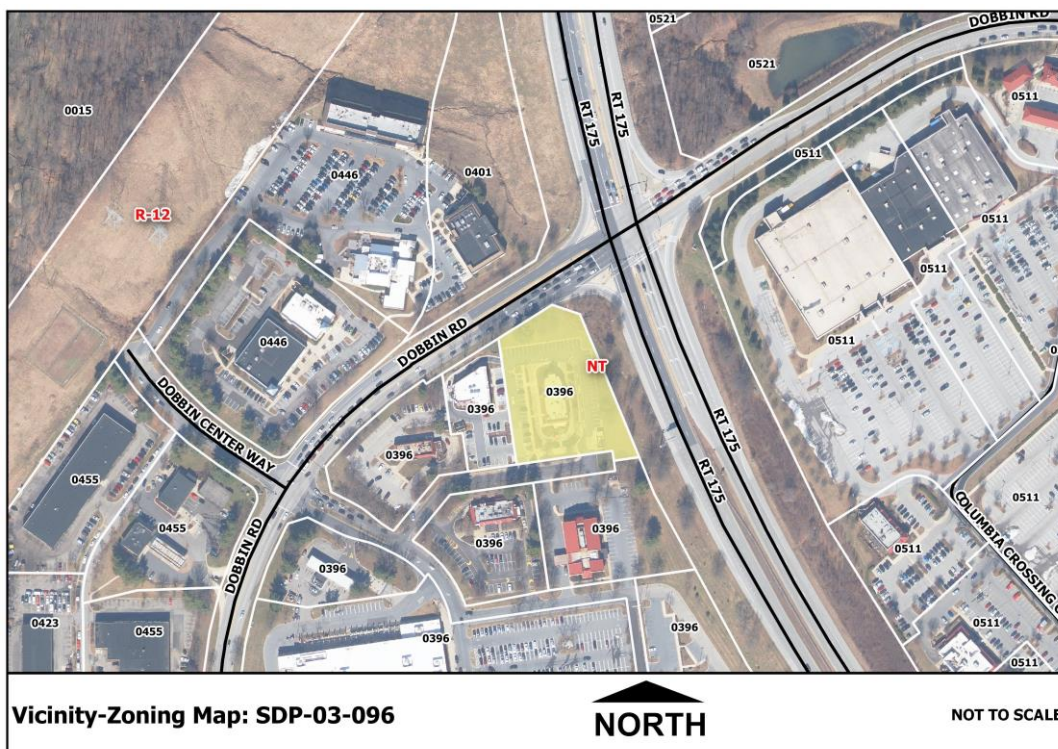




**TECHNICAL STAFF REPORT**  
**Chick-Fil-A, Dobbin Commercial Center.**

**Planning Board Meeting of November 3, 2016**

- File No./Petitioner:** SDP-03-096 Chick-Fil-A Inc.
- Project Name:** Chick-Fil-A, Parcel 396, Dobbin Commercial Center
- Planner:** Nicholas Haines, (410) 313-4333, [nhaines@howardcountymd.gov](mailto:nhaines@howardcountymd.gov)
- Request:** The request is to approve a redline change to a Site Development Plan (SDP) to construct an addition to the Chick-Fil-A restaurant in the Dobbin Commercial Center, in accordance with Section 125.0.G.1 of the Howard County Zoning Regulations. The addition adds 737 gross square feet of floor space to the restaurant and an additional drive through lane.
- Recommendation:** **Approval**, subject to compliance with remaining Subdivision Review Committee (SRC) technical comments and any conditions by the Planning Board.
- Location:** The existing Chick-Fil-A restaurant is located at the southeast corner of the Dobbin Road and Route 175 intersection, within the Dobbin Commercial Center. The property is identified as Parcel No. S-1, on Tax Map 36, Grid No. 18, in the Second Election District of Howard County, Maryland. The site is approximately 1.5 acres and is accessed from Dobbin Road. The Parcel is zoned "NT - ECC" (New Town Employment Center Commercial) in accordance with the Final Development Plan (FDP) 132-A-III.



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### Vicinal Properties:

**North Side** - To the north is Route 175. Across MD 175 is Columbia Crossings Shopping Center, which has mixed retail and restaurant uses with associated parking.

**East Side** - To the east is a mixed retail building, part of the Dobbin Commercial Center, and its associated parking.

**South Side** – To the south is the First Columbia building, containing a bank and office uses, with associated parking. It is also part of the Dobbin Commercial Center.

**West Side** - To the north is Dobbin Road. Across Dobbin Road is additional mixed retail and restaurant uses and associated parking, also part of the Dobbin Commercial Center.

### Site History:

- **FDP-132-A-3**, Final Development Plan and Criteria for the subject property was recorded on October 5, 1984. The subject property is part of Phase 132-A-III in the New Town Zoning District as part of the Dobbin Road Commercial Center, Section 1 Area 1. The FDP is recorded as Plat 3054A-711 among the Land Records of Howard County, MD.
- **F-82-035**, Final Plat to establish the Dobbin Road Commercial Center, Section 1 Area 1, a plat to resubdivide Parcels D, H, and M into Parcels M-1, P, Q, R, and S. This plat was recorded as Plat number 5301 on November 24, 1981.
- **F-83-030**, Final Plat to establish the Dobbin Road Commercial Center, Section 1 Area 1, a plat to resubdivide Parcels Q, R, and S into Parcels Q-1, R-1, and S-1, received signature approval on November 5, 1982. This plat was recorded as Plat number 5307 on November 10, 1982.
- **F-04-154**, Final Plan to add a utility easement onto Parcel S-1. This plat was recorded on May 11, 2004.
- **SDP-03-096**, Site Development Plan for the initial construction of the Chick-Fil-A restaurant and establishment of the associated parking areas and site amenities. The SDP was given signature approval on August 12, 2003.

### Site Analysis:

**Site Improvements** - This SDP proposes a 737 square foot addition to the existing Chick-Fil-A restaurant and an additional drive through lane.

**Storm Water Management (SWM)** - Storm water management is provided in regional SWM facilities, constructed under Final Plan, F-82-130, and private bio-retention devices, constructed under SDP-03-096.

**Environmental Considerations** - The property does not contain wetlands, streams, buffers, or 100-year floodplains; nor are there adjacent cemeteries, historic structures, forest resources, or scenic roads.

**Landscaping** – Landscaping is in accordance with Section 16.124 of the Howard County Code and the Howard County Landscape Manual. The landscaping has also been reviewed by the Howard Hughes Landscaping Review Committee - with an approval letter forthcoming.

**Forest Conservation** - This project is exempt from the requirements of Section 16.1200 of the Howard County Code for Forest Conservation because the Dobbin Commercial Center predates the Forest Conservation regulations and its preliminary plan was approved prior to December 31, 1992, Per Section 16.1200(b)(1)(iii).

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**Planning Board Criteria:**

This SDP is subject to Section 125.0.G.1 of the Zoning Regulations (effective October 6, 2013), the development criteria listed in Final Development Plan 132-A-III, the amended Fifth Edition of the Howard County Subdivision and Land Development Regulations (the September 20, 2016 Edition), and the Howard County Design Manual.

**Setbacks** - Per FDP-132-A-III: *“No structure shall be located within 30 feet of the right of way of any public street, road, or highway; except however that structures may be constructed at any location within such setback areas if construction is in accordance with a site development plan approved by the Howard County Planning Board”*. The existing building is 87.8 feet from the property line at its closest point and the addition will be located at the front of the structure. Since it will be farther from the public right of way the addition will conform to the setback requirements.

**Land Uses** - The development criteria regarding land use per FDP-132-A-III states that: *“All uses permitted in the commercial districts or commercial land use zones are permitted including, but not limited to, all the following uses in B-1, B-2, S-C, and POR Districts”*. The restaurant is a permitted use under the B-1 Zoning District.

**Height Limitations** – The height limits per FDP 132-A-III states that: *“No structure shall be constructed within the area encompassed by this FDP shall exceed 50 feet in height from the highest adjoining ground elevation along the front of the structure, except, however, that structures may be constructed to any height provided such construction is in accordance with a site development plan approved by the Howard County Planning Board”*. The existing structure is 23’-0” at its highest point, which conforms to the FDP requirements and the addition will not be taller.

**Parking Requirements** – Restaurant parking is based on 5 parking spaces per 1,000 square feet of leasable area devoted to commercial retail sales, including restaurants per the requirements in FDP 132-A-III. The required parking for the restaurant is 26 spaces and 54 spaces are provided.

**SRC Action:**

On August 18, 2016, the Subdivision Review Committee (SRC) determined this SDP may be approved, subject to compliance with the SRC comments. The SRC comments have primarily been addressed, except for minor drafting revisions, which must be made prior to SDP signature approval by DPZ.

**Recommendation:**

The Department of Planning and Zoning recommends approval of the redline change to Site Development Plan SDP-03-096, subject to compliance with SRC comments and any conditions by the Planning Board.

  
Valdis Lazdins, Director  
Department of Planning and Zoning

10/20/16  
Date

**Please note that this file is available for public review at the Department of Planning and Zoning’s public service counter, Monday through Thursday, 8:00 a.m. to 5:00 p.m. and Friday, 8:00 a.m. to 3:00 p.m.**

**GENERAL NOTES**

- TOPOGRAPHIC SURVEY WAS PROVIDED BY RBA DATED 4/10/02. THE BASE SURVEY IS GIVEN ON SHEET C-1 OF THIS DRAWING SET. ALL EXISTING SITE CONDITIONS SHALL BE DETERMINED BY EXAMINATION OF THE SURVEY SHEET.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS GIVEN ON THESE DRAWINGS AS WELL AS STANDARD STATE AND LOCAL SPECIFICATIONS WHICHEVER IS MORE RESTRICTIVE.
- DEVIATION FROM THESE PLANS AND SPECIFICATIONS WITHOUT PRIOR WRITTEN CONSENT FROM THE ENGINEER MAY CAUSE THE WORK TO BE UNACCEPTABLE.
- THE RBA GROUP SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION, MEANS, METHODS, TECHNIQUES, OR PROCEDURES, UTILIZED BY THE CONTRACTOR, NOR FOR THE SAFETY OF PUBLIC OR CONTRACTOR'S EMPLOYEES, OR FOR THE FAILURE OF THE CONTRACTOR TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND STANDARD CONSTRUCTION PRACTICES.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES WHICH ARE TO REMAIN FREE FROM DAMAGE AND MAINTAIN UNINTERRUPTED SERVICE TO ALL USERS. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OR SUBCONTRACTOR'S ACTIONS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THIS PROJECT SHALL NOT RELIEVE THE CONTRACTOR FROM PERFORMING SUCH WORK.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AT LEAST 48 HOURS PRIOR TO BEGINNING ANY WORK ON THE PROJECT:

**LOCAL UTILITY LOCATION COMPANY**

WATER SERVICE AND SANITARY SEWER PROVIDER:  
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
DEVELOPMENT ENGINEERING DIVISION  
3450 COURTHOUSE DRIVE  
ELLCOTT CITY, MARYLAND 21043  
(410) 313-3362  
CONTACT: JEAN REED

STORM DRAIN AND STORM WATER MANAGEMENT PROVIDER:  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF ENVIRONMENTAL SERVICES  
STORM WATER MANAGEMENT DIVISION (410) 313-6444

ELECTRIC PROVIDER:  
BALTIMORE GAS AND ELECTRIC  
7317 PARKWAY DRIVE SOUTH  
HANOVER, MD 21076  
(410) 291-3776  
CONTACT: SALLY HOOVER

**TELEPHONE PROVIDER:**

VERIZON MARYLAND, INC.  
2510 RIVA RD. 6TH FLOOR  
ANNAPOLIS, MD 21401  
(410) 224-1670  
(301) 261-8088 (FAX)  
CONTACT: BRYAN SHANK

**ROAD REGULATORY AUTHORITIES:**

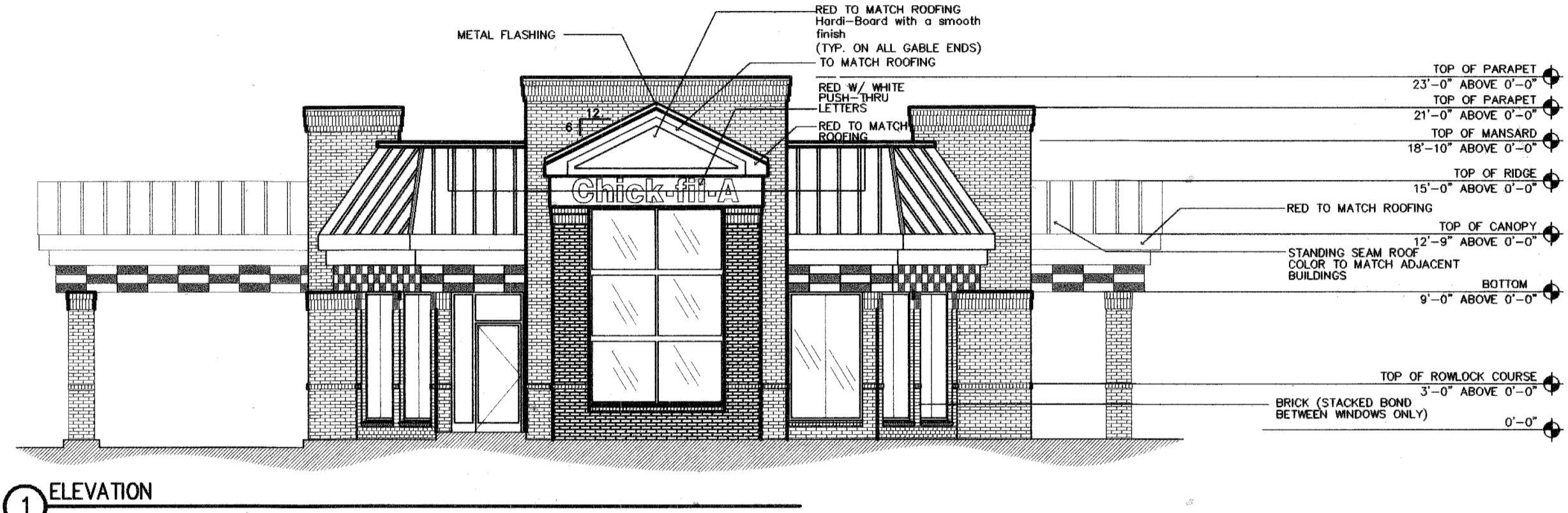
STATE: MARYLAND STATE HIGHWAY ADMINISTRATION  
2323 WEST TOPPA ROAD  
BROOKLANDVILLE, MARYLAND 21022  
DESIGN: (410) 841-1008  
FLOODPLAIN: (410) 545-8405  
TRAFFIC DIVISION (REPORTS): (410) 841-1003

COUNTY: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
BUREAU OF HIGHWAYS  
TRAFFIC ENGINEERING DIVISION  
3450 COURTHOUSE DRIVE  
ELLCOTT CITY, MD 21043  
(410) 313-2430  
CONTACT: GEORGE FRANGOS

- CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO BEGINNING WORK. HE SHALL VERIFY SIZE AND LOCATIONS OF ALL UNDERGROUND UTILITIES AND TEST PIT AT PROPOSED TIE IN LOCATIONS. DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER WELL IN ADVANCE OF CONSTRUCTION START. START OF CONSTRUCTION BY THE CONTRACTOR SHALL CONSTITUTE FULL ACCEPTANCE OF ALL SITE CONDITIONS BY THE CONTRACTOR.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR CONSTRUCTION PRIOR TO BEGINNING WORK.
- ALL UTILITIES ARE TO REMAIN UNLESS DESIGNATED TO BE REMOVED AND ALL APPURTENANCES SHALL BE ADJUSTED TO FINISH GRADE.
- PRIOR TO START OF CONSTRUCTION CONTRACTOR SHALL STAKE OUT AND VERIFY LOCATIONS OF ALL IMPROVEMENTS AND UTILITY TIE IN LOCATIONS.
- SCALING OF THESE PLANS IS DISCOURAGED UNLESS DIRECTED BY THE ENGINEER. IN THE EVENT OF A DISCREPANCY BETWEEN THE SCALED AND THE FIGURED DIMENSIONS, THE FIGURED DIMENSIONS SHALL BE HELD.
- CONTRACTOR SHALL INCLUDE DEMOLITION AND REMOVAL OF CURBING, SIDEWALK, AND PARKING AREAS WITHIN THE WORK AREA AS WELL AS REMOVAL AND CAPPING OF ANY UNDERGROUND UTILITIES SHOWN TO BE REMOVED.
- THE CONTRACTOR SHALL ENSURE THAT CURRENT AS-BUILT RECORDS ARE MAINTAINED DURING CONSTRUCTION. UPON COMPLETION OF CONSTRUCTION, CERTIFIED (i.e. P.E. STAMPED) AS-BUILT DRAWINGS SHALL BE SUBMITTED TO THE OWNER.
- CONTRACTOR SHALL MAINTAIN ALL SEDIMENT CONTROL DEVICES WITHIN THE LIMITS OF THE SITE DURING CONSTRUCTION OF THE SITE IMPROVEMENTS. CONTRACTOR SHALL PROVIDE ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES AS MAY BE NECESSARY DURING CONSTRUCTION AND/OR BY GOVERNING AGENCIES.
- THE SUBJECT PROPERTY IS ZONED NT PER HOWARD COUNTY ZONING MAP #36 ADOPTED OCTOBER 18, 1993.
- THIS PROJECT IS EXEMPT FROM THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BECAUSE DOBBIN COMMERCIAL CENTER DEVELOPMENT PREDATES THE FOREST CONSERVATION REGULATIONS AND HAD PRELIMINARY PLAN APPROVAL PRIOR TO 12/31/92, PER SECTION 16-1202(b)(1)(iii) OF THE SUBDIVISION REGULATIONS.
- ALL ADJACENT PROPERTIES ARE NON-RESIDENTIAL USES.
- ALL TRAFFIC SIGN AND HANDICAP SIGN POSTS TO BE PAINTED BLACK.
- ALL LIGHT POLE BASES TO BE RECTANGULAR.
- THERE ARE NO STREAMS, WETLANDS, OR FLOOD PLAINS LOCATED ON THIS SITE. STEEP SLOPES EXIST ON BOTH THE NORTHEAST AND SOUTHEAST CORNERS OF THE SITE.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$600 FOR 1 SHADE TREE, 2 EVERGREEN TREES AND 0 SHRUBS.
- OUTDOOR LIGHTING COMPLIES WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.
- SCREENING AND LANDSCAPING WILL BE PROVIDED IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL.
- ALL SIGNS WILL COMPLY WITH THE HOWARD COUNTY ZONING REGULATIONS.
- THIS SITE DOES NOT LIE WITHIN A FLOODPLAIN.
- FOR SITE LIGHTING INFORMATION, SEE SHEET C-7.
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- SIC ELEVATIONS SHOWN ARE LOCATED AT THE PROPERTY LINE.
- FINAL DEVELOPMENT CRITERIA AND SETBACK INFORMATION IS FOUND IN F.D.P. 132-A-III.



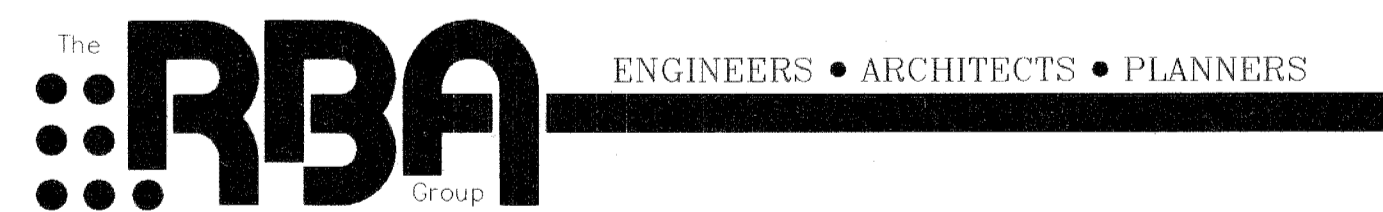
DOBBIN ROAD, COMMERCIAL CENTER  
HOWARD COUNTY, MARYLAND



**SITE DEVELOPMENT PLANS**

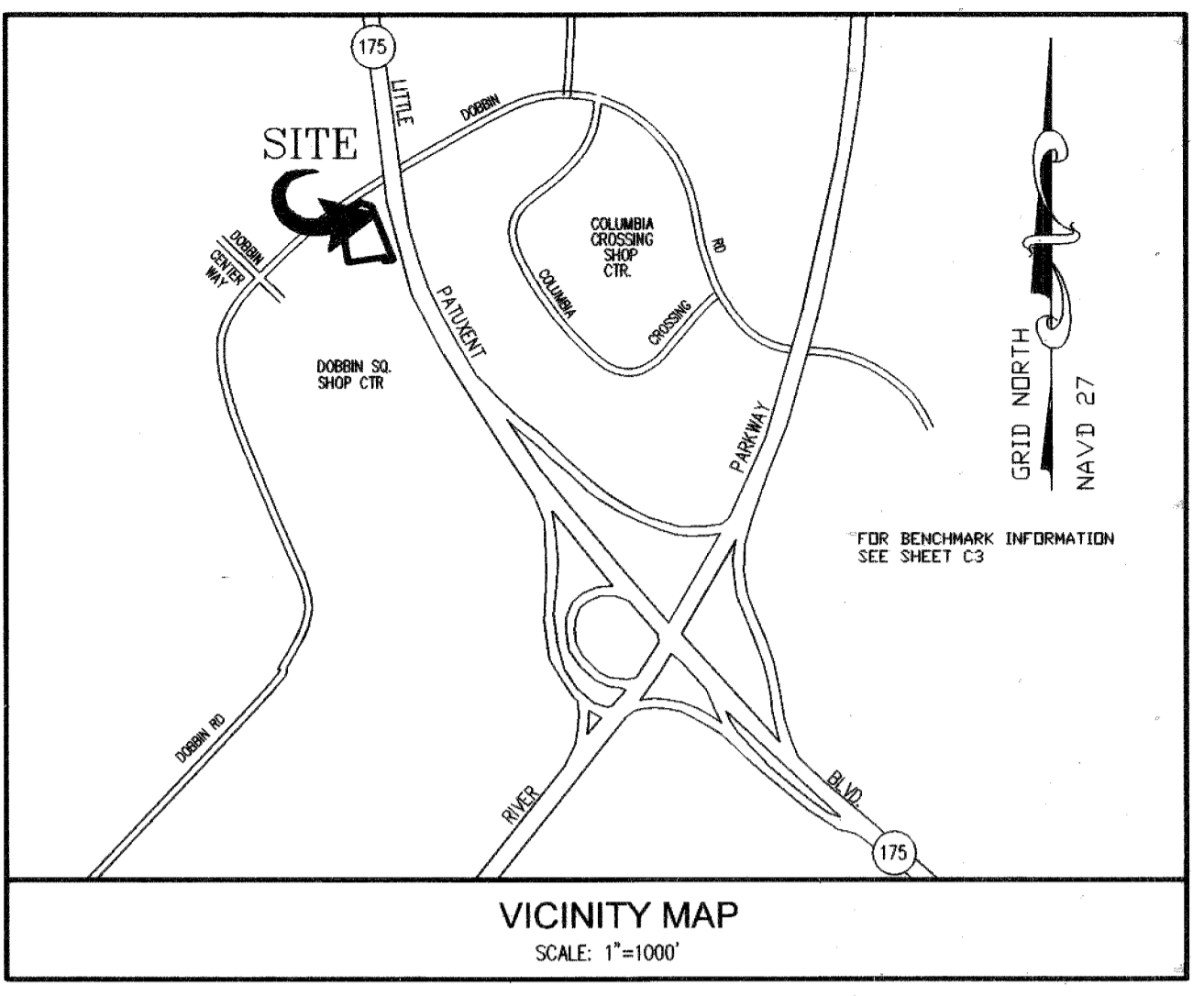
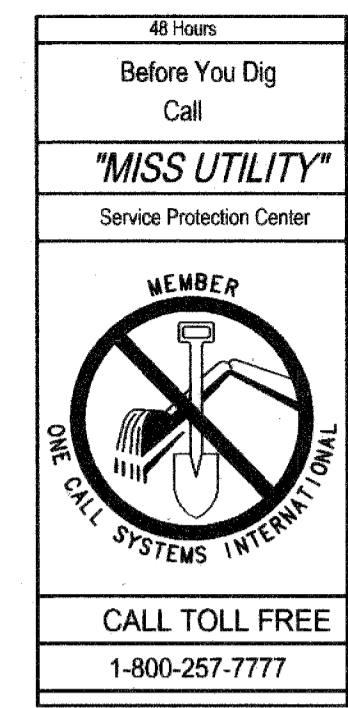
PREPARED FOR:  
**CHICK-FIL-A RESTAURANT, INC.**  
5200 BUFFINGTON ROAD  
ATLANTA, GEORGIA 30349-2998  
(404) 765-8000

PREPARED BY:



7164 COLUMBIA GATEWAY DRIVE  
SUITE 205  
COLUMBIA, MARYLAND 21046  
(410) 312-0966

OWNER:  
CHICK-FIL-A, INC.  
5200 BUFFINGTON RD.  
ATLANTA, GEORGIA 30349



I CERTIFY ALL REVISIONS DATED 9/25/03, CONTAINED WITHIN THIS APPROVED SITE DEVELOPMENT PLAN AS APPROVED BY HOWARD COUNTY ON 10/10/03, WERE IMPLEMENTED UNDER MY SUPERVISION.

ROBERT W. NELSON

**LEGEND**

- ADJACENT LOT LINE
- EXISTING CURB & GUTTER
- EASEMENT LINE
- PROPERTY LINE
- EXISTING LIGHT/UTILITY POLE
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING WATER LINE
- EXISTING STORM DRAIN LINE
- EXISTING SANITARY LINE
- EXISTING GAS LINE
- EXISTING BOLLARD
- PROPOSED 4" PVC IRRIGATION SLEEVE
- EXISTING CONTOUR
- EXISTING TREE
- LIMIT OF DISTURBANCE
- SUPER SILT FENCE
- CURB INLET PROTECTION
- STANDARD INLET PROTECTION
- CONCRETE RAMP
- FLUSH TO PAVEMENT/CONCRETE
- PROPOSED GREASE TRAP
- PROPOSED ELECTRIC METER
- PROPOSED GAS METER
- PROPOSED STORM DRAIN
- PROPOSED SANITARY SEWER
- PROPOSED WATER
- PROPOSED CURB & GUTTER
- PROPOSED CONCRETE PAD
- PROPOSED PERIMETER SITE LIGHTING
- PROPOSED TRANSFORMER
- PROPOSED EXC SERIES 50 FOOT POLE PACKAGE, BY APPROVED VENDORS, THE FLAG COMPANY OR ATLAS FLAGS
- PROPOSED BUILDING
- TRAVERSE/ BENCHMARK
- BENCHMARK
- PROPOSED PARKING STRIPING, STALLS, & NUMBERING
- HANDICAPPED PARKING SYMBOL
- BUILDING SIGN LOCATION (APPROX.)
- STABILIZED CONSTRUCTION ENTRANCE WITH MOUNTABLE BERM

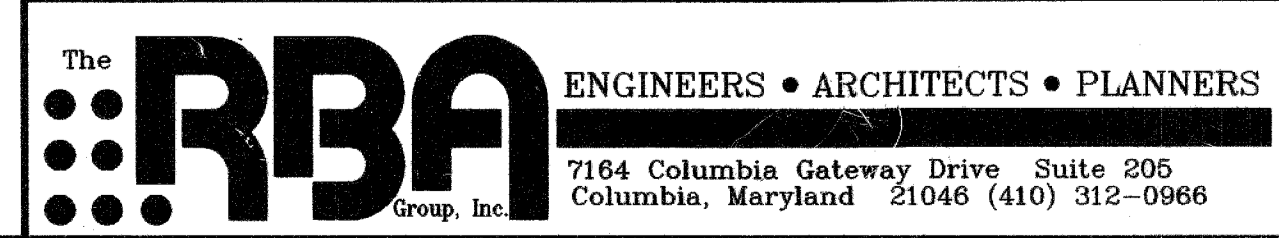
APPROVED PLANNING BOARD OF HOWARD COUNTY  
DATE: May 1, 2003

**SITE ANALYSIS**

- AREA OF PARCEL: 65,601 SQ. FT. (1.5 AC.)
- ZONING: NEW TOWN EMPLOYMENT CENTER COMMERCIAL
- EXISTING USE: RESTAURANT
- PROPOSED USE: RESTAURANT
- BUILDING DATA (7.6% COVERAGE)
  - A. GROSS SQUARE FOOTAGE (1-STORY): 5,032 SQ. FT.
  - B. DINING TABLE SEATS - TOTAL: 138
- PARKING DATA
  - A. 9' x 18' SPACES: 51
  - B. ACCESSIBLE SPACES: 3
  - C. SPACES REQUIRED: 2b
  - D. TOTAL PARKING SPACES PROVIDED: 54 (INCLUDES 3 HANDICAPPED ACCESSIBLE SPACES)
- IMPERVIOUS AREA:
  - A. BUILDING: 5,032 SQ. FT.
  - B. CONCRETE & DRIVE THRU: 3,356.92
  - C. PAVEMENT: 21,352.84
  - D. DUMPSTER AREA: 968.82
  - E. SIDEWALKS: 1,996.03
  - F. TOTAL COVERAGE: 32,706.11
  - G. % COVERAGE: 49.9%
- DEED REFERENCE: LIBER/FOLIO 307  
PLAT REFERENCE: PLAT # 5307
- RELATED FILES FOR THIS SITE  
SDP-83-224C, FDP-132-A-III, F-81-36C, F-82-35, F-83-30, F-04-154
- TAX MAP: 36, GRID: 18, PARCEL: 396
- AREA OF DISTURBANCE: 0,789 S.F. OR 0.20 AC (REVISION 5)

\*THIS NUMBER OF PARKING SPACES WAS FOUND ACCEPTABLE BY HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING IN A LETTER DATED JANUARY 10, 2003.

- ABBREVIATIONS**
- RCF = REINFORCED CONCRETE PIPE
  - PVC = POLYVINYL CHLORIDE PIPE
  - S.F. = SQUARE FEET
  - GSF = GROSS SQUARE FEET
  - C.O. = GENERAL CLEAN OUT



ADDRESS CHART	
LOT/PARCEL	STREET ADDRESS
P. S-1	6375 DOBBIN ROAD

PERMIT INFORMATION CHART				
SUBDIVISION NAME	LOTS/PARCELS	CENSUS TRACT		
DOBBIN RD COMMERCIAL CENTER	S-1	6067.03		
PLAT NO.	GRID NO.	ZONE	TAX MAP	ELECTION DISTRICT
10667	18	NT	36	2ND
WATER CODE		SEWER CODE		
G07		533300		

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	8/5/03 DATE
<i>[Signature]</i> CHIEF, DIVISION OF LAND DEVELOPMENT	8/12/03 DATE
<i>[Signature]</i> DIRECTOR	8/12/03 DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS	
<i>[Signature]</i> COUNTY HEALTH OFFICER	8/8/03 DATE

FOR REVISION 5 ONLY  
*[Signature]* 9/29/16

FOR REVISION 5 ONLY  
BOHLER ENGINEERING  
901 DULANEY VALLEY RD, SUITE 801  
TOWSON, MARYLAND 21284  
PHONE: 410-821-7900  
FAX: 410-821-7987  
MD@BOHLERENR.COM

I, MICHAEL J. BEFELL, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 44047, EXPIRATION DATE: 6/19/17

INDEX		
NO.	TITLE	REFERENCE
1	COVER SHEET W/ GENERAL NOTES	C-0
2	BOUNDARY and TOPOGRAPHIC SURVEY	C-1
3	DEMOLITION PLAN	C-1A
4	SITE PLAN	C-2
5	GRADING, DRAINAGE AND EROSION CONTROL PLAN	C-3
6	STANDARD CHICK-FIL-A DETAILS	C-4
7	STANDARD CHICK-FIL-A DETAILS	C-5
8	CONSTRUCTION DETAILS	C-6
9	LIGHTING and PHOTOMETRIC PLAN	C-7
10	LANDSCAPE PLAN	L-1
11	LANDSCAPE DETAILS	L-2
12	PLUMBING SITE PLAN	PS-1
13	BIORETENTION FACILITY	PS-2
14	UTILITY PROFILES	PS-3
15	STORMWATER MANAGEMENT DETAILS	PS-4

OPTION 2: EXEMPT / DOI		FOREST CONSERVATION DATA SUMMARY	
FILE NUMBER	PROJECT SUBDIVISION NAME		
SDP 03-96	DOBBIN ROAD COMMERCIAL CENTER, PARCEL S-1, CHICK-FIL-A RESTAURANT		
REGULATION SECTION: 16-1202(b)(1)(iii) (PROVIDE REGULATION REFERENCE AND A BRIEF DESCRIPTION OF THE APPLICABLE EXEMPTION OR DOI)			
DOBBIN CENTER DEVELOPMENT PREDATES FOREST CONSERVATION REGULATIONS AND HAD PRELIMINARY PLAN APPROVAL PRIOR TO 12/31/92.			

Series 97-138  
5200 Buffington Road  
Atlanta, Georgia 30349-2998  
Telephone 404-765-8000

DOBBIN COMMERCIAL CENTER COLUMBIA, MD

Chick-fil-A

7164 Columbia Gateway Drive Suite 205 Columbia, Maryland 21046 (410) 312-0966

Revision 5

NO REVISIONS THIS SHEET

COVER SHEET WITH GENERAL NOTES

Sheet Title:

Sheet No. C-0

1 of 15



**LEGEND:**

- SHRUB
- INDIVIDUAL TREES
- GAS METER
- SANITARY MANHOLE
- STORM SEWER MANHOLE
- POWER POLE
- ELECTRIC BOX
- STREET SIGN
- UNDERGROUND SEWER LINE
- APPROX. LOCATION UNDERGROUND WATER LINE
- STREET LIGHT
- WATER VALVE
- FIRE HYDRANT

FINAL DEVELOPMENT CRITERIA AND SETBACK INFORMATION IS FOUND IN F.D.P. 132-A-III.

