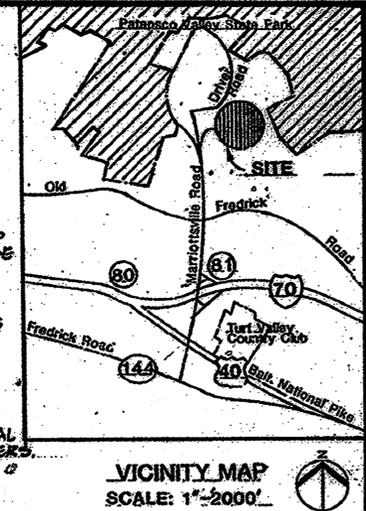
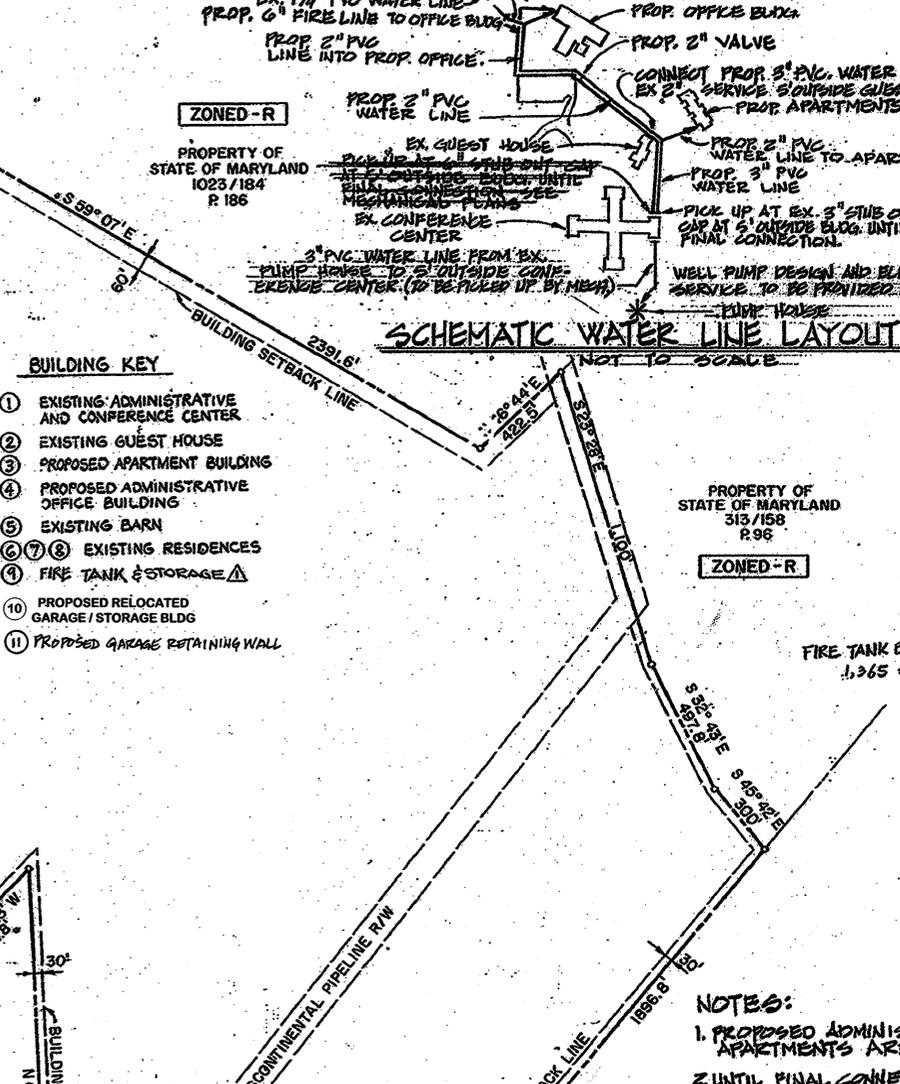
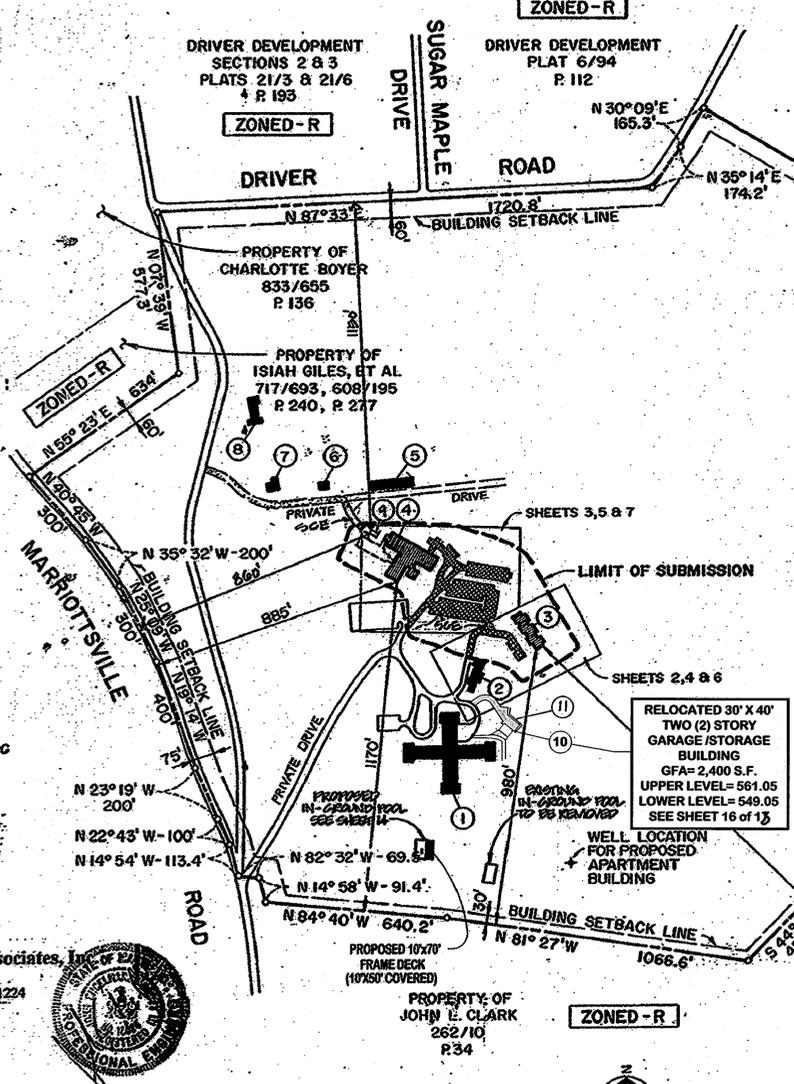


