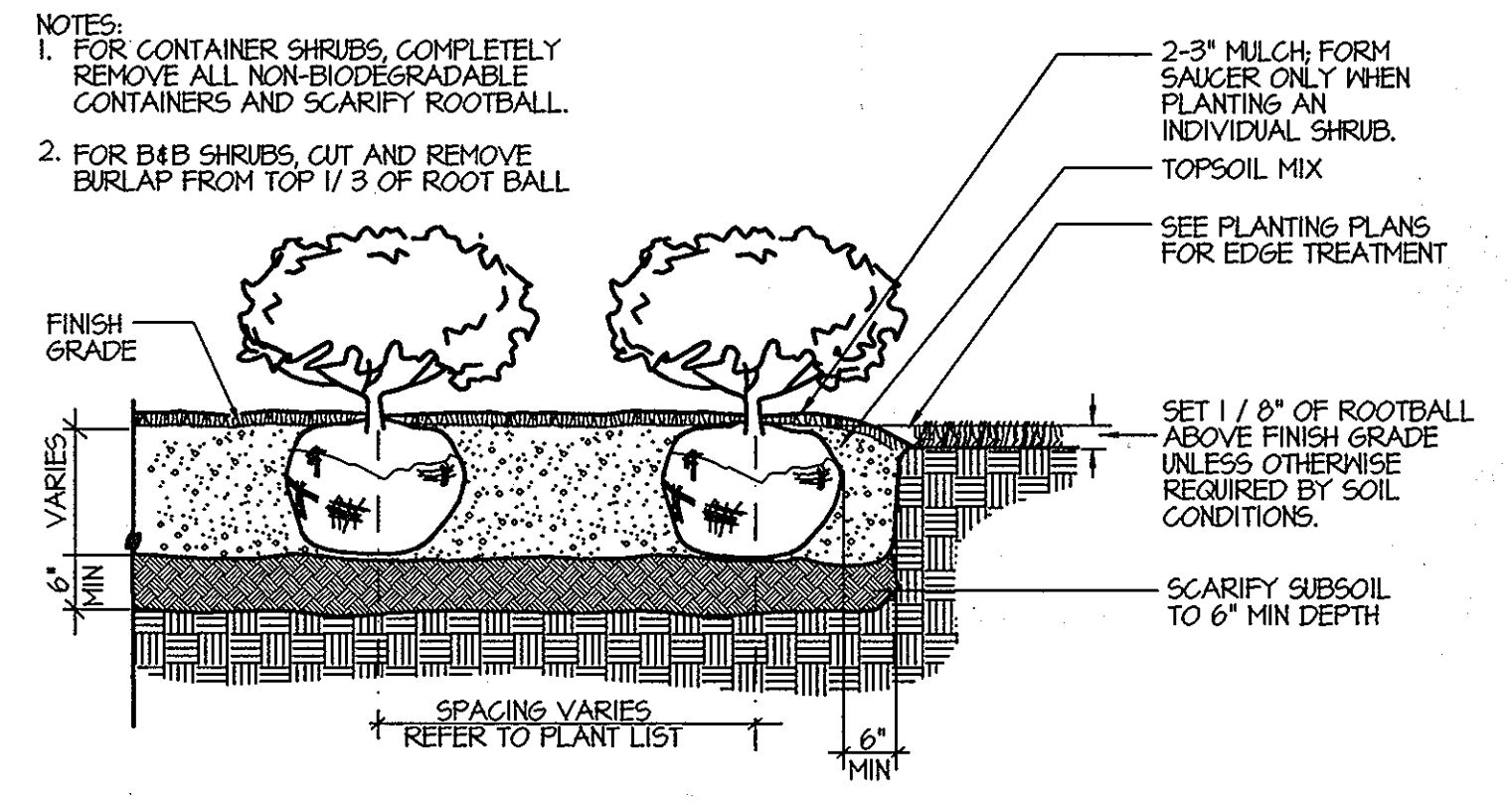


EVERGREEN TREE PLANTING
NOT TO SCALE



PERENNIAL PLANTINGS & PERENNIAL/GROUNDCOVER SPACING
NOT TO SCALE

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 01/08/04



SHRUB BED PLANTING
NOT TO SCALE

SEP. 2 2003 4:33 PM of the HOWARD CO. COMMUNITY DEPT. No. 2037 P. 2
c/o The Howard Research and Development Corporation
Columbia, MD 21046-3455

NOTICE OF COMPLETION
OF ARCHITECTURAL CONSTRUCTION ACTIVES
Request No: 13164 Action Date: 09-02-2003
Owner: KENDALL OVERLOOK

Return Review To: CLARE WILLIAMS
MORRIS & RITCHIE ASSOCIATES, INC.
9090 JUNCTION DRIVE, SUITE 9
ANNAPOLIS JUNCTION, MD. 20701

Location: Will Section Area Parcel Lot Slot Lot Slot
SRP 1 1 C-1

Project Description: FORMAL LANDSCAPE PLAN

Justification: APPROVED

Comments: HOWARD RESEARCH AND DEVELOPMENT GRANTS RYLAND HOMES PERMISSION TO PLANT ON ITS ADJACENT PROPERTY AS SHOWN ON THE FORMAL LANDSCAPE PLAN FOR THE KENDALL OVERLOOK PROJECT.

Owner Must Stop: STREET ENTRANCE AND CLEARANCE DETAILS AS THEY BECOME AVAILABLE.

This document acknowledges that the above referenced property has been reviewed pursuant to guidelines set forth by the Howard Research and Development Corporation's Architectural Committee. In the event that this property may also be subject to association covenants and/or regulations as well as regulations mandated by local/state governmental agencies, the property owner(s) must obtain all necessary approvals to ensure compliance within all applicable jurisdictions.

All correspondence should be addressed to:
Linda Neijer
The Howard Research and Development Corporation
10275 Lancelotti Parkway
Columbia, Maryland 21044
(410) 992-0232

OWNER	FAX NO: (410) 712-9864
A. NAME: BRIAN KNAUFF	R. DAYTIME TELEPHONE: (410) 712-7012
C. COMPANY: THE RYLAND GROUP, INC.	
D. ADDRESS: 7250 PARKWAY DRIVE, SUITE 520	
E. CITY: HANDOVER STATE: MD ZIP: 21076	

SHEET:
C-18

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

9090 JUNCTION DRIVE, SUITE 9
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FAX (410) 792-7395

SNOWDEN RIVER BUSINESS PARK
SECTION 1 AREA 1, PARCEL C-1 AND PART OF PARCEL E
KENDALL OVERLOOK
AGE RESTRICTED ADULT HOUSING
LANDSCAPE DETAILS

L 7720 F. 21
ZONED: NT TAX MAP: 37 GRID: 19 PARCEL 725
ELECTION DISTRICT NO.: 6 HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO:	12735
2-4-05	GATEHOUSE RELOCATION & SHEET NUMBERING	SCALE:	1" = 40'
		DATE:	03/10/04
		DRAWN BY:	NG
		DESIGN BY:	NG
		REVIEW BY:	CLW
		SHEET:	18 OF 24

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

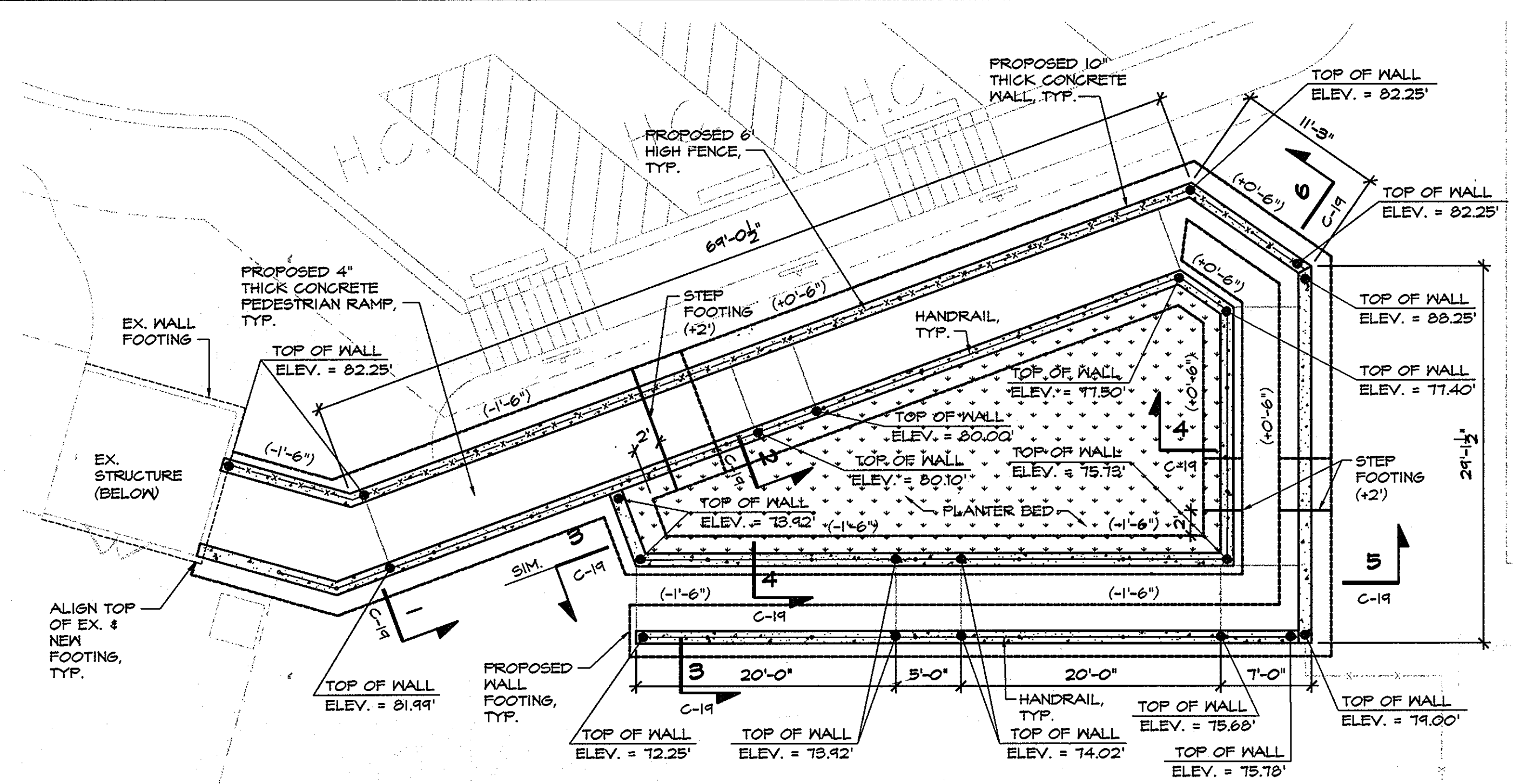
COUNTY HEALTH OFFICER: *N/A MK* DATE: _____
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 3/30/04