FOR REVISION 5 ONLY

*Michael W. Gesell* 7/29/16  
 PROFESSIONAL CERTIFICATION

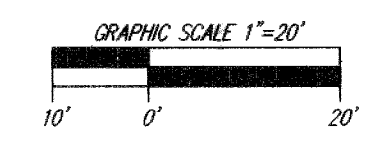
I, MICHAEL J. GSELLE, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE No. 44097, EXPIRATION DATE: 6/1/17

**APPROVED**  
 PLANNING BOARD  
 of HOWARD COUNTY

DATE May 1, 2003

FOR REVISION 5 ONLY  
 BOHLER ENGINEERING  
 401 OULANEY VALLEY RD, STE B0  
 TOWSON, MD 21204  
 PHONE: 410-821-7900  
 FAX: 410-821-7987  
 MDC@BOHLERENG.COM

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Michael W. Gesell</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	8/5/03 DATE
<i>Cindy Hamitta</i> CHIEF, DIVISION OF LAND DEVELOPMENT HB	8/12/03 DATE
<i>Michael J. Gesell</i> DIRECTOR	8/12/03 DATE



**The RBA** ENGINEERS • ARCHITECTS • PLANNERS  
 Group, Inc.  
 7164 Columbia Gateway Drive Suite 205  
 Columbia, Maryland 21046 (410) 312-0966

RBA PROJ. NO.: M3080.00
DRAWN BY: KL
DESIGNED BY: EM
CHECKED BY: JR

Series 97-138  
 5200 Buffington Road  
 Atlanta, Georgia 30349-2998  
 Telephone 404-765-8000

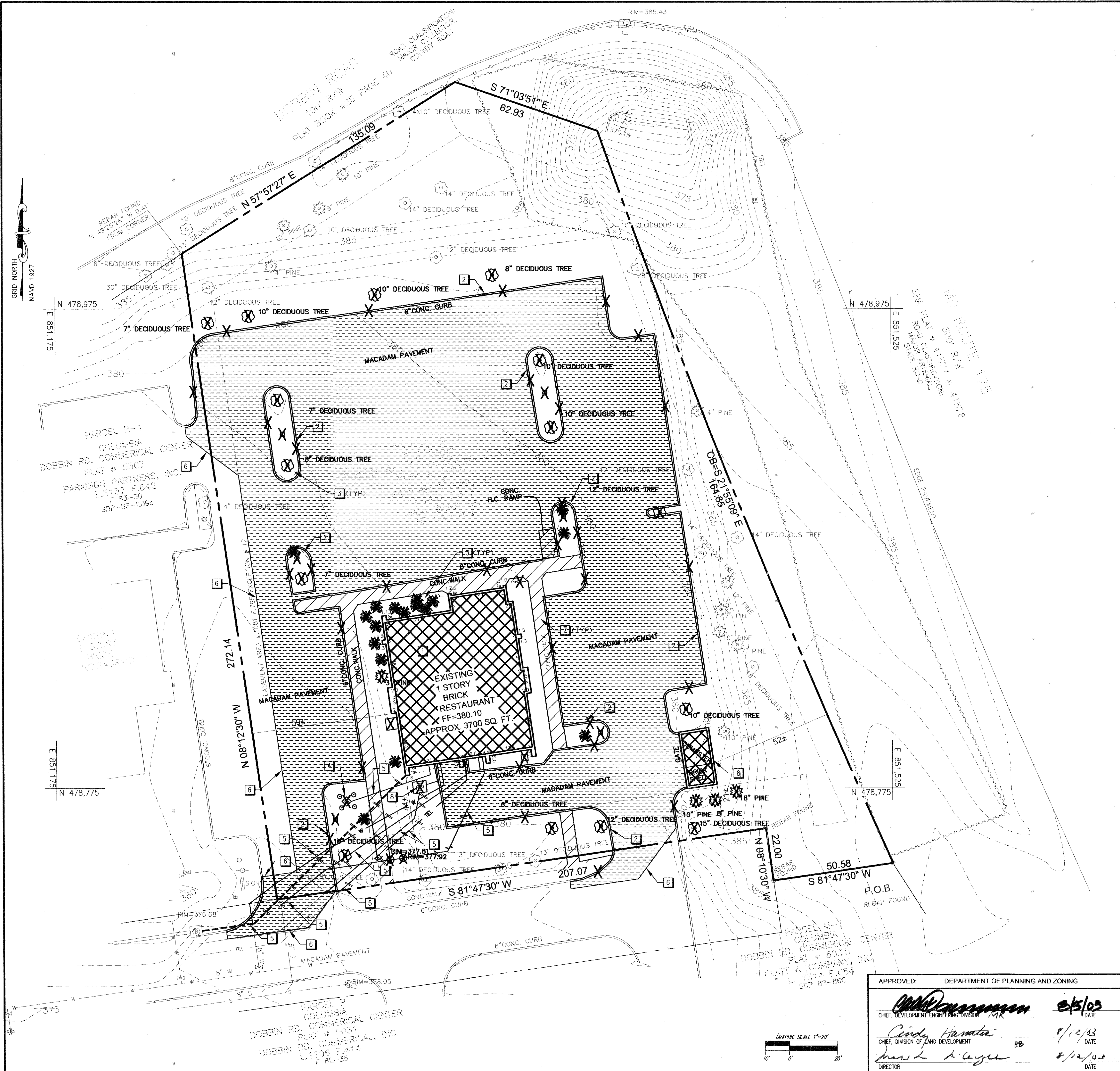


DOBBIN  
 COMMERCIAL CENTER  
 COLUMBIA, MD

Edition Date:	07/22/03
Project Date:	12/03/02
#	Revision
1	3/14/03 Notes revised per county comments
2	7/30/03 Bid Set and Howard County Approval
3	9/25/03 NO REVISION THIS SHEET
4	3/21/04 NO REVISION THIS SHEET

Sheet Title: **BOUNDARY & TOPOGRAPHIC SURVEY**

SHEET NO.  
**C-1**  
 2 OF 15



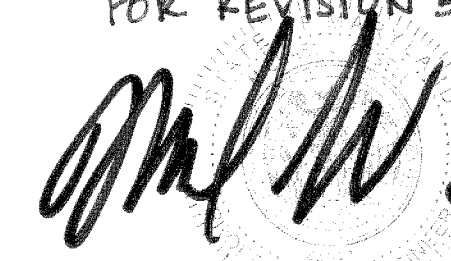
**DEMOLITION LEGEND**

- REMOVE TREE
- REMOVE CURB
- REMOVE LIGHT
- REMOVE BUILDING/STRUCTURE
- REMOVE LANDSCAPING
- REMOVE STORM DRAIN
- REMOVE WATER
- REMOVE ELECTRIC
- REMOVE SANITARY
- REMOVE TELEPHONE
- REMOVE GAS
- REMOVE SIDEWALK/SITE CONCRETE
- REMOVE POLE
- REMOVE CLEANOUT
- REMOVE SANITARY STRUCTURE
- REMOVE PAVING TO SUB BASE

**DEMOLITION NOTES**


- 1 REMOVE BUILDING
- 2 REMOVE CURB AND/OR CURB & GUTTER.
- 3 REMOVE LANDSCAPING
- 4 REMOVE PROPANE TANK AND ALL APPURTENANCES
- 5 ABANDON/ REMOVE UNDERGROUND UTILITIES
- 6 SAW CUT PAVING
- 7 REMOVE SIDEWALK. REMOVE TO NEAREST POINT IF PORTIONS OF SIDEWALK ARE TO REMAIN
- 8 REMOVE SHED, DUMPSTER, FENCING AND GATE.

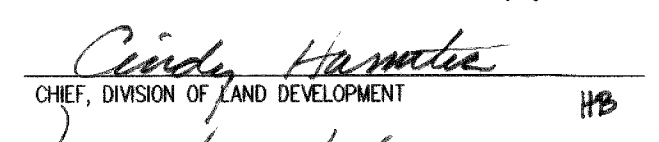
**APPROVED**  
 PLANNING BOARD  
 of HOWARD COUNTY  
 DATE May 1, 2003


FOR REVISIONS ONLY  
  
 9/29/16

FOR REVISION 5 ONLY  
 BOHLER ENGINEERING  
 901 DULANEY VALLEY RD, STE 801  
 TOWSON, MD 21204  
 Phone: 410-821-7900  
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APPROVED: DEPARTMENT OF PLANNING AND ZONING

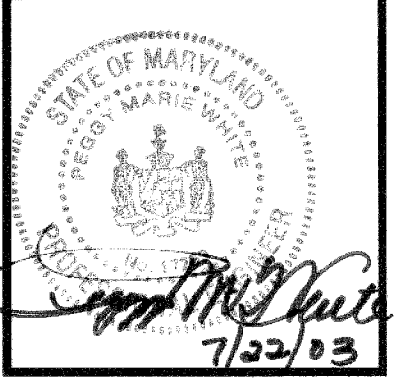
 05/03  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE

 5/12/03  
 CHIEF, DIVISION OF LAND DEVELOPMENT HB DATE

 5/12/03  
 DIRECTOR DATE

The **RBA** ENGINEERS • ARCHITECTS • PLANNERS  
 Group, Inc. 7164 Columbia Gateway Drive Suite 205  
 Columbia, Maryland 21046 (410) 312-0966

RBA PROJ. NO. M3080.00  
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 DESIGNED BY: EM  
 CHECKED BY: JR



Series 97-138  
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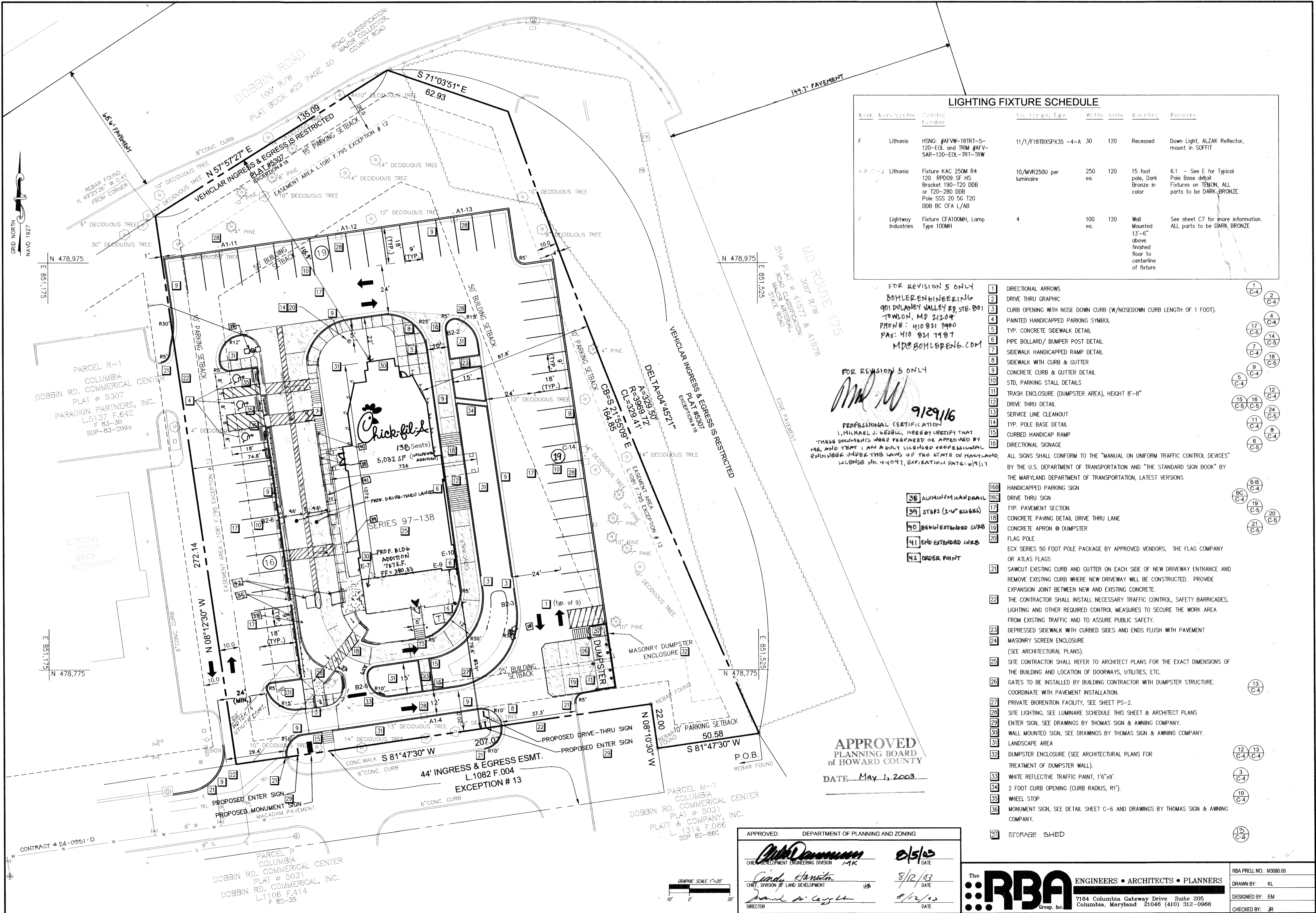


DOBBIN  
 COMMERCIAL CENTER  
 COLUMBIA, MD

Edition Date:	01/21/03	
Project Date:	12/03/02	
#	Date	Revision
1	3/14/03	NO REVISIONS THIS SHEET
2	7/30/03	Big Set and Howard County Approval
3	9/23/03	NO REVISIONS THIS SHEET
4	2/27/04	NO REVISIONS THIS SHEET

5. Add additional DRIVE THRU LANE 1137 A.R. BUILDING ADDITION  
 SHEET TITLE: **DEMOLITION PLAN**

SHEET NO.  
**C-1A**  
 3 of 15



### LIGHTING FIXTURE SCHEDULE

Mark	Manufacturer	Catalog Number	No. Lamps/Type	Watts	Volts	Mounting	Remarks
F	Lithonia	HSNG: #AFV-18TR1-5-120-EOL and TRIM #AFV-5AR-120-EOL-TR1-TRW	11/1/F18TBSPX35-4-A 30	120	120	Recessed	Down Light, ALZAK Reflector, mount in SOFFIT
A.F. C-4	Lithonia	Fixture KAC 250M R4 120 RPD09 SF HS Bracket 190-T20 DDB or T20-280 DDB Pole SSS 20 5G T20 DDB BC CFA L/AB	10/MVR250U per luminaire	250 ea.	120	15 foot pole, Dark Bronze in color	6.1 - See E for Typical Pole Base detail Fixtures on TENON, ALL parts to be DARK BRONZE
F	Lightway Industries	Fixture CF100MH, Lamp Type 100MH	4	100 ea.	120	Wall Mounted 13'-6" above finished floor to centerline of fixture	See sheet C7 for more information. ALL parts to be DARK BRONZE

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 MDEBOHLER@GMAIL.COM

FOR REVISION 5 ONLY  
*Michael J. Gesehl*  
 9/29/16  
 PROFESSIONAL CERTIFICATION  
 I, MICHAEL J. GESEHL, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 44091, EXPIRATION DATE: 09/11/17

- 1 DIRECTIONAL ARROWS
- 2 DRIVE THRU GRAPHIC
- 3 CURB OPENING WITH NOSE DOWN CURB (W/NOSEDOWN CURB LENGTH OF 1 FOOT)
- 4 PAINTED HANDICAPPED PARKING SYMBOL
- 5 TYP. CONCRETE SIDEWALK DETAIL
- 6 PIPE BOLLARD/ BUMPER POST DETAIL
- 7 SIDEWALK HANDICAPPED RAMP DETAIL
- 8 SIDEWALK WITH CURB & GUTTER
- 9 CONCRETE CURB & GUTTER DETAIL
- 10 STD. PARKING STALL DETAILS
- 11 TRASH ENCLOSURE (DUMPSTER AREA), HEIGHT 8'-8"
- 12 DRIVE THRU DETAIL
- 13 SERVICE LINE CLEANOUT
- 14 TYP. POLE BASE DETAIL
- 15 CURBED HANDICAP RAMP
- 16 DIRECTIONAL SIGNAGE
- 17 ALL SIGNS SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" BY THE U.S. DEPARTMENT OF TRANSPORTATION AND "THE STANDARD SIGN BOOK" BY THE MARYLAND DEPARTMENT OF TRANSPORTATION, LATEST VERSIONS
- 18 HANDICAPPED PARKING SIGN
- 19 DRIVE THRU SIGN
- 20 TYP. PAVEMENT SECTION
- 21 CONCRETE PAVING DETAIL DRIVE THRU LANE
- 22 CONCRETE APRON @ DUMPSTER
- 23 FLAG POLE
- 24 ECX SERIES 50 FOOT POLE PACKAGE BY APPROVED VENDORS, THE FLAG COMPANY OR ATLAS FLAGS
- 25 SAWCUT EXISTING CURB AND GUTTER ON EACH SIDE OF NEW DRIVEWAY ENTRANCE AND REMOVE EXISTING CURB WHERE NEW DRIVEWAY WILL BE CONSTRUCTED. PROVIDE EXPANSION JOINT BETWEEN NEW AND EXISTING CONCRETE.
- 26 THE CONTRACTOR SHALL INSTALL NECESSARY TRAFFIC CONTROL, SAFETY BARRICADES, LIGHTING AND OTHER REQUIRED CONTROL MEASURES TO SECURE THE WORK AREA FROM EXISTING TRAFFIC AND TO ASSURE PUBLIC SAFETY.
- 27 DEPRESSED SIDEWALK WITH CURBED SIDES AND ENDS FLUSH WITH PAVEMENT
- 28 MASONRY SCREEN ENCLOSURE (SEE ARCHITECTURAL PLANS).
- 29 SITE CONTRACTOR SHALL REFER TO ARCHITECT PLANS FOR THE EXACT DIMENSIONS OF THE BUILDING AND LOCATION OF DOORWAYS, UTILITIES, ETC.
- 30 GATES TO BE INSTALLED BY BUILDING CONTRACTOR WITH DUMPSTER STRUCTURE. COORDINATE WITH PAVEMENT INSTALLATION.
- 31 PRIVATE BIORENTION FACILITY, SEE SHEET PS-2.
- 32 SITE LIGHTING, SEE LUMINAIRE SCHEDULE THIS SHEET & ARCHITECT PLANS
- 33 ENTER SIGN, SEE DRAWINGS BY THOMAS SIGN & AWNING COMPANY.
- 34 WALL MOUNTED SIGN, SEE DRAWINGS BY THOMAS SIGN & AWNING COMPANY.
- 35 LANDSCAPE AREA
- 36 DUMPSTER ENCLOSURE (SEE ARCHITECTURAL PLANS FOR TREATMENT OF DUMPSTER WALL).
- 37 WHITE REFLECTIVE TRAFFIC PAINT, 16"9"
- 38 2 FOOT CURB OPENING (CURB RADIUS, R1')
- 39 WHEEL STOP
- 40 MONUMENT SIGN, SEE DETAIL SHEET C-6 AND DRAWINGS BY THOMAS SIGN & AWNING COMPANY.
- 41 STORAGE SHED

**APPROVED**  
 PLANNING BOARD  
 OF HOWARD COUNTY  
 DATE May 1, 2003

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*Michael J. Gesehl* 8/5/03  
 CHIEF ENGINEERING DIVISION MK DATE

*David J. Coyne* 8/12/03  
 CHIEF DIVISION OF LAND DEVELOPMENT HB DATE

*David J. Coyne* 8/12/03  
 DIRECTOR DATE

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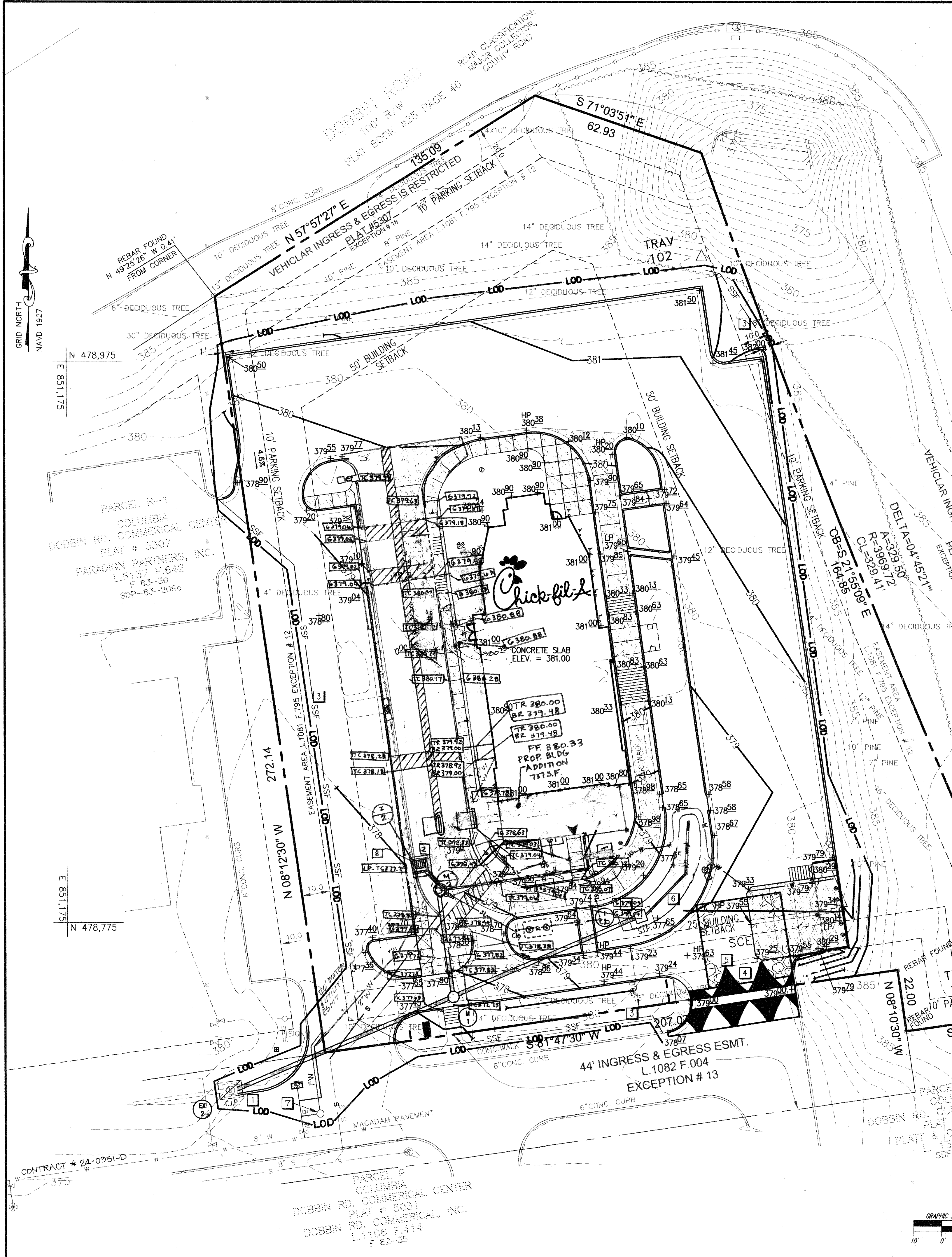
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 # Date Revision  
 1 9/14/03  
 2 7/30/03  
 3 9/25/03  
 4 5/13/04

TRANSFORMER, RELOCATION W/ BOLLARDS  
 SHOW 20' W/ UPGRADE AND WATER METER 5' 03" (4) ADD ADDITIONAL DRIVE THRU LANE 17.5' (4) BUILDING ADDITION

Sheet Title: **SITE PLAN**

SHEET NO.  
**C-2**  
 4 of 15



**PERMANENT SEEDING NOTES.**  
Apply to graded or cleared areas likely to be re-disturbed where a permanent long-lived vegetative cover is needed.

**Seeded Preparation:** Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

**Soil Amendments:** In lieu of soil test recommendations, use one of the following schedules:  
1. Preferred—Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.  
At time of seeding apply 400 lbs/acre 30-0-0 urea form fertilizer (9 lbs/1000 sq. ft.)  
2. Acceptable—Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs/acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.

**Seeding** -- For the periods March 1 -- April 30, and August 15 -- October 15, seed with 60 lbs/acre (1.4 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 -- July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs/acre (.05 lbs/1000 sq. ft.) of weeping lovegrass. During the period of October 15 -- February 28, protect site by:  
Option 1 -- Two tons per acre of well anchored straw mulch and seed as soon as possible in the spring.  
Option 2 -- Use sod. Option 3 -- Seed: with 60 lbs/acre Kentucky 30 Tall Fescue and mulch with 2 tons/acre well anchored straw.

**Mulching** -- Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrattled small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.

**Maintenance** -- Inspect all seeding areas and make needed repairs, replacements and reseeding.

**TEMPORARY SEEDING NOTES.**  
Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed.

**Seeded preparation:** -- Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

**Soil Amendments:** -- Apply 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.).

**Seeding:** -- For periods March 1 -- April 30 and from August 15 -- October 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sq. ft.). For the period May 1 -- August 14, seed with 3 lbs/acre of weeping lovegrass (.07 lbs/1000 sq. ft.). For the period November 16 -- February 28 protect the site by applying 2 tons/acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

**Mulching:** -- Apply 1-1/2 to 2 tons/acre (70 to 90 lbs/1000 sq. ft.) of unrattled weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 ft. or higher, use 348 gal. per acre (8 gal/1000 sq. ft.) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

FOR REVISIONS ONLY  
*Michael J. Gesell* 9/29/16  
PROFESSIONAL CERTIFICATION  
I, MICHAEL J. GESELL, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 44097, EXPIRATION DATE: 6/19/17

**BENCHMARK**  
Horizontal Datum: Howard County Grid System (NAVD 1927)  
Vertical Datum: NAVD 1929  
As projected by the RBA Group from Howard County Geodetic Survey Control, 3879 to traverse points TRAV 102, N479012.335, E851402.117, Elev. 382.76 TRAV 103, N478752.838, E851503.627, Elev. 378.83

**SEQUENCE OF CONSTRUCTION**  
1. Obtain Grading Permit.  
2. Obtain Demolition Permit.  
3. Clear & grub and install all sediment control devices.  
4. Begin all demolition work.  
5. Once demolition is complete, begin rough grading and building construction.  
6. Once sub-grade elevations are reached, install utilities, curb & gutter, bioretention facility, and stone sub-base for parking lot sections.  
7. Fine grade and vegetatively stabilize all disturbed areas not to be paved.  
8. Pave parking lot sections.  
9. Upon stabilization of site with established vegetation and with permission of the Sediment Control Inspector, remove sediment control measures and stabilize those areas disturbed by these process.

**EROSION CONTROL DETAIL KEYS**

1 CURB INLET PROTECTION	23C
2 STANDARD INLET PROTECTION	C-6
3 SUPER SILT FENCE	23A
4 STABILIZED CONSTRUCTION ENTRANCE	33
5 MOUNTABLE BERM	C-6
6 PRIVATE BIORETENTION FACILITY, SEE SHT. PS-1	99
7 1" WATER METER 4 PIT FOR IRRIGATION, SEE SHT. PS-1	C-6
8 JELLYFISH FILTER, SEE SHEET PS-4	24

**APPROVED**  
PLANNING BOARD  
OF HOWARD COUNTY  
DATE: May 1, 2003

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MDC@BOHLERENG.COM

**STANDARD SEDIMENT CONTROL NOTES**

- A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction (313-1855).
- All vegetative and structural practices are to be installed according to the provisions of these plan and are to be in conformance with the most current MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.
- Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12 of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. 51), sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:
 

Total Area of Site	1.5	Acres
Area Disturbed	1.22	Acres
Area to be roofed or paved	0.88	Acres
Area to be vegetatively stabilized	0.34	Acres
Total Cut	450	Cu. Yds.
Total Fill	450	Cu. Yds.
Offsite waste/borrow area location:	N/A	
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
- On All sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
- Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized by the end of each work day, whichever is shorter.

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

*Thomas A. Nolan* 7/24/03  
Signature of Developer Date

By the Engineer:  
"I certify that this plan for erosion and sediment 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."

*John R. Robertson* 7/22/03  
Signature of Engineer Date

*Peggy M. White*  
Print name below signature

Reviewed for HOWARD SCD and meets Technical Requirements.  
*Jim Meyers* 8/4/03  
USDA-Natural Resources, Conservation Service Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.  
*John R. Robertson* 8/4/03  
Howard SCD Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Michael J. Gesell* 8/5/03  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
*David A. Gaylor* 8/12/03  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*David A. Gaylor* 9/12/03  
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**Chick-fil-A**

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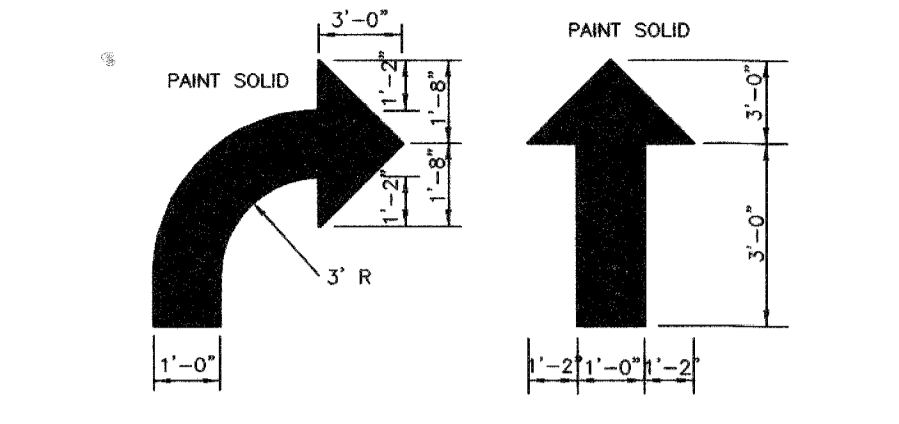
#	Date	Revision
1	9/14/03	Grading (revised and off-site statements added)
2	7/30/03	Bill Set and Howard County Approval
3	9/22/03	SEASONAL VEGETATION LOCATIONS OF TREASURES OVERLAP
4	7/27/02	OWNER'S REQUEST FOR REVISIONS TO THE PLAN, DATED AUG 19 2002 FOR MISSING APPROVAL

Sheet Title: GRADING, DRAINAGE & EROSION CONTROL PLAN

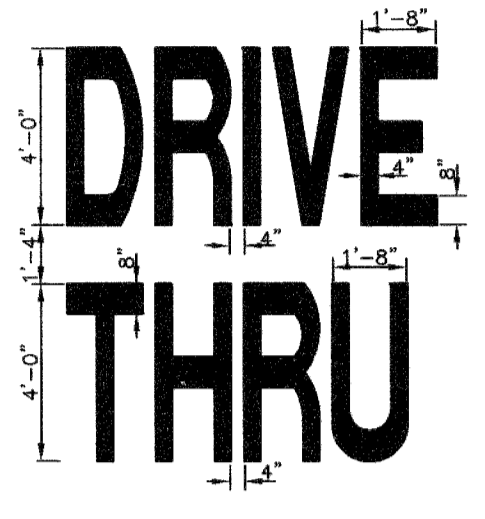
SHEET NO. **C-3**  
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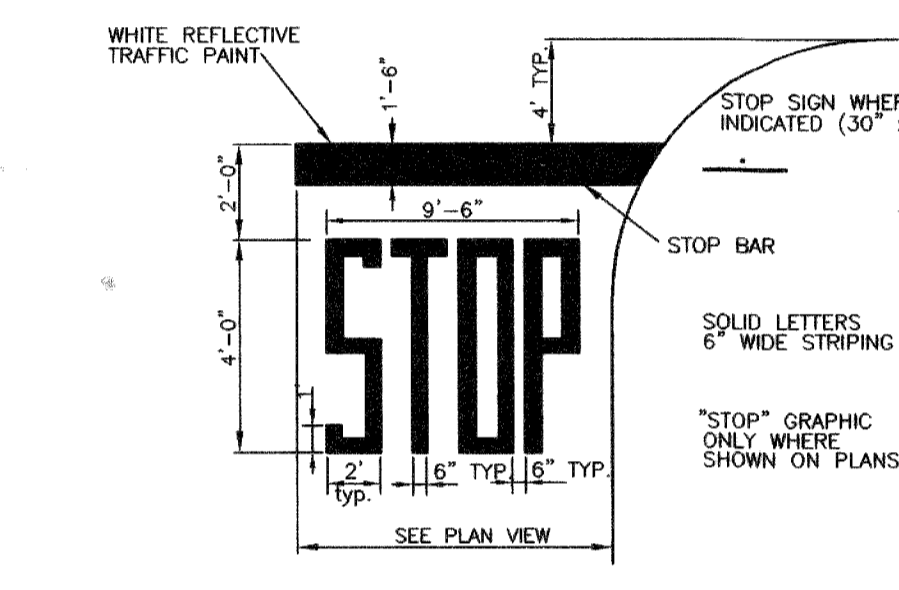