- GENERAL NOTES**
- Any change to County right-of-way and paving of public roads shall be repaired immediately at the Contractor's expense in accordance with Howard County Specifications and Standards.
  - Trench through existing paved area shall be repaired in accordance with Howard County Specifications and Standards.
  - The Contractor shall notify the Gas & Electric Company and the Chesapeake and Potomac Telephone Company (C&PT) collect, Miss Callahan 301-559-0100 five (5) days before beginning any construction.
  - All work shall be done in accordance with the Howard County standards and specifications and as shown on these approved plans.
  - Paved areas as per details shown on these approved drawings.
  - Proposed water mains shall have a minimum of 4'-0" cover from finished grade.
  - Topography information shown herein is from the plan prepared by H. Kato & Associates, Inc., November 1986.
  - Existing utilities have been taken from the best available information, the accuracy and completeness must be verified by the Contractor. Contractor shall excavate for and confirm the location and elevation of existing utilities prior to laying any new pipe. The Contractor shall be responsible for repairing and replacing any facilities or utilities damaged during construction.
  - The Contractor shall test pit all existing utilities within the limits of construction to determine the exact location and depth as required.
  - All utilities are to be retained unless marked otherwise and adjustments are to be adjusted to finished grade.
  - Contractor is responsible for making connections to all building services so as to assure complete utility services to and from the building.
  - All storm inlets shall be constructed as per Howard County specifications and standard details.
  - The Contractor shall maintain a minimum of two (2) ft. level bench behind all proposed pavement in fill areas.
  - All fill shall be rolled to a minimum degree of compaction of 90% of the dry unit weight as determined by ASTM D-598.
  - Dimensions shall be taken from edge of pavement and face of building.
  - All concrete for site work shall be Class 4 concrete and shall be in accordance with the Maryland State Highway Administration Specification as amended to date.
  - Structures noted for removal shall be removed entirely and completely. Removal of utilities or materials that are below grade shall have the surface 200% restored to match adjacent grades.
  - Sidewalk expansion joints are typically spaced 15' o.c. secondary control joints are typically spaced 5' o.c. Expansion joints may occur more frequently as indicated on the drawings where sidewalks change directions, sidewalks to flush with doorway openings, and where sidewalks abut buildings.
  - The Contractor shall contact the Construction Inspection/ Survey Division 24 hours in advance of commencement of work at 392-2417 or 992-2416.
  - Plan Section No. 9 for pool relocation does not require a Board of Appeals hearing, Howard County Plan, DA-02-0300 and DA-05-016.