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 4/2/04

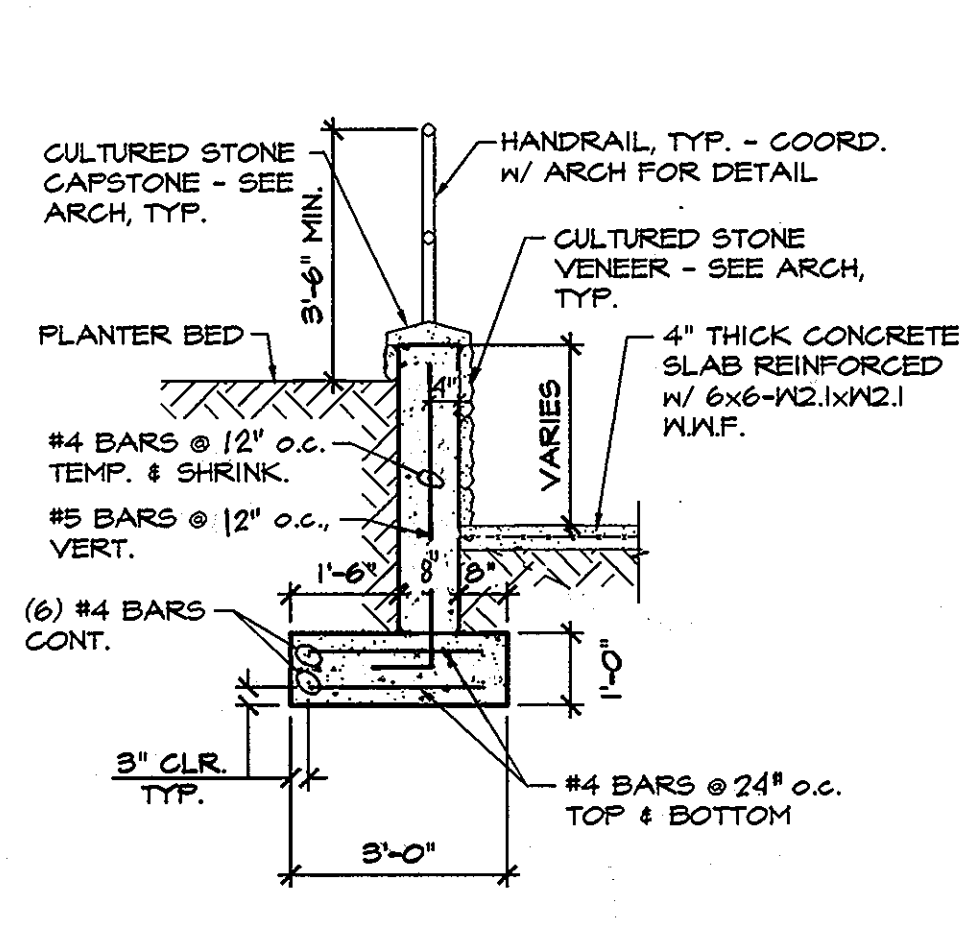
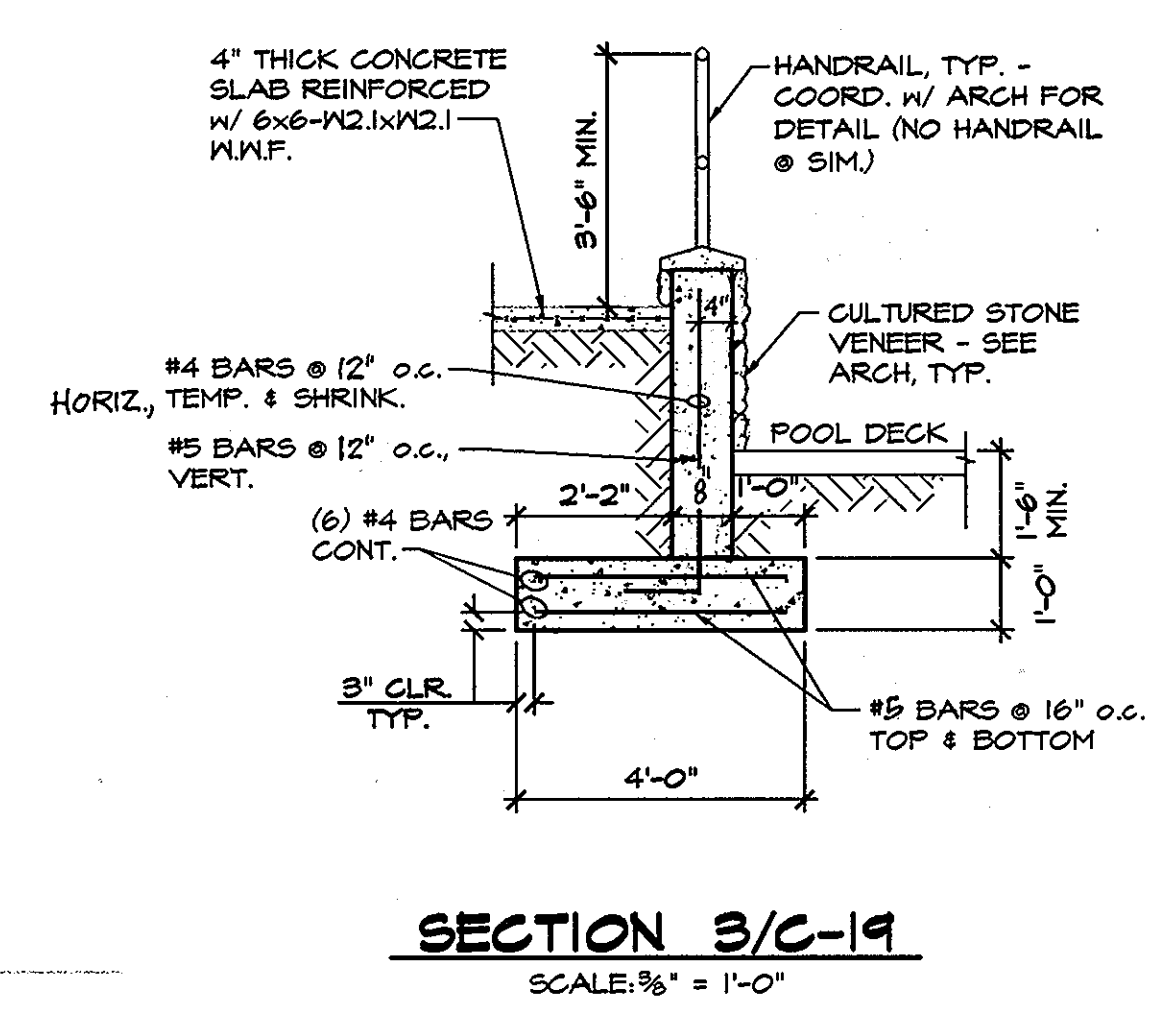
DIRECTOR: *[Signature]* DATE: 4/15/04