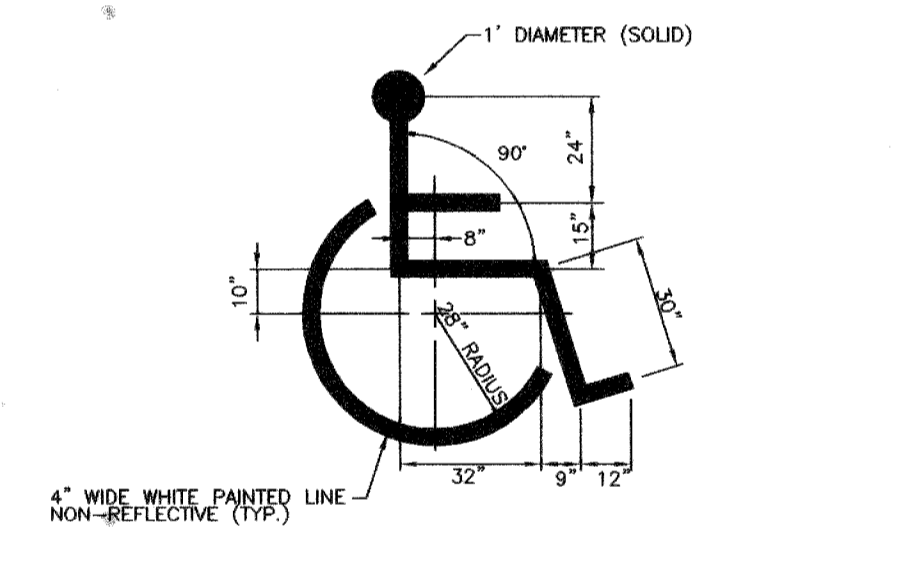
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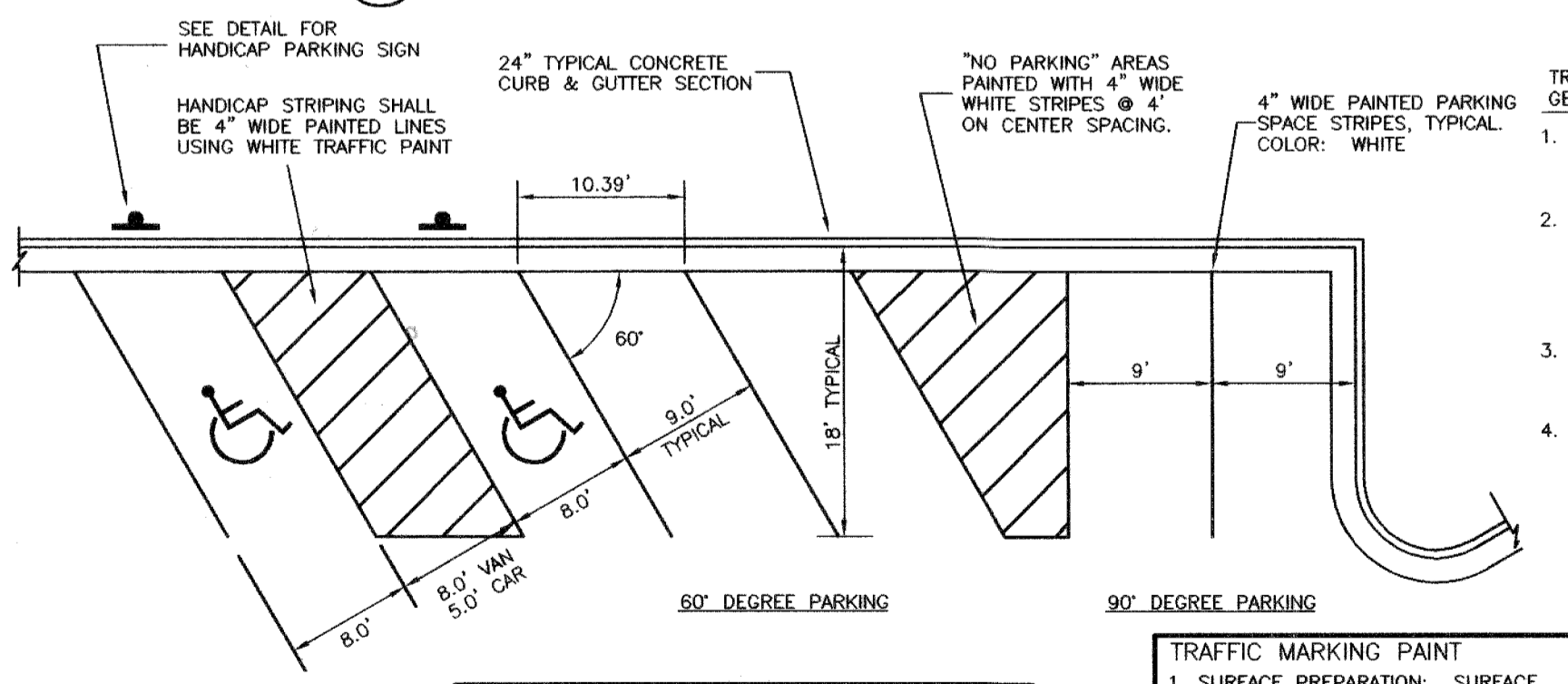
2 DRIVE-THRU GRAPHICS DETAIL  
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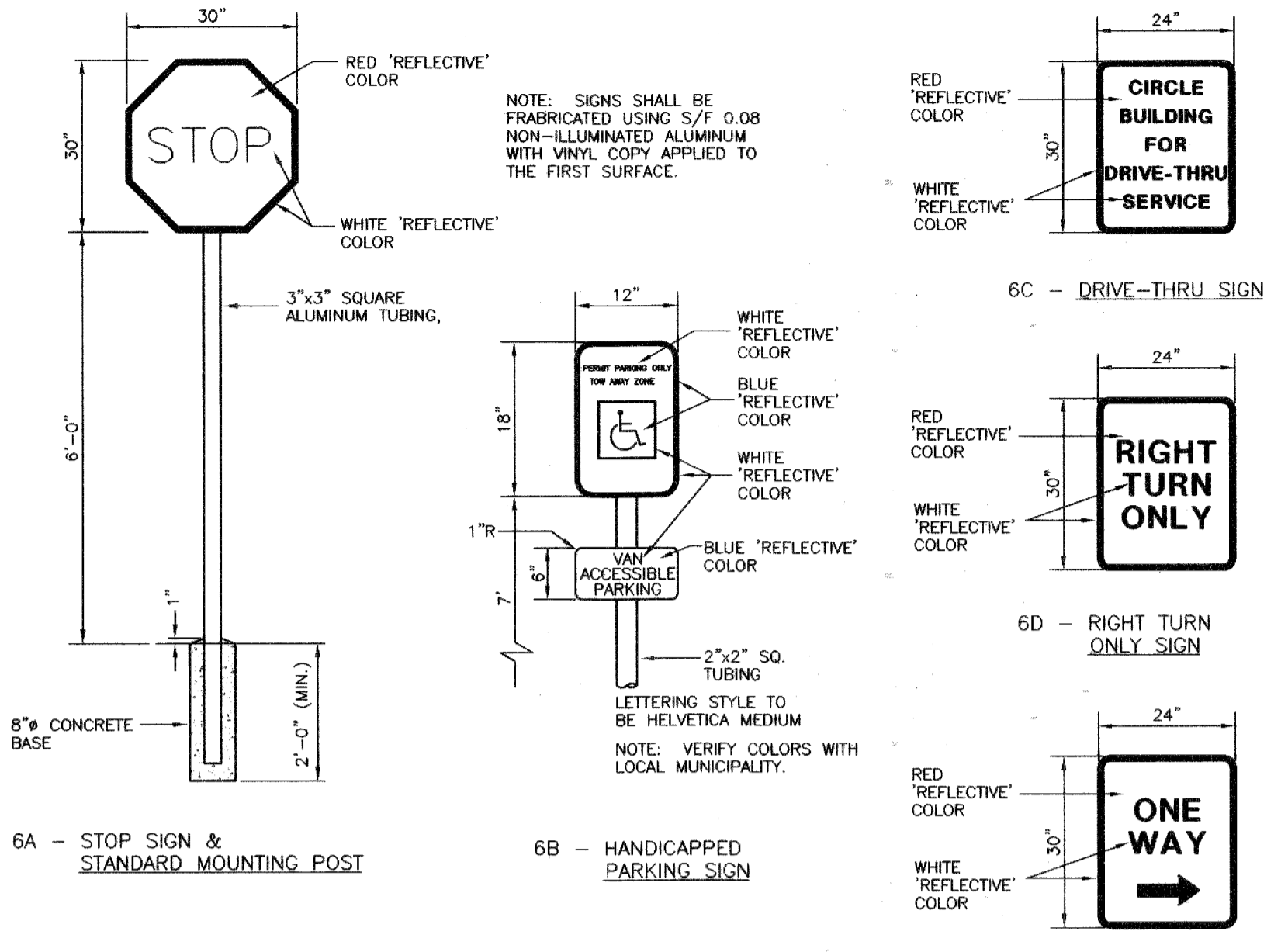
3 STOP LINE GRAPHIC DETAIL  
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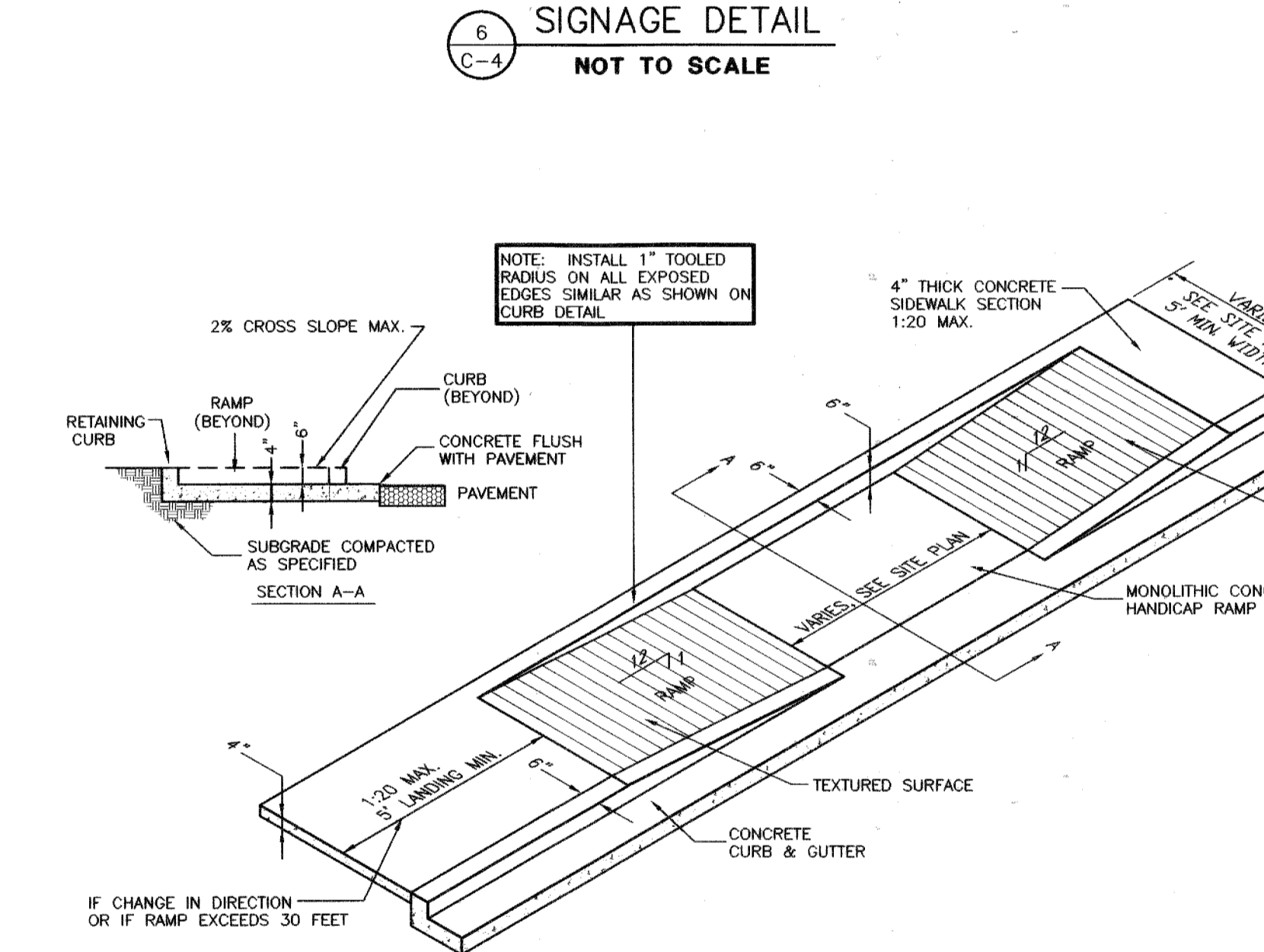
4 HANDICAP SYMBOL DETAIL  
NOT TO SCALE



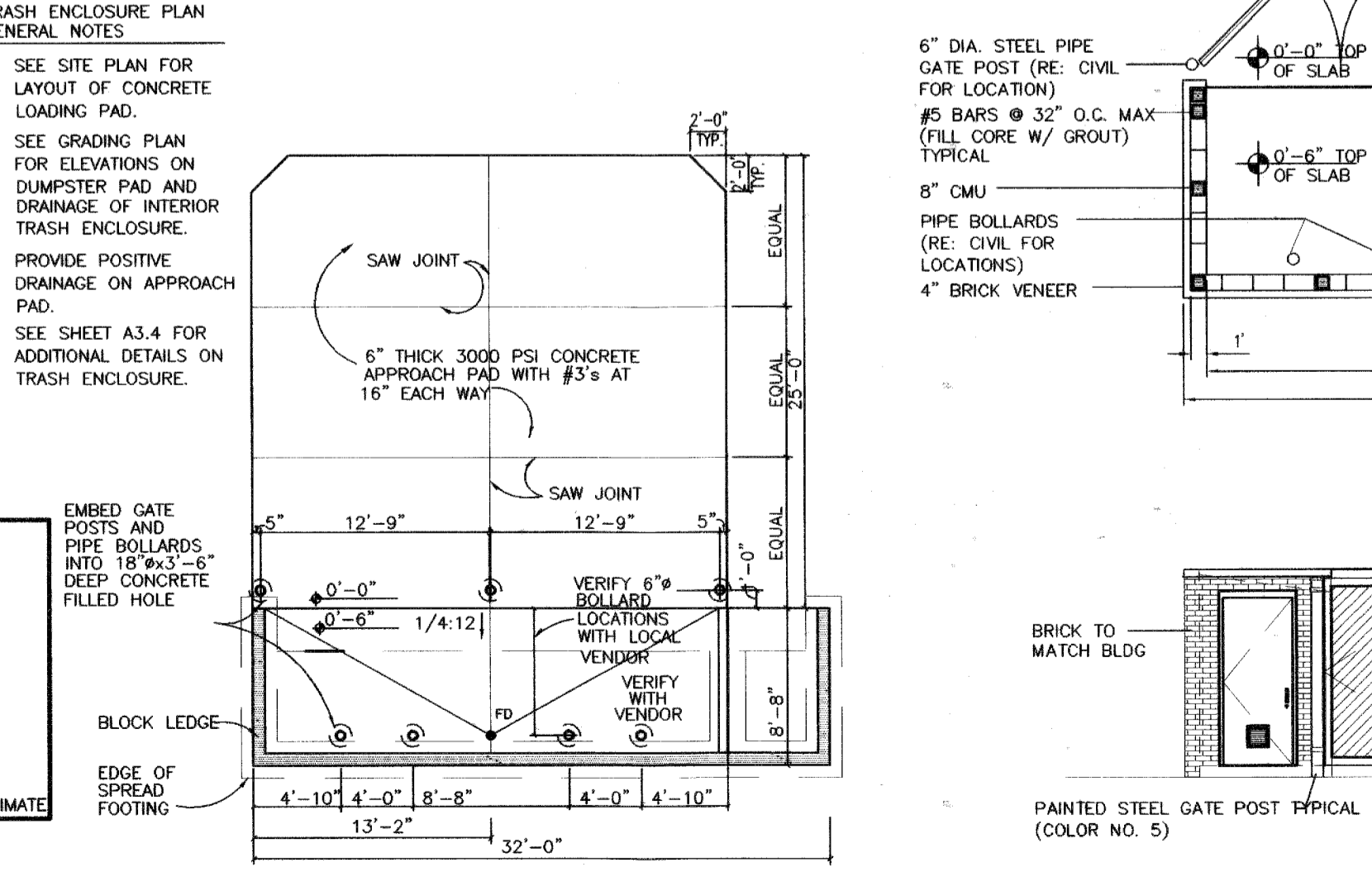
5 STANDARD PARKING STALL DETAILS  
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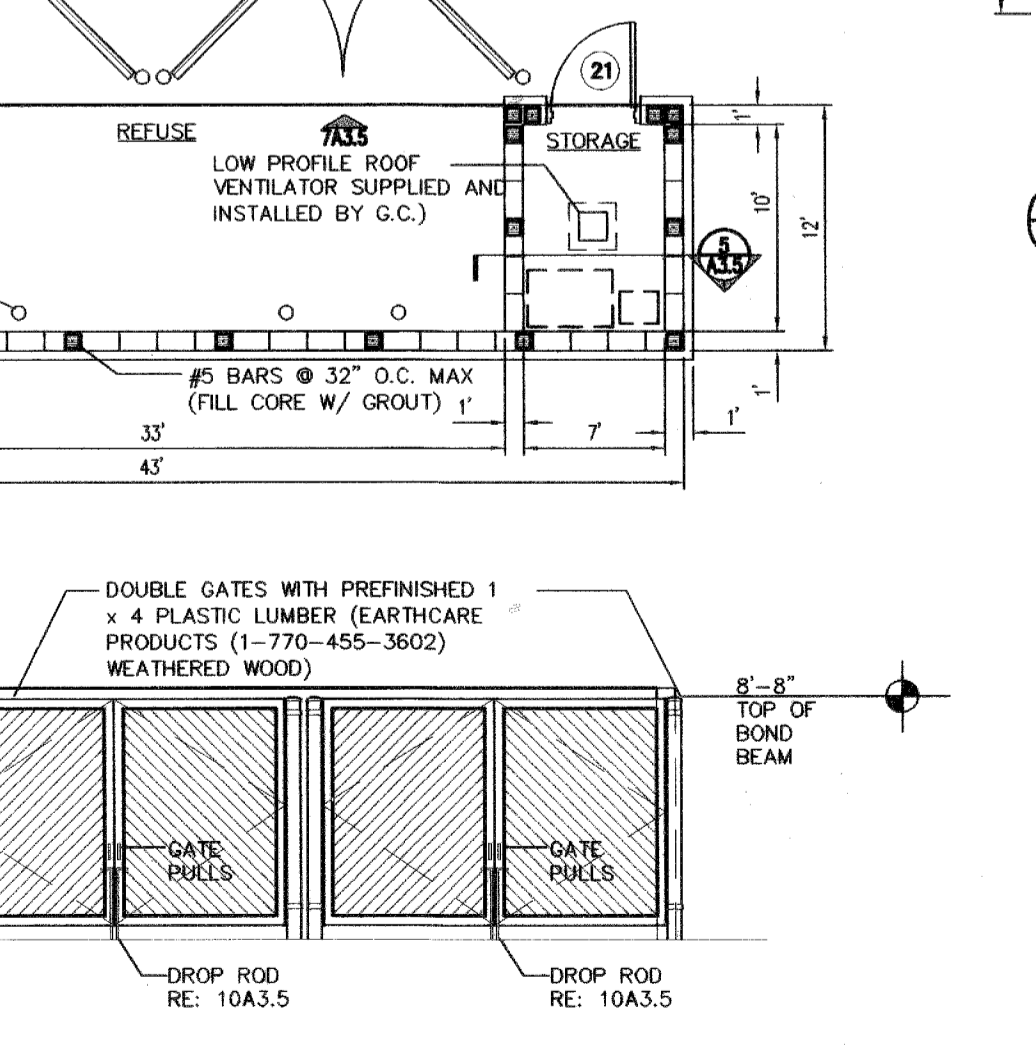
6 SIGNAGE DETAIL  
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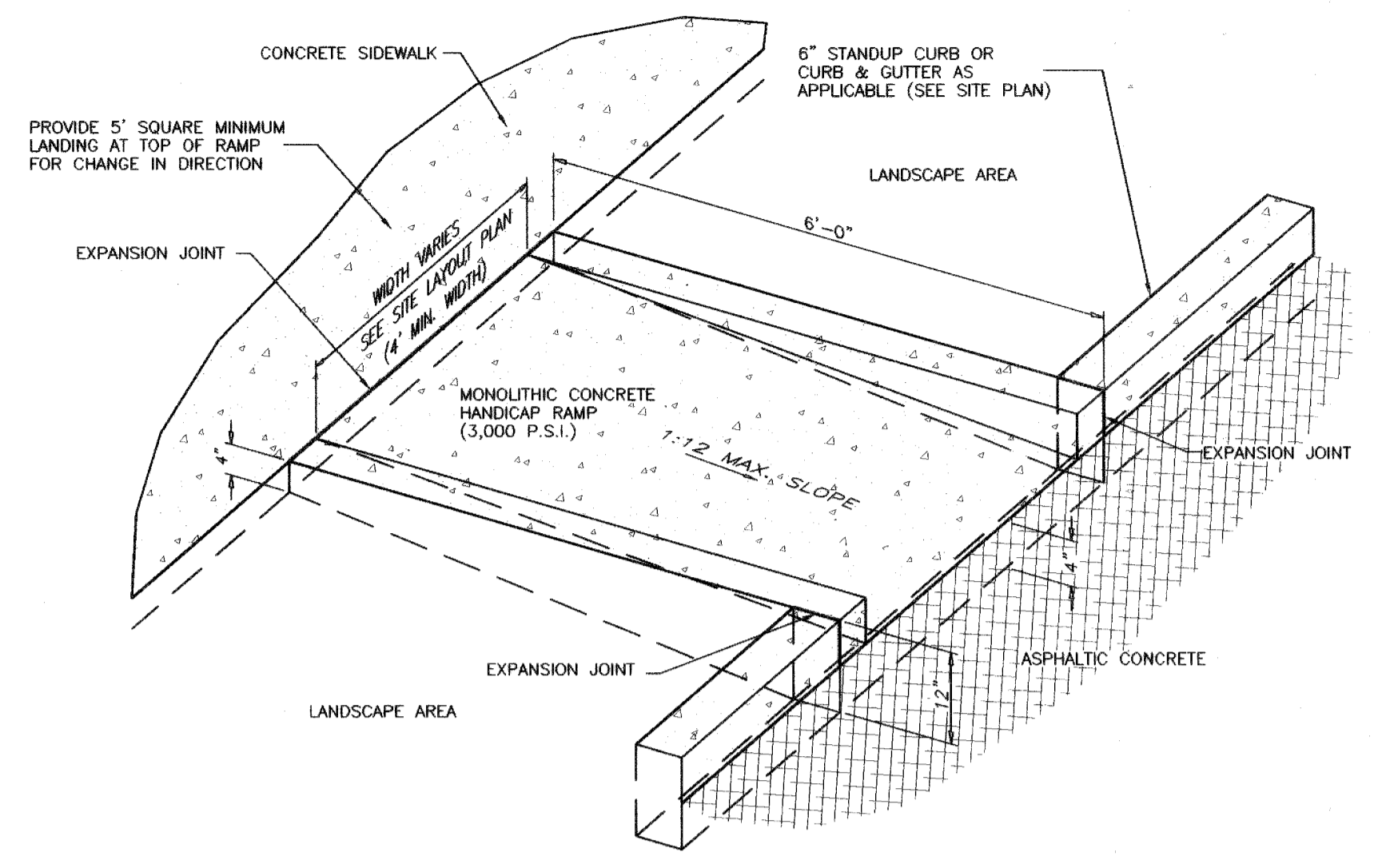
7 SIDEWALK HANDICAP RAMP DETAIL  
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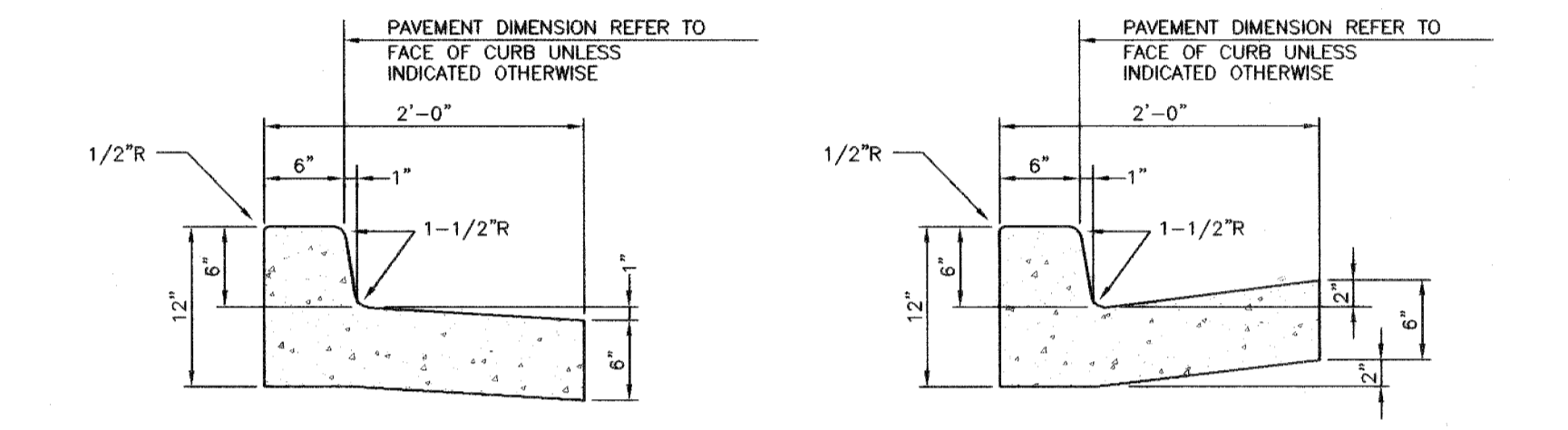
12 TRASH ENCLOSURE FOUNDATION PLAN  
NOT TO SCALE



13 ELEVATION  
NOT TO SCALE

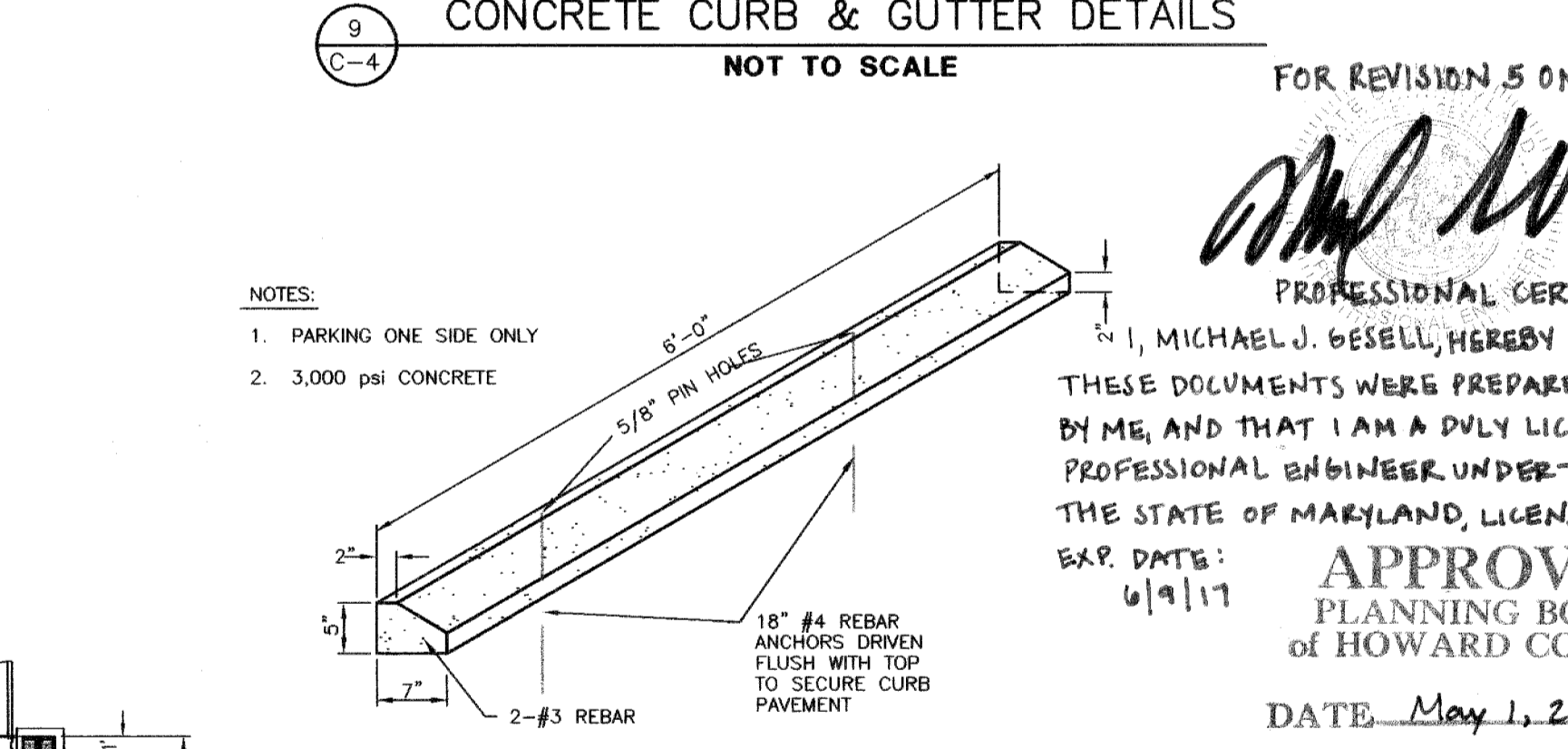


8 CURBED HANDICAP RAMP DETAIL  
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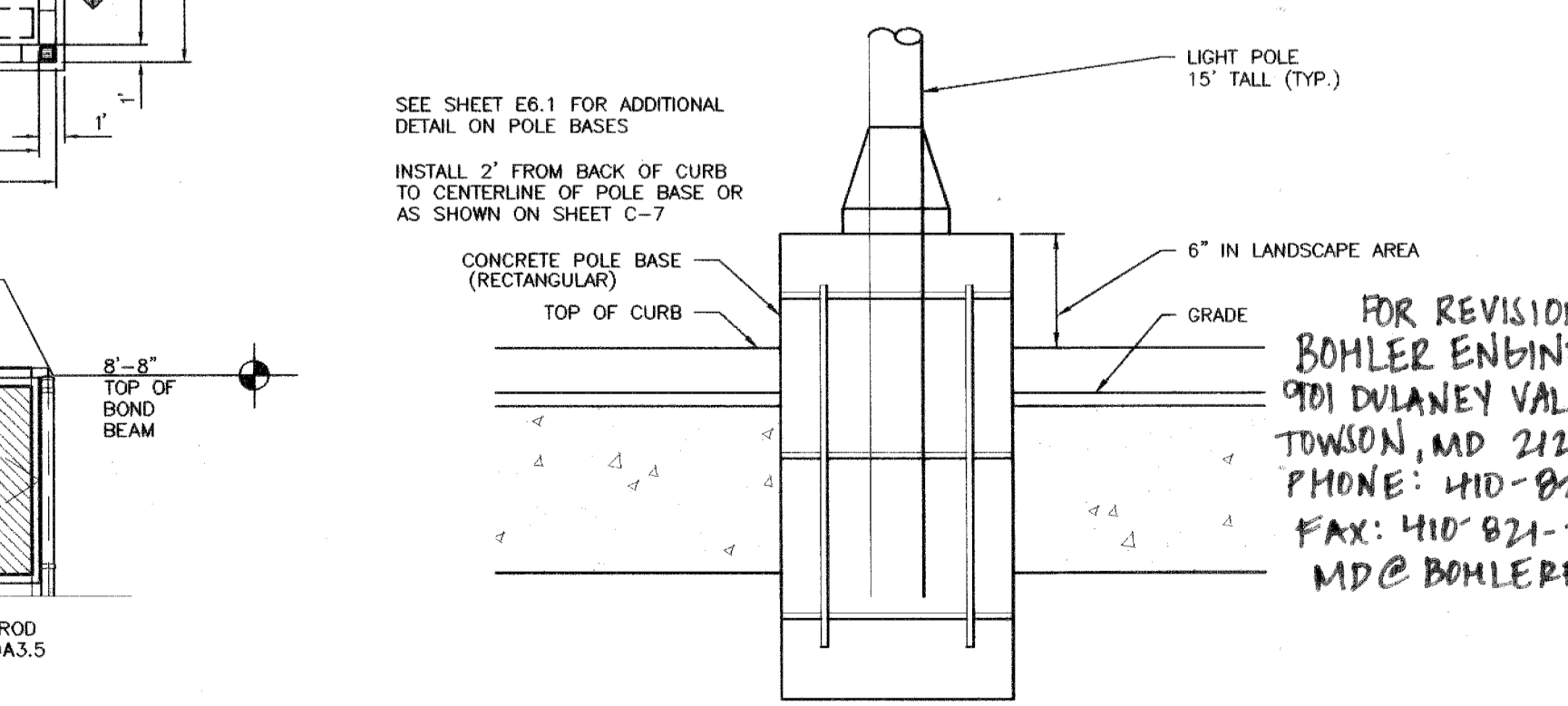


9 CONCRETE CURB & GUTTER DETAILS  
NOT TO SCALE

CONCRETE FOR CURBING SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 P.S.I. AT 28 DAYS.  
CONSTRUCTION STAKING FOR CURBING INSTALLATION SHALL BE REFERENCED (CUT OR FILL) TO THE FACE OF CURB.  
AT CONTRACTOR'S OPTION THE GUTTER THICKNESS MAY BE INCREASED AT THE EDGE OF PAVEMENT TO MAKE BOTTOM OF GUTTER PARALLEL WITH PAVING OF BASE COURSE.