**'PURPOSE STATEMENT'**  
 THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO ADD A NEW 1" HDPE WATER SUPPLY TO THE NEW POOL, ABANDON THE EXISTING 1" WATER TO THE ABANDONED (AND NOW REMOVED) POOL, TO ADD A NEW WATER VAULT NEAR THE EXISTING PUMP HOUSE, AND RE-DIRECT THE FOUR (4) WELL WATER MAINS INTO THE NEW WATER VAULT, AND TO ADD A 10' BY 70' COVERED DECK ALONG THE EAST SIDE OF THE NEW POOL.

**'PURPOSE STATEMENT'**  
 THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO RELOCATE THE PREVIOUSLY APPROVED GARAGE LOCATION (TO THE NORTH ALONG THE EXISTING DRIVEWAY), ADD THE GARAGE ELEVATIONS, PROVIDE DRYWELLS AT DOWN-SPOUT LOCATIONS FOR GARAGE FOR WATER QUALITY PURPOSES. ADD NEW SHEETS (16 & 17 of 17).



- BUILDING KEY**
- EXISTING ADMINISTRATIVE AND CONFERENCE CENTER
  - EXISTING GUEST HOUSE
  - PROPOSED APARTMENT BUILDING
  - PROPOSED ADMINISTRATIVE OFFICE BUILDING
  - EXISTING BARN
  - EXISTING RESIDENCES
  - FIRE TANK & STORAGE
  - PROPOSED RELOCATED GARAGE / STORAGE BLDG
  - PROPOSED GARAGE RETAINING WALL

- SITE ANALYSIS**
- AREA OF PARCEL - 312.45 Ac
  - PRESENT ZONING R
  - FLOOR SPACE:
    - APARTMENTS - 8 UNITS
    - 1ST FLOOR - 6,075.37 SF
    - 2ND FLOOR - 3,432.23 SF
    - TENANTS - 28
    - PARKING SPACES REQUIRED - 12
    - PARKING SPACES PROVIDED - 26
  - OPEN SPACE (GREEN AREA) TO REMAIN ON SITE:
    - 0.468 Ac / 0.15%
    - 0.193 Ac / 0.10%
    - 1.824 Ac / 0.59%
    - 3.74 Ac / 1.20%
  - NEW BUILDING COVERAGE OF SITE:
    - 0.468 Ac / 0.15%
    - 0.193 Ac / 0.10%
    - 1.824 Ac / 0.59%
    - 3.74 Ac / 1.20%
  - TOTAL BUILDING COVERAGE OF SITE:
    - 0.468 Ac / 0.15%
    - 0.193 Ac / 0.10%
    - 1.824 Ac / 0.59%
    - 3.74 Ac / 1.20%
  - TOTAL AREA OF PAVING ON SITE:
    - 0.468 Ac / 0.15%
    - 0.193 Ac / 0.10%
    - 1.824 Ac / 0.59%
    - 3.74 Ac / 1.20%