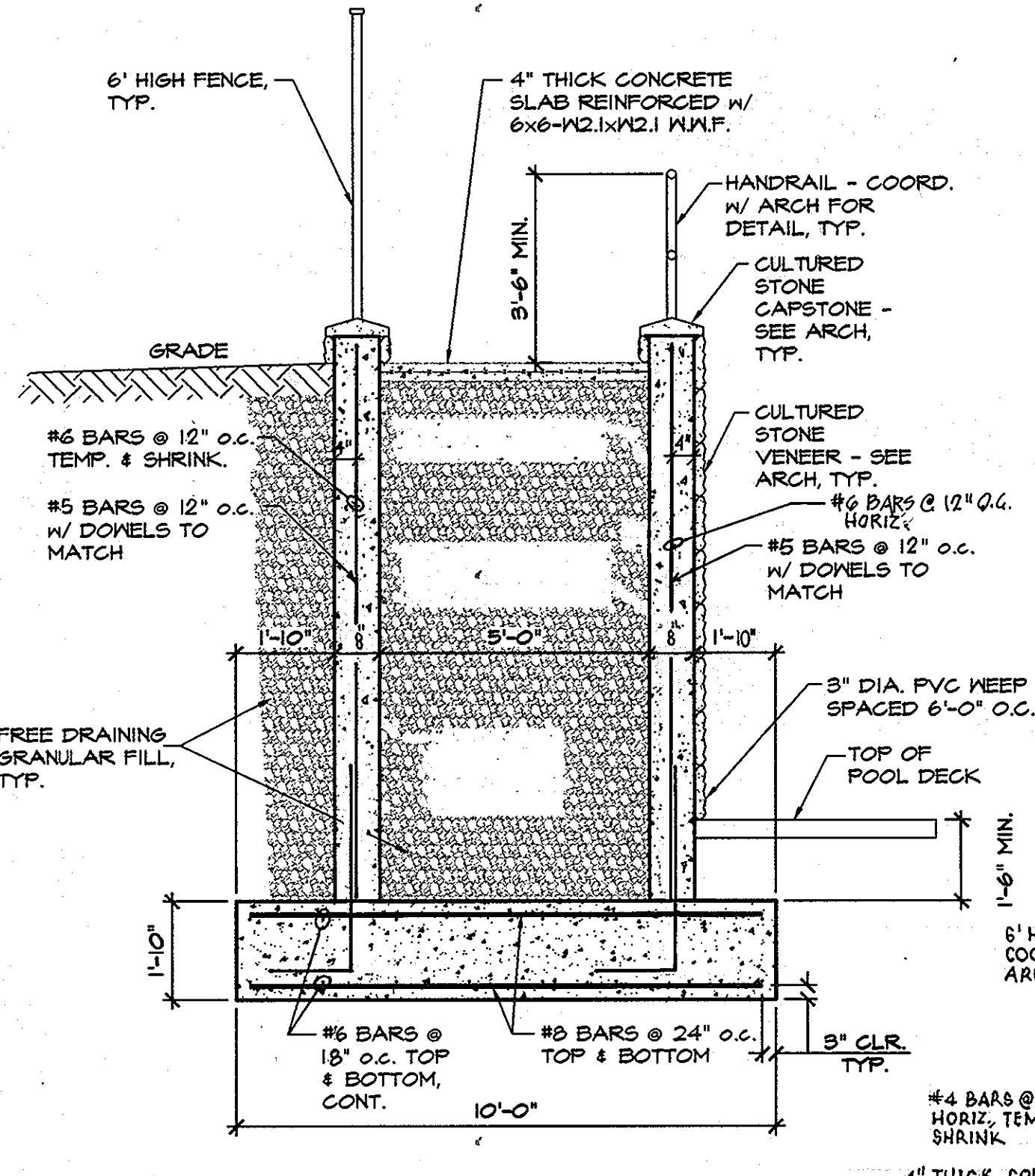
FOUNDATION NOTES

- CONCRETE SLABS ON GRADE SHALL CONSIST OF 4" NORMAL WEIGHT CONCRETE REINFORCED WITH 6"x6"-W2.1xW2.1 W.W.F.
- SEE CIVIL SITE PLAN FOR TOP OF SLAB ELEVATIONS.
- TOP OF FOOTING ELEVATIONS ARE SHOWN ON PLAN THUS: (X'-X") ALL TOP OF FOOTING ELEVATION ARE RELATIVE TO THE DATUM 0'-0" (ELEVATION 371.75', AS PER CIVIL SITE PLANS)

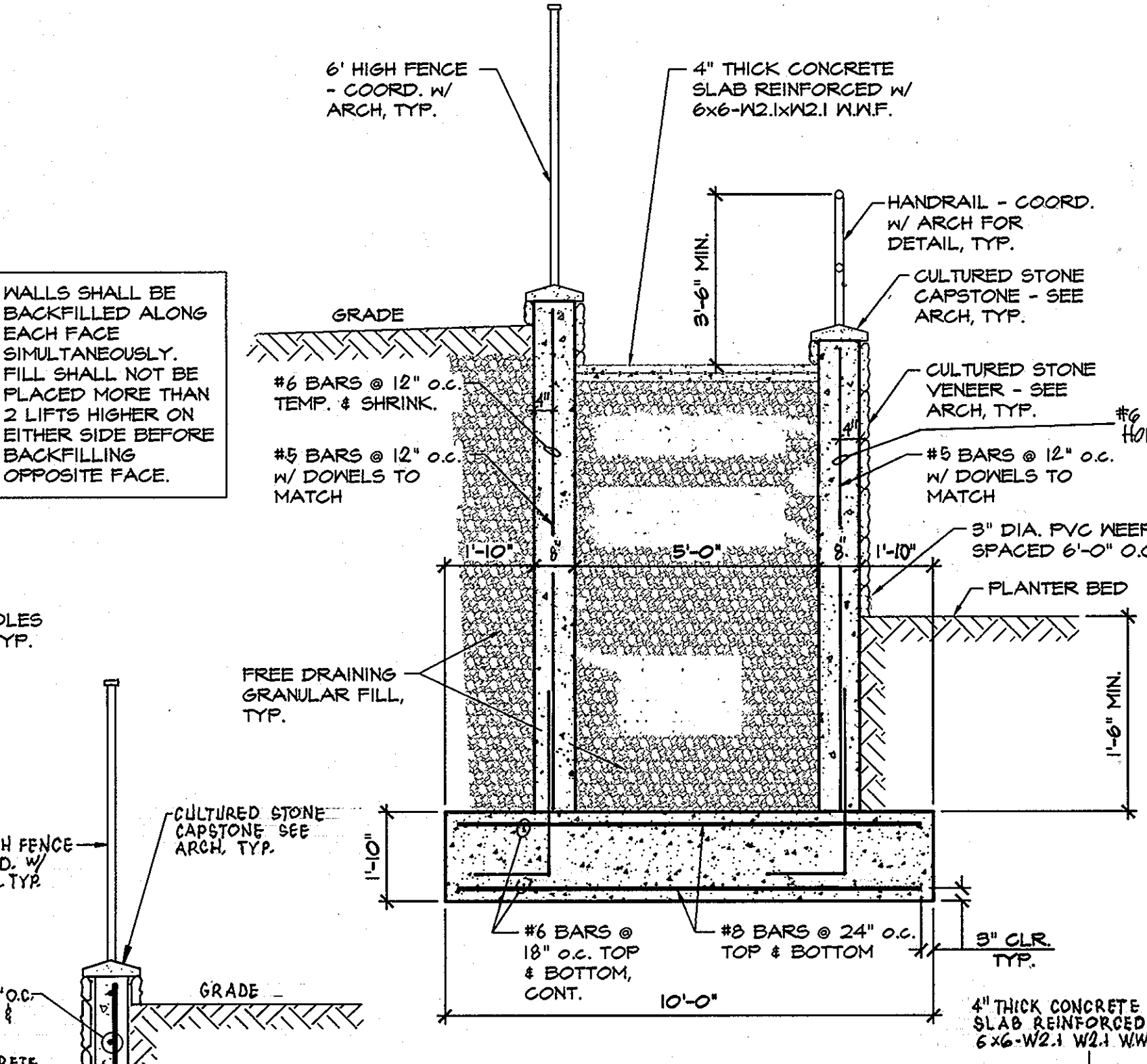
PEDESTRIAN RAMP & RETAINING WALL FOUNDATION PLAN
SCALE: 1/8" = 1'-0"



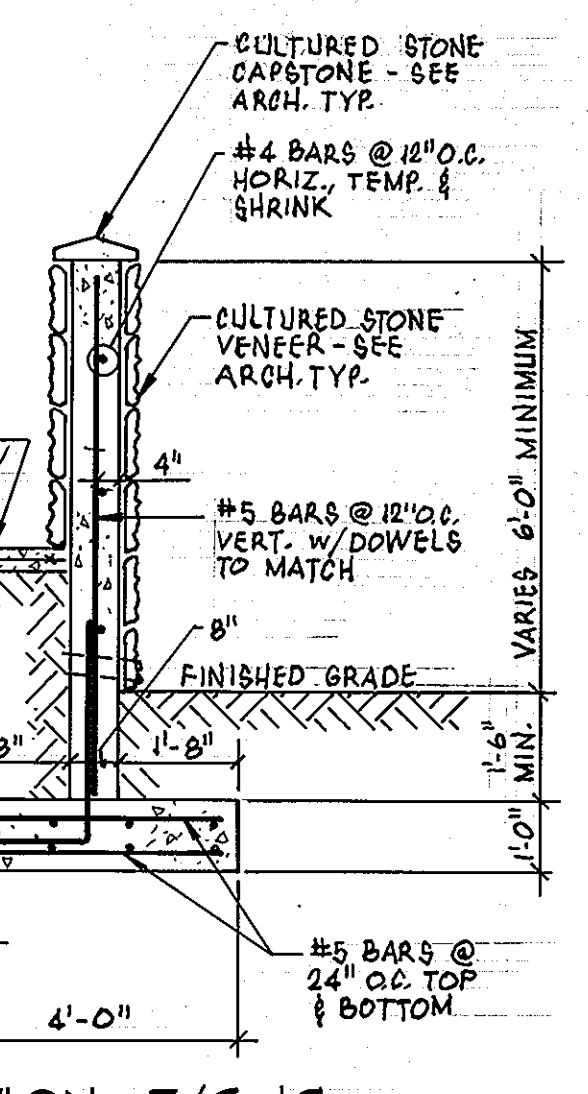
SECTION 4/C-19
SCALE: 3/8" = 1'-0"