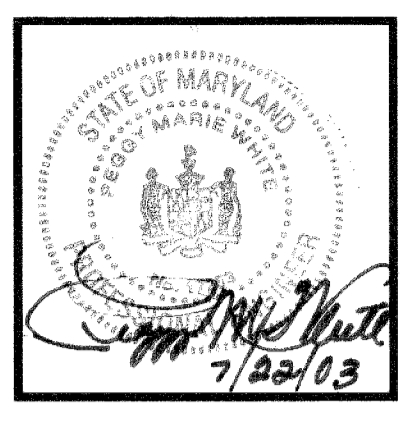
10 CONCRETE WHEEL STOP DETAIL  
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11 TYPICAL POLE BASE DETAIL  
NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* 8/5/03 DATE  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK  
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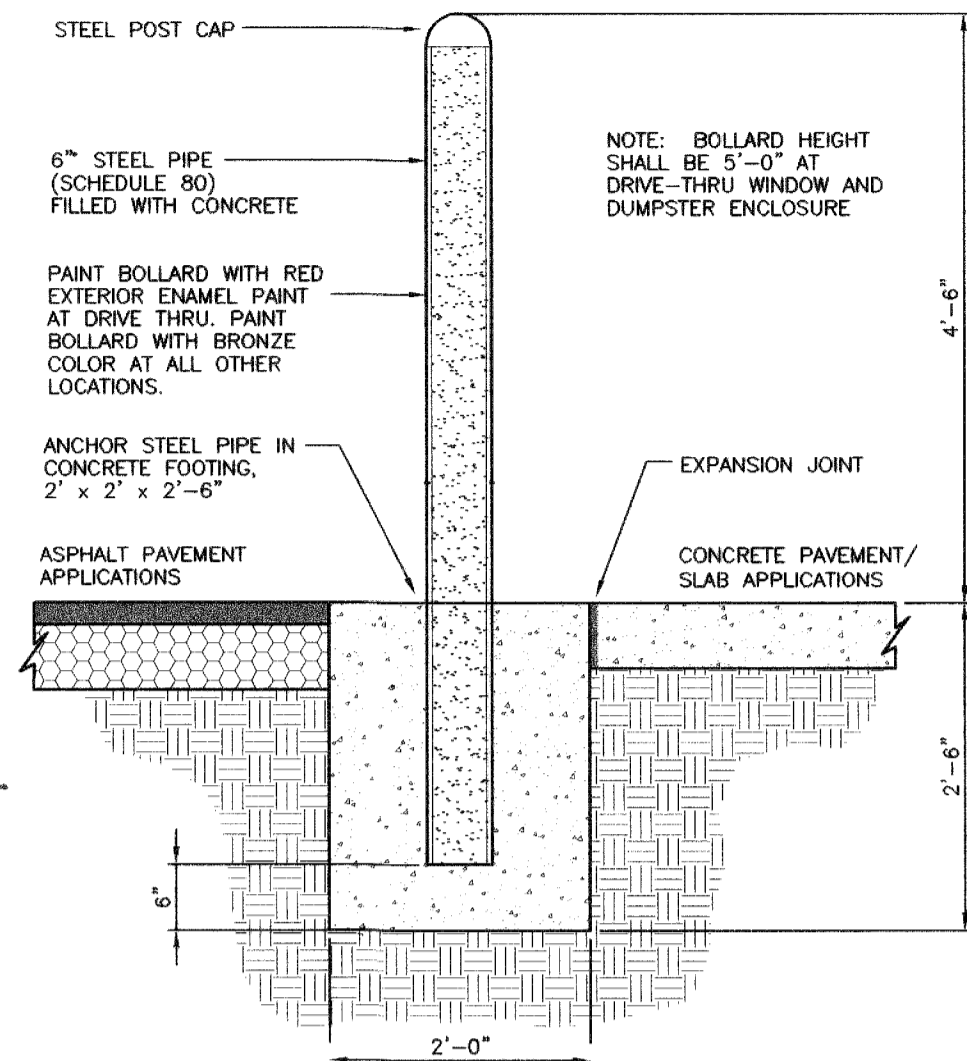
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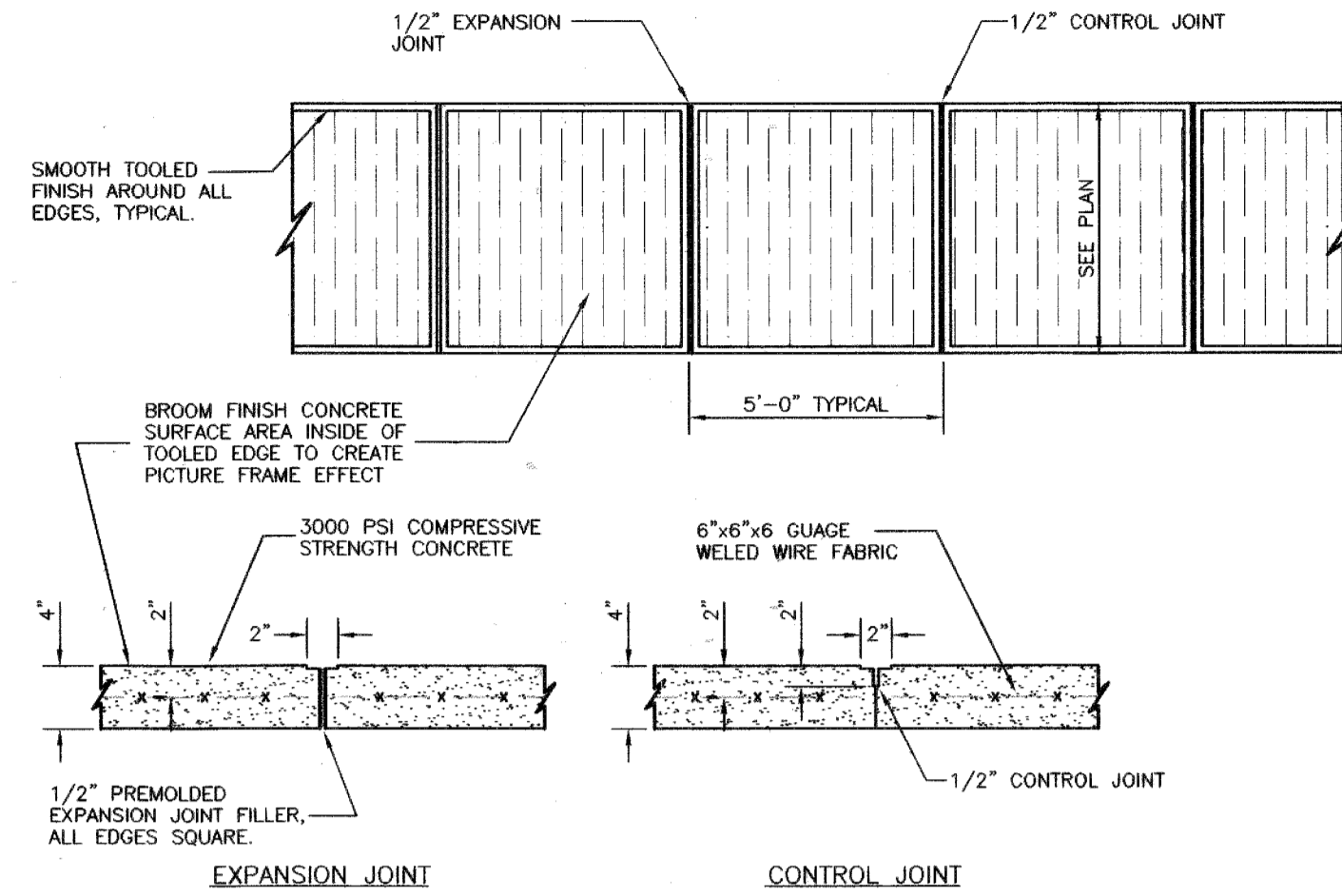
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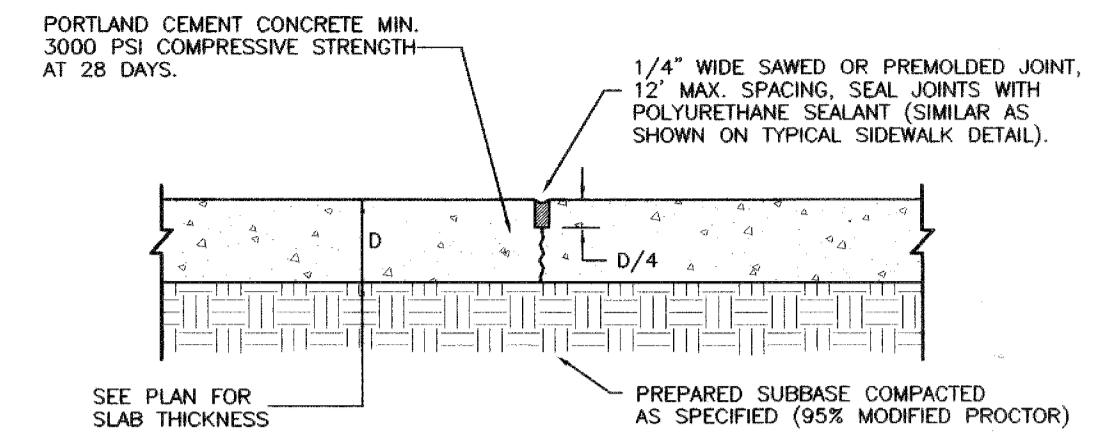
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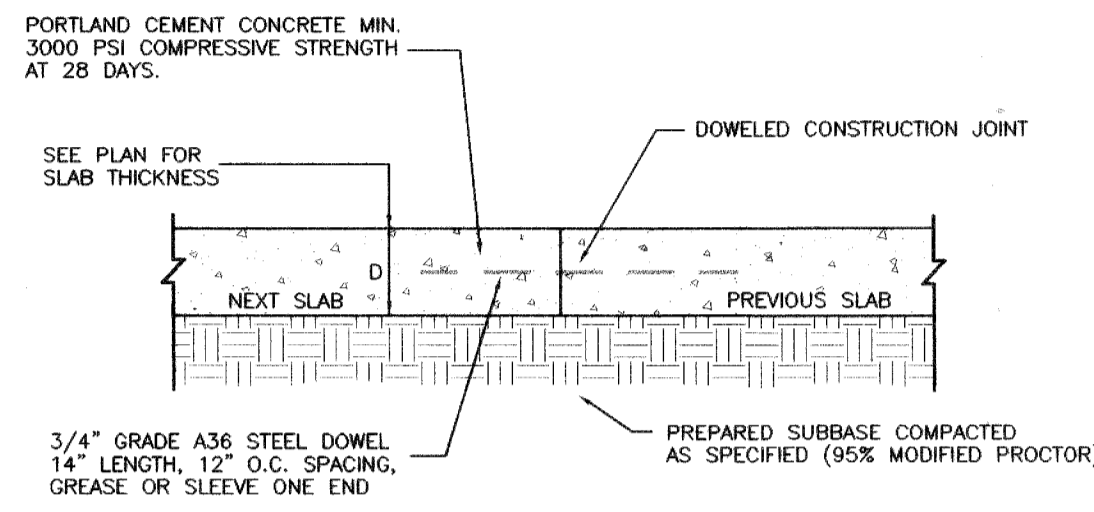
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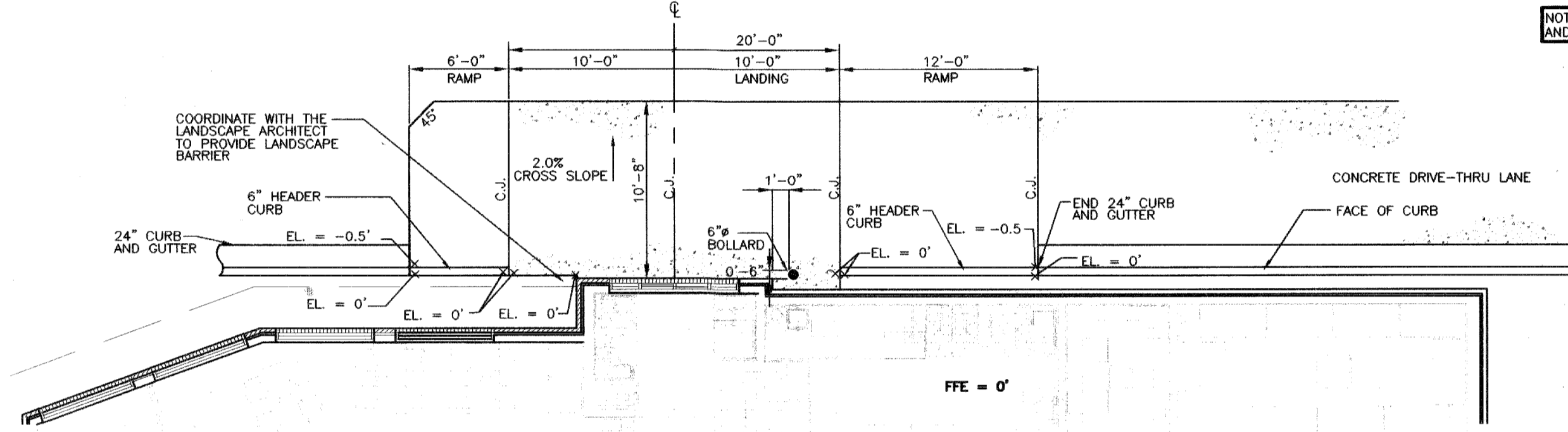
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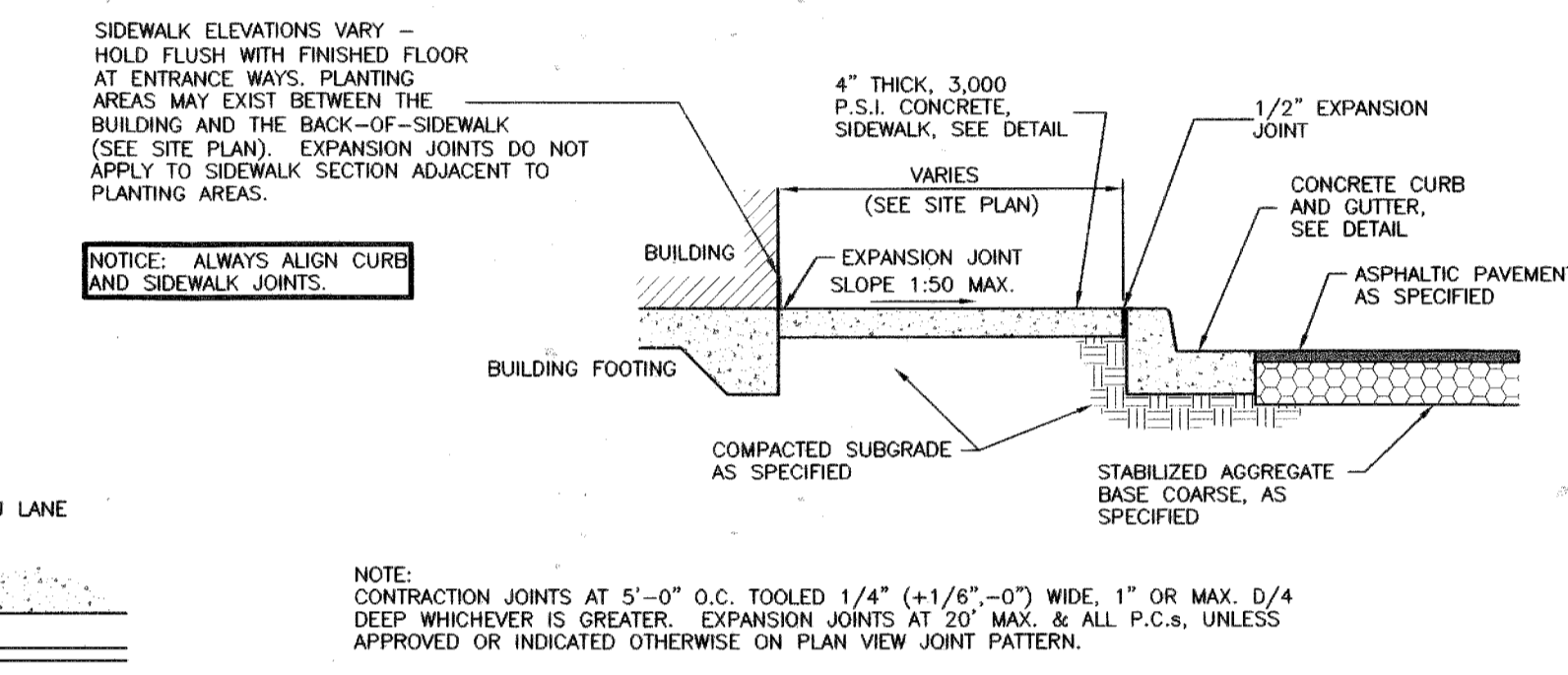
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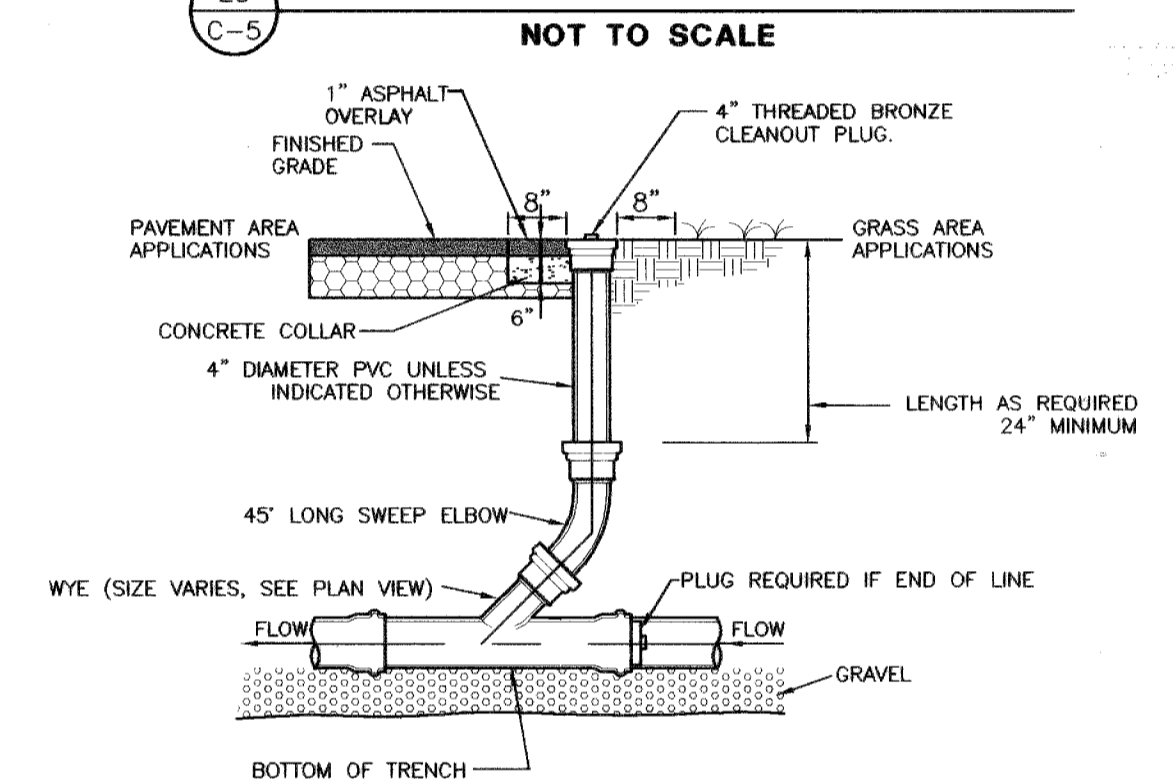
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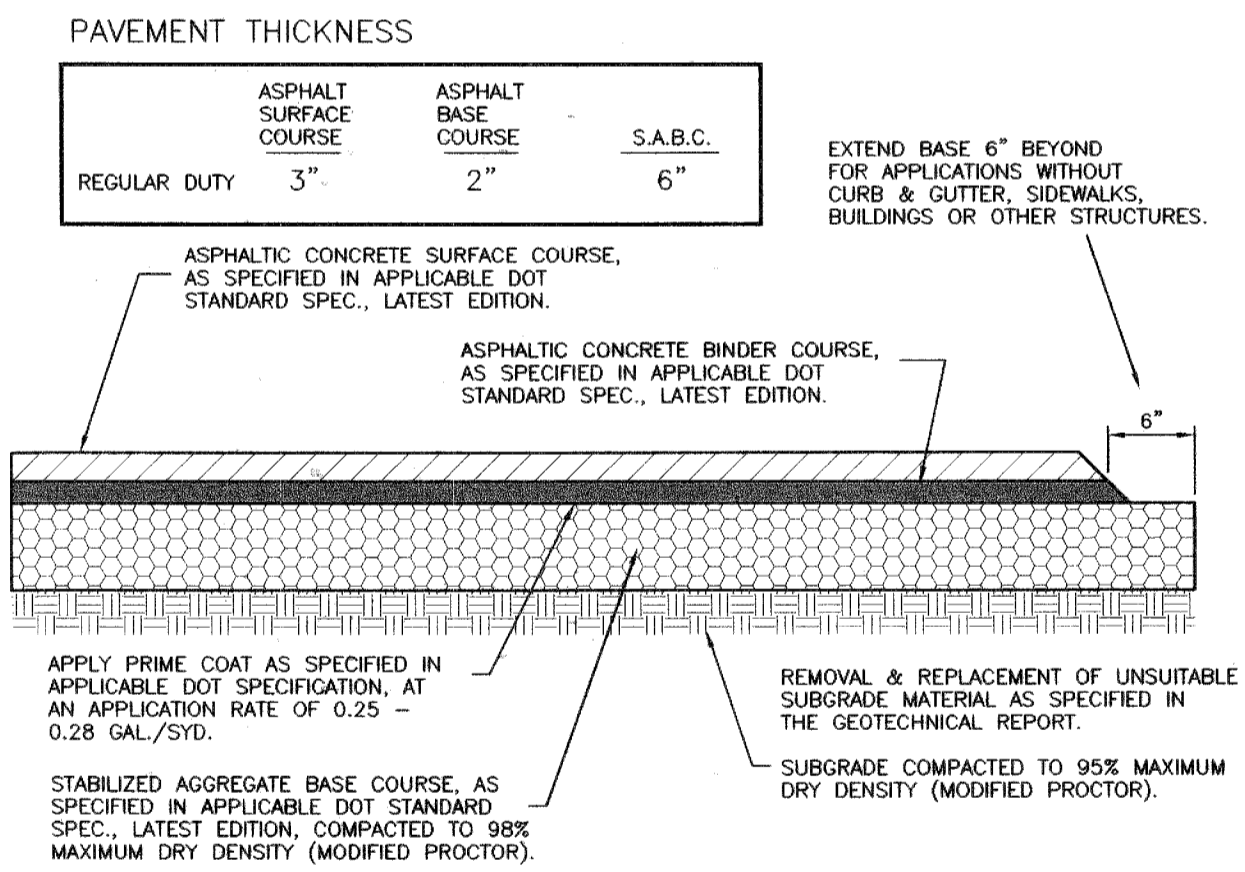
15 DRIVE-THRU PLAN VIEW  
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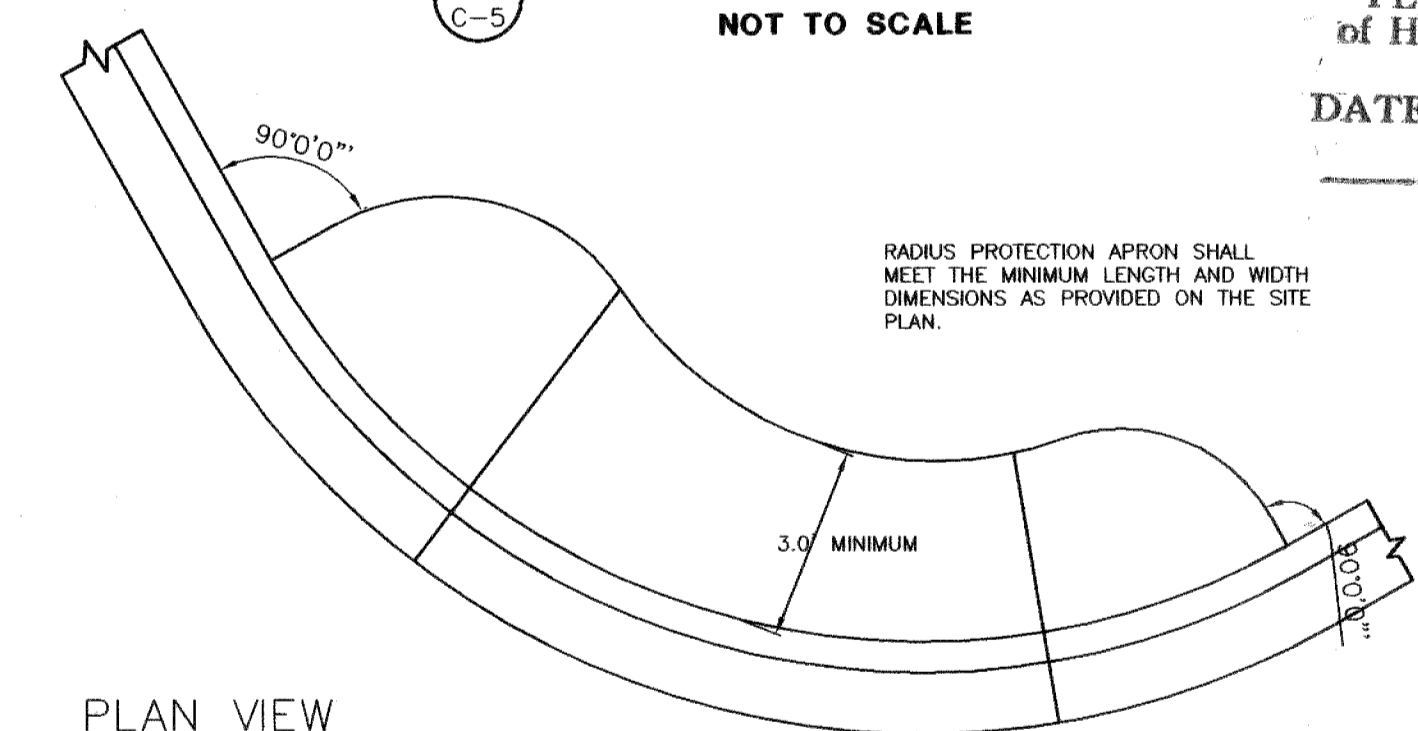
18 SIDEWALK WITH CURB & GUTTER SECTION  
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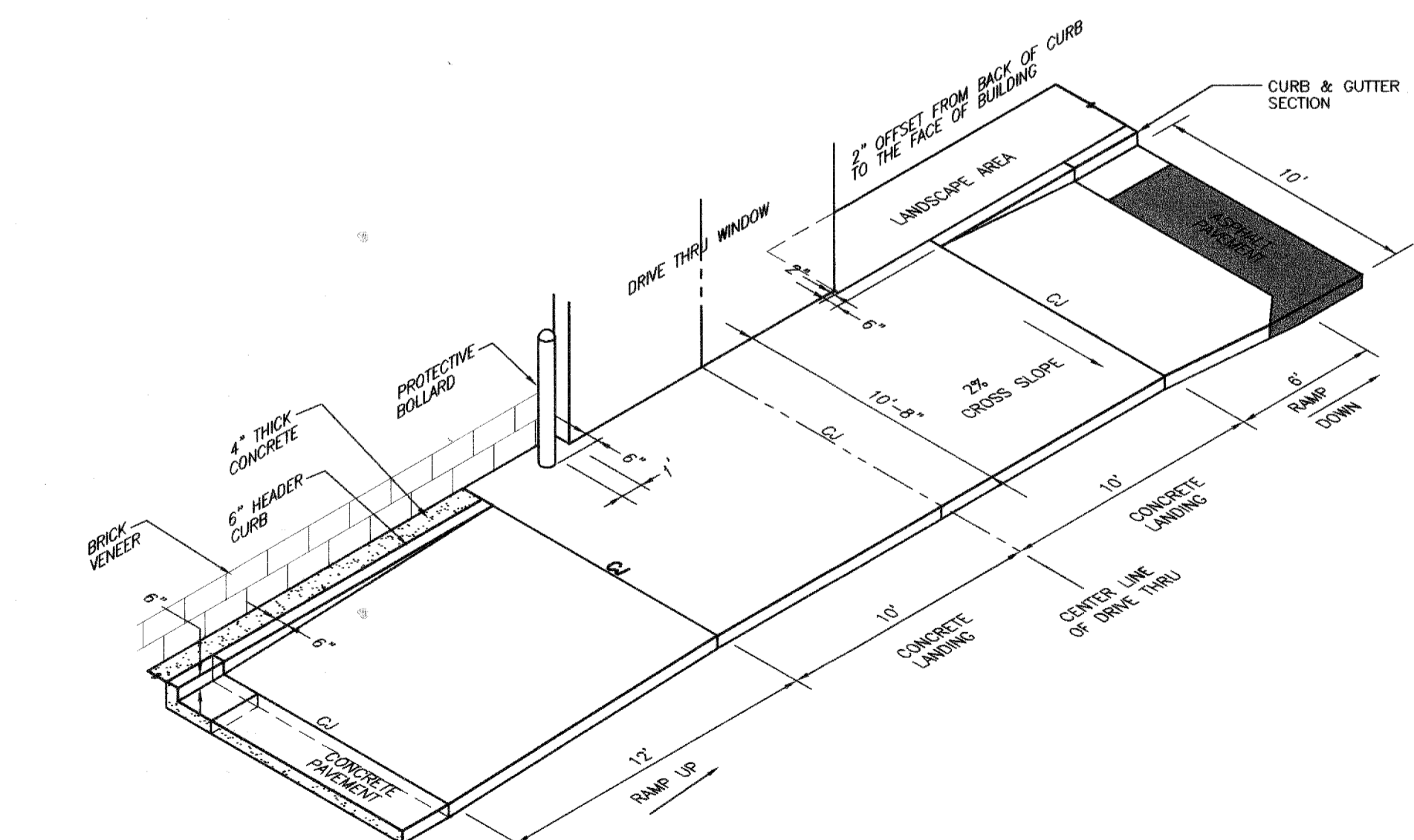
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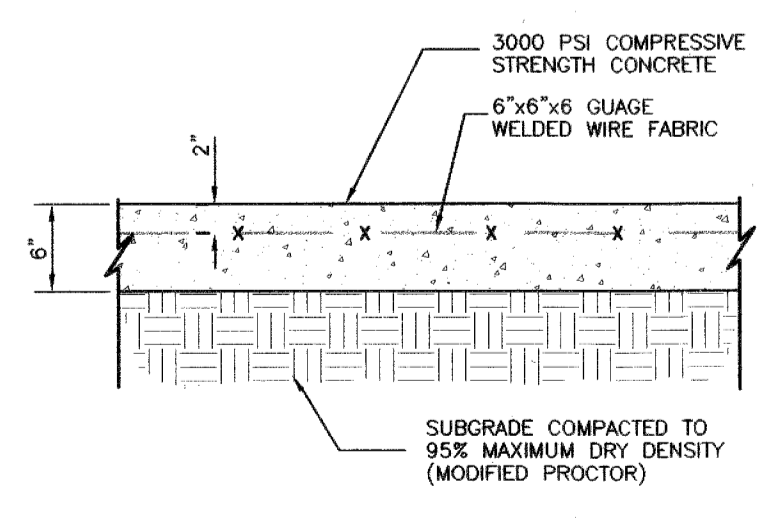
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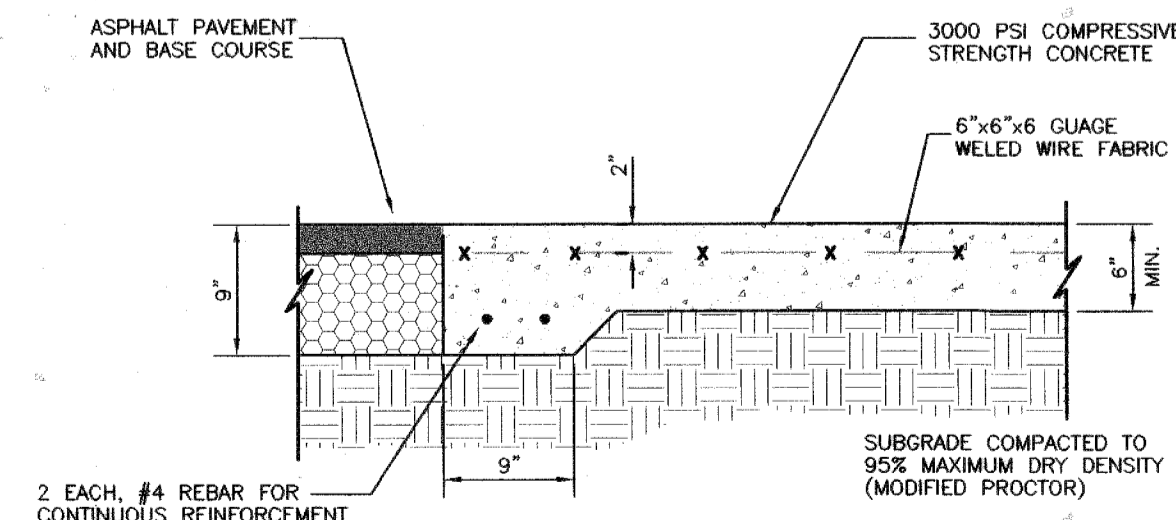
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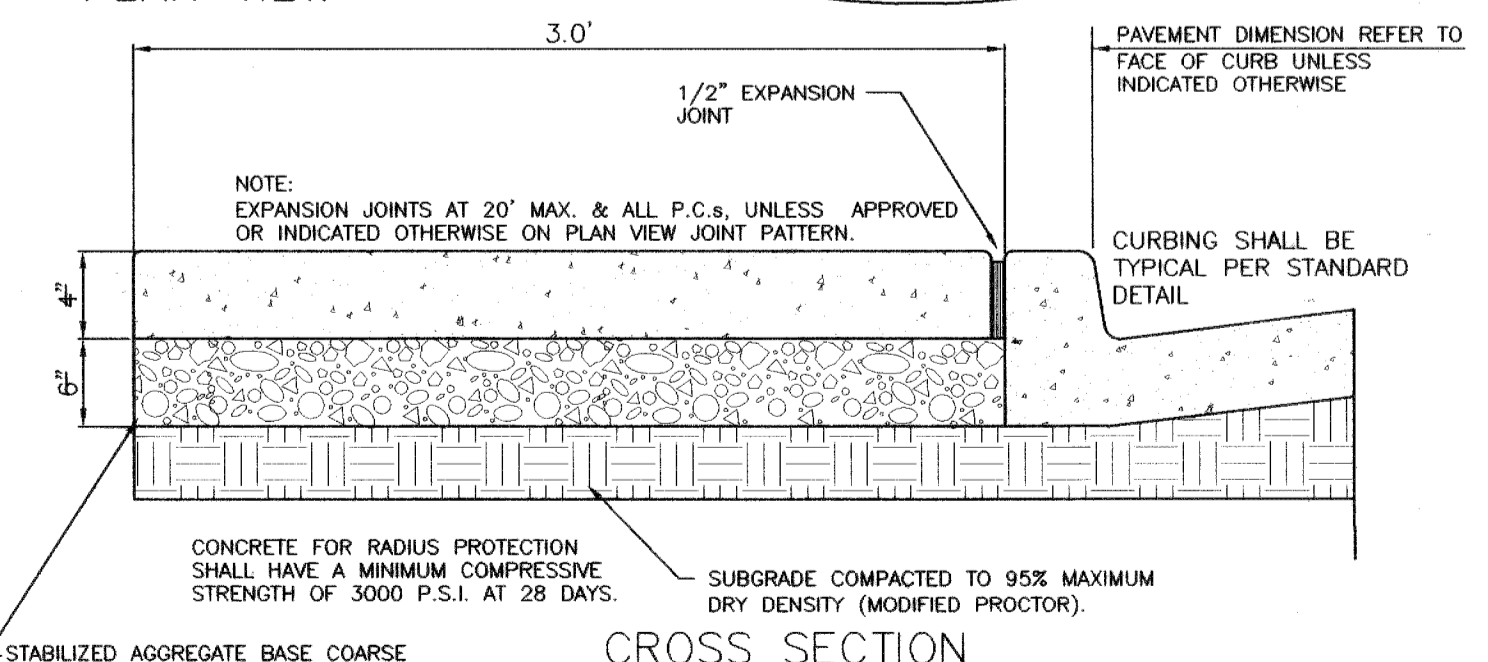
16 DRIVE-THRU ISOMETRIC VIEW  
 NOT TO SCALE



20 CONCRETE PAVING DETAIL DRIVE THRU LANE  
 NOT TO SCALE



21 CONCRETE APRON @ DUMPSTER  
 NOT TO SCALE



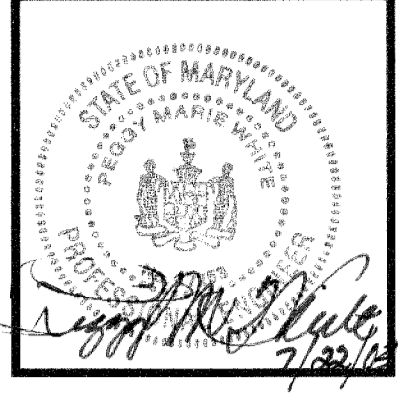
25 LANDSCAPE & IRRIGATION PROTECTOR  
 NOT TO SCALE

APPROVED  
 PLANNING BOARD  
 OF HOWARD COUNTY  
 DATE: May 1, 2003

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Michael J. Gesell* 8/5/03  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*Cathy Hamilton* 8/12/03  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
*Paul A. Ayers* 8/12/03  
 DIRECTOR

The **RBA** ENGINEERS • ARCHITECTS • PLANNERS  
 Group, Inc.  
 7164 Columbia Gateway Drive Suite 205  
 Columbia, Maryland 21046 (410) 312-0966