- REVISION 01/31/07**  
 ADD IN-GROUND POOL PLAN AND RETAINING WALL LOCATION PLAN CONSTRUCTION DETAILS  
 ADD SHEETS 16 & 17 TO SET FOR NEW IN-GROUND POOL PLAN AND RETAINING WALL PLAN AND CONSTRUCTION DETAILS
- REVISION 3/25/06**  
 ADD STORAGE ROOM TO FIRE TANK BLDG.  
 REVISED SITE ANALYSIS TO REFLECT STORAGE RM
- REVISION 11/1/88 SC**  
 ADD FIRE TANK  
 DELETE NOTE ON SCHEMATIC WATER LINE LAYOUT  
 REVISE SITE ANALYSIS

**J. E. Scott & Associates, Inc.**  
 2705 Dillen Street  
 Baltimore, Maryland 21224  
 (410) 534-7442

**PLAN LOCATION**  
 SCALE: 1"=300'-0"

| NO.  | DESCRIPTION  | SHEET |
|------|--|-------|
| C-13 | GARAGE RETAINING WALL COND. DETAILS & SPECIFICATIONS                                       | 18    |
| C-1  | REVISED SITE DEVELOPMENT PLAN TITLE SHEET  | 1     |
| C-2  | SITE PLAN - APARTMENT BUILDING   | 2     |
| C-3  | SITE PLAN - OFFICE BUILDING  | 3     |
| C-4  | GRADING & UTILITY PLAN - APARTMENT BUILDING  | 4     |
| C-5  | GRADING & UTILITY PLAN - OFFICE BUILDING   | 5     |
| C-6  | SEDIMENT & EROSION CONTROL PLAN - APT. BLDG.   | 6     |
| C-7  | SEDIMENT & EROSION CONTROL PLAN - OFFICE BLDG.   | 7     |
| C-8  | DRAINAGE AREA MAP  | 8     |
| C-9  | EROSION CONTROL DETAILS & PROFILES   | 9     |
| C-10 | PROFILES   | 10    |
| C-11 | SITE DETAILS   | 11    |
| L-1  | LANDSCAPING PLAN - APARTMENT BUILDING  | 12    |
| L-2  | LANDSCAPING PLAN - OFFICE BUILDING   | 13    |
| C-14 | IN-GROUND POOL PLAN and GARAGE RELOCATION PLAN & ELEV'S                                    | 14    |
| C-15 | RETAINING WALL LOCATION PLAN & CONSTRUCTION DETAILS  | 15    |
| C-17 | STORM DRAIN & STORMWATER MANAGEMENT PLAN, PROFILES, NOTES, AND DETAILS FOR PROPOSED GARAGE | 17    |

**JOYCE ENGINEERING CORPORATION**  
 1100 BALTIMORE AVENUE, SUITE 200, BALTIMORE, MD 21202  
 TEL: (410) 528-0333 FAX: (410) 528-0334 WWW: www.joyceeng.com

|            |   |
|------------|---|
| 01/23/08   | ADD NEW 1" HDPE WATER SUPPLY TO THE NEW POOL, ABANDON THE EXISTING 1" WATER TO THE ABANDONED (AND NOW REMOVED) POOL, TO ADD A NEW WATER VAULT NEAR THE EXISTING PUMP HOUSE, AND RE-DIRECT THE FOUR (4) WELL WATER MAINS INTO THE NEW WATER VAULT, AND TO ADD A 10' BY 70' COVERED DECK ALONG THE EAST SIDE OF THE NEW POOL. |
| 10-23-2008 | SEE PURPOSE STATEMENT ABOVE FOR SPECIFIC GARAGE REVISIONS.  |

**PURDUM & JESCHKE**  
 CONSULTING ENGINEERS  
 LAND SURVEYORS  
 1029 North Colvert Street  
 Baltimore, Maryland 21202 301/837-0194

| NO. | REVISION   | DATE     |
|-----|--|----------|
| 1   | ADD OF TEMP MODULAR BUILDINGS, SIDEWALK, AND TEMP WOOD RAMP  | 7.27.02  |
| 2   | REV. TO SHOW LEVISING WALL & ONE NEW SHEET FOR PROPOSED RETAINING WALL SPECIFICATIONS SHEETS 16 & 17 | 04-26-10 |

**ADDRESS CHART**

| PARCEL NO. | STREET ADDRESS            |
|------------|---------------------------|
| P 35       | 1525 MARRIOTTSVILLE ROAD. |