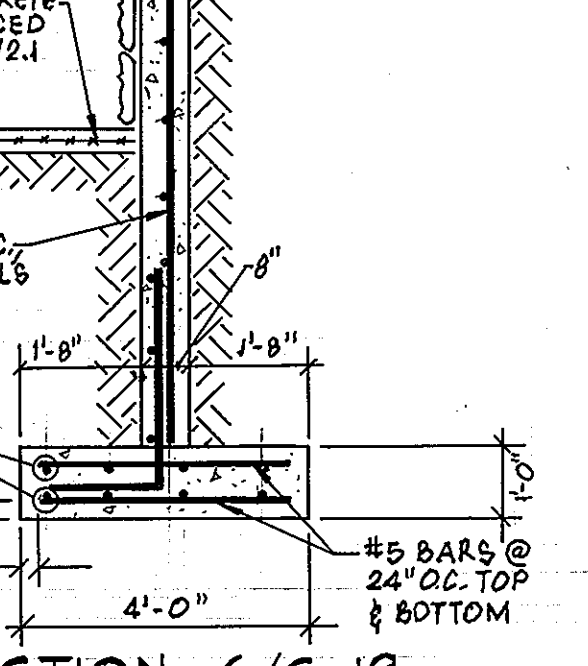
SECTION 1/C-19
SCALE: 3/8" = 1'-0"



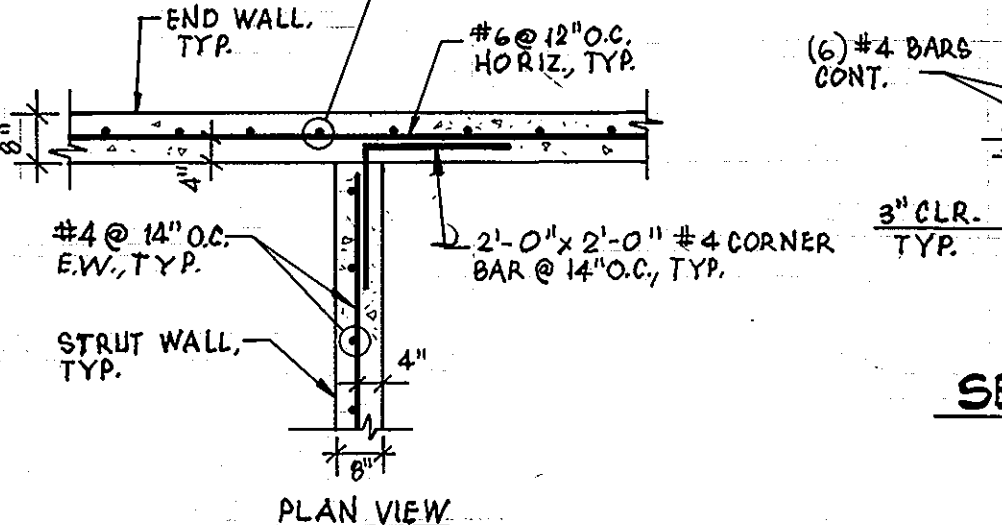
SECTION 2/C-19
SCALE: 3/8" = 1'-0"



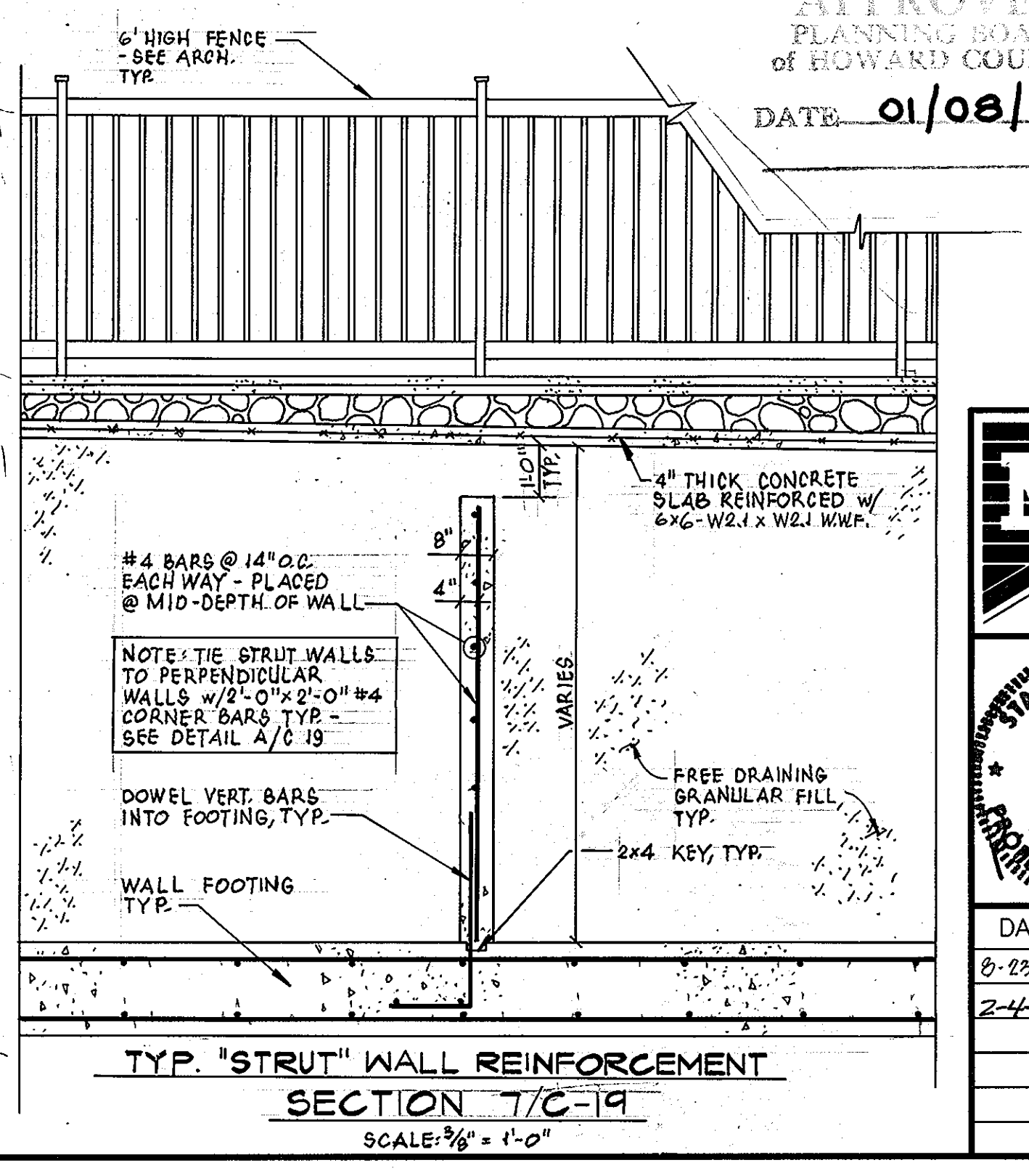
SECTION 5/C-19
SCALE: 3/8" = 1'-0"



SECTION 6/C-19
SCALE: 3/8" = 1'-0"



TYP. 'STRUT' TO END WALL REBAR LAYOUT
DETAIL A/C-19 SCALE: 3/8" = 1'-0"



SECTION 7/C-19
SCALE: 3/8" = 1'-0"