RBA PROJ. NO.: M3080.00  
 DRAWN BY: KL  
 DESIGNED BY: EM  
 CHECKED BY: JR



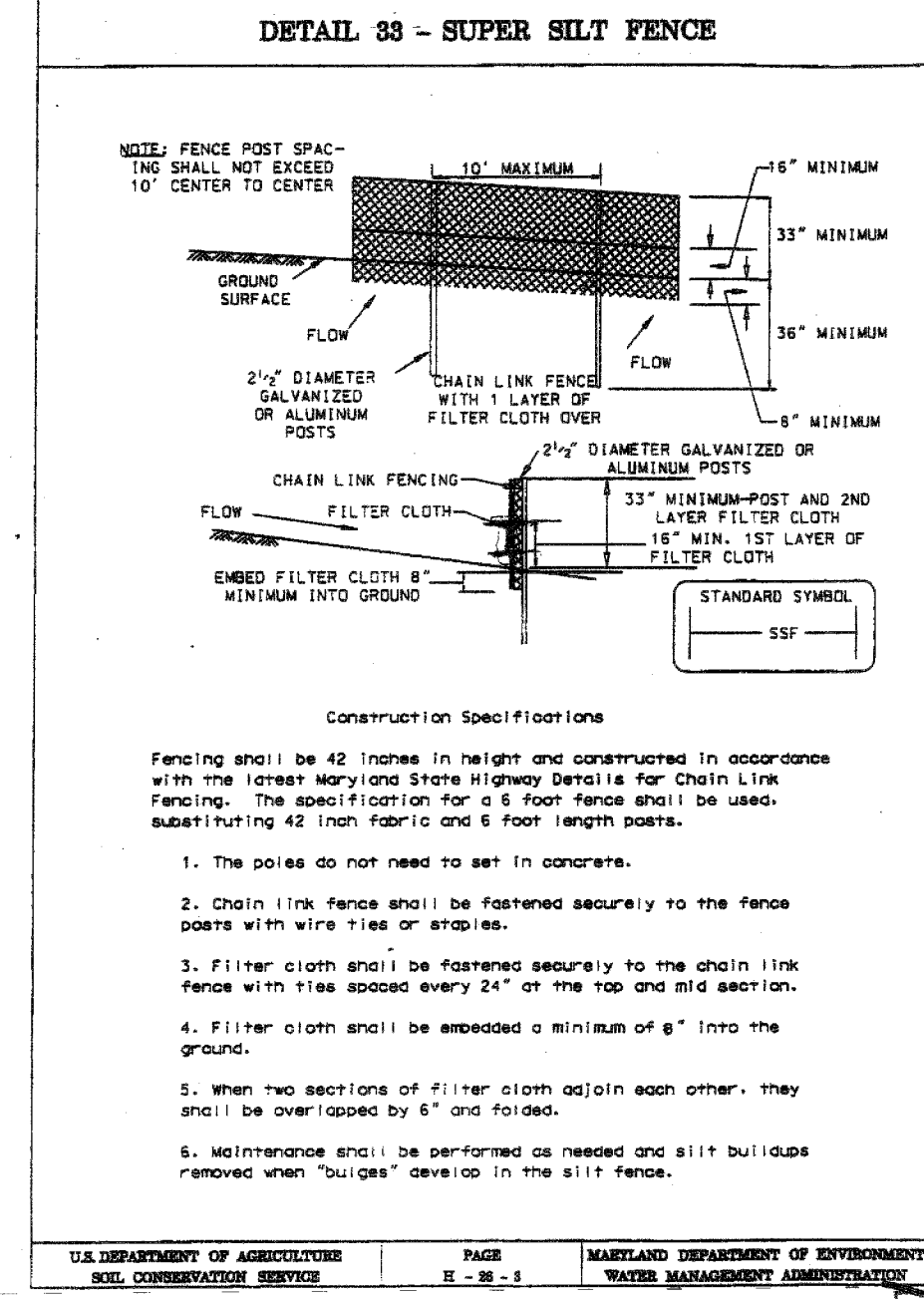
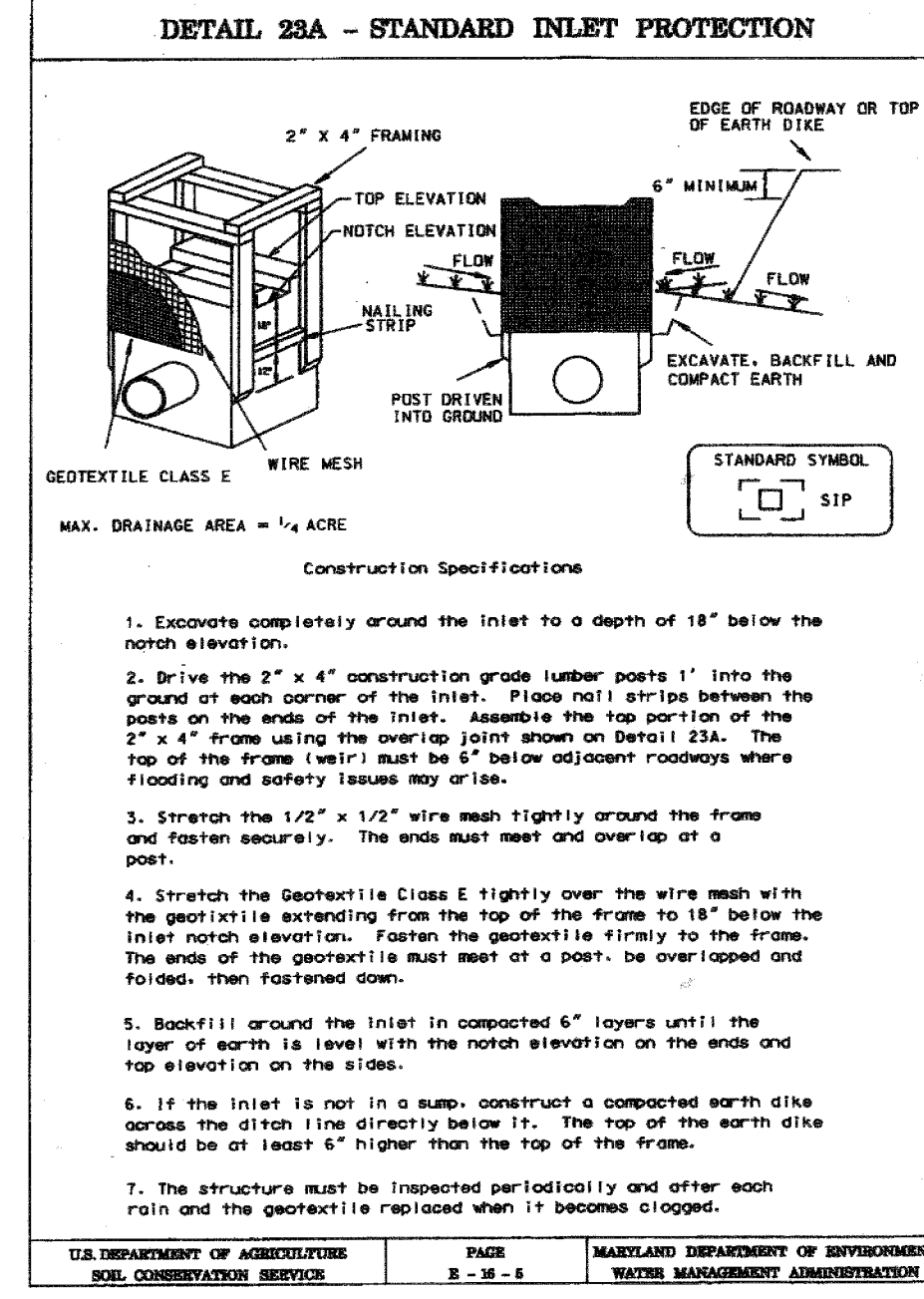
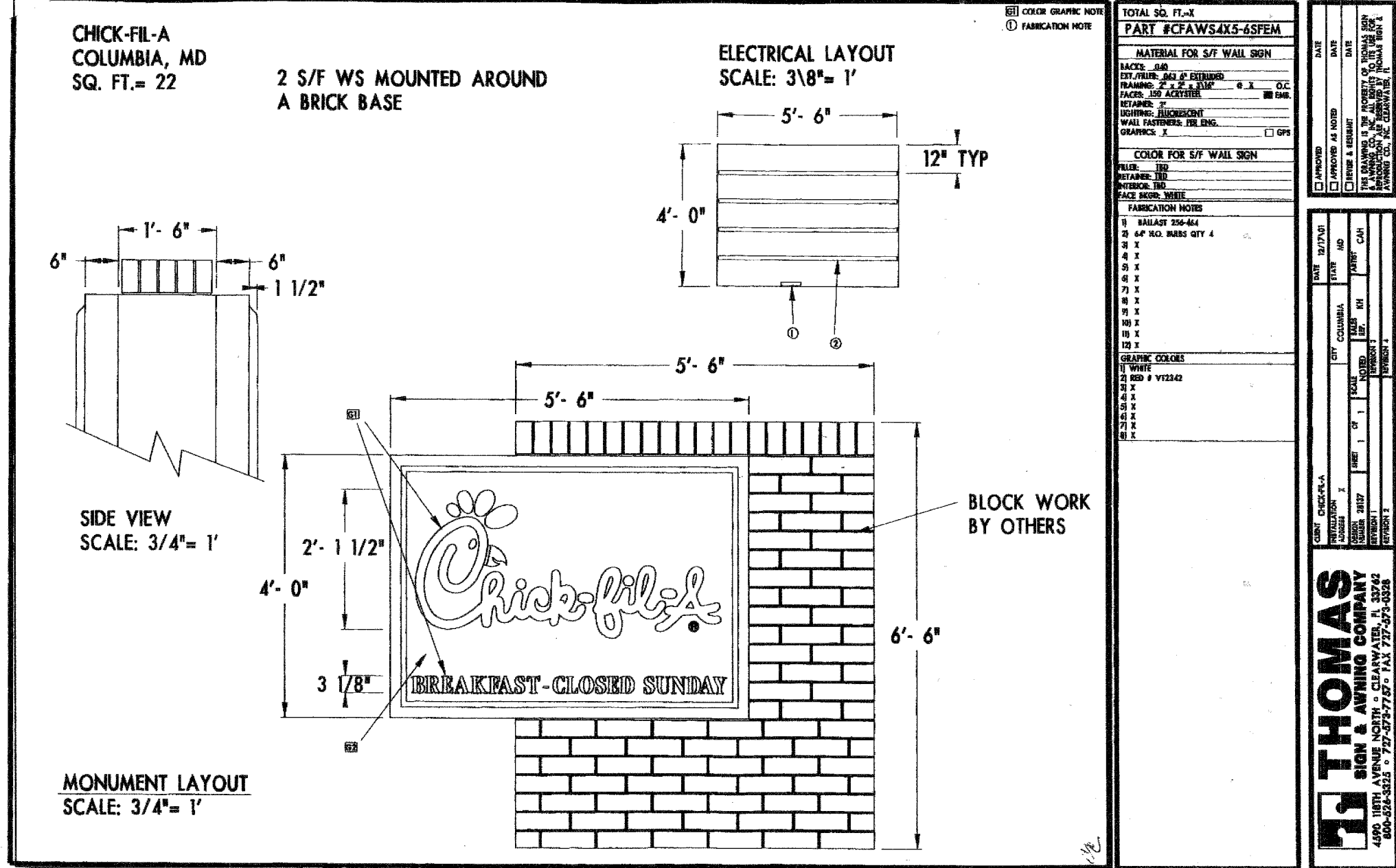
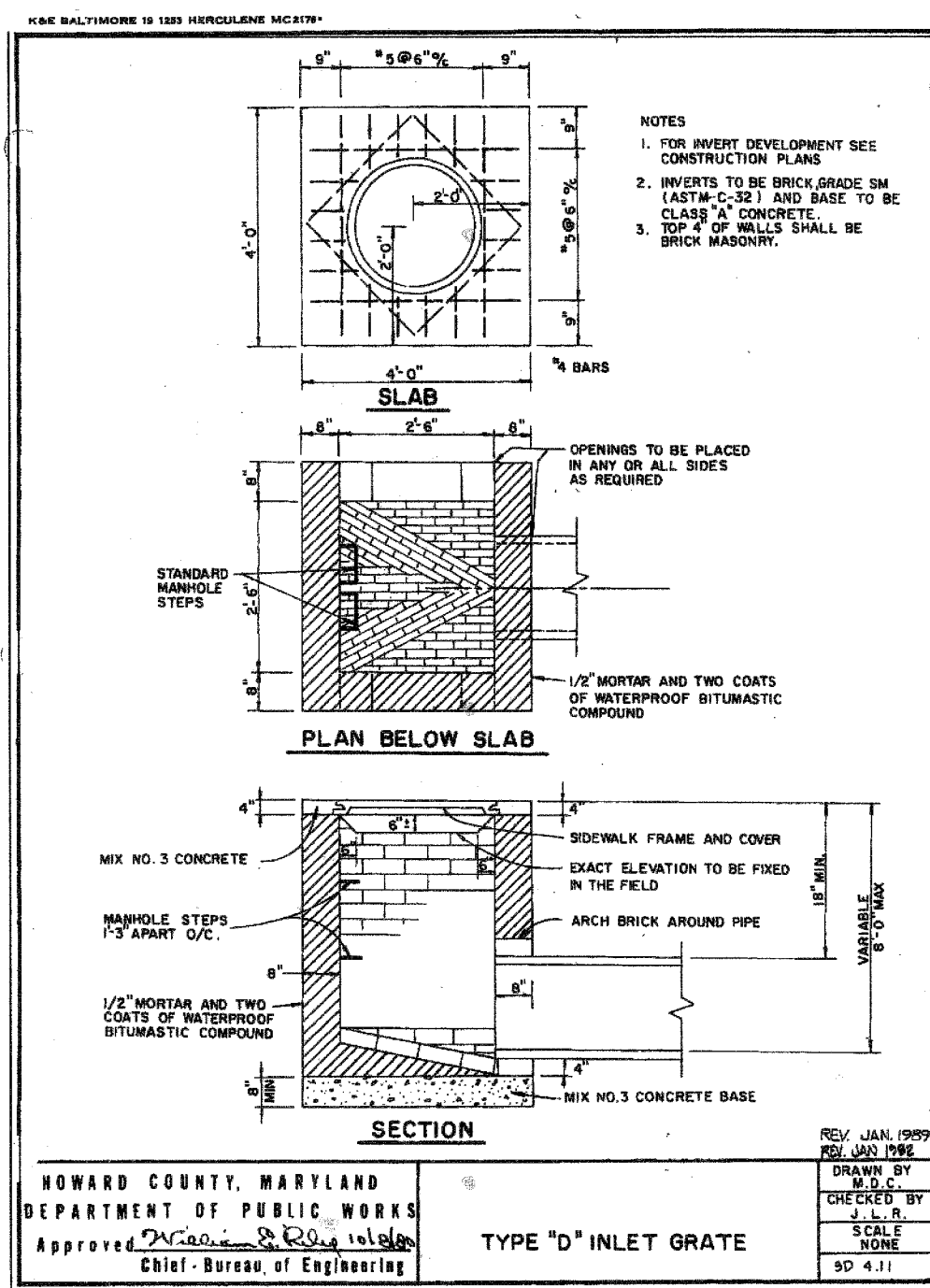
Series 97-138  
 5200 Buffington Road  
 Atlanta, Georgia 30349-2998  
 Telephone 404-765-8000



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 COMMERCIAL CENTER  
 COLUMBIA, MD

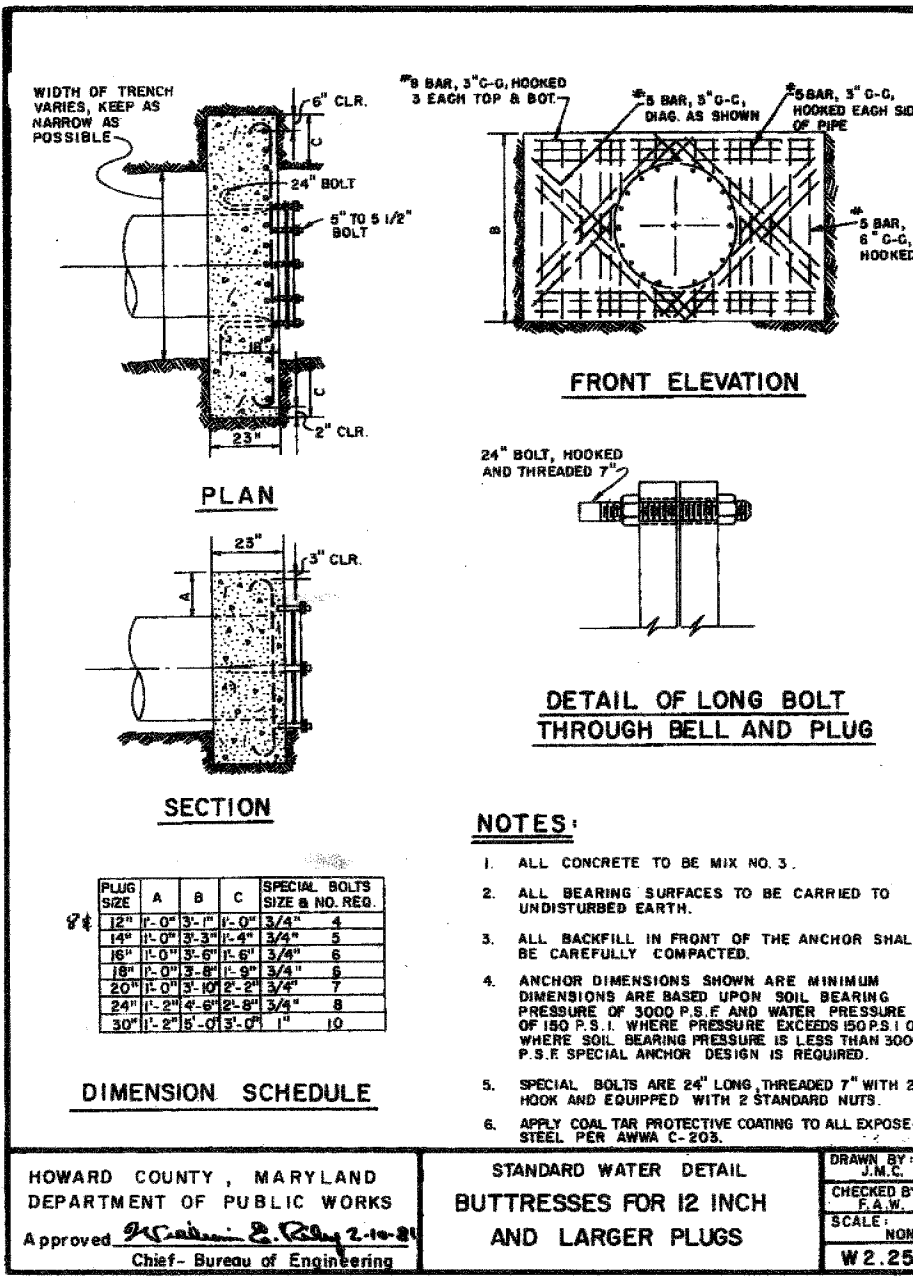
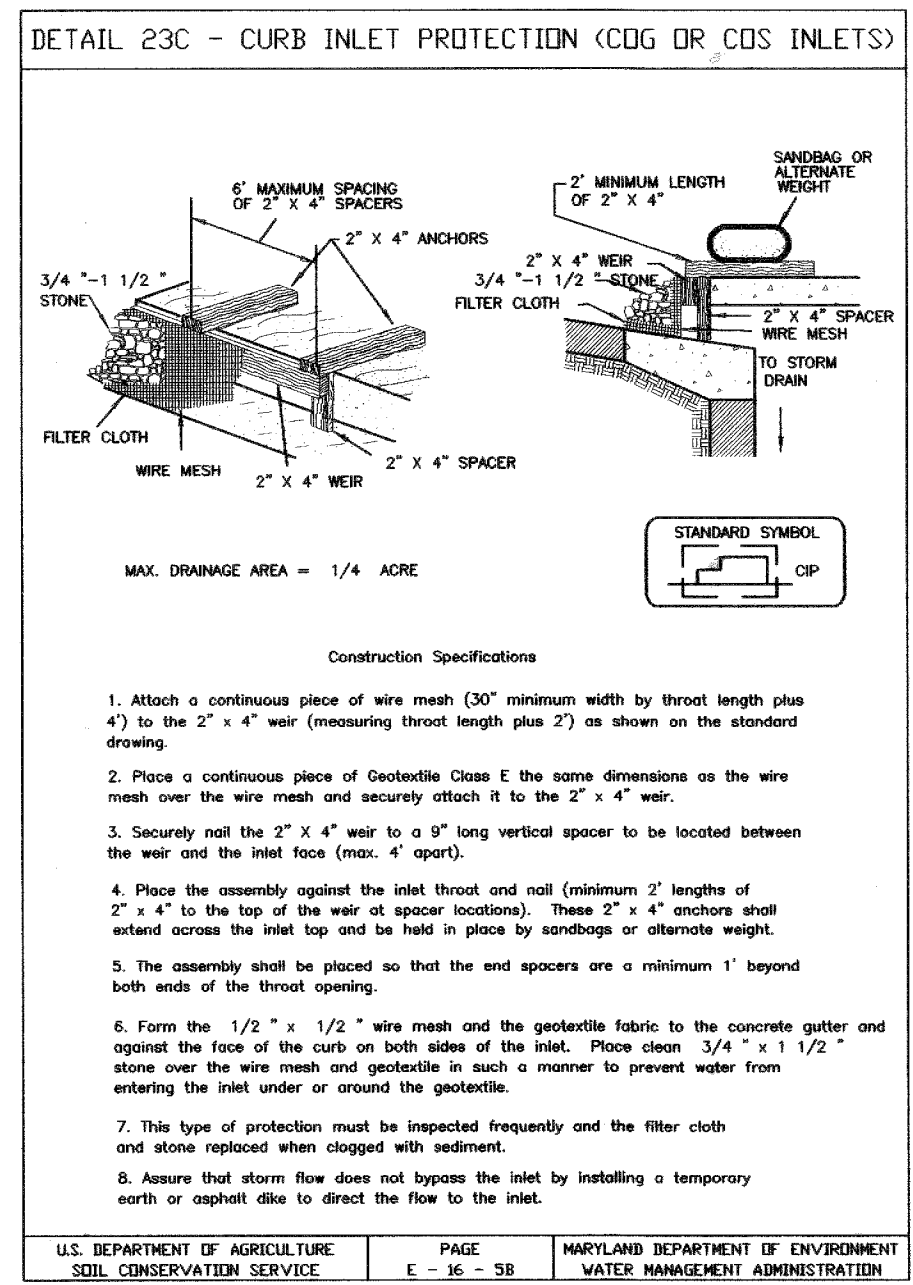
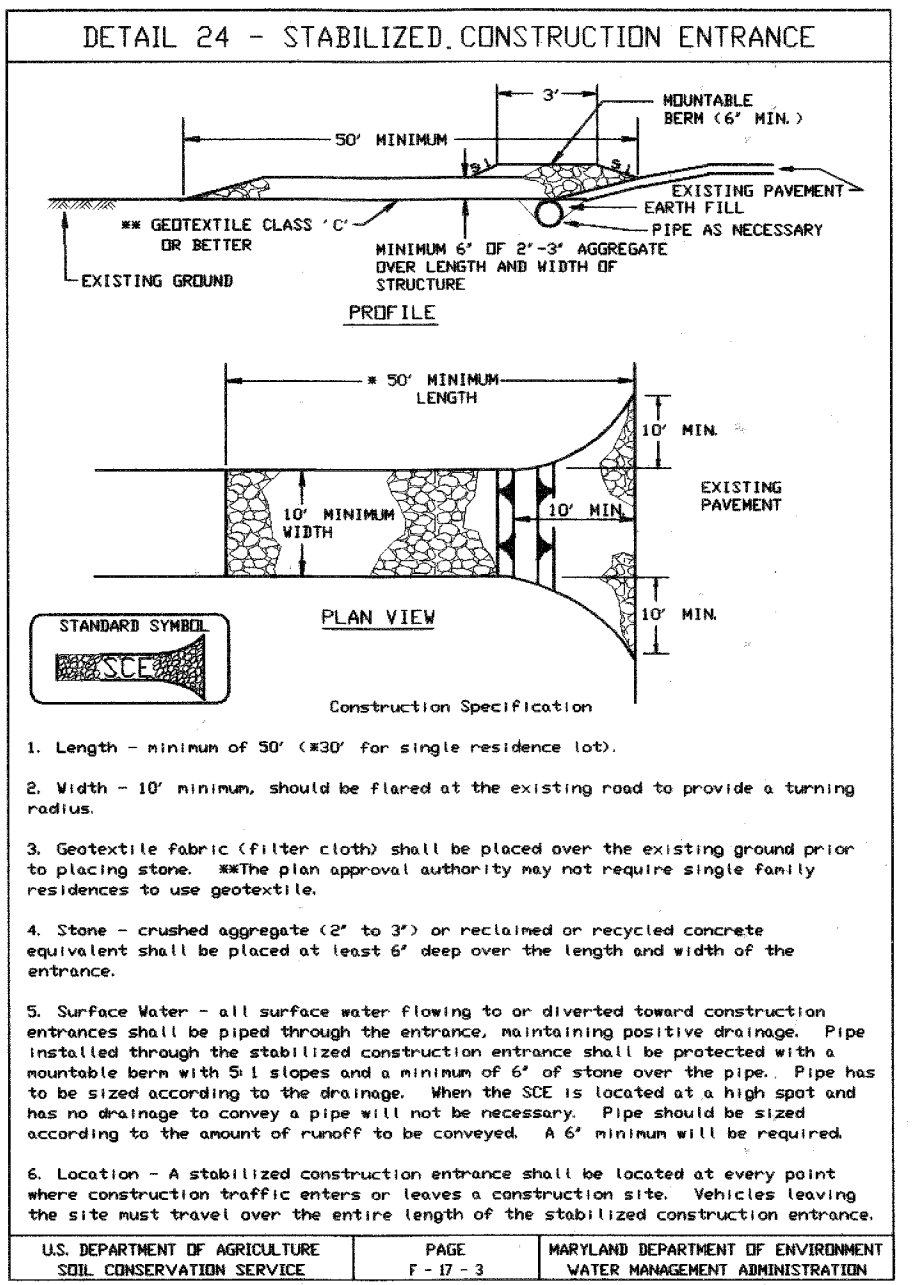
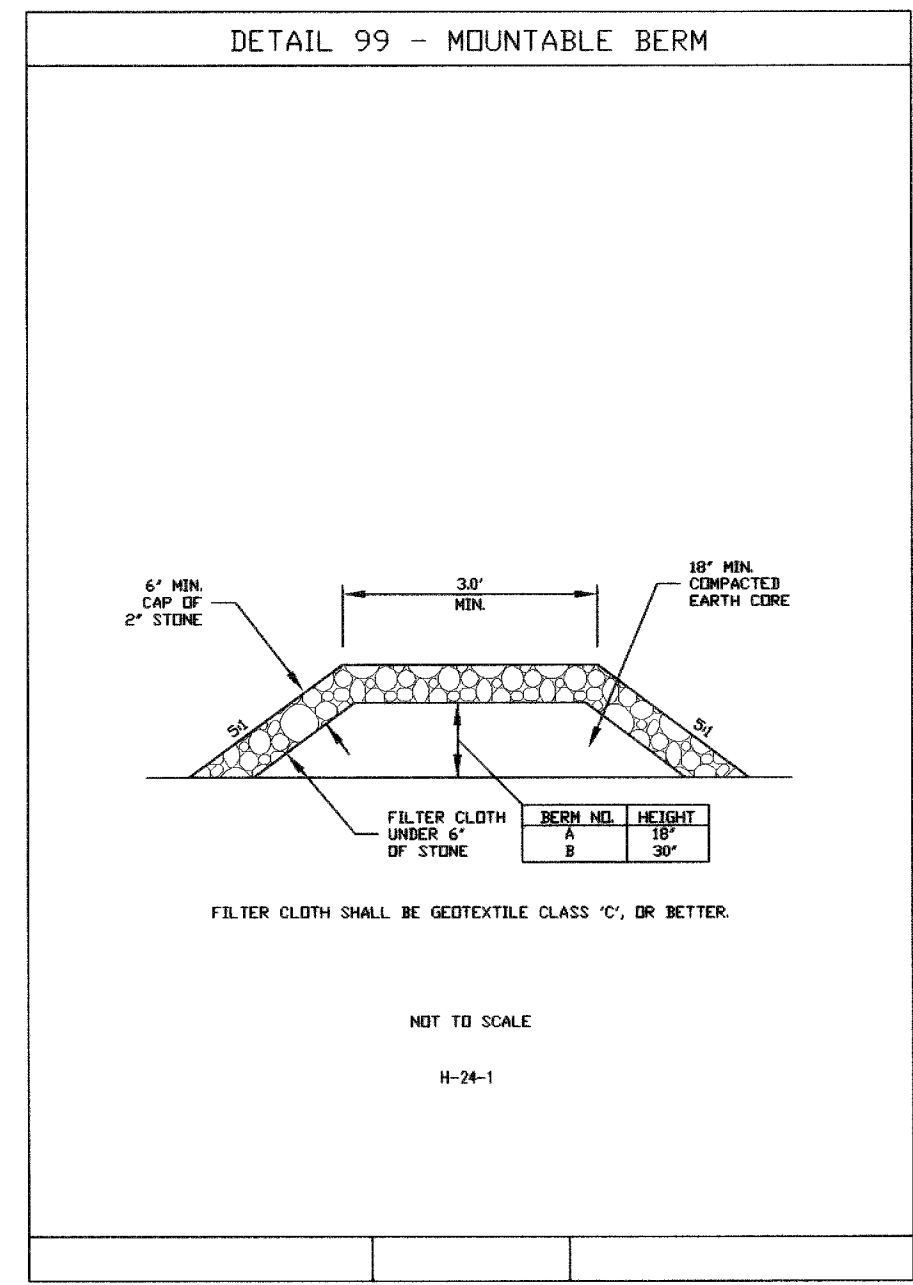
Revision  
 1 3/1/03  
 2 7/3/03  
 3 9/25/03  
 4 3/31/04  
 SHEET 5 OF 16 ADDITIONAL DRIVE-THRU LANE AND 173 J.F. BUILDING ADDITION  
 STANDARD DETAILS

SHEET NO.  
**C-5**  
 7 of 15



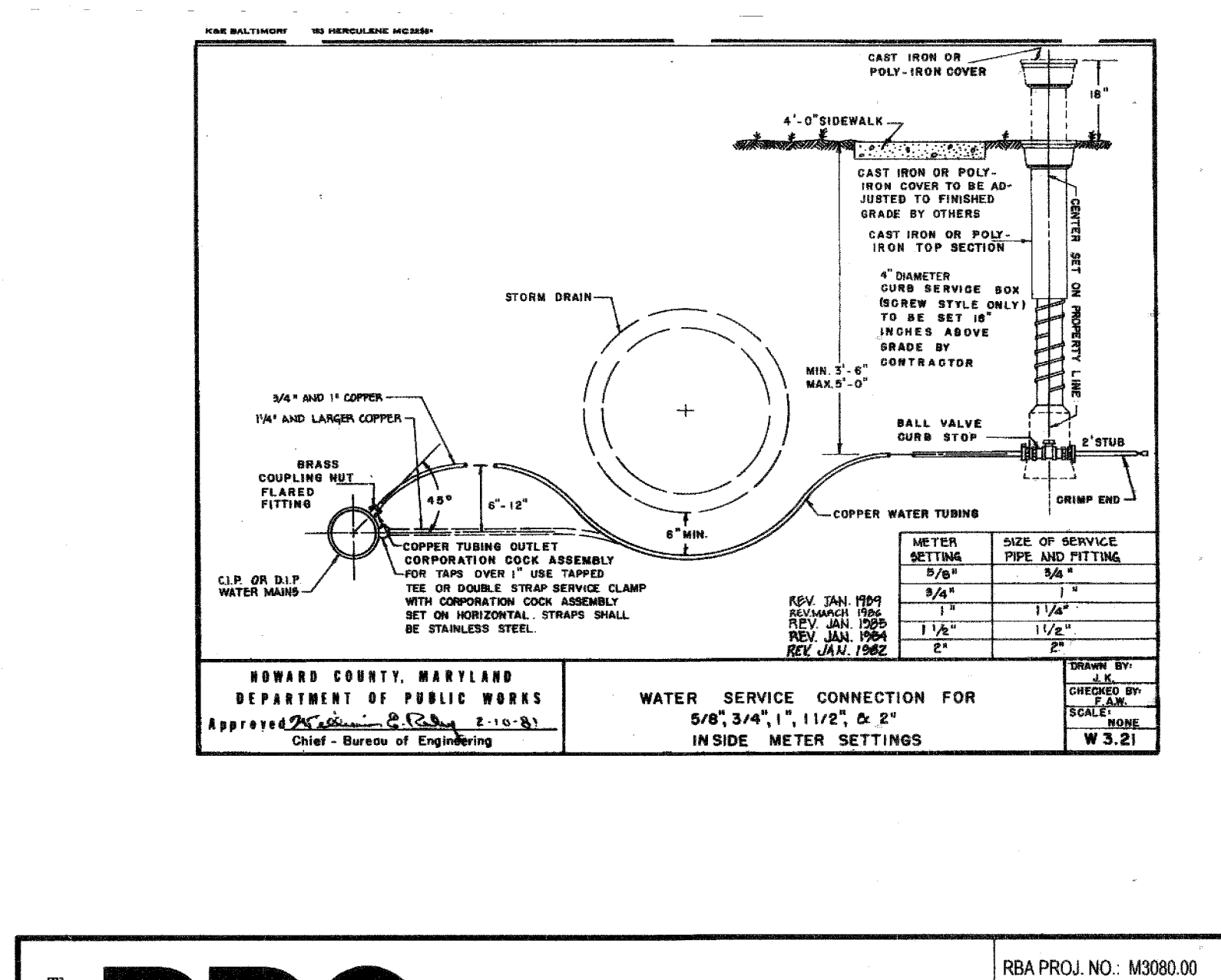
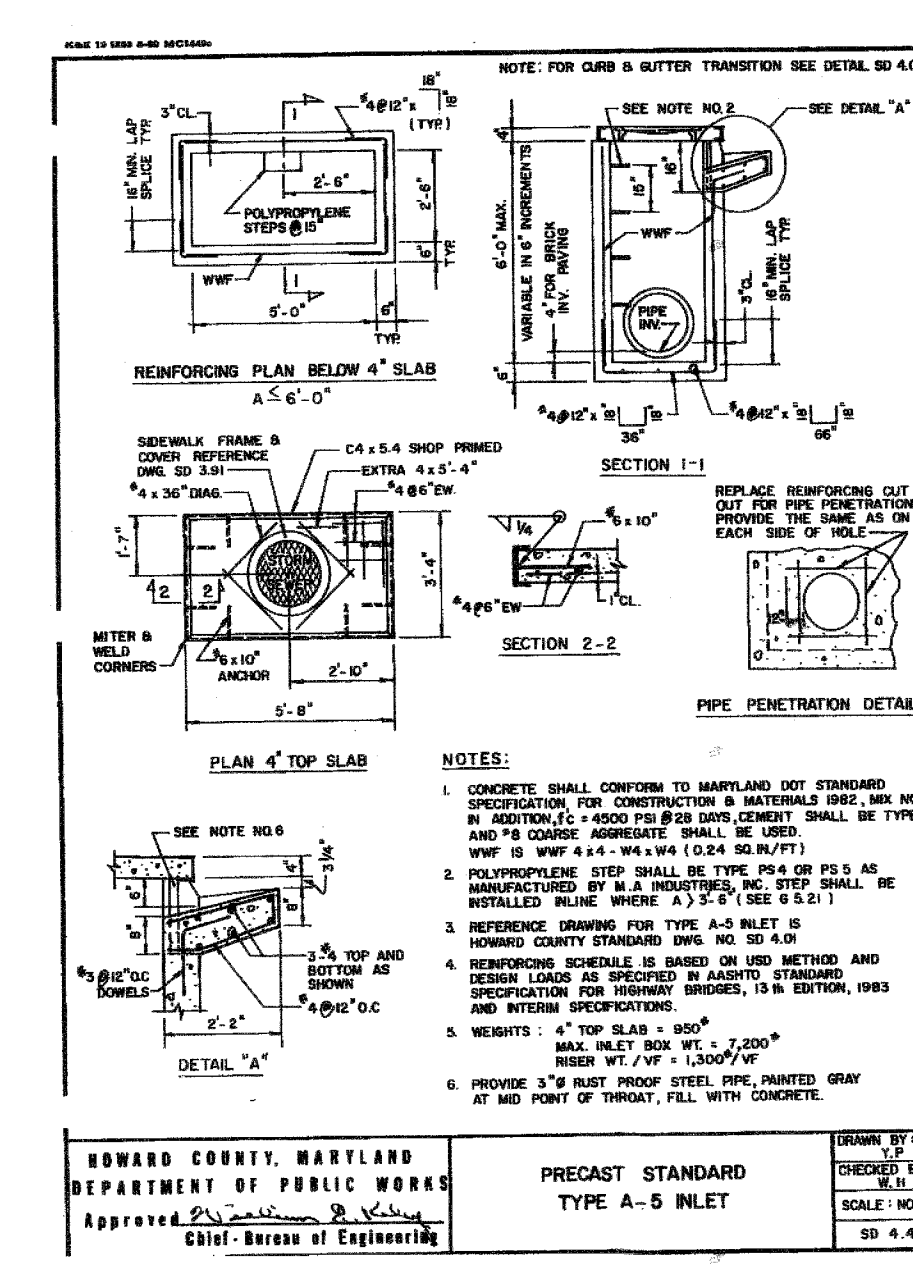
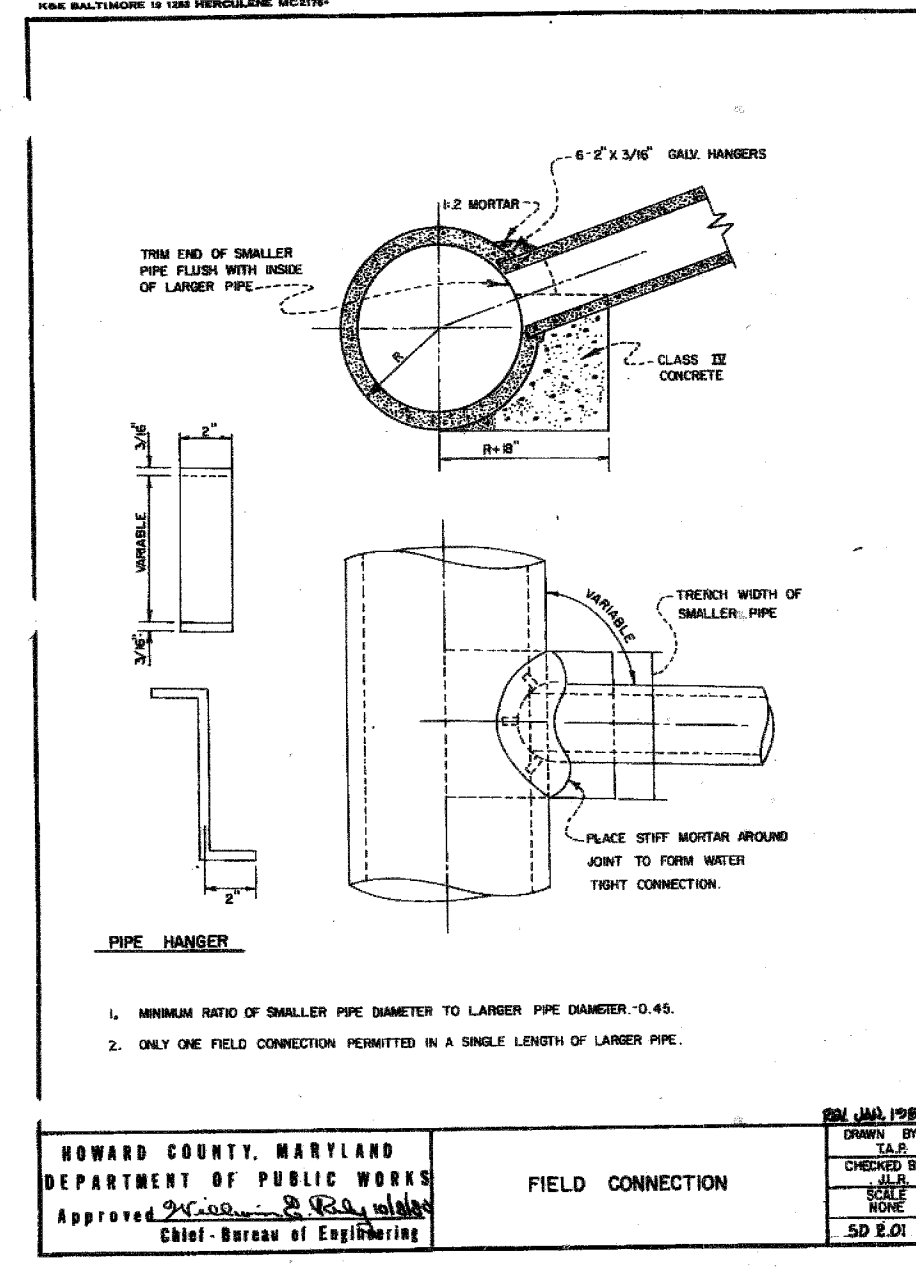
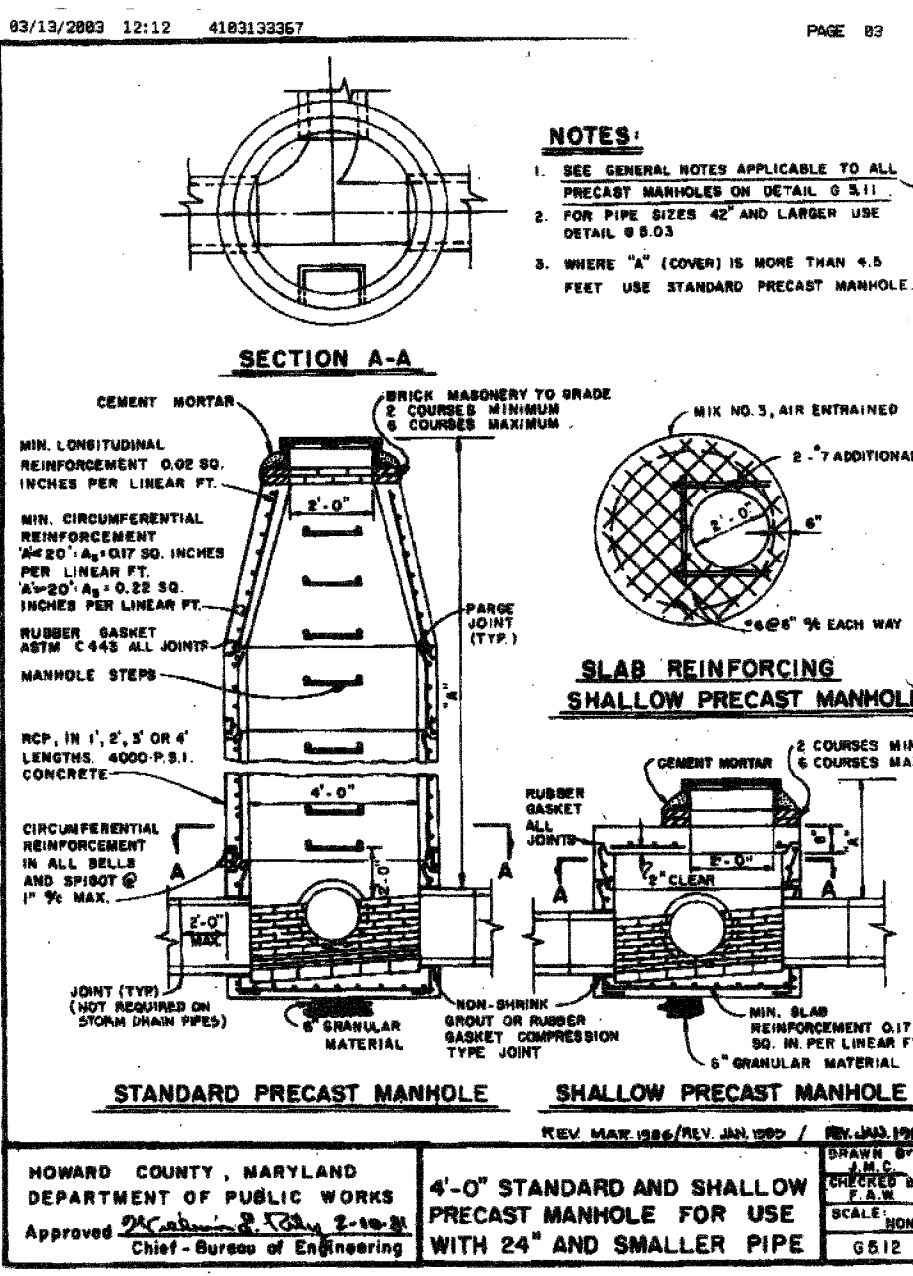
Reviewed for: HOWARD S.C.D.  
 Name: [Signature]  
 Date: 3/14/03  
 Signature: [Signature]  
 USA, NATURAL RESOURCES CONSERVATION SERVICE