**REVISIONS MADE AFTER 01-23-08 BY JOYCE ENGINEERING CORP.**

I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 Matthew E. Louie, P.E.  
 Professional Engineer No. 27729  
 Exp. Date: July 15, 2010

I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 William A. Joyce, Date  
 Professional Engr. No. 12243  
 Exp. Date: April 30, 2009

- NOTES:**
- PROPOSED ADMINISTRATIVE OFFICE BUILDING AND PROPOSED APARTMENTS ARE TO BE SPRINKLERED.
  - UNTIL FINAL CONNECTION IS MADE, ALL WATER LINES AND SEWER LINES ARE TO BE CAPPED OUTSIDE ALL BUILDINGS BEING CONNECTED, SEE MECHANICAL PLANS.
  - PROPOSED WATER LINE MUST BE IN PLACE AND SERVICEABLE PRIOR TO DISCONNECTING EXISTING WATER LINE, PROVIDING CONTINUOUS SERVICE.
  - WATER LINES ARE TO BE A MIN. 42" BELOW FINISH GRADE, BURIED IN A COMMON TRENCH, WITH THIRST BLOCKING AS REQ.
  - SITE WORK CONTRACTOR IS TO PROVIDE AND MAINTAIN THE STABILIZED CONSTRUCTION ENTRANCE.
  - ROAD ACCESS TO DRIVER DRIVE IS TO BE MAINTAINED AS REQUIRED, AT A 14' WIDTH WITH CRUSHER RUN (CRG) FOR APPROX. 1000'.
  - CONTRACTOR SHALL REMOVE SOE AND CRUSHER RUN UPON COMPLETION OF PROJECT, AS PER INSTRUCTIONS.

**'PURPOSE STATEMENT'**  
 THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO: ADD A KEYSTONE RETAINING WALL ALONG THE REAR DRIVE ISLE AND LOWER STORM DRAIN OUTFALL FROM STRUCTURE D-5 TO D-6 TO ACCOMMODATE SAMB. ONE (1) NEW SHEET HAS BEEN ADDED - 15 OF 15. (4.22.10)

APPROVED: FOR PRIVATE WATER AND SEWER SYSTEM  
 HOWARD COUNTY HEALTH DEPARTMENT  
 B. N. Yon for Peter B. Ilesonson 11/24/2009  
 COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 Chief, Development Engineering Division 11/3/09  
 DATE

Chief, Division of Land Development 11/25/09  
 DATE

Director, Dep. 11/30/09  
 DATE

| SUBDIVISION NAME               | SECT./AREA  | LOT/PARCEL # |
|--------------------------------|-------------|--------------|
| SISTERS OF BON SECOURS, U.S.A. |             | PARCEL 35    |
| PLAT # OR L/F                  | BLOCK       | ZONE         |
| 393/29                         | 10,11,16,17 | R            |
| TAX MAP                        | IQ          | ELFCT. DIST. |
|                                |             | 3            |
| WATER CODE                     | SEWER CODE  | CENSUS       |
| N.A.-WELL                      | N.A.-SEPTIC | 6030         |