- STRUCTURAL NOTES**
- BUILDING CODES**
 - ALL CONSTRUCTION SHALL CONFORM WITH THE 2000 INTERNATIONAL BUILDING CODE AND ALL SUBSEQUENT SUPPLEMENTS.
 - IN ADDITION, ALL CONSTRUCTION SHALL CONFORM WITH THE GOVERNING LOCAL BUILDING CODE.
 - DESIGN LOADS**
 - THE MINIMUM DESIGN DEAD LOADINGS FOR ALL FRAMING IS BASED ON THE CONSTRUCTION MATERIALS SHOWN ON THE DRAWINGS AND INDICATED IN THE SPECIFICATIONS.
 - THE MINIMUM DESIGN LIVE LOADINGS FOR ALL FRAMING IS AS FOLLOWS:
PEDESTRIAN RAMP FLOOR LIVE LOAD: 100 PSF
 - THE CONTRACTOR SHALL NOT STORE ANY CONSTRUCTION MATERIALS OR UNDERTAKE ANY CONSTRUCTION OPERATION WHICH WILL EXCEED THE DESIGN LIVE LOADINGS NOTED.
 - MISCELLANEOUS**
 - SHOP DRAWINGS FOR ALL STRUCTURAL ELEMENTS SHOWN ON THE CONTRACT DOCUMENTS MUST BE SUBMITTED BY THE CONTRACTOR OR OWNER FOR REVIEW BY THE ENGINEER. IF THE CONTRACTOR OR OWNER FAILS TO SUBMIT THE SHOP DRAWINGS, THE ENGINEER WILL NOT BE RESPONSIBLE FOR STRUCTURAL CERTIFICATION AND DESIGN OF THE PROJECT. THE SHOP DRAWINGS SHALL INDICATE ANY DEVIATIONS OR OMISSIONS FROM THE CONTRACT DOCUMENTS. THE GENERAL CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMISSION AND MAKE ALL CORRECTIONS DEEMED NECESSARY.
 - THE CONTRACTOR SHALL REVIEW THE ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATION AND DIMENSION OF CHASES, INSERTS, OPENINGS, SLEEVES, DEPRESSIONS AND OTHER PROJECT REQUIREMENTS WHICH IMPACT THE STRUCTURAL COMPONENTS.
 - THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS BEFORE PROCEEDING WITH CONSTRUCTION. ALL DISCREPANCIES AND OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.
 - THE CONTRACTOR SHALL NOT SUBMIT REPRODUCTIONS OF THE STRUCTURAL CONTRACT DOCUMENTS AS SHOP DRAWINGS.
 - SCALES SHOWN ON THE STRUCTURAL CONTRACT DRAWINGS ARE FOR GENERAL INFORMATION ONLY. DIMENSIONAL INFORMATION SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.
 - SPREAD FOOTING FOUNDATIONS**
 - THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 2'-4" BELOW FINISH GRADE FOR FROST PROTECTION.
 - TOP OF ALL INTERIOR FOOTINGS SHALL BE A MINIMUM 3" BELOW FINISHED FLOOR UNLESS NOTED OTHERWISE ON THE DRAWINGS.
 - ALL FOOTINGS HAVE BEEN DESIGNED FOR AN ASSUMED NET ALLOWABLE SOIL BEARING PRESSURE OF 2500 PSF. THE ALLOWABLE SOIL BEARING PRESSURE SHALL BE FIELD VERIFIED BY A REGISTERED GEOTECHNICAL ENGINEER PRIOR TO PLACING FOOTINGS. SHOULD THE ACTUAL SOIL BEARING PRESSURE BE LESS THAN 2500 PSF, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.
 - ALL FILL PLACED UNDER SPREAD FOOTINGS SHALL BE COMPACTED TO A DRY DENSITY OF AT LEAST 95 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698.
 - ALL EXCAVATION AND BACKFILLING OPERATIONS, INCLUDING ALL COMPACTION TESTS AND INSPECTIONS, SHALL BE DONE UNDER THE DIRECTION AND SUPERVISION OF A REGISTERED GEOTECHNICAL ENGINEER.
 - THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL FOUNDATION AND SOIL CONDITIONS WHICH DIFFER FROM THOSE ANTICIPATED OR INDICATED IN THE CONTRACT DOCUMENTS.
 - ALL EXISTING SOIL CONTAINING GRAVEL, CONSTRUCTION OR DEMOLITION DEBRIS, ORGANIC SUBSTANCES, OR OTHER FOREIGN OBJECTS SHALL BE REMOVED FROM THE REGION WITHIN THE FOOTPRINT OF THE FIRST CONCRETE.
 - RETAINING WALLS**
 - FOOTINGS FOR ALL RETAINING WALLS HAVE BEEN DESIGNED FOR AN ASSUMED NET ALLOWABLE SOIL BEARING PRESSURE OF 2500 PSF. THE ALLOWABLE SOIL BEARING PRESSURE SHALL BE FIELD VERIFIED BY A REGISTERED GEOTECHNICAL ENGINEER AND APPROVED PRIOR TO PLACING FOOTINGS. SHOULD THE ACTUAL SOIL BEARING PRESSURE BE LESS THAN 2500 PSF, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.
 - RETAINING WALLS HAVE BEEN DESIGNED WITH BACKFILL MATERIAL HAVING THE FOLLOWING CHARACTERISTICS:
SOIL WEIGHT: 120 PCF
SOIL FRICTION ANGLE: 30 DEGREES
ACTIVE EARTH PRESSURE COEFF. K_a: 0.33
IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO INSURE THE BACK FILL MATERIAL MEETS THESE CHARACTERISTICS.
 - RETAINING WALLS HAVE BEEN DESIGNED FOR THE FOLLOWING MINIMUM FACTORS OF SAFETY:
SLIDING: 1.5
OVERTURNING: 2.0
FOUNDATIONS: 2.0
CONSTRUCTION OF ALL RETAINING WALLS SHALL BE PERFORMED UNDER THE SUPERVISION OF A REGISTERED GEOTECHNICAL ENGINEER.
 - ALL RETAINING WALLS SHALL BE BRACED AND SHORED AS REQUIRED DURING BACKFILLING. BOTH SUPPORTING ELEMENTS SHALL BE IN PLACE AND DEVELOPING THE REQUIRED STRENGTH PRIOR TO BACK FILLING OF WALLS SUPPORTED AT TOP AND BOTTOM.
 - ALL CONCRETE SHALL BE SAMPLED AND TESTED BY THE TESTING AGENCY. THE CONTRACTOR SHALL NOTIFY THE TESTING AGENCY 48 HOURS PRIOR TO THE PLACING OF ANY CONCRETE.
 - THE CONCRETE STRUCTURE SHALL NOT SUPPORT THE DESIGN LIVE LOAD FOR A MINIMUM OF 28 DAYS AND ALL SHORING AND RESHORING REQUIRED TO SUPPORT THE CONCRETE STRUCTURE DURING CONSTRUCTION SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR. SHOP DRAWINGS SIGNED AND SEALED BY A REGISTERED ENGINEER IN THE STATE OF MARYLAND, SHALL BE SUBMITTED FOR REVIEW. SHOP DRAWINGS SHALL INDICATE THE TYPE, EXTENT, SIZE AND LOCATION OF ALL SHORING AND RESHORING AS WELL AS THE SEQUENCE OF CONSTRUCTION.
 - GROUND BLAST FURNACE SLAG MAY BE USED TO REPLACE UP TO 50 PERCENT OF THE PORTLAND CEMENT IN A CONCRETE MIX AND FLY ASH OR POZZOLAN MAY BE USED TO REPLACE UP TO 25 PERCENT OF PORTLAND CEMENT, SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER AND SHALL CONFORM TO ASTM C 618.
 - MINIMUM COVER FOR ALL REINFORCING SHALL BE AS FOLLOWS UNLESS OTHERWISE INDICATED:
FOUNDATIONS: 5 INCHES
SLABS ON GRADE: 2 INCHES (TOP)
WALLS: 2 INCHES
 - THE GENERAL CONTRACTOR SHALL SUBMIT PLANS SHOWING ALL PENETRATIONS THROUGH THE FRAMED CONCRETE SLABS. THE OPENINGS SHALL BE ACCURATELY LOCATED AND DIMENSIONED.

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE: 01/08/04

OWNER: _____ FAX NO: (410) 712-9864
A. NAME: BRIAN KNAUFF B. DAYTIME TELEPHONE: (410) 712-7012
C. COMPANY: THE RYLAND GROUP, INC.
D. ADDRESS: 7250 PARKWAY DRIVE, SUITE 520
E. CITY: HANDOVER STATE: MD ZIP: 21076

SHEET: **C-19**



MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

8090 JUNCTION DRIVE, SUITE 9
ANNAPOLIS JUNCTION, MARYLAND 20701
(410) 792-9792 or (301) 778-1690
FAX (410) 792-7395



SNOWDEN RIVER BUSINESS PARK
SECTION 1 AREA 1, PARCEL C-1 AND PART OF PARCEL E
KENDALL OVERLOOK
AGE RESTRICTED ADULT HOUSING
STRUCTURAL DETAILS
L 7720 F. 271
ZONED: NT TAX MAP: 37 GRID: 19 PARCEL: 725 (9/0 PAR. 50, 255, & PAR. 212, 385)
ELECTION DISTRICT NO.: 6 HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO.	SCALE
8-23-04	REVISED WALL STRUCTURAL DETAILS	12735	1" = 40"
2-4-05	GATEHOUSE RELOCATION & SHEET NUMBERING		