APPROVED PLAN REVISION  
 SCD  
 NRCS  
 Technical Review  
 Date: \_\_\_\_\_



THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 Approved: [Signature] Howard S.C.D. Date: 8/14/03

APPROVED PLANNING BOARD OF HOWARD COUNTY  
 DATE: May 1, 2003



FOR REVISION 5 ONLY  
 BOHLER ENGINEERING  
 901 DULANEY VALLEY RD. STE 801  
 TOWSON, MD 21284  
 Phone: 410-821-7900  
 Fax: 410-821-7987  
 MDC@BOHLEREN.COM

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 [Signature]  
 9/29/16

PROFESSIONAL CERTIFICATION  
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APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] DATE: 8/5/03  
 [Signature] DATE: 8/16/03  
 [Signature] DATE: 9/12/03

Series 97-138  
 5200 Buffington Road  
 Atlanta, Georgia 30349-2998  
 Telephone 404-765-8000

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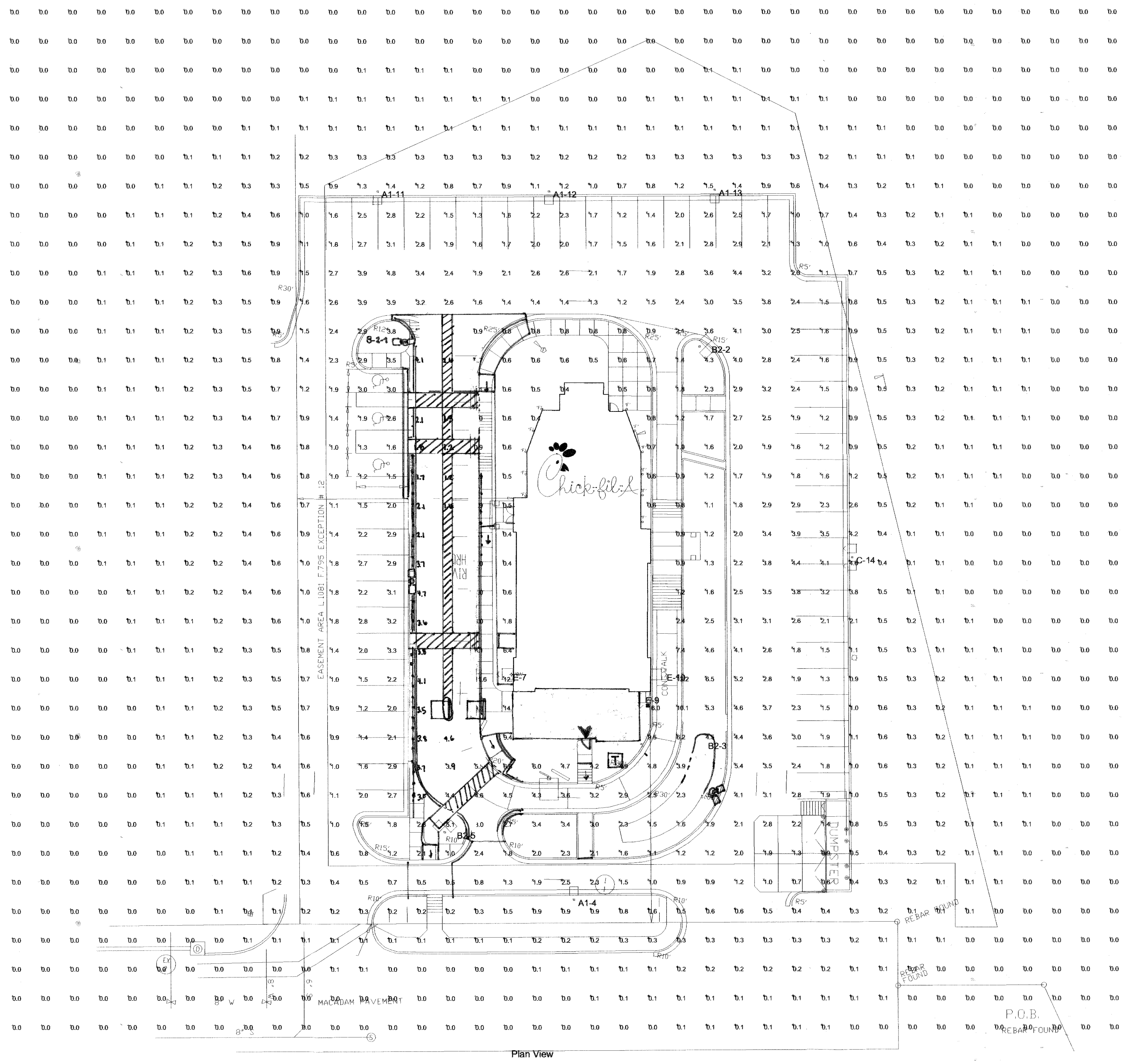
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 Project Date: 12/03/02  
 Revision  
 1. 9/14/03  
 2. 7/30/03  
 3. 9/25/03  
 4. 3/11/04

NO REVISIONS THIS SHEET  
 NO REVISIONS THIS SHEET

Sheet Title: CONSTRUCTION DETAILS

Sheet No. C-6  
 8 of 15

SDP-03-96



**STATISTICS**

Description	Avg	Max	Min	Max/Min	Avg/Min
Spill Light Summary	0.9 fc	16.0 fc	0.0 fc	N/A	N/A
Main Lot Parking	2.6 fc	16.0 fc	0.4 fc	40.0:1	6.6:1

**LUMINAIRE SCHEDULE**

Symbol	Label	Qty	Catalog Number	Description	Lamp	File	Lumens	LLF
□	A1	4	KAC 250M R4	AREA LIGHT W/TYPE 4, CUTOFF REFLECTOR, FLAT GLASS LENS.	ONE 250-WATT CLEAR BT-28 METAL HALIDE, HORIZONTAL POSITION.	93042103:IES	20000	0.72
◇	B2	5	KAC 250M R4	AREA LIGHT W/TYPE 4, CUTOFF REFLECTOR, FLAT GLASS LENS.	ONE 250-WATT CLEAR BT-28 METAL HALIDE, HORIZONTAL POSITION.	93042103:IES	20000	0.72
⊙	E	4	CFA100MH	130 WATTS/120V MOUNTED 13'-8" ABOVE F.F. TO CENTERLINE OF FIXTURE	MXR100-U-MED	91102805:IES	19500	0.72
□	C	1	KAC 250M R4	AREA LIGHT W/TYPE 4, CUTOFF REFLECTOR, FLAT GLASS LENS.	ONE 250-WATT CLEAR BT-28 METAL HALIDE, HORIZONTAL POSITION.	93042103:IES	20000	0.72

**LUMINAIRE LOCATIONS**

No.	Label	X	Y	Z	MH	Orientation	Tilt	X	Y	Z
1	B2	65.8	208.0	25.0	25.0	268.5	0.0			
2	B2	159.2	205.3	25.0	25.0	90.8	0.0			
3	B2	164.2	59.7	25.0	25.0	89.0	0.0			
4	A1	115.3	14.6	25.0	25.0	0.0	0.0	115.3	17.6	0.0
5	B2	70.6	37.9	25.0	25.0	0.0	0.0			
6	B2	68.8	123.1	25.0	25.0	269.0	0.0			
7	E	92.5	92.4	14.0	14.0	180.0	0.0	92.5	92.4	0.0
8	E	98.0	84.6	14.0	14.0	180.0	0.0	98.0	84.6	0.0
9	E	138.4	84.4	14.0	14.0	180.0	0.0	138.4	84.4	0.0
10	E	143.9	92.3	14.0	14.0	90.0	0.0	143.9	92.3	0.0
11	A1	47.8	258.9	25.0	25.0	180.7	0.0	47.7	259.9	0.0
12	A1	107.1	258.9	25.0	25.0	180.0	0.0	107.1	259.9	0.0
13	A1	164.5	259.3	25.0	25.0	180.0	0.0	164.5	259.3	0.0
14	C	211.9	132.7	25.0	25.0	180.0	0.0			

**Area Lighting**  
**KAD/KAC**  
Contour™

**Intended Use**  
For parking areas, street lighting, walkways and car lots.

**Features**  
Housing - Rugged, die-cast, soft-corner aluminum housing with 0.12 nominal wall thickness. Extruded 4" soft corner arm for pole or wall mounting is standard.  
Door Frame - KAD die-cast door frame has impact-resistant, tempered glass lens which is fully gasketed with one-piece bonded tubular silicone. KAC die-cast aluminum door frame has prismatic, impact-resistant, tempered glass, drop dish acrylic lens or drop dish polycarbonate lens. Door frame is fully gasketed with one-piece tubular silicone.  
Optics - KAD reflectors are anodized hydroformed/segmented aluminum, field-interchangeable. Four cutoff distributions available: R2 (Roadway), R3 (Asymmetric), R4 (Forward Throw) and R5 (Symmetric). Reflectors are field-interchangeable. KAC reflector is optical-quality aluminum that works in tandem with a light-diffusing prismatic lens.  
Electrical - Ballasts in high-reaction, high power factor (70-150W HPS, 100W & 150W) or high power factor constant-voltage autotransformer (175-400W MH & HPS). Ballast is copper wound and 100% factory tested.  
Finish - Dark bronze polyester powder finish (DOB) is standard with other architectural colors available.  
Socket - Porcelain, horizontally (position) oriented mogul-base sockets (100W & 150W are medium-base) with copper alloy, nickel-plated screw shell and center contact. UL listed 150W-600V 4KV pulses tested.  
Listings - UL Listed (standard), CSA Certified or NOM Certified (see options). UL Listed for wet locations.

**Ordering Information**

Designation	Distribution	Voltage	Included	Mounting	Options/Accessories
High Pressure Sodium	KAD-Hydroformed Reflectors	120	SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)
KAD 785	R2 Type II roadway	200	SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)
KAD 1885	R3 Type III asymmetric	277	SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)
KAD 2565	R4 Type IV forward throw, sharp cutoff	240	SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)
KAC 4005	R5 Type V square	480	SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)
Metal Halide	Segmented Halide		SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)
KAD 100M	SR2 Type II asymmetric		SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)
KAD 150M	SR3 Type III asymmetric		SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)
KAD 175M	SR4C Type IV forward throw		SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)
KAD 200M	KAC, asymmetric, limit		SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)
KAD 250M	DP Pole CCT		SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)
KAD 300M	DPA Drop acrylic		SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)
KAD 350M	DPP Drop polycarbonate		SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)	SP004 4" square pole arm (std.)
High Pressure Sodium					
KAC 1885					
KAC 2565					
KAC 4005					
Metal Halide					
KAC 100M					
KAC 150M					
KAC 175M					
KAC 200M					
KAC 250M					
KAC 300M					
KAC 350M					
KAC 400M					

**Notes:**  
1. Must be ordered with SCWA.  
2. Consult factory for availability in Canada.  
3. Optimal ballast selection (175, 200, 240, 277, 347, 347V) is critical.  
4. SP004, SP005 or SP006 must be used when ballasts are ordered on DMS2 or DMS3 drilling pattern.

**Notes:**  
1. May be ordered as an accessory.  
2. Must use E1708 reduced jacket temp.  
3. (DOB) Dark Bronze Polyester Powder Finish. Consult factory.  
4. Includes mounting arm.  
5. Includes mounting arm.  
6. Includes mounting arm.  
7. Includes mounting arm.  
8. Includes mounting arm.  
9. Includes mounting arm.  
10. Includes mounting arm.

**Example: KAD 400M R3 120 SPD05**

**Notes:**  
1. Must be ordered with SCWA.  
2. Consult factory for availability in Canada.  
3. Optimal ballast selection (175, 200, 240, 277, 347, 347V) is critical.  
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9. Includes mounting arm.  
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**CHICK-FIL-A HID**

**CHICK-FIL-A HID**  
Standard Features:  
• Construction - Heavy gauge aluminum  
• Finish - Low gloss WHITE Epoxy Powder Coat  
• Reflector - High gloss WHITE Epoxy Powder Coat  
• Diffuser - CLEAR tempered glass  
• Lamp - Clear medium base 100 watt Metal Halide  
• Ballast - 120V, 60Hz, HPS  
• Mounting Hardware - Included with fixture  
• Label - Wet location

**Options:**  
Net all options available on all wattages. Please call for more information.

Distributed by:  
**LIGHTWAY INDUSTRIES**  
2500 S. Main Street • Valencia, CA 91355  
800-255-4444, 661-257-0286  
415-255-2504, 661-257-0201  
Web Site: www.lightwayinc.com  
E-mail: info@lightway.com  
Valencia, CA / New London, AT  
Section 1

**NOTES**

- All readings are based on a LLF of .72 at grade.
- Refer to "luminaire locations" for mounting heights.
- Readings are shown as footcandles.
- All fixtures and poles to be dark bronze.
- For pole base detail 11/C-4, sheet C-4. Pole height to be 15 feet.

These lighting calculations are not a substitute for independent engineering analysis of lighting system suitability and safety.

**APPROVED**  
PLANNING BOARD  
of HOWARD COUNTY

DATE May 1, 2003

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*Chad Damann*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*Cinda Hamatta*  
CHIEF, DIVISION OF LAND DEVELOPMENT

*Mark A. Aygle*  
DIRECTOR

05/03  
8/12/03  
8/12/02

FOR REVISION 5 ONLY  
BOHLER ENGINEERING  
901 DLANEY VALLEY RD STE 801  
TOWSON, MD 21284  
PHONE: 410-921-7700  
FAX: 410-921-7707  
MDE.BOHLEREN6.COM

FOR REVISION 5, ONLY  
9/29/16

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STATE OF MARYLAND, LICENSE NO.  
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Series 97-138  
5200 Buffington Road  
Atlanta, Georgia 30349-2998  
Telephone 404-765-8000

**Chick-fil-A**

DOBBIN COMMERCIAL CENTER  
COLUMBIA, MD

5-213713-3 NO REVISIONS THIS SHEET  
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NO REVISIONS THIS SHEET

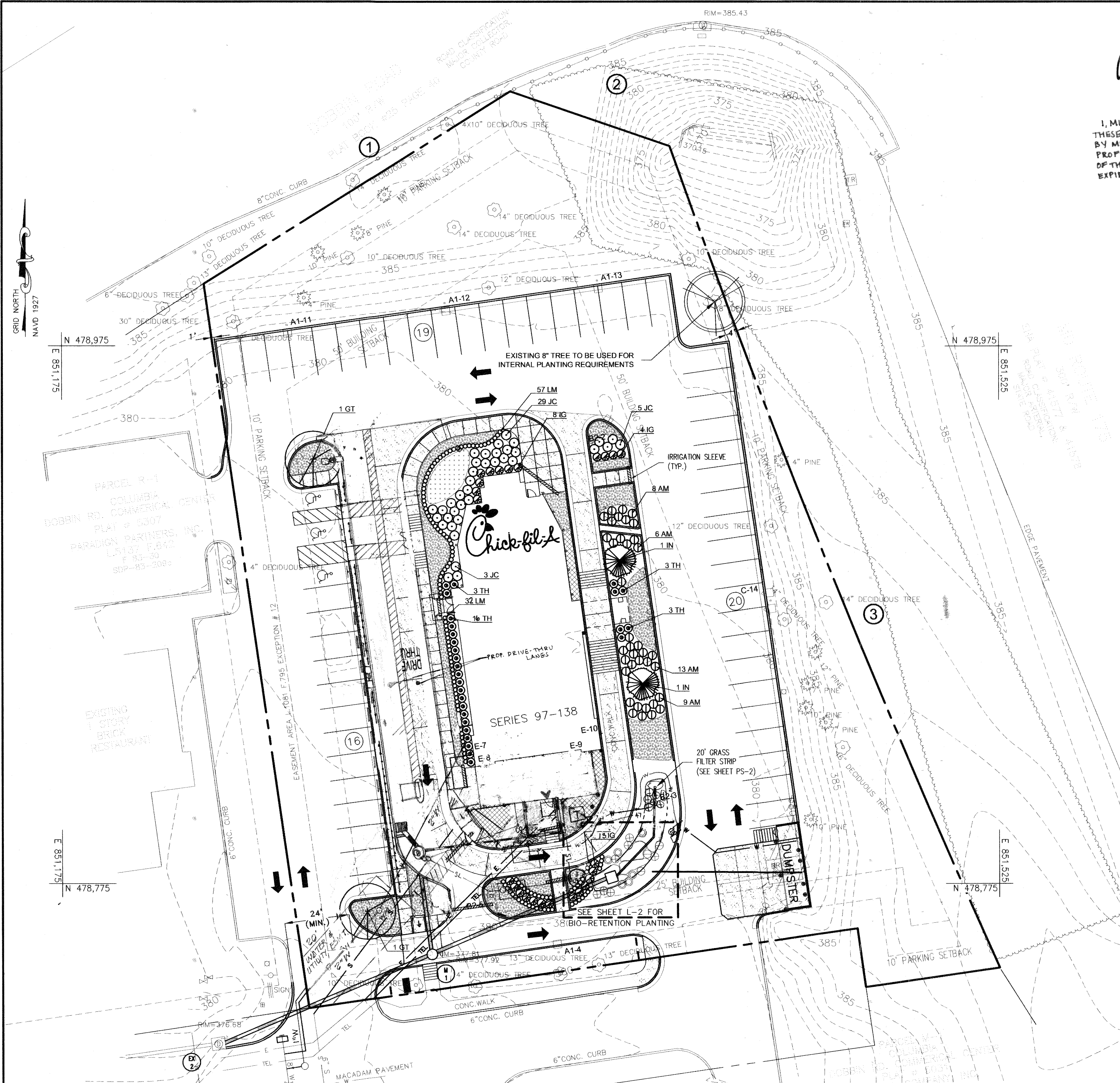
Lighting & Photometric Plan

ADD ADDITIONAL REV'S - THEU LANE AND 757 J.F. BUILDING ADDITION

Revision  
ALL SITE LIGHTING PER REUSE COMMENTS  
REVISED LIGHTING PER REUSE COMMENTS  
NO REVISIONS THIS SHEET

Sheet Title: LIGHTING & PHOTOMETRIC PLAN

9 of 15



FOR REVISION 5 ONLY  
*MJW*  
 9/29/16  
**PROFESSIONAL CERTIFICATION**  
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FOR REVISION 5 ONLY  
**BOHLER ENGINEERING**  
 901 DULANEY VALLEY RD STE 801  
 TOWSON, MD 21284  
 PHONE: 410-821-7900  
 FAX: 410-821-7987  
 MDCBOHLERENG.COM

**SITE PLANT SCHEDULE**

Key	Quan	Name	Size	Remarks
AM	36	Azalea 'Mothers Day' Mothers Day Azalea	18"-24" SPD	SPACE AS SHOWN
GT	2	Cleditria tri. var. inermis 'Shademaster' Shademaster Honeylocust	2" CAL.	12'-14" HT., FULL
+	205	Hypericum 'Hidocote' Hidocote Hypericum	12"-18" HT.	1 GAL., 24" O.C.
IG	25	Ilex Glabra 'Compacta' Dwarf Inkberry	18"-24" SPD	SPACE AS SHOWN
IN	2	Ilex X 'Nellie R. Stevens' Nellie R. Stevens Holly	7'-8" HT.	INTERNAL PARKING REQ'S SCHEDULE B
JC	37	Junipers Conferta 'Blue Pacific' Blue Pacific Juniper	18"-24" SPD	SPACE AS SHOWN
LM	136	Liriope Muscari 'Big Blue' Big Blue Liriope	1 GAL.	12" O.C.
TH	25	Taxus X Media 'Hicksii' Hick's Yew	3'-4" HT.	SPACE AS SHOWN
	1,500	Seasonal annuals		

**BIO-RETENTION PLANT SCHEDULE (DETAIL ON L-2)**

Key	Quan	Name	Size	Remarks
	58 SQ.FT.	Eupatorium perpurea Joe Pye Weed	1 QT.	24" O.C.
	77 SQ.FT.	Iris versicolor Blue Flag	1 QT.	24" O.C.
IV	14	Ilex verticillata Winterberry	2'-3" HT.	
LB	2	Lindera bezoin Spicebush	2'-3" HT.	
	45 SQ.FT.	Lobelia cardinalis Cardinal Flower	1 QT.	24" O.C.
MC	6	Myrica pennsylvanica Northern Bayberry	2'-3" HT.	
	66 SQ.FT.	Rudbeckia lanciniata Tall Coneflower	1 QT.	24" O.C.

**SCHEDULE A - PERIMETER LANDSCAPE EDGE**

Category	Adjacent to Roadways	Adjacent to Perimeter Properties
Landscape Type	E	NONE
Linear Feet of Roadway Frontage/Perimeter	362'	0
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe Below if Needed)	YES	N/A
Credit for Wall, Fence, or Berm (Yes, No, Linear Feet) (Describe Below if Needed)	YES	N/A
Number of Plants Required		
Shade Trees	9	N/A
Evergreen Trees	0	N/A
Shrubs	91	N/A
Number of Plants Provided		
Shade Trees	0	N/A
Evergreen Trees	0	N/A
Other Trees (2:1 substitution)	0	N/A
Shrubs (10:1 substitution)	0	N/A

Comments: Existing mature trees are sufficient for credit towards shade tree req's. Parking lot is 3' below adjacent MD 175 and Dobbin Road which counts towards req. shrub planting.

Note: Complex projects may require expansion of the schedule to accommodate multiple land uses on-site or on adjacent properties.

**SCHEDULE B - PARKING LOT INTERNAL LANDSCAPING**

Number of Parking Spaces	54
Number of Trees Required (1 per 20 Spaces)	3
Number of Trees Provided	3
Shade Trees	1
Evergreen Trees (2:1 substitution)	2
Existing	1
Number of Islands Required (1 per 20 Spaces)	3
Number of Islands Provided (200 SQ. FT. EACH)	8
Proposed	7
Existing	1

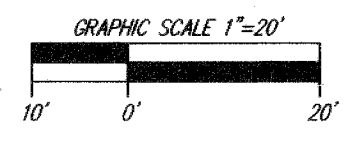
**REQUIRED BUFFER PLANTING TABLE**

Property Line	Buffer Type	L.F.	Planting Required	Planting Provided
①	E	Shade Tree 1:40 Shrubs 1:4	135 3 Shade Trees 34 Shrubs	3 (Existing) 0 (3' Grade Change)
②	E	Shade Tree 1:40 Shrubs 1:4	63 2 Shade Trees 16 Shrubs	2 (Existing) 0 (3' Grade Change)
③	E	Shade Tree 1:40 Shrubs 1:4	164 4 Shade Trees 41 Shrubs	4 (Existing) 0 (3' Grade Change)

**APPROVED PLANNING BOARD OF HOWARD COUNTY**  
 DATE: May 1, 2003

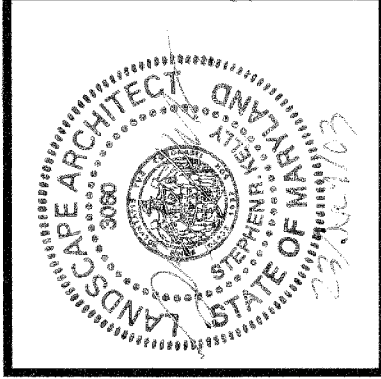
**DEVELOPER'S/BUILDER'S CERTIFICATE**  
 I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.  
*TR O. M* (NAMES)      7/24/03 (DATE)

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Michael J. Hezell* 01/5/03  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*Andy Kanaris* 8/12/03  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
*Marsh A. Leylek* 8/12/03  
 DIRECTOR

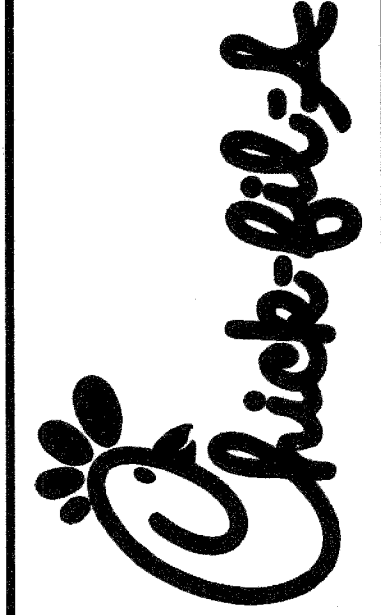


The **RBA** ENGINEERS • ARCHITECTS • PLANNERS  
 Group, Inc.  
 7164 Columbia Gateway Drive Suite 205  
 Columbia, Maryland 21046 (410) 312-0968

RBA PROJ. NO.: M3080.00  
 DRAWN BY: JB/PS  
 DESIGNED BY: JB  
 CHECKED BY: SK



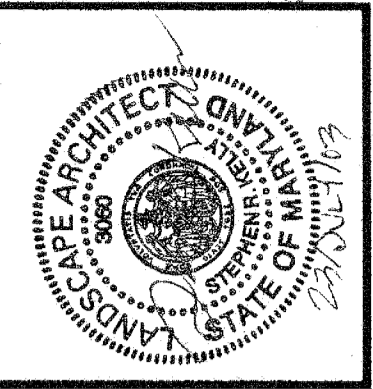
Series 97-138  
 5200 Buffington Road  
 Atlanta, Georgia 30349-2998  
 Telephone 404-765-8000



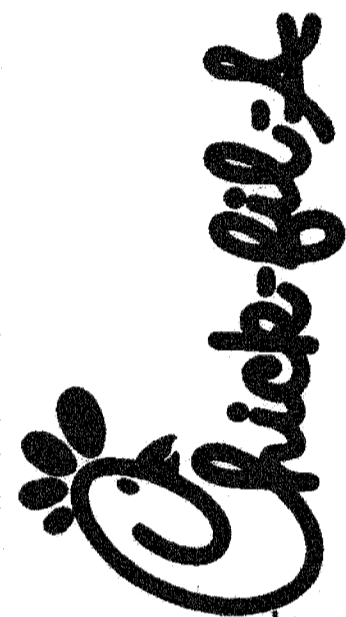
DOBBIN COMMERCIAL CENTER  
 COLUMBIA, MD  
 LANDSCAPE PLAN & SPECIFICATIONS  
 SHEET L-1

Edition Date: 01/21/03  
 Project Date: 12/03/02  
 # Date Revision  
 1 9/14/03 Revised Schedule B, plant schedule, and layout  
 2 7/20/03 RBA and Howard County Approval  
 3 9/22/03 RBA REVIEWED LOCATIONS OF TRANSFORMER POOP  
 4 5/15/04 SHOW 20' W/TO CURB WATER METERS, ALSO REVISED 2" W/TO COLLECTION  
 SHEET TITLE: LANDSCAPE PLAN & SPECIFICATIONS

SHEET NO. **L-1**  
 10 of 15



Series 97-138  
 5200 Buffington Road  
 Atlanta, Georgia 30349-2998  
 Telephone 404-765-8000