**Gaudreau, Inc.**  
 Architects Planners Engineers  
 Baltimore  
 810 Light Street, Baltimore Maryland 21280

**Faisant Associates, Inc.**  
 Structural Engineers

**Kibart, Inc.**  
 Mechanical/Electrical Engineers

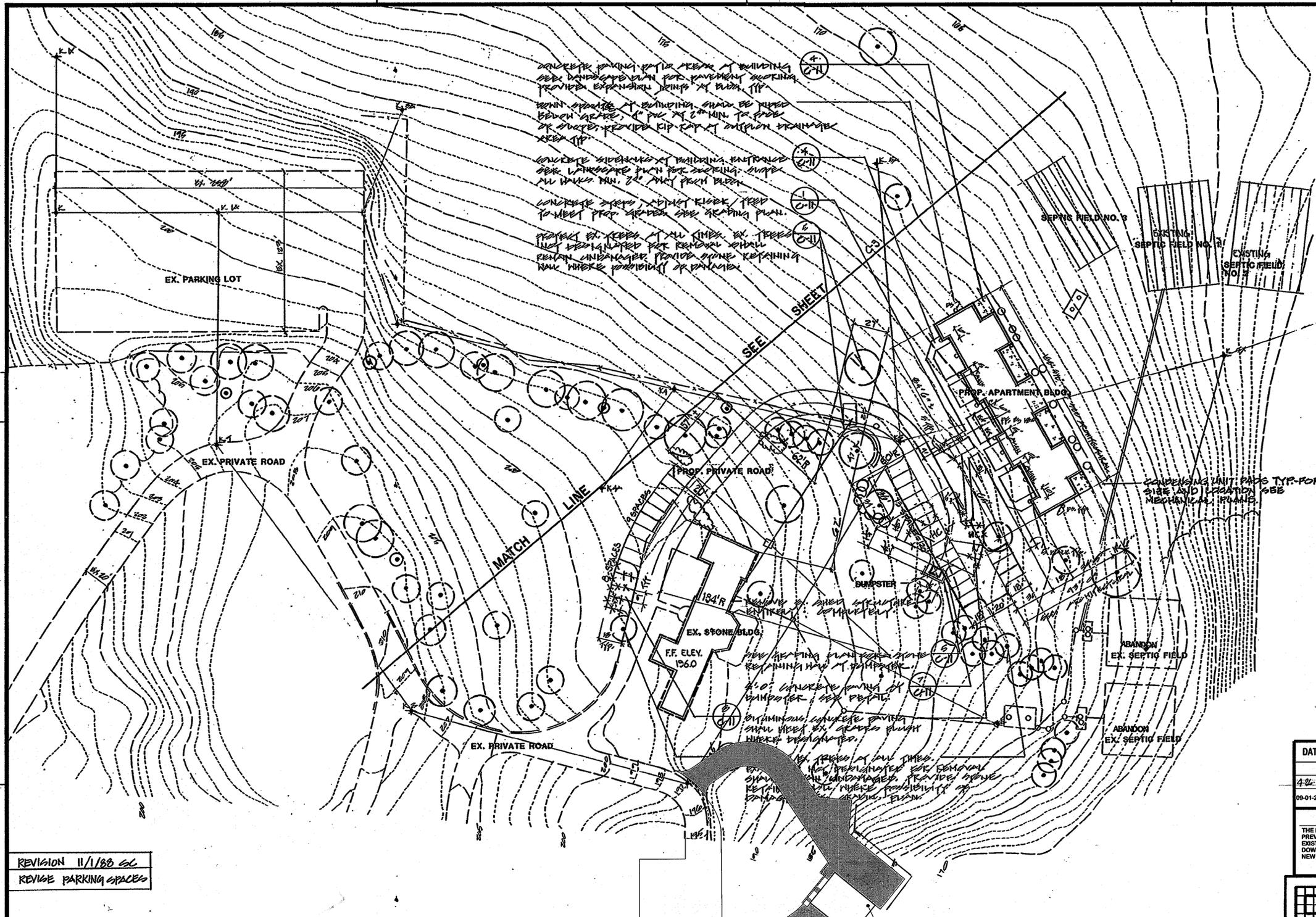
**Purdum & Jeschke**  
 Civil Engineers

**DEVELOPER'S CERTIFICATION**  
 I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATION OF ATTENDANCE AT THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF ANY SEDIMENT EROSION, BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY HOWARD SOIL CONSERVATION DISTRICT.  
 Dr. Joyce M. Talone

**ENGINEER'S CERTIFICATION**  
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 Matthew E. Louie, PE 27729  
 Exp. 07-15-2010  
 DEED - 393/29  
 ELECTION DISTRICT - 3  
 TAX MAP - 10 | PARCEL 35

**SISTERS OF BON SECOURS, U.S.A.**  
 1525 MARRIOTTSVILLE ROAD  
 MARRIOTTSVILLE, MD. 21104  
 HOWARD CO., MD.  
 REVISED SITE DEVELOPMENT PLAN  
 TITLE SHEET

PROJ NO: SDP-87-252  
 DWG NO: C-1  
 SCALE: 1"=300'  
 DATE: AUG. 17, 1987  
 SHEET 1 of 8



**Gaudreau, Inc.**  
Architects Planners Engineers  
Baltimore

810 Light Street Baltimore Maryland 21230

**Faisant Associates, Inc.**  
Structural Engineers

**Kibart, Inc.**  
Mechanical/Electrical Engineers

**Purdum & Jeschke**  
Civil Engineers

REVISIONS MADE AFTER 01-23-08 BY JOYCE ENGINEERING CORP.