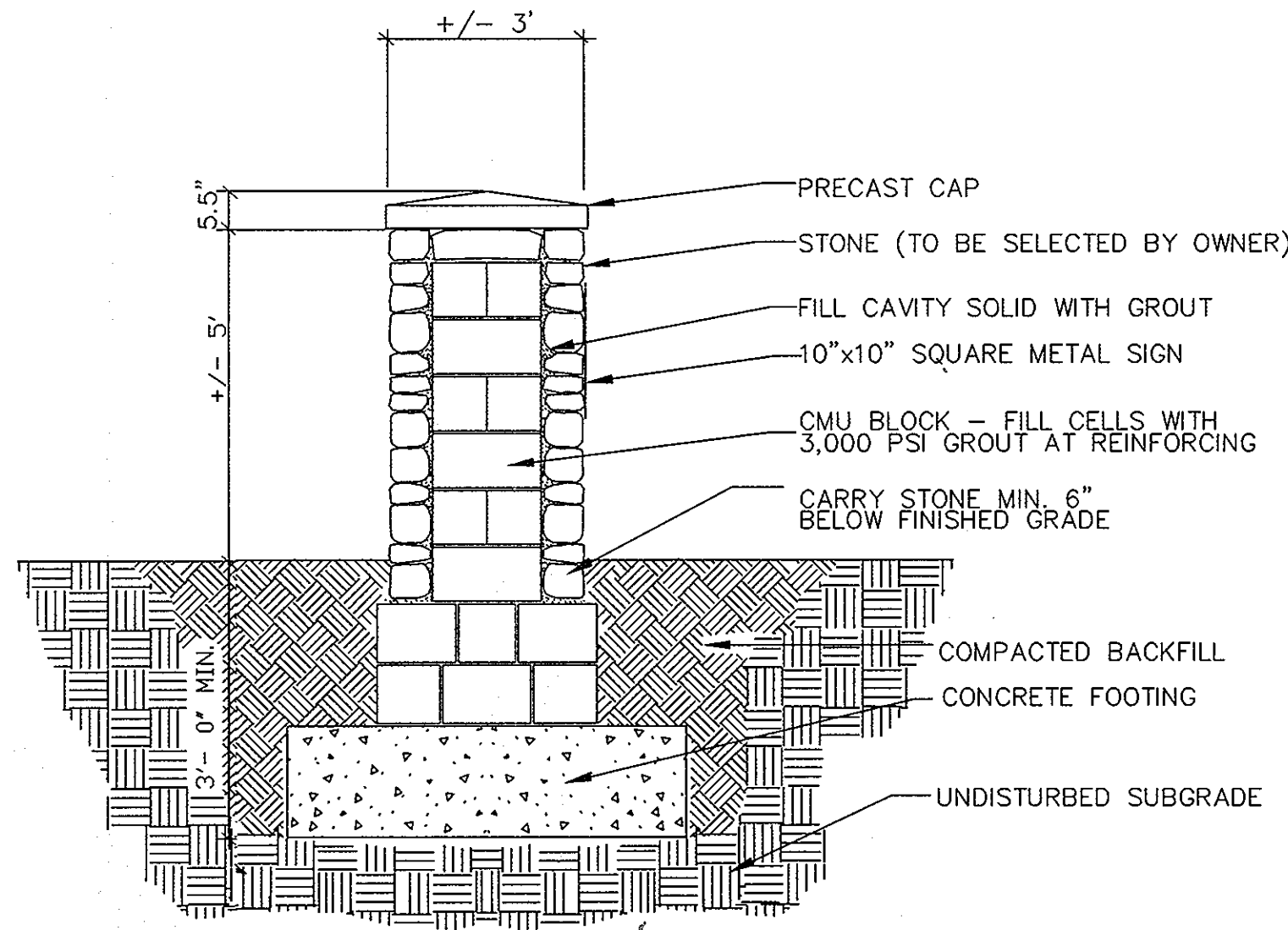
DATE: 11/14/03
DRAWN BY: RCS
DESIGN BY: -RCS
REVIEW BY: BES
SHEET: 19 OF 28

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

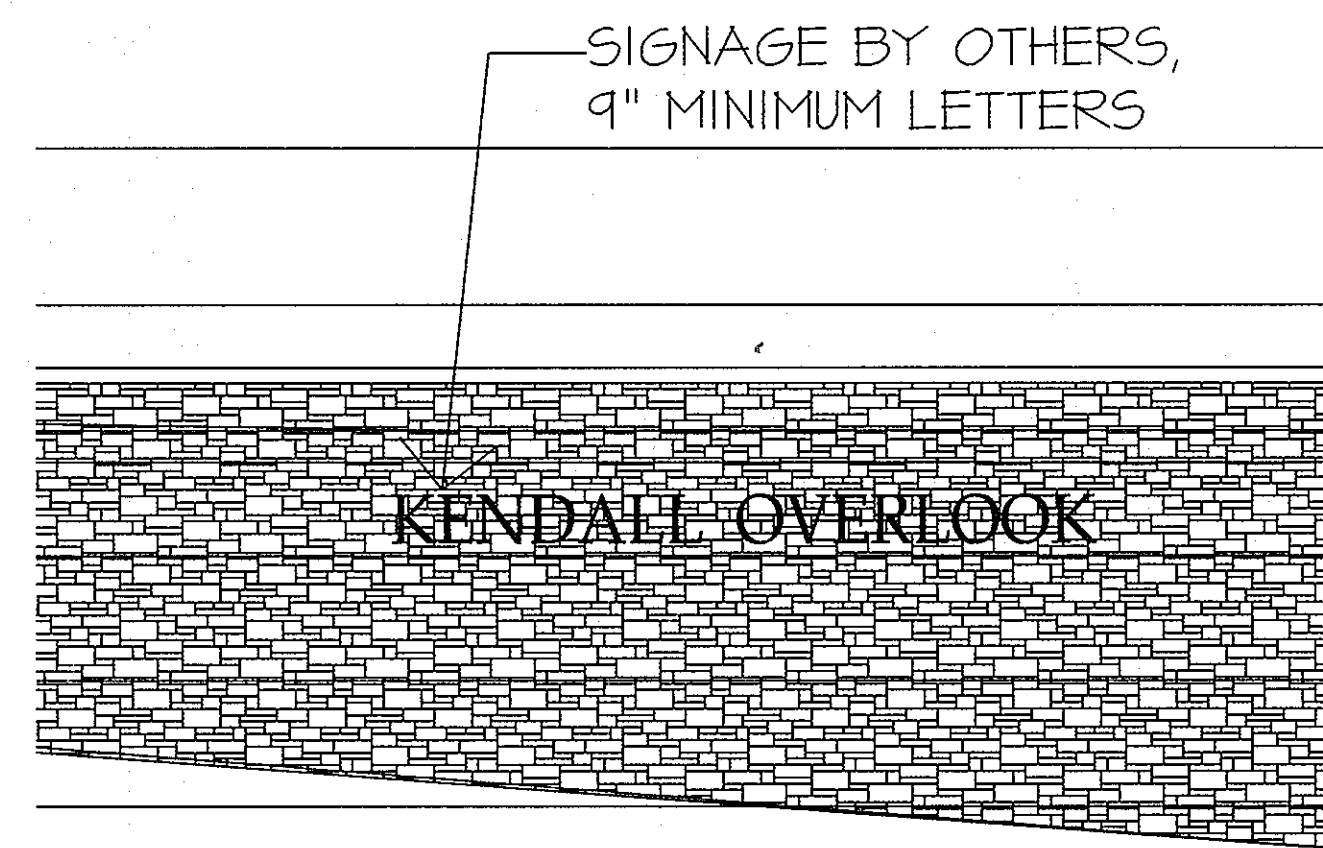
COUNTY HEALTH OFFICER: _____ DATE: _____
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

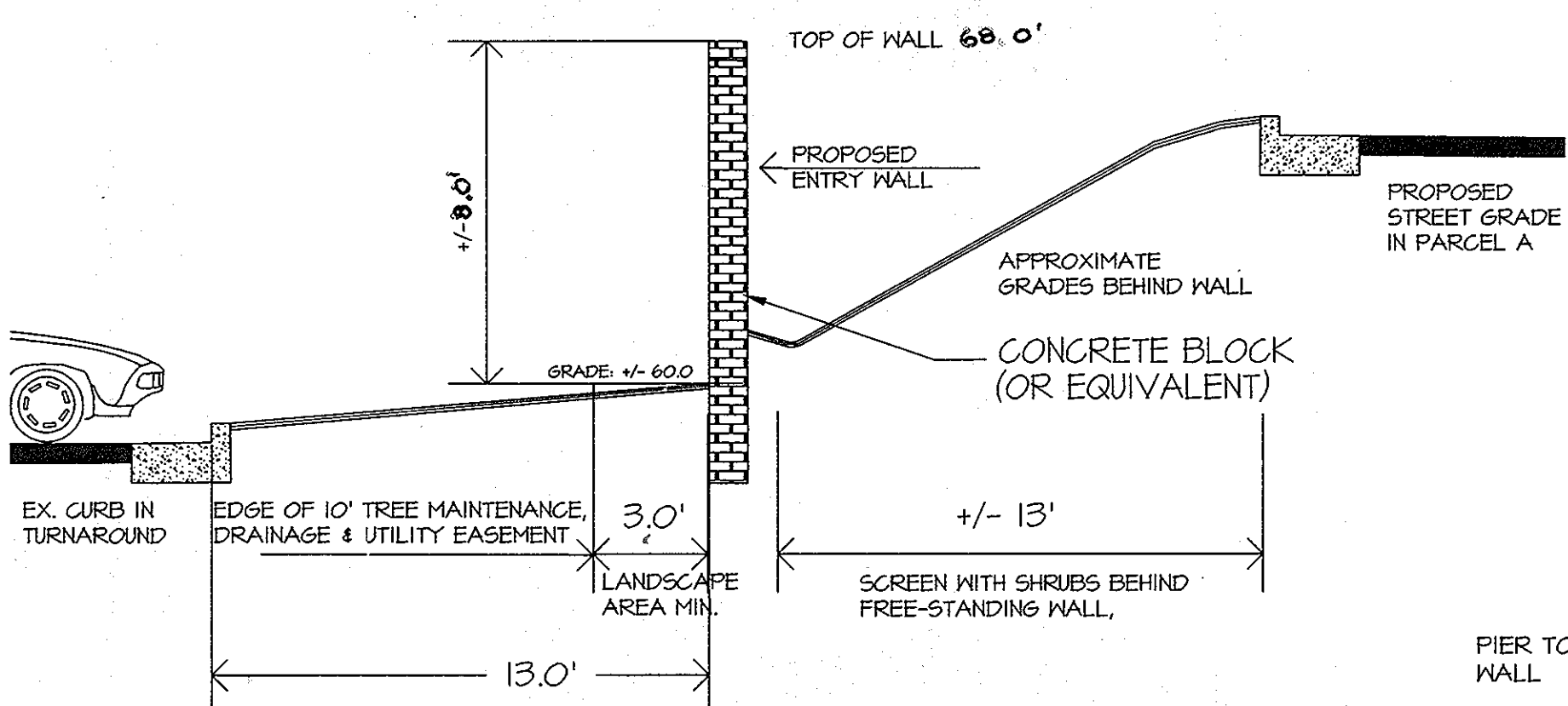
Chief, Development Engineering Division: _____ DATE: 3/26/04
Chief, Division of Land Development: _____ DATE: 4/1/04
Director: _____ DATE: 4/15/04