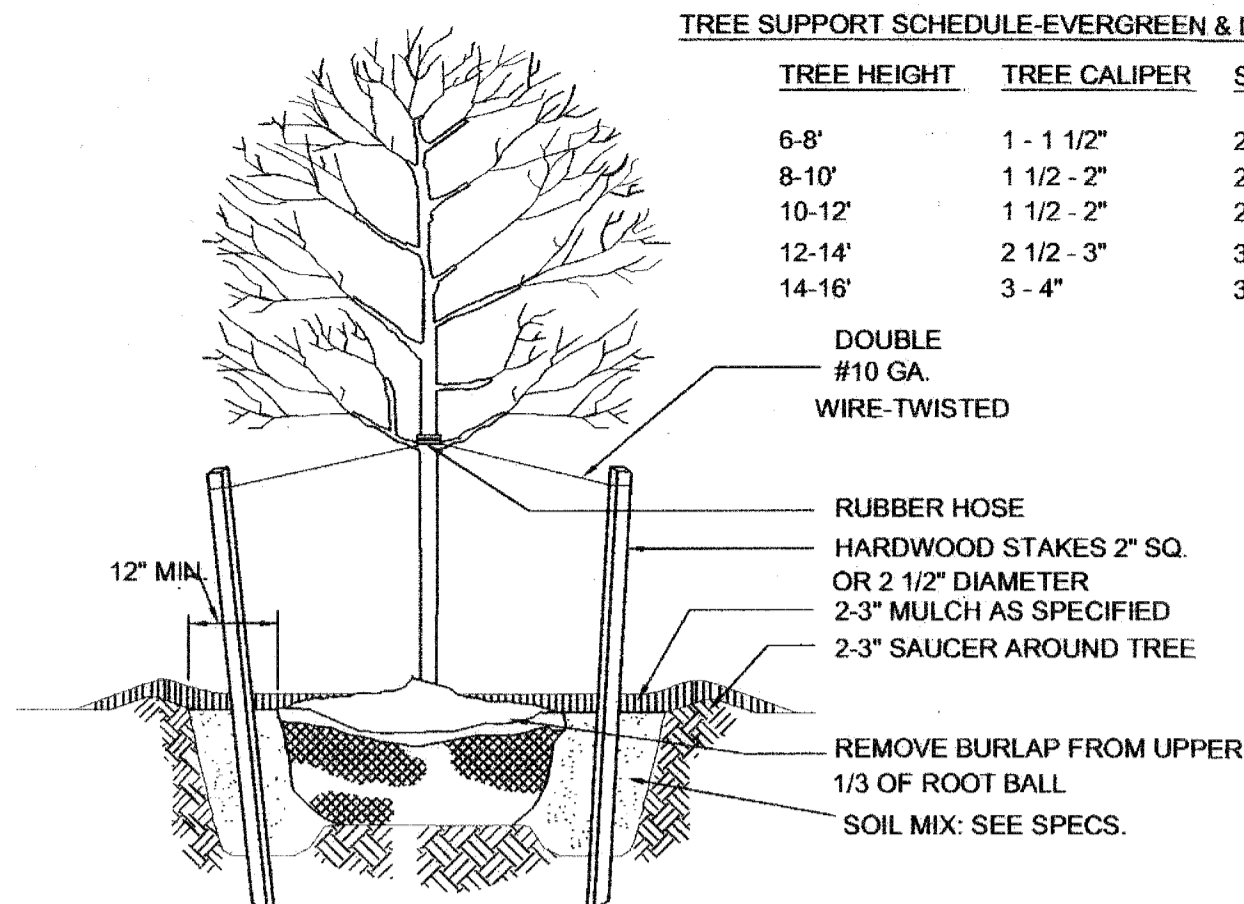
DOBBIN  
 COMMERCIAL CENTER  
 COLUMBIA, MD

6. ADD ADDITIONAL DRIVE - TRUCK LANE AND TRUCK  
 LANDSCAPE DETAILS BUILDING ADDITION

SHEET NO.  
**L-2**  
 11 of 15

**TREE SUPPORT SCHEDULE- EVERGREEN & DECIDUOUS**

TREE HEIGHT	TREE CALIPER	STAKE
6-8'	1 - 1 1/2"	2 @ 5'
8-10'	1 1/2 - 2"	2 @ 5'
10-12'	1 1/2 - 2"	2 @ 7 - 8'
12-14'	2 1/2 - 3"	3 @ 8'
14-16'	3 - 4"	3 @ 8'

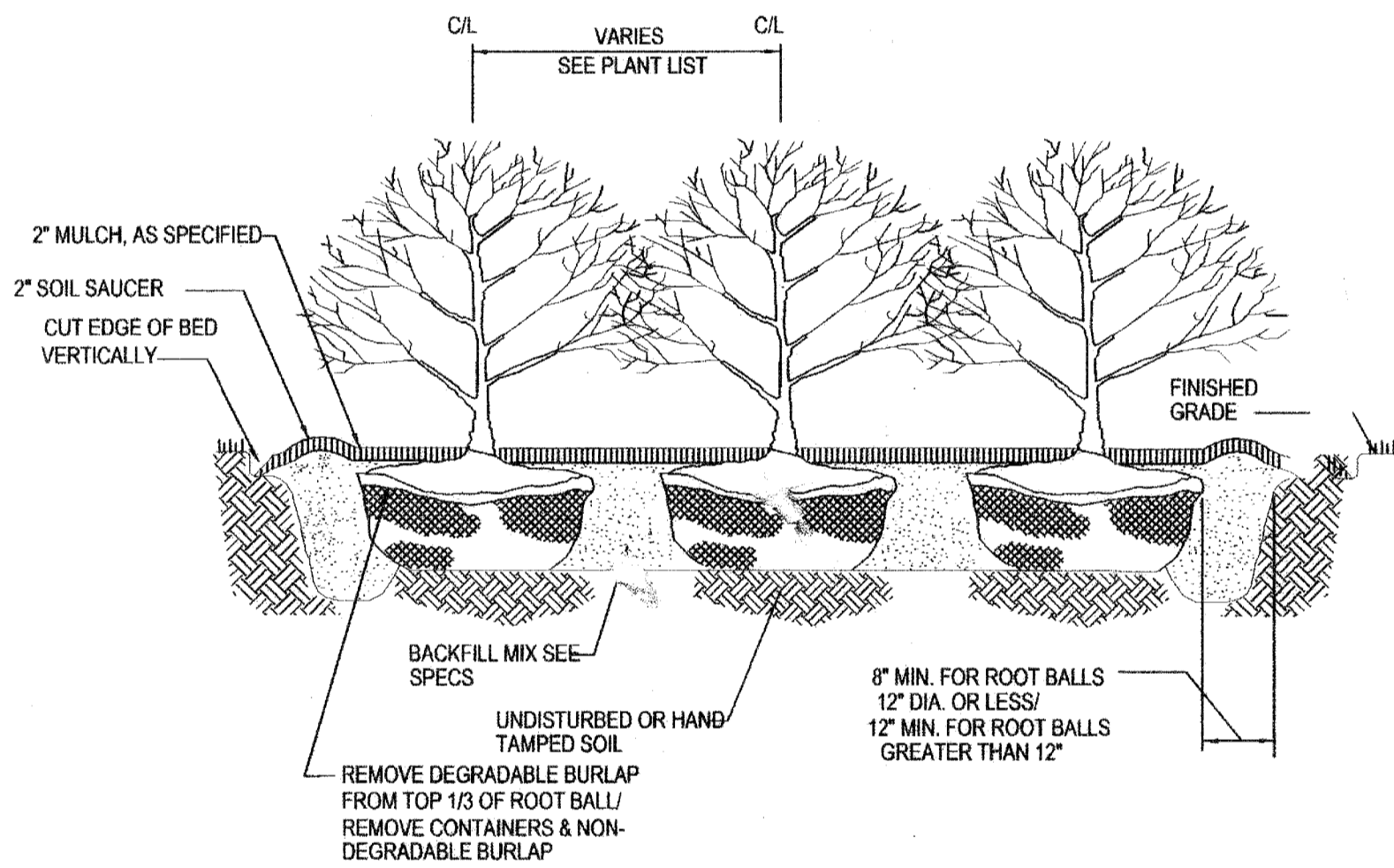


1. REMOVE DEAD OR BROKEN BRANCHES, RETAINING NATURAL SHAPE.
2. NEVER CUT CENTRAL LEADER.
3. SET TREE WITH 1/8 ROOT BALL ABOVE GRADE.
4. STAKES, WIRES & HOSES SHALL BE REMOVED AFTER ONE YEAR.
5. SCARIFY SUBSOIL TO A MIN. 4" DEPTH.
6. PLACE STAKES PARALLEL TO WALKS.

**1 TREE PLANTING**  
 SCALE: N.T.S.

**NOTES:**

1. 1/8 OF ROOT BALL TO BE SET ABOVE GRADE
2. SCARIFY SIDES OF PIT TO 4"
3. FOR CONTAINER MATERIAL, SLASH ROOT BALL FROM TOP TO BOTTOM, 1" DEEP MIN.
4. REMOVE DEAD OR BROKEN BRANCHES, RETAIN NATURAL FORM.



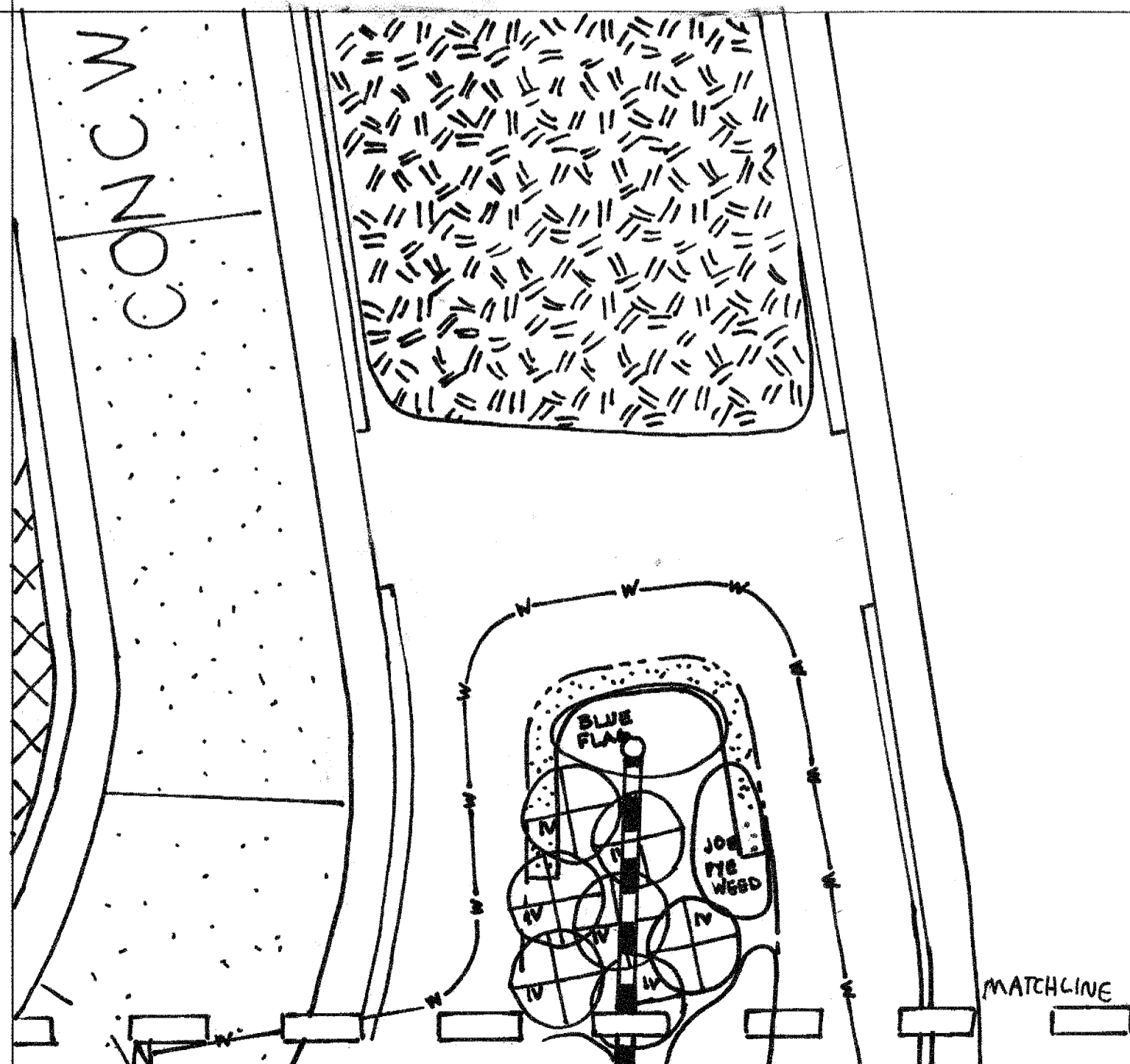
**2 MASS SHRUB PLANTING**  
 SCALE: N.T.S.



**BIO-RETENTION NOTES**

- THIS ENLARGEMENT IS FOR PLANTING OF BIO-RETENTION AREA ONLY
- SEE SHEET PS-2 FOR BIO-RETENTION LAYOUT AND CONSTRUCTION SPECIFICATIONS
- SEE SHEET L-1 FOR PLANTING SELECTIONS AND SIZES
- GUIDELINES SET FORTH REGARDING LANDSCAPE ON THIS SHEET APPLY TO BIO-RETENTION LANDSCAPE ALSO
- AREAS SHOWN ON THIS PLAN FOR HERBACEOUS PLANTINGS ARE SCHEMATIC AND ARE PROVIDED AS A GUIDELINE FOR PLANTING
- THE NUMBER OF HERBACEOUS PLANTINGS TAKES PRECEDENT OVER ACTUAL PLACEMENT
- THE SPECIFIED HERBACEOUS PLANTING CAN OVERLAP AND SHOULD BLEND INTO EACH OTHER AS TO NOT HAVE APPARENT DIVISIONS BETWEEN THE GROUPS

**4 BIO-RETENTION LANDSCAPE**  
 SCALE: 1/8\"/>

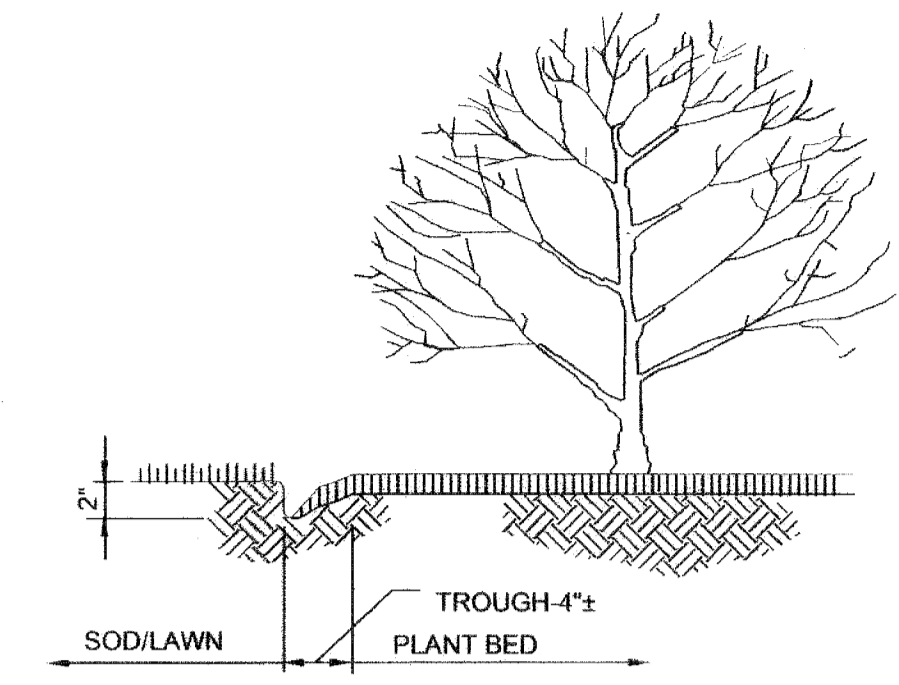


FOR REVISION 5 ONLY

*MJW* 9/29/16

PROFESSIONAL CERTIFICATION  
 I, MICHAEL J. WESSELL, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 44091, EXPIRATION DATE: 6/1/17

FOR REVISION 5 ONLY  
 BOHLEK ENGINEERING  
 901 DULANEY VALLEY RD.  
 SUITE 801  
 TOWSON, MD 21204  
 phone: 410-821-7900  
 Fax: 410-821-7987  
 MDC BOHLEKENG.COM



1. CUT PLANT BEDS IN SMOOTH CURVES
2. CUT EDGE OF SOD VERTICALLY TO CREATE CLEAN EDGE.

**3 PLANT BED EDGING**  
 SCALE: N.T.S.

**LANDSCAPE PLANTING NOTES AND SPECIFICATIONS**

- ALL PLANTS TO BE NURSERY GROWN AND FURNISHED IN ACCORDANCE WITH ASN, "AMERICAN STANDARDS FOR NURSERY STOCK" ANSI 260.1 LATEST EDITION.
- ALL TREES TO BRANCH SYMMETRICALLY AROUND CENTRAL LEADER NO FORKED LEADER STOCK WILL BE ACCEPTED.
- CONTRACTOR IS VERIFY ALL QUANTITIES SHOWN IN PLANT SCHEDULES
- ANY SUBSTITUTIONS ARE TO BE OF EQUIVALENT TYPE AND SIZE AND MUST BE APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT/ENGINEER PRIOR TO INSTALLATION.
- CONTAINER STOCK MAY BE SUBSTITUTED FOR BALLED AND BURLAPPED STOCK UPON APPROVAL BY THE LANDSCAPE ARCHITECT/ENGINEER.
- THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES FIVE (5) DAYS PRIOR TO INSTALLATION AND/OR CONSTRUCTION.
- ANY DAMAGE TO EXISTING UTILITIES, BUILDINGS, PAVING, CURB, WALKS, AND EXISTING VEGETATION SHALL BE REPAIRED TO PREVIOUS CONDITION OR REPLACED BY THE CONTRACTOR AT HIS EXPENSE.
- ALL AREAS TO BE PLANTED SHOULD BE FINISHED WITH 2 - 3" FINE TEXTURED, SHREDDED HARDWOOD MULCH UNLESS OTHERWISE NOTED ON ALL AREAS DISTURBED DURING INSTALLATION SHALL BE SEEDED UNLESS OTHERWISE NOTED.
- POTABLE WATER SHALL BE MADE AVAILABLE TO ALL PLANT MATERIALS AS REQUIRED FOR GROWTH.
- IF PLANT MATERIAL CANNOT BE INSTALLED IN ACCORDANCE WITH THIS PLAN, THE CONTRACTOR SHALL CONTACT THE LANDSCAPE ARCHITECT/ENGINEER FOR RESOLUTION PRIOR TO INSTALLATION.

APPROVED  
 PLANNING BOARD  
 OF HOWARD COUNTY

DATE: May 1, 2003

**GENERAL NOTE:**

1. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
2. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT IN THE ESTIMATED AMOUNT OF \$600.00.
 

1 SHADE TREE @ \$300.00 =	\$300.00
2 EVERGREEN TREES @ \$150.00 =	\$300.00
0 SHRUBS @ \$30.00 =	\$0.00
<b>TOTAL COST ESTIMATE</b>	<b>\$600.00</b>
3. THE PLANT SIZE SHALL TAKE PRECEDENCE OVER THE CONTAINER SIZE, WHERE BOTH ARE GIVEN.

**DEVELOPER'S/BUILDER'S CERTIFICATE**

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE-YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

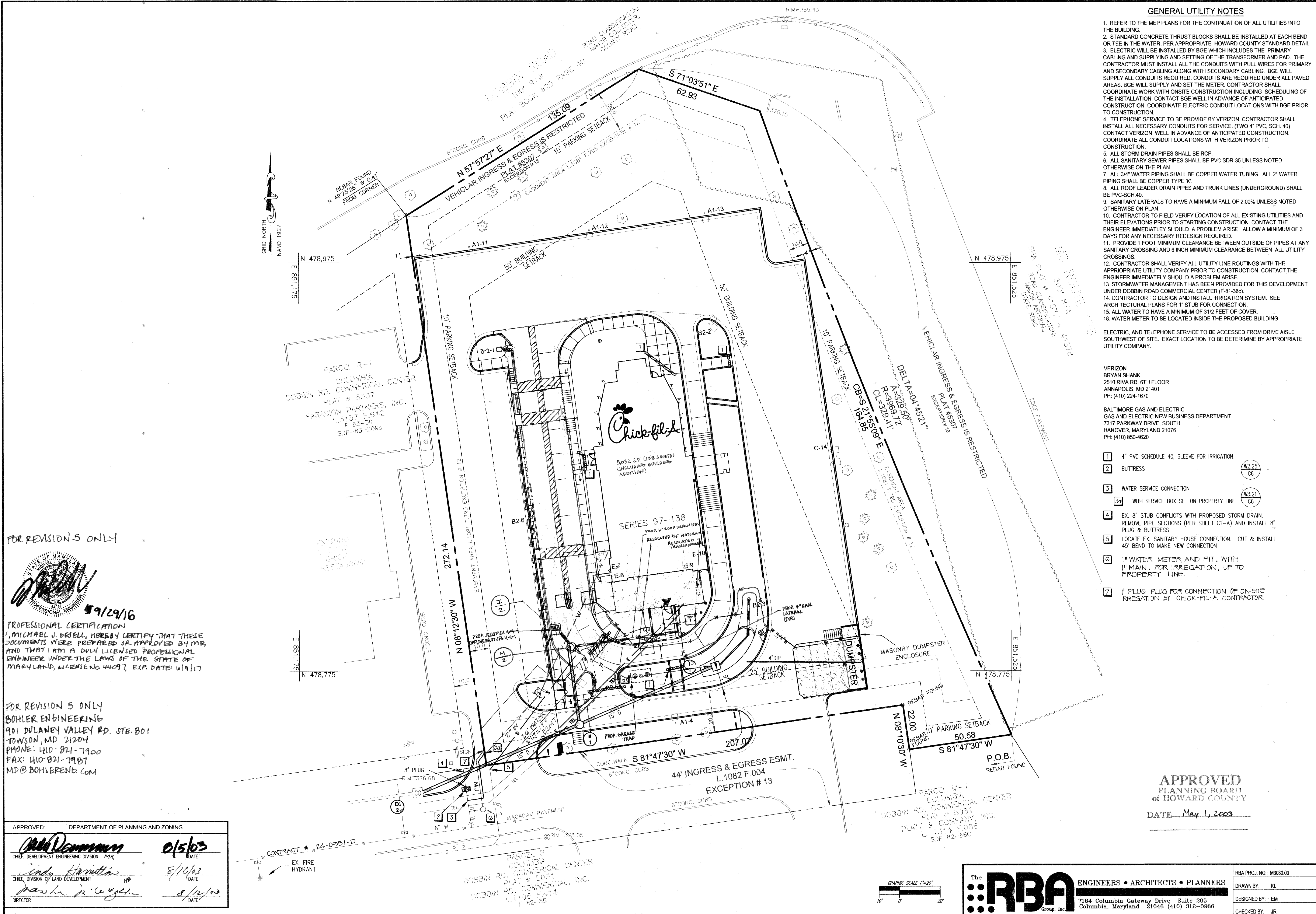
*R.C.M.*  
 (NAMES)

3/21/03  
 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Chris Damman* 05/16/03  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*Sandra Hammit* 5/16/03  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
*Marsha McLaughlin* 5/16/03  
 DIRECTOR

The **RBA** ENGINEERS • ARCHITECTS • PLANNERS  
 Group, Inc.  
 7164 Columbia Gateway Drive Suite 205  
 Columbia, Maryland 21046 (410) 312-0966

RBA PROJ. NO.: M3080.00  
 DRAWN BY: JB/PS  
 DESIGNED BY: JB  
 CHECKED BY: SK



**GENERAL UTILITY NOTES**

1. REFER TO THE MEP PLANS FOR THE CONTINUATION OF ALL UTILITIES INTO THE BUILDING.
  2. STANDARD CONCRETE THRUST BLOCKS SHALL BE INSTALLED AT EACH BEND OR TEE IN THE WATER, PER APPROPRIATE HOWARD COUNTY STANDARD DETAIL.
  3. ELECTRIC WILL BE INSTALLED BY BGE WHICH INCLUDES THE PRIMARY CABLING AND SUPPLYING AND SETTING OF THE TRANSFORMER AND PAD. THE CONTRACTOR MUST INSTALL ALL THE CONDUITS WITH PULL WIRES FOR PRIMARY AND SECONDARY CABLING ALONG WITH SECONDARY CABLING. BGE WILL SUPPLY ALL CONDUITS REQUIRED. CONDUITS ARE REQUIRED UNDER ALL PAVED AREAS. BGE WILL SUPPLY AND SET THE METER. CONTRACTOR SHALL COORDINATE WORK WITH ONSITE CONSTRUCTION INCLUDING SCHEDULING OF THE INSTALLATION. CONTACT BGE WELL IN ADVANCE OF ANTICIPATED CONSTRUCTION. COORDINATE ELECTRIC CONDUIT LOCATIONS WITH BGE PRIOR TO CONSTRUCTION.
  4. TELEPHONE SERVICE TO BE PROVIDED BY VERIZON. CONTRACTOR SHALL INSTALL ALL NECESSARY CONDUITS FOR SERVICE. (TWO 4" PVC, SCH. 40) CONTACT VERIZON WELL IN ADVANCE OF ANTICIPATED CONSTRUCTION. COORDINATE ALL CONDUIT LOCATIONS WITH VERIZON PRIOR TO CONSTRUCTION.
  5. ALL STORM DRAIN PIPES SHALL BE RCP.
  6. ALL SANITARY SEWER PIPES SHALL BE PVC SDR-35 UNLESS NOTED OTHERWISE ON THE PLAN.
  7. ALL 3/4" WATER PIPING SHALL BE COPPER WATER TUBING. ALL 2" WATER PIPING SHALL BE COPPER TYPE K1.
  8. ALL ROOF LEADER DRAIN PIPES AND TRUNK LINES (UNDERGROUND) SHALL BE PVC-SCH.40.
  9. SANITARY LATERALS TO HAVE A MINIMUM FALL OF 2.00% UNLESS NOTED OTHERWISE ON PLAN.
  10. CONTRACTOR TO FIELD VERIFY LOCATION OF ALL EXISTING UTILITIES AND THEIR ELEVATIONS PRIOR TO STARTING CONSTRUCTION. CONTACT THE ENGINEER IMMEDIATELY SHOULD A PROBLEM ARISE. ALLOW A MINIMUM OF 3 DAYS FOR ANY NECESSARY REDESIGN REQUIRED.
  11. PROVIDE 1 FOOT MINIMUM CLEARANCE BETWEEN OUTSIDE OF PIPES AT ANY SANITARY CROSSING AND 6 INCH MINIMUM CLEARANCE BETWEEN ALL UTILITY CROSSINGS.
  12. CONTRACTOR SHALL VERIFY ALL UTILITY LINE ROUTINGS WITH THE APPROPRIATE UTILITY COMPANY PRIOR TO CONSTRUCTION. CONTACT THE ENGINEER IMMEDIATELY SHOULD A PROBLEM ARISE.
  13. STORMWATER MANAGEMENT HAS BEEN PROVIDED FOR THIS DEVELOPMENT UNDER DOBBIN ROAD COMMERCIAL CENTER (F-81-36C).
  14. CONTRACTOR TO DESIGN AND INSTALL IRRIGATION SYSTEM. SEE ARCHITECTURAL PLANS FOR 1" STUB FOR CONNECTION.
  15. ALL WATER TO HAVE A MINIMUM OF 3/12 FEET OF COVER.
  16. WATER METER TO BE LOCATED INSIDE THE PROPOSED BUILDING.
- ELECTRIC, AND TELEPHONE SERVICE TO BE ACCESSED FROM DRIVE AISLE SOUTHWEST OF SITE. EXACT LOCATION TO BE DETERMINE BY APPROPRIATE UTILITY COMPANY.

VERIZON  
BRYAN SHANK  
2510 RIVA RD. 6TH FLOOR  
ANNAPOLIS, MD 21401  
PH: (410) 224-1670

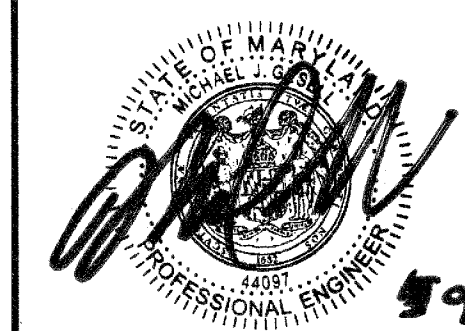
BALTIMORE GAS AND ELECTRIC  
GAS AND ELECTRIC NEW BUSINESS DEPARTMENT  
7317 PARKWAY DRIVE, SOUTH  
HANOVER, MARYLAND 21076  
PH: (410) 850-4620

- |    |  |               |
|----|--|---------------|
| 1  | 4" PVC SCHEDULE 40, SLEEVE FOR IRRIGATION.   | (W2.25)<br>C6 |
| 2  | BUTRESS  |               |
| 3  | WATER SERVICE CONNECTION   | (W3.21)<br>C6 |
| 3a | WITH SERVICE BOX SET ON PROPERTY LINE  |               |
| 4  | EX. 8" STUB CONFLICTS WITH PROPOSED STORM DRAIN. REMOVE PIPE SECTIONS (PER SHEET C1-A) AND INSTALL 8" PLUG & BUTRESS |               |
| 5  | LOCATE EX. SANITARY HOUSE CONNECTION. CUT & INSTALL 45° BEND TO MAKE NEW CONNECTION                                  |               |
| 6  | 1" WATER METER AND PIT, WITH 1" MAIN, FOR IRRIGATION, UP TO PROPERTY LINE.   |               |
| 7  | 1" PLUG FOR CONNECTION OF ON-SITE IRRIGATION BY CHICK-FIL-A CONTRACTOR.  |               |

**APPROVED**  
PLANNING BOARD  
OF HOWARD COUNTY

DATE May 1, 2003

FOR REVISIONS ONLY



5/9/29/16

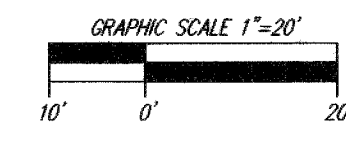
PROFESSIONAL CERTIFICATION  
I, MICHAEL J. BEVELL, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 44097, EXP. DATE: 6/19/17

FOR REVISION 5 ONLY

BOHLER ENGINEERING  
901 DULANEY VALLEY RD. STE. 801  
TOWSON, MD 21284  
PHONE: 410-821-7900  
FAX: 410-821-7987  
MD@BOHLERENG.COM

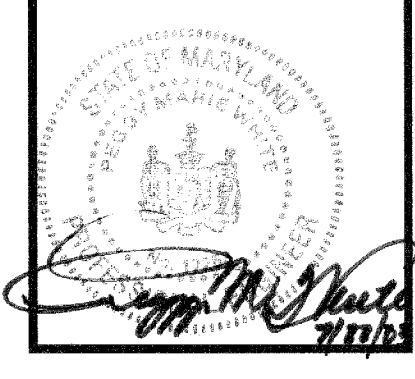
APPROVED:	DEPARTMENT OF PLANNING AND ZONING
<i>Michael J. Bevell</i>	05/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>David Hamilton</i>	8/10/03
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>Mark R. Ugelstad</i>	8/12/03
DIRECTOR	DATE

PARCEL P  
COLUMBIA  
DOBBIN RD. COMMERCIAL CENTER  
PLAT # 5031  
DOBBIN RD. COMMERCIAL, INC.  
L1108 F.414  
F 82-35

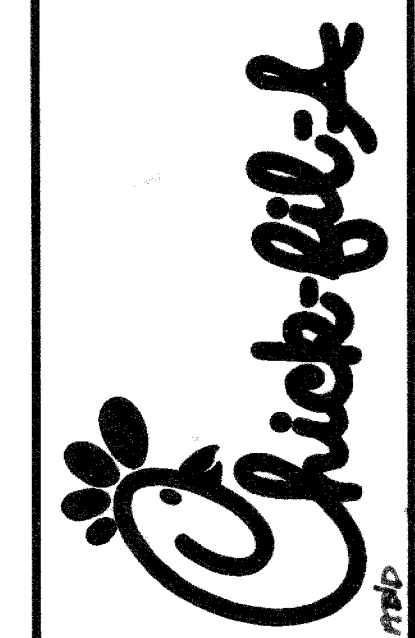


**RBA** ENGINEERS • ARCHITECTS • PLANNERS  
7164 Columbia Gateway Drive Suite 205  
Columbia, Maryland 21046 (410) 312-0966

RBA PROJ. NO.: M3080.00
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DESIGNED BY: EM
CHECKED BY: JR



Series 97-138  
5200 Buffington Road  
Atlanta, Georgia 30349-2998  
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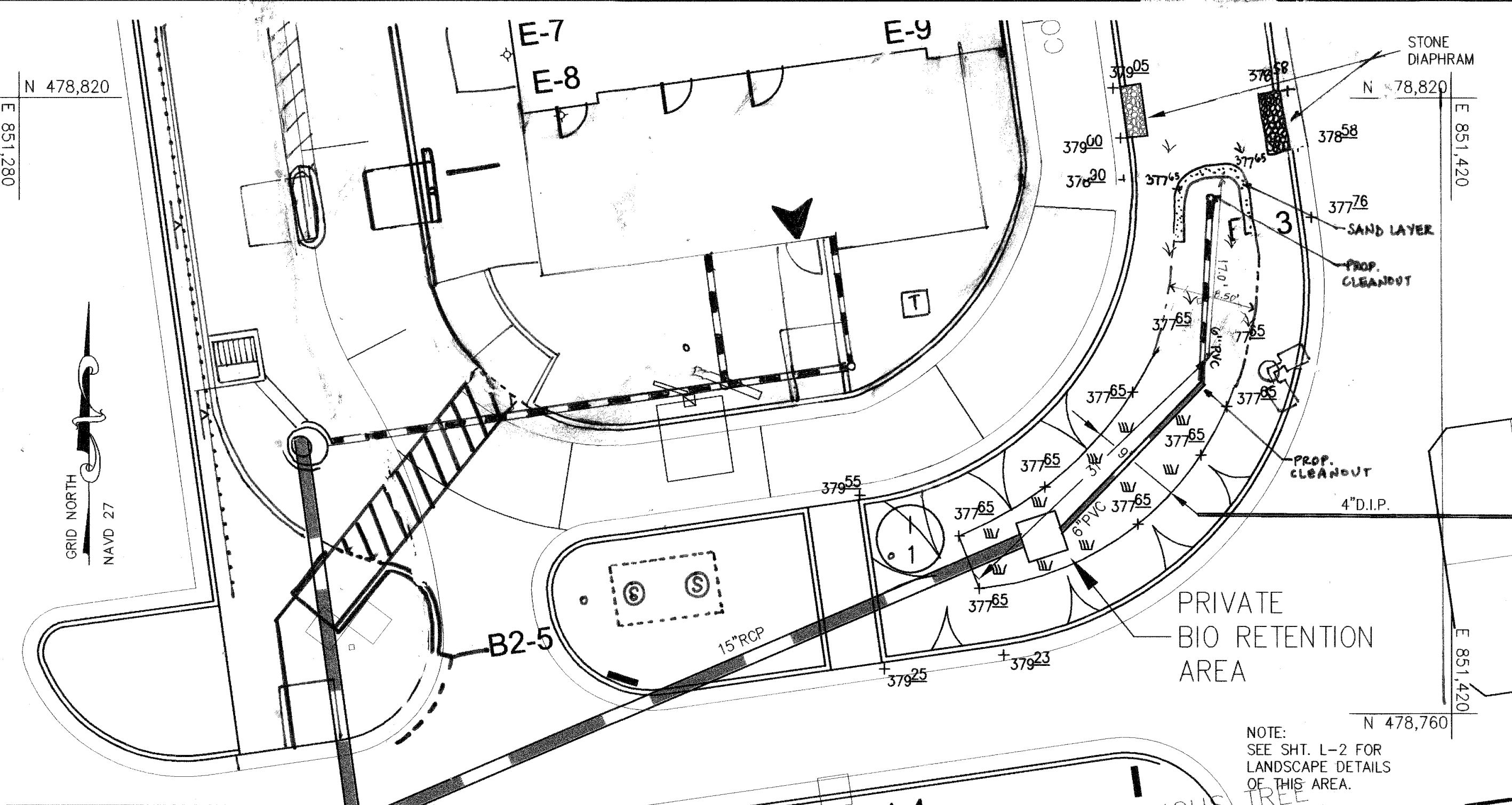


DOBBIN  
COMMERCIAL CENTER  
COLUMBIA, MD

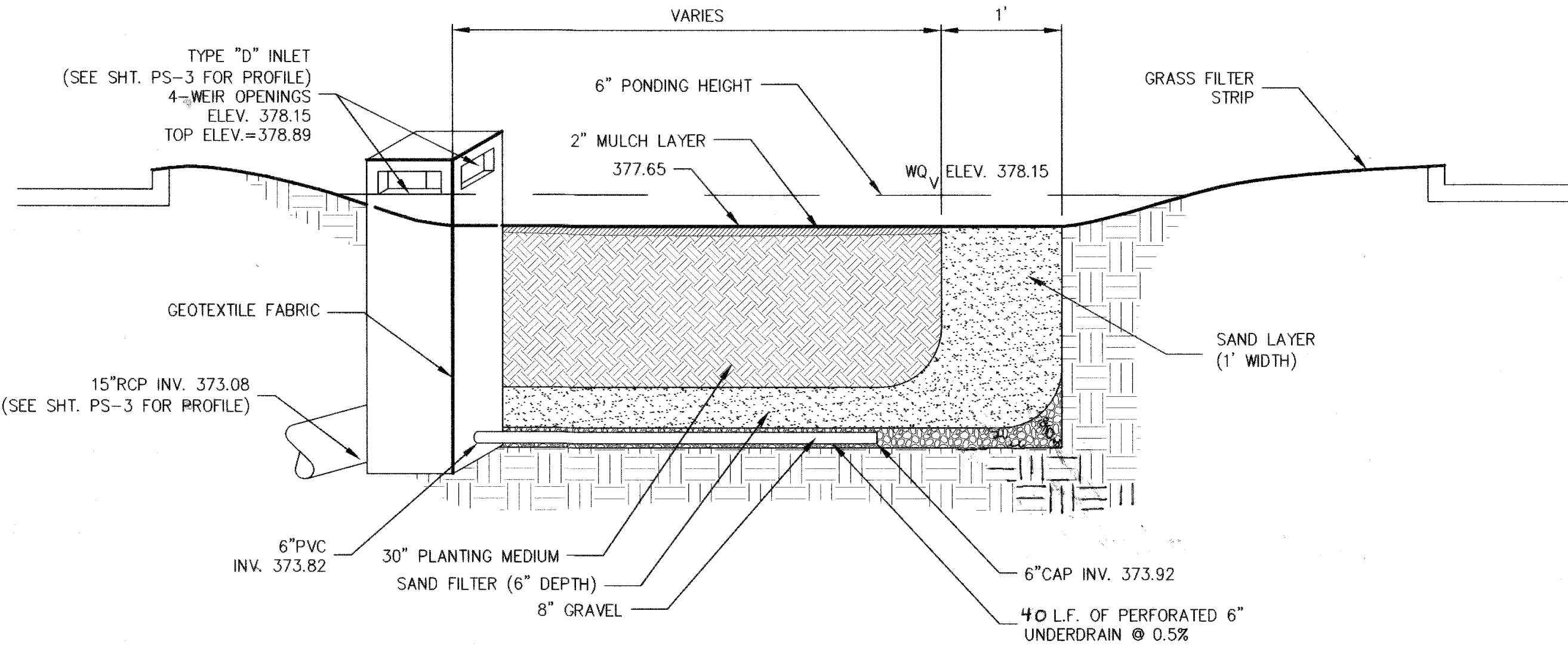
Edition Date:	01/21/03	
Project Date:	12/03/02	
#	Date	Revision
1	3/1/03	
2	7/30/03	
3	9/25/03	
4	3/31/04	

Sheet Title: PLUMBING SITE PLAN 5-03/04/16 ADD ADDITIONAL DETAILS THROUGH LANE 11 AND 133 S.F. BUILDING ADDITION

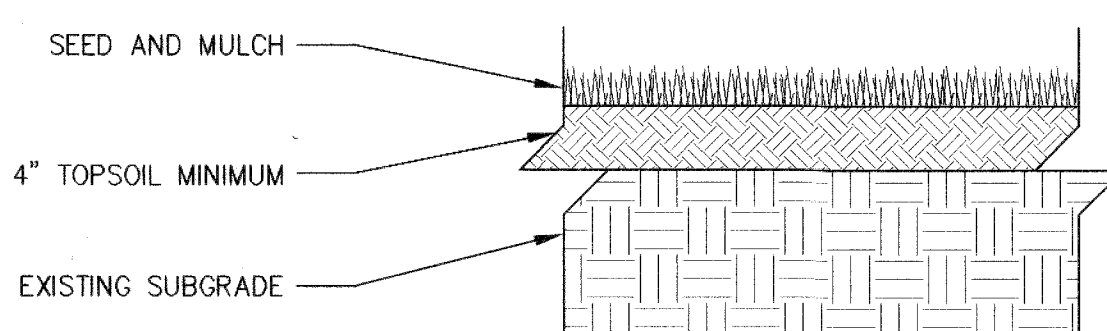
PS-1  
12 of 15



**BIORETENTION PLAN VIEW**  
SCALE: 1"=10'



**BIORETENTION FACILITY SECTION**  
SCALE: N.T.S.



**GRASS FILTER STRIP SECTION**  
SCALE: N.T.S.

FOR REVISION 5 ONLY  
BOHLER ENGINEERING  
901 DULANEY VALLEY RD STE B01  
TOWSON, MD 21284  
PHONE: 410-821-7900  
FAX: 410-821-7907  
MDC@BOHLERENG.COM

NOTE: AT UNDISTURBED AREAS, SUITABLE TOPSOIL IS EXISTING. AT DISTURBED AREAS, REUSE EXISTING SURFACE TOPSOIL AND VERIFY SUITABILITY OF SURFACE SOIL TO PRODUCE TOPSOIL MEETING SPECIFIED REQUIREMENTS AND AMEND WHEN NECESSARY.