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

*Matthew E. Joyce*  
Matthew E. Joyce, Date  
Professional Engr. No. 27729  
Exp. Date: July 15, 2010

**JOYCE ENGINEERING CORPORATION**  
CIVIL ENGINEERING LAND SURVEYING LAND PLANNING CONSTRUCTION MANAGEMENT  
1000 BOWLING GREEN PIKE, BALTIMORE, MD 21202  
TEL: (410) 255-4222 FAX: (410) 255-4622 WEB: www.jecorp.com

| DATE       | REVISION DISCUSSION                                |
|------------|--|
| 4-26-10    | SEE 'PURPOSE STATEMENT'                            |
| 09-01-2009 | SEE PURPOSE STATEMENT ABOVE FOR SPECIFIC REVISIONS |

**'PURPOSE STATEMENT'**

THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO RELOCATE THE PREVIOUSLY APPROVED GARAGE LOCATION (TO THE NORTH ALONG THE EXISTING DRIVEWAY). ADD THE GARAGE ELEVATIONS. PROVIDE DRYWELLS AT DOWN-SPOUT LOCATIONS FOR GARAGE FOR WATER QUALITY PURPOSES. ADD NEW SHEETS (16 & 17 OF 17).

**PURDUM & JESCHKE**  
CONSULTING ENGINEERS  
LAND SURVEYORS  
1029 North Colvert Street  
Baltimore, Maryland 21202 501/637-0194

APPROVED: FOR PRIVATE WATER AND SEWER SYSTEM  
HOWARD COUNTY HEALTH DEPARTMENT  
*B. Wilson for Peter Bilenenson* DATE 11/24/2009  
COUNTY HEALTH OFFICER DATE 1/10

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Matthew E. Joyce* DATE 11/13/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*David P. Sullivan for ES. Hestley* DATE  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*Thomas E. Butler* DATE 11/30/09  
DIRECTOR DATE

DEED · 393 / 29  
ELECTION DISTRICT · 3  
TAX MAP · 10 PARCEL 35



**SISTERS OF BON SECOURS, U.S.A.**  
1525 MARRIOTTVILLE ROAD  
MARRIOTTVILLE, MD, 21104  
HOWARD CO, MD  
APARTMENT BUILDING  
SITE PLAN

PROJ NO SDP-87-252  
SCALE  
DATE 7/10/09  
AUG. 17, 1987

DWG NO  
**C-2**  
SHEET 2 OF 18

REVISION 11/1/88 GC  
REVISE PARKING SPACES



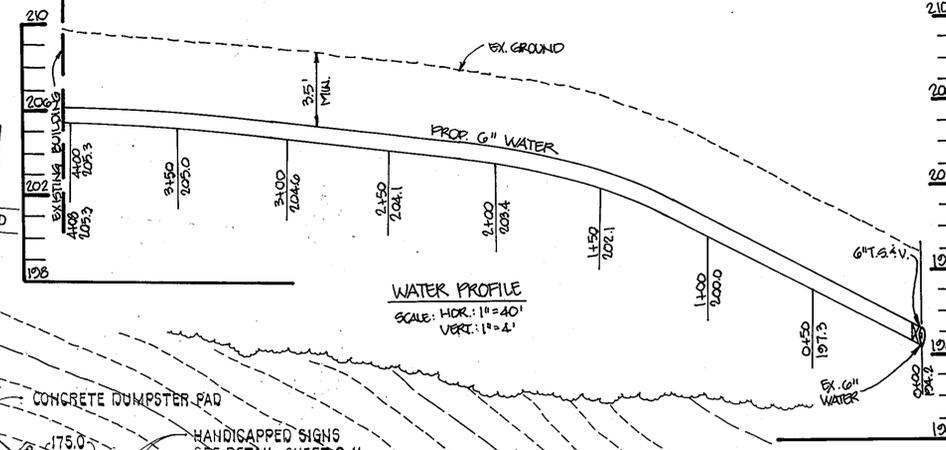