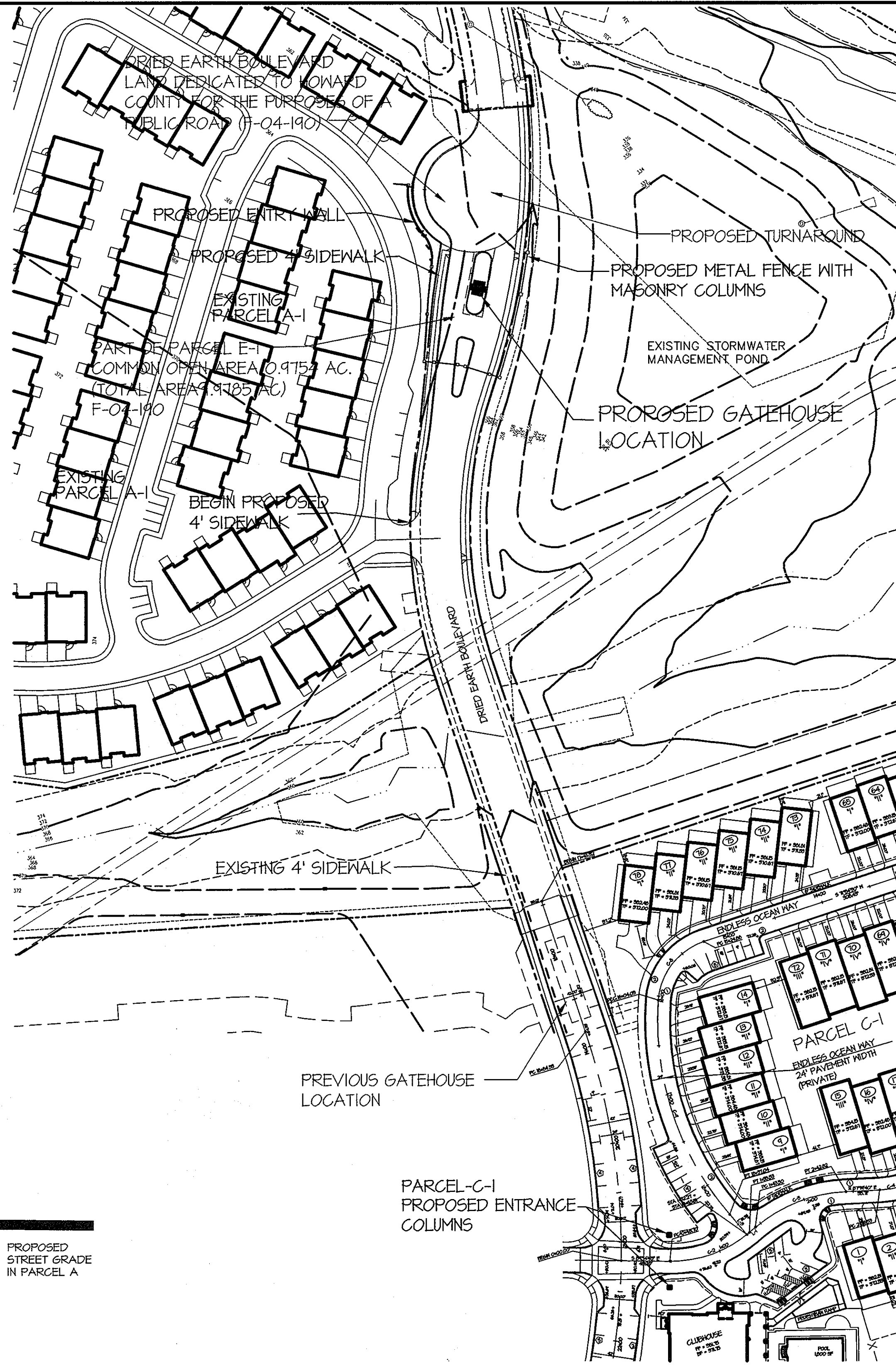
PROPOSED ENTRANCE COLUMN DETAIL
(SCALE: 1" = 1')



PROPOSED ENTRY WALL ELEVATION
N.T.S.

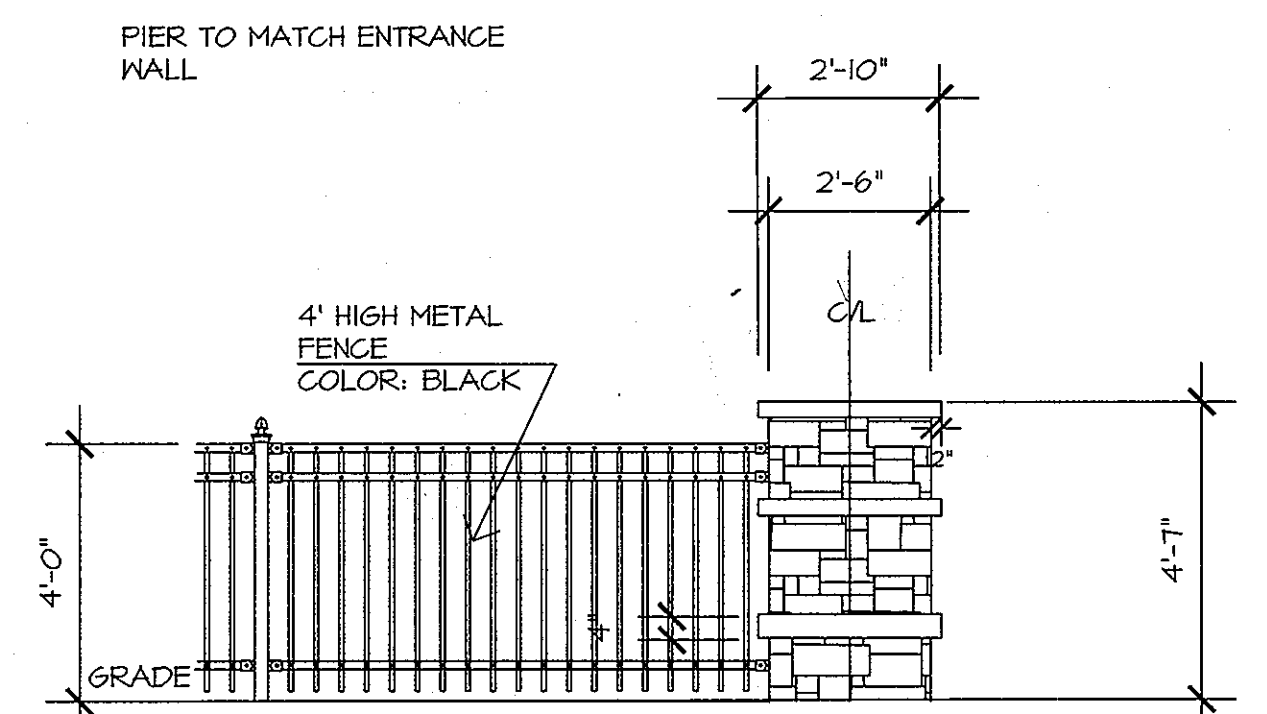


PROPOSED ENTRY WALL SECTION A-A
N.T.S.