FOR REVISION 5 ONLY  
PROFESSIONAL CERTIFICATION  
I, MICHAEL J. BOHLER, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO 44097, EXP. DATE 06/11/17

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 8/5/03 DATE  
 [Signature] 8/12/03 DATE  
 [Signature] 8/12/03 DATE  
 DIRECTOR

**TABLE B.3.2**

Materials	Specification	Size	Notes
Plantings	see Landscape Plan	n/a	plantings as shown on landscape plan
planting soil (2.5' to 4' deep)	Planting soil small 35 - 60% silt 30- 35% clay 10-25%	n/a	
mulch	shredded hardwood		aged 6 months, minimum
geotextile	Class "C" - apparent opening size (ASTM-D-4751), grab tensile strength (ASTM-D-4632), puncture resistance (ASTM-D-4833)	n/a	for use as necessary beneath underdrains only
underdrain gravel	AASHTO M-43	0.25" to 0.75"	
sand (1' deep)	AASHTO M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone #10 are not acceptable. No calcium carbonated or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand
Stone Diaphragm (1' Wide, 2' Deep)	Pea Gravel & ASTM-D-448 Ornamental Stone: Washed Cobbles	Pea Gravel: No.6 Stone: 2" to 5"	Use Clean Bank-Run Gravel
Underdrain Piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" Rigid Schedule 40 PVC or SD1235	3/8" Perf. @ 6" on Center, 4 holes per Row; Minimum of 3" of Gravel Over Pipes; Not Necessary Underneath Pipes.

**BIORETENTION CONSTRUCTION SPECIFICATIONS**

- MATERIALS**
  - THE ALLOWABLE MATERIALS TO BE USED IN THE BIORETENTION AREA ARE DETAILED IN TABLE B.3.2.
  - PLANTING SOIL**
    - THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE BIORETENTION AREA THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05.
    - THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA:
 

PH RANGE	5.2 - 7.0
ORGANIC MATTER	1.5 - 4% (BY WEIGHT)
MAGNESIUM	35 LB./AC
PHOSPHORUS (PHOSPHATE - P <sub>2</sub> O <sub>5</sub> )	75 LB./AC
POTASSIUM (POTASH - K <sub>2</sub> O)	85 LB./AC
SOLUBLE SALTS	NOT TO EXCEED 500 PPM
  - ALL BIORETENTION AREAS SHALL HAVE A MINIMUM OF ONE TEST. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, PHOSPHORUS, AND POTASSIUM AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOP SOIL WAS EXCAVATED.
  - SINCE DIFFERENT LABS CALIBRATE THEIR TESTING EQUIPMENT DIFFERENTLY, ALL TESTING RESULTS SHALL COME FROM THE SAME TESTING FACILITY.
  - SHOULD THE PH FALL OUT OF THE ACCEPTABLE RANGE, IT MAY BE MODIFIED (HIGHER) WITH LIME OR (LOWER) WITH IRON SULFATE PLUS SULFUR AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
- COMPACTION**
  - IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE BIORETENTION AREA AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF BIORETENTION AREAS ARE EXCAVATED USING A LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TUFF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.
  - COMPACTION CAN BE ALLEVATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS A CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACATURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF COMPACTION FROM HEAVY EQUIPMENT.
  - ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENTION FACILITY BEFORE BACKFILLING THE SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE. WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE.
  - WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

- PLANT MATERIAL AND INSTALLATION**
- PLANT INSTALLATION**
  - SEE LANDSCAPE PLAN AND SPECIFICATION FOR PLANT MATERIAL.
  - MULCH SHOULD BE PLACED TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE.
  - ROOT STOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING THE TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION.
  - TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL.
  - GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS.
  - THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFERS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS PER 1000 SQUARE FEET.
- UNDERDRAINS**

UNDERDRAINS ARE TO BE PLACED ON A 3'-0" WIDE SECTION OF FILTER CLOTH. PIPE IS PLACED NEXT, FOLLOWED BY THE GRAVEL BEDDING. THE ENDS OF UNDERDRAIN PIPES NOT TERMINATING IN AN OBSERVATION WELL SHALL BE CAPPED.

THE MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA).
- MISCELLANEOUS**

THE BIORETENTION FACILITY MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

**GRASS FILTER STRIP CONSTRUCTION SPECIFICATIONS**

- SITE PREPARATION**
  - IF GRADING IS REQUIRED AND TOPSOIL IS SUITABLE FOR USE REMOVE AND STOCKPILE THE TOPSOIL.
 

NOTE: TOPSOIL SALVAGED FROM THE EXISTING SITE MAY OFTEN BE USED BUT IT SHOULD MEET THE SAME STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. THE DEPTH OF TOPSOIL TO BE SALVAGED SHALL BE 6 INCHES UNLESS THE DEPTH IS DESCRIBED AS A REPRESENTATIVE PROFILE FOR THAT PARTICULAR SOIL TYPE AS DESCRIBED IN THE SOIL SURVEY IS LESS THAN 6 INCHES, IN WHICH CASE THE LESSER DEPTH SHALL BE REMOVED.
  - GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, ANCHORING AND MAINTENANCE.
  - LIMING: WHERE THE SUBSOIL IS EITHER HIGHLY ACID OR COMPOSED OF HEAVY CLAYS, GROUND DOLOMITE LIMESTONE SHALL BE SPREAD AT THE RATE OF 2 TONS PER ACRE (100 POUNDS PER 1,000 SQUARE FEET). LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.
  - TILLING: AFTER THE AREA TO BE TOPSOILED HAS BEEN BROUGHT TO GRADE, AND IMMEDIATELY PRIOR TO DUMPING AND SPREADING THE TOP-SOIL, THE SUBGRADE SHALL BE LOOSENEED BY DISCS OR BY SCRAPING TO A DEPTH OF AT LEAST 3 INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SUBSOIL. PACK BY PASSING A BULLDOZER VERTICALLY TRACKING OVER THE ENTIRE SURFACE AREA OF THE SLOPE TO CREATE HORIZONTAL EROSION CHECK SLOTS TO PREVENT TOPSOIL FROM SLIDING DOWN THE SLOPE AND RILLING.
- SOIL PREPARATION AND AMENDMENTS**
  - MATERIALS: TOPSOIL SHALL BE A LOAMY SAND, SANDY LOAM, LOAM, OR SILT LOAM ONLY AND IN THAT RESPECTIVE ORDER OF PREFERENCE. IT SHALL NOT HAVE A MIXTURE OF CONTRASTING TEXTURED SUBSOIL AND CONTAIN NO MORE THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENT, GRAVEL, STICKS, ROOTS, TRASH OR OTHER EXTRANEIOUS MATERIALS LARGER THAN 1-1/2 INCHES IN DIAMETER. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS OF BERMUDAGRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDEGE, POISON IVY, CANADA THISTLE OR OTHERS AS SPECIFIED IN SECTION 1.0. ALL TOPSOIL SHALL BE TESTED BY A RECOGNIZED LABORATORY FOR ORGANIC MATTER CONTENT, PH AND SOLUBLE SALTS. A PH OF 6.0 TO 7.5 AND AN ORGANIC CONTENT OF NOT LESS THAN 1.5 PERCENT BY WEIGHT IS REQUIRED. IF PH VALUE IS LESS THAN 6.0, LIME SHALL BE APPLIED AND INCORPORATED WITH THE TOPSOIL TO ADJUST THE PH TO 6.5 OR HIGHER. TOPSOIL CONTAINING SOLUBLE SALTS GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
  - NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED TO PERMIT DISSIPATION OF TOXIC MATERIALS.
  - NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS AS APPROVED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST MAY BE USED IN LIEU OF NATURAL TOPSOIL.
  - GRADING: THE TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED AND TRACKED AND SHALL BE A MINIMUM COMPACTED DEPTH OF 4 INCHES. SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SEEDING 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 AND WATER POCKETS. TOPSOIL SHALL NOT BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
- LIME AND FERTILIZER ACCORDING TO SOIL TESTS:** LIME AND FERTILIZER NEEDS CAN BE DETERMINED BY A SOIL TESTING LABORATORY.
- IN LIEU OF SOIL TESTS APPLY 1,000 POUNDS 10-10-10 OR EQUIVALENT PER ACRE IF UREA FERTILIZER IS NOT USED, AND 600 POUNDS OF 10-10-10 OR EQUIVALENT PER ACRE IF UREAFORM FERTILIZER IS USED. APPLY THE LIME AND FERTILIZER BEFORE SEEDING AND HARROW OR DISC UNIFORMLY INTO THE SOIL TO A MINIMUM DEPTH OF 3 INCHES ON SLOPES FLATTER THAN 3:1. ON SLOPES STEEPER THAN 3:1 GRADE, THE LIME AND FERTILIZER SHALL BE WORKED IN AS BEST AS POSSIBLE. ON SLOPING LAND, THE FINAL HARROWING OR DISCING OPERATION SHOULD BE ON THE CONTOUR WHEREVER FEASIBLE. NO ATTEMPT SHOULD BE MADE TO DRAG AND DISCING AREA TO MAKE THE SOIL SURFACE VERY SMOOTH AFTER DISCING. WHEN THE 600 POUNDS PER ACRE RATE OF 10-10-10 FERTILIZER RATE IS USED, AT THE TIME OF SEEDING, APPLY 400 POUNDS OF A UREAFORM FERTILIZER OF A GRADE OF AT LEAST 30-0-0 PER ACRE.
- NOTE: THE SLOW RELEASE OF UNIFORM FERTILIZER WILL SUPPLY NITROGEN OVER A LONGER PERIOD OF TIME AND WILL RESULT IN A HEALTHIER GRASS STAND.
- SEEDING**
  - USE A SEED MIX FROM PERMANENT SEEDING NOTES ON SHEET C3.
  - APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER OR HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER) ON A FIRM, MOIST SEEDBED. MAXIMUM SEEDING DEPTH SHOULD BE 1/4 INCH ON CLAYEY SOILS AND 1/2 INCH ON SANDY SOILS. WHEN USING OTHER THAN HYDROSEEDER METHOD OF APPLICATION.
  - NOTE: IF HYDROSEEDING IS USED AND THE SEED AND FERTILIZER IS MIXED, THEY WILL BE MIXED ON SITE AND THE SEEDING SHALL BE IMMEDIATE WITHOUT INTERRUPTION.
- MULCHING**

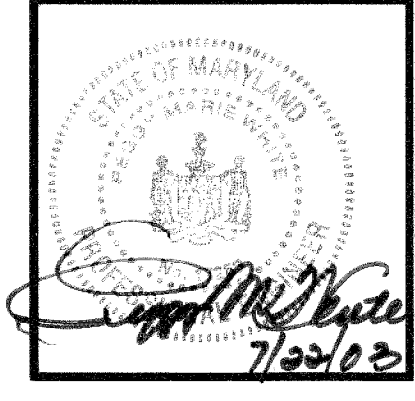
MULCH MATERIALS ARE LISTED IN ORDER OF THEIR EFFECTIVENESS. MULCH MATTINGS ARE NORMALLY ONLY USED ON CRITICAL AREAS SUCH AS WATERWAYS OR STEEP SLOPES.

  - MATERIALS AND AMOUNTS**
    - MULCH MATTINGS: JUTE BLANKET SHALL BE STAPLED TO THE SURFACE IN WATERWAYS AND ON STEEP SLOPES. LIGHTER MATERIALS OF PAPER, PLASTIC AND COTTON MULCH MATTINGS MAY BE USED WHERE EROSION HAZARD IS NOT SEVERE. IF THE AREA IS TO BE MOWED, DO NOT USE METAL STAPLES.
    - STRAW: STRAW SHALL BE UNROTTED SMALL GRAIN APPLIED AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE, OR 70 TO 90 (TWO BALES) POUNDS PER 1,000 SQUARE FOOT. MULCH MATERIALS SHALL BE RELATIVELY FREE OF ALL KINDS OF WEEDS AND SHALL BE FREE OF PROHIBITED NOXIOUS WEEDS SUCH AS THISTLES, JOHNSONGRASS AND QUACKGRASS. SPREAD UNIFORMLY BY HAND OR MECHANICALLY. FOR UNIFORM DISTRIBUTION OF HAND SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET SECTION AND PLACE 70-90 POUNDS OF MULCH IN EACH SECTION.
    - WOOD CHIPS: AT THE RATE OF APPROXIMATELY 6 TONS PER ACRE OR 275 POUNDS PER 1,000 SQUARE FEET MAY BE USED WHEN AVAILABLE AND WHEN FEASIBLE. THESE ARE PARTICULARLY WELL-SUITED FOR UTILITY AND ROADS RIGHTS-OF-WAY. IF WOOD CHIPS ARE USED, INCREASE THE APPLICATION RATE OF NITROGEN FERTILIZER BY 20 POUNDS (200 POUNDS 10-10-10 OR 66 POUNDS 30-0-0).
    - WOOD CELLULOSE FIBER: MULCH AT THE RATE OF 1,500 POUNDS PER ACRE OR 35 POUNDS PER 1,000 SQUARE FOOT MAY BE APPLIED BY HYDROSEEDING.

**OPERATION AND MAINTENANCE SCHEDULE FOR BIORETENTION AREAS**

- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
- MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
- SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

**APPROVED**  
PLANNING BOARD  
OF HOWARD COUNTY  
DATE: May 1, 2003



Series 97-138  
5200 Buffington Road  
Atlanta, Georgia 30349-2998  
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DOBBIN  
COMMERCIAL CENTER  
COLUMBIA, MD

Revision: 12/03/02  
 Date: 3/14/03  
 Date: 7/9/03  
 Date: 9/25/03  
 Date: 2/21/04

Sheet Title: BIORETENTION DETAILS & SPECIFICATIONS  
 SHEET NO. PS-2  
 13 of 15

**RBA ENGINEERS • ARCHITECTS • PLANNERS**  
 7164 Columbia Gateway Drive Suite 205  
 Columbia, Maryland 21046 (410) 312-0966  
 RBA PROJ. NO.: M3080.00  
 DRAWN BY: KL  
 DESIGNED BY: EM / WGZ  
 CHECKED BY: JR



PIPE SCHEDULE		
SIZE	TYPE	LINEAR FOOTAGE
STORM		
4"	D.I.P	56
5"	ADS PIPE	38
6"	PVC-SCHEDULE 40	74
6"	PERFORATED PVC	22
15"	RCP	248
SANITARY SEWER		
4"	PVC-SDR-35	154
WATER		
2"	COPPER TYPE 'K'	155
3/4"	COPPER TYPE 'K'	162
4"	PVC SCHEDULE 40 IRRIGATION SLEEVES	156

NOTE: CONTRACTOR SHALL VERIFY ALL QUANTITIES PRIOR TO BID. ALL STRUCTURES ARE HOWARD COUNTY OR MARYLAND DEPT. OF TRANSPORTATION STANDARDS UNLESS NOTED OTHERWISE. REFER TO SHEET C-7 FOR DETAILS. ELEVATIONS ARE GIVEN TO TOP OF CURB FOR CURB INLETS, TOP OF GRATE FOR GRATE INLETS AND TOP OF RIM FOR MANHOLES.

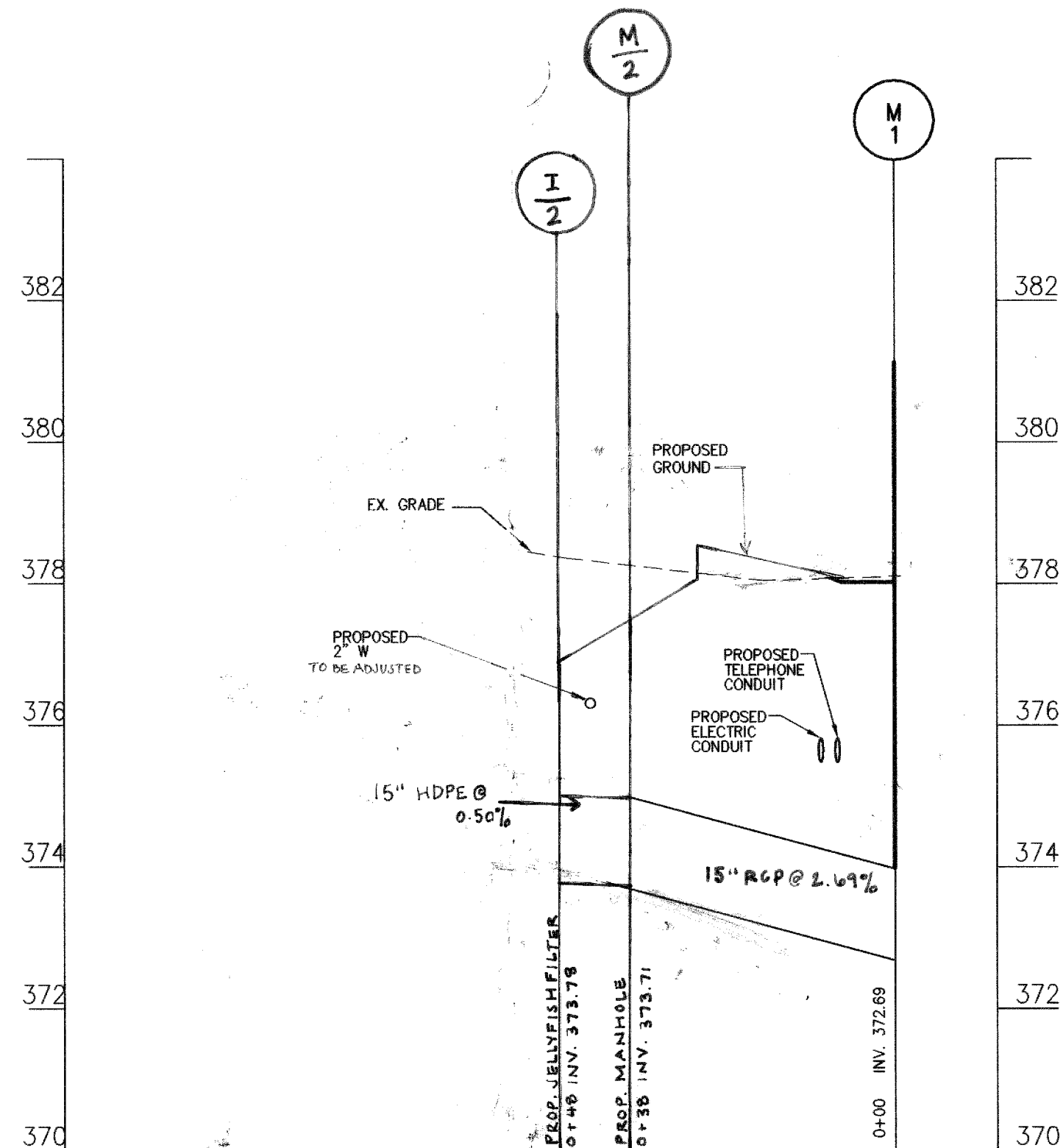
ROOF DRAIN STUBS	
DESCRIPTION	INVERT
RD1	378.50
RD2	377.36

SANITARY SEWER SCHEDULE			
DESCRIPTION	STATION	INVERT	TOP*
CLEANOUT #1	1+10	374.04	380.1
CLEANOUT #2	1+26	374.86	380.6

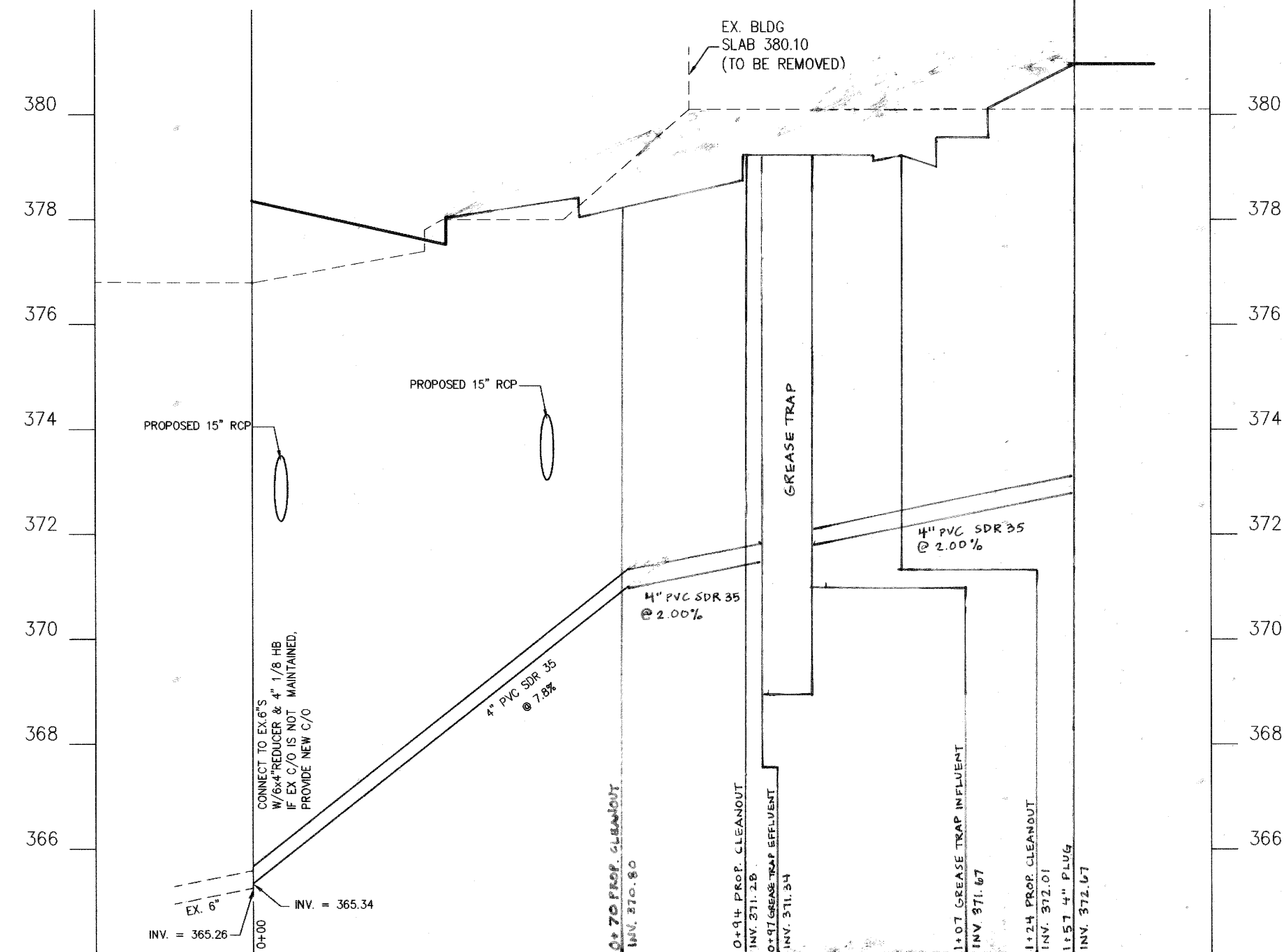
STORM DRAIN STRUCTURE SCHEDULE					
NUMBER	TYPE	INVERT			REMARK
		TOP*	IN	OUT	
I-1	'D' INLET	377.55	373.83	373.08	HCS D 4.11
I-2		377.45	373.71	373.71	HCS D 6.12
M-1		377.78	372.69	372.59	HCS D 4.11
M-2		376.85	373.78	373.78	JELLYFISH INLET

\* FOR 'A' & 'D' INLETS, TOP=WEIR, BOTTOM OF THROAT OPENING ELEVATION

NOTE: CONTRACTOR SHALL VERIFY ALL QUANTITIES PRIOR TO BID.

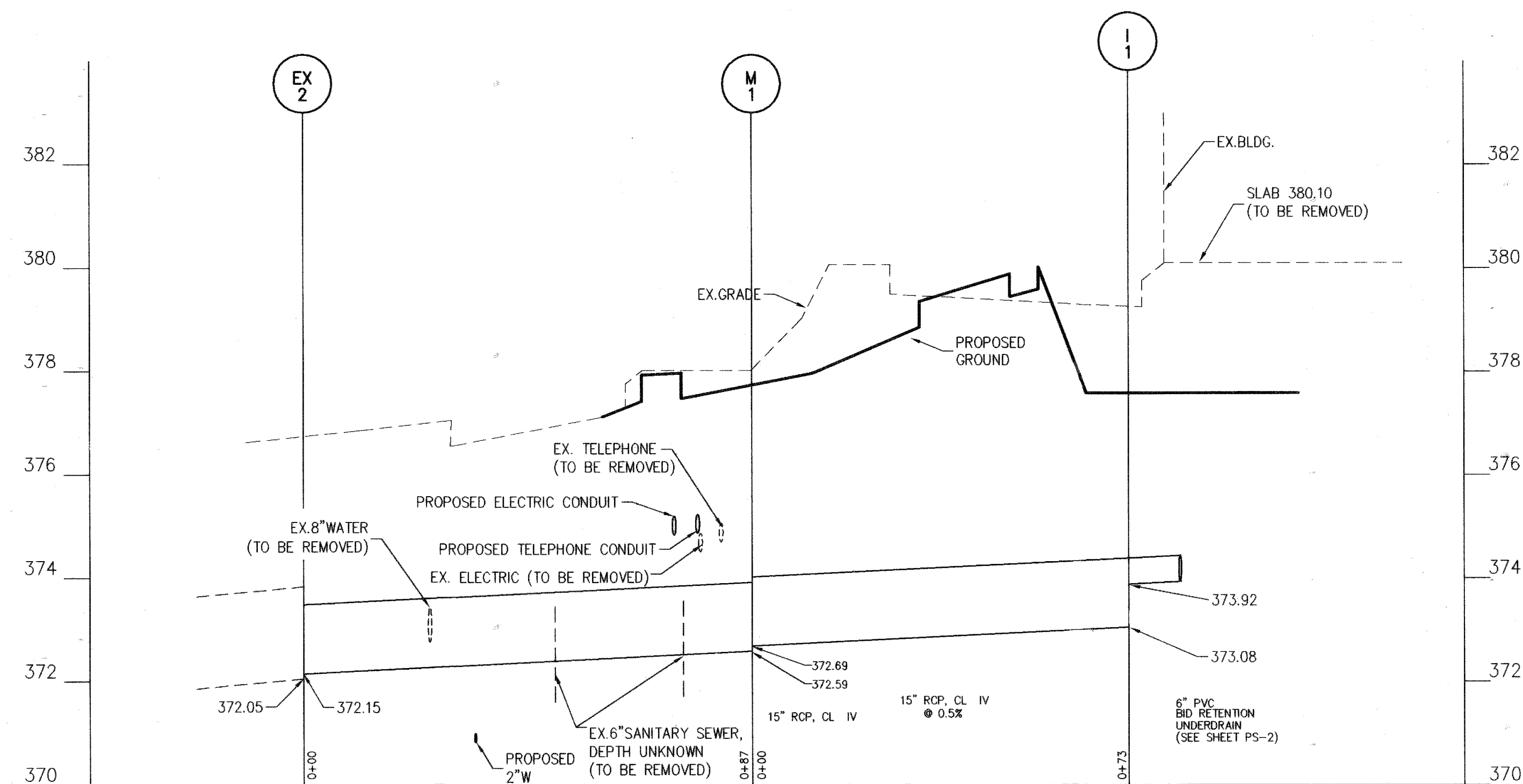


SCALE:  
HOR: 1" = 20'  
VER: 1" = 2'



SANITARY SEWER

SCALE:  
HOR: 1" = 20'  
VER: 1" = 2'



STORM DRAIN

SCALE:  
HOR: 1" = 20'  
VER: 1" = 2'

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Michael Wesell* 8/5/03  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK  
*Cinda Haman* 8/12/03  
 CHIEF, DIVISION OF LAND DEVELOPMENT HB  
*Mark D. Loyell* 8/12/03  
 DIRECTOR DATE

FOR REVISION 5 ONLY

*Michael Wesell* 9/29/16

PROFESSIONAL CERTIFICATION  
 I, MICHAEL J. WESSELL, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 44097, EXP. DATE: 6/19/17

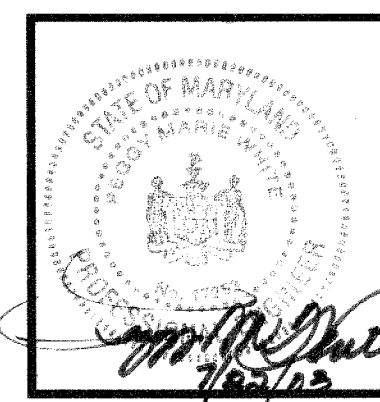
FOR REVISION 5 ONLY  
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 MD@BOHLERENB.COM

APPROVED  
 PLANNING BOARD  
 OF HOWARD COUNTY

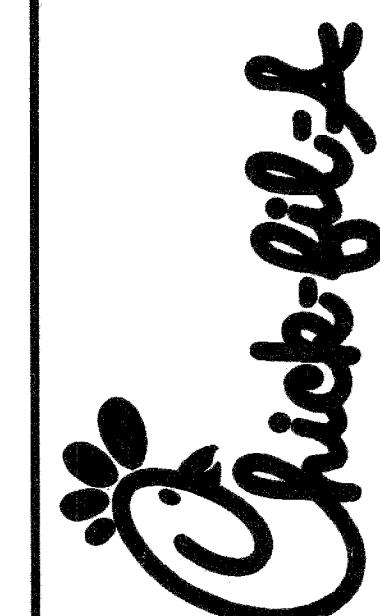
DATE: May 1, 2003

The **RBA** ENGINEERS • ARCHITECTS • PLANNERS  
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RBA PROJ. NO.: M3080.00  
 DRAWN BY: PS/WGZ  
 DESIGNED BY: WGZ  
 CHECKED BY: JR



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 5200 Buffington Road  
 Atlanta, Georgia 30349-2998  
 Telephone 404-765-8000



DOBBIN  
 COMMERCIAL CENTER  
 COLUMBIA, MD  
 1310/14 APP ADDITIONAL DRIVE-THRU LANE AND 737 C.F. BUILDING ADDITION

Edition Date: 01/21/03 BID SET  
 Project Date: 12/03/02  
 Revision  
 # Date  
 1 3/11/03  
 2 7/30/03  
 3 9/25/03  
 4 2/21/04  
 5 13/04/14 APP ADDITIONAL DRIVE-THRU LANE AND 737 C.F. BUILDING ADDITION

SHEET NO.  
**PS-3**  
 14 of 15