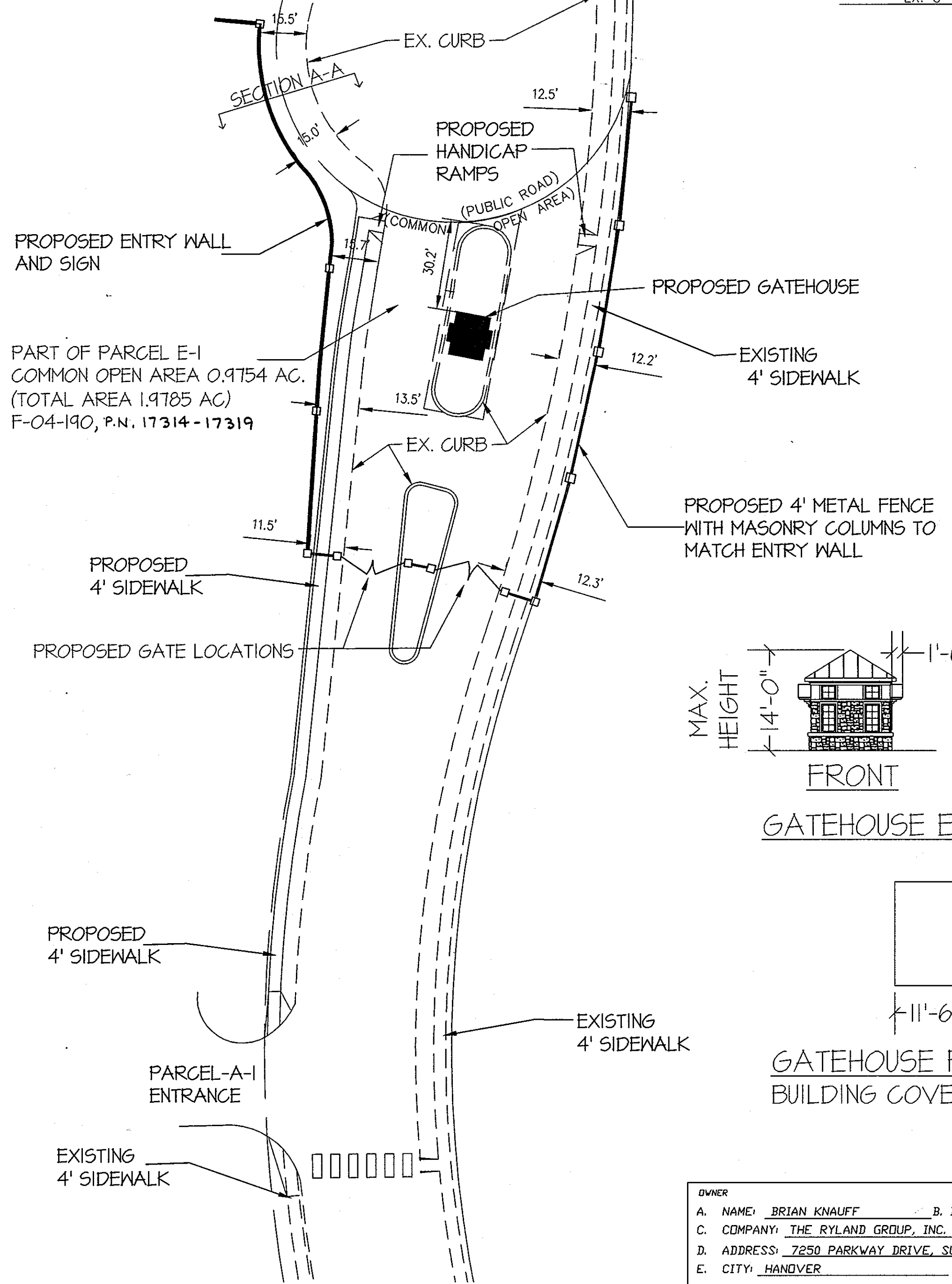
PROPOSED GATEHOUSE AND ENTRANCE COLUMN LOCATIONS

(SCALE: 1" = 80')



PROPOSED METAL FENCE WITH MASONRY COLUMN
N.T.S.

DRIED EARTH BOULEVARD
LAND DEDICATED TO HOWARD
COUNTY FOR THE PURPOSES OF A
PUBLIC ROAD (F-04-190)
(P.N. 17314-17319)

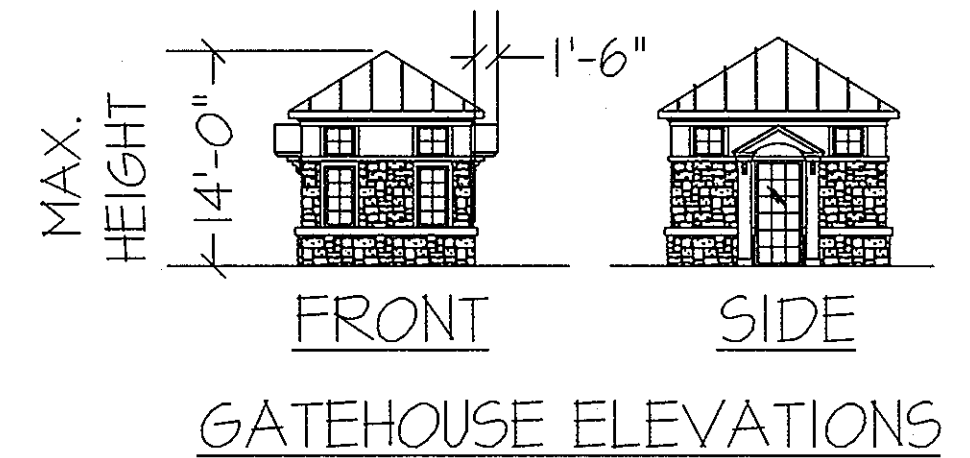


PROPOSED ENTRY WALL, FENCE & GATEHOUSE LOCATION

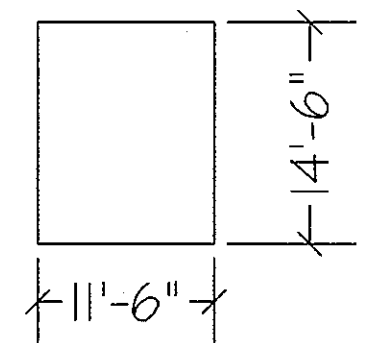
(SCALE: 1" = 30')

LEGEND

- 260 --- EXISTING 10' CONTOUR
- 258 --- EXISTING 2' CONTOUR
- --- EXISTING EASEMENT
- N41°08'00"E 598.31' --- EXISTING CURB
- --- EXISTING PROPERTY LINE
- --- EXISTING ZONING LINE
- EX. 8" S --- EXISTING SANITARY SEWER
- EX. 15" HDPE --- EXISTING STORM DRAIN
- EX. 8" W --- EXISTING WATER LINE



GATEHOUSE ELEVATIONS



GATEHOUSE FLOORPLAN
BUILDING COVERAGE = 167 SF

OWNER	FAX NO.: (410) 712-9864
A. NAME: BRIAN KNAUFF	B. DAYTIME TELEPHONE: (410) 712-7012
C. COMPANY: THE RYLAND GROUP, INC.	
D. ADDRESS: 7250 PARKWAY DRIVE, SUITE 520	
E. CITY: HANOVER	STATE: MD ZIP: 21076

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS	DATE
COUNTY HEALTH OFFICER HOWARD COUNTY HEALTH DEPARTMENT	
APPROVED: DEPARTMENT OF PLANNING AND ZONING	DATE
<i>[Signature]</i>	3/12/05
CHIEF, DEVELOPMENT ENGINEERING DIVISION	
<i>[Signature]</i>	3/1/05
CHIEF, DIVISION OF LAND DEVELOPMENT	
<i>[Signature]</i>	3/31/05
DIRECTOR (ACTING)	

	MORRIS & RITCHIE ASSOCIATES, INC. ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS 9080 JUNCTION DRIVE, SUITE 9 ANNAPOLIS JUNCTION, MARYLAND 20701 (410) 792-9792 or (301) 776-1690 FAX (410) 792-7395																								
	SNOWDEN RIVER BUSINESS PARK SECTION 1 AREA 1, PARCEL C-1 AND PART OF PARCEL E KENDALL OVERLOOK AGE RESTRICTED ADULT HOUSING GATEHOUSE / ENTRY WALL DETAILS L. 7720 F. 271 ZONED: HT TAX MAP: 37 GRID: 19 PARCEL 725 (P/O PAR. 50, 255, & PAR. 212, 385) ELECTION DISTRICT NO.: 6 HOWARD COUNTY, MARYLAND																								
<table border="1"> <thead> <tr> <th>DATE</th> <th>REVISIONS</th> <th>JOB NO.</th> </tr> </thead> <tbody> <tr> <td>03/02/05</td> <td>ADD DETAIL SHEET 20 TO SHOW THE REVISED ENTRANCE WALL & GATEHOUSE LOCATION AND ADD ENTRANCE COLUMN DETAIL AND RE-NUMBERING OF SHEETS 1 THROUGH 19</td> <td>12735</td> </tr> <tr> <td></td> <td></td> <td>SCALE: 1" = 10'</td> </tr> <tr> <td></td> <td></td> <td>DATE: 02/02/04</td> </tr> <tr> <td></td> <td></td> <td>DRAWN BY: KKB</td> </tr> <tr> <td></td> <td></td> <td>DESIGN BY: KKB/CAO</td> </tr> <tr> <td></td> <td></td> <td>REVIEW BY: PVM</td> </tr> <tr> <td></td> <td></td> <td>SHEET: 20 OF 20</td> </tr> </tbody> </table>	DATE	REVISIONS	JOB NO.	03/02/05	ADD DETAIL SHEET 20 TO SHOW THE REVISED ENTRANCE WALL & GATEHOUSE LOCATION AND ADD ENTRANCE COLUMN DETAIL AND RE-NUMBERING OF SHEETS 1 THROUGH 19	12735			SCALE: 1" = 10'			DATE: 02/02/04			DRAWN BY: KKB			DESIGN BY: KKB/CAO			REVIEW BY: PVM			SHEET: 20 OF 20	
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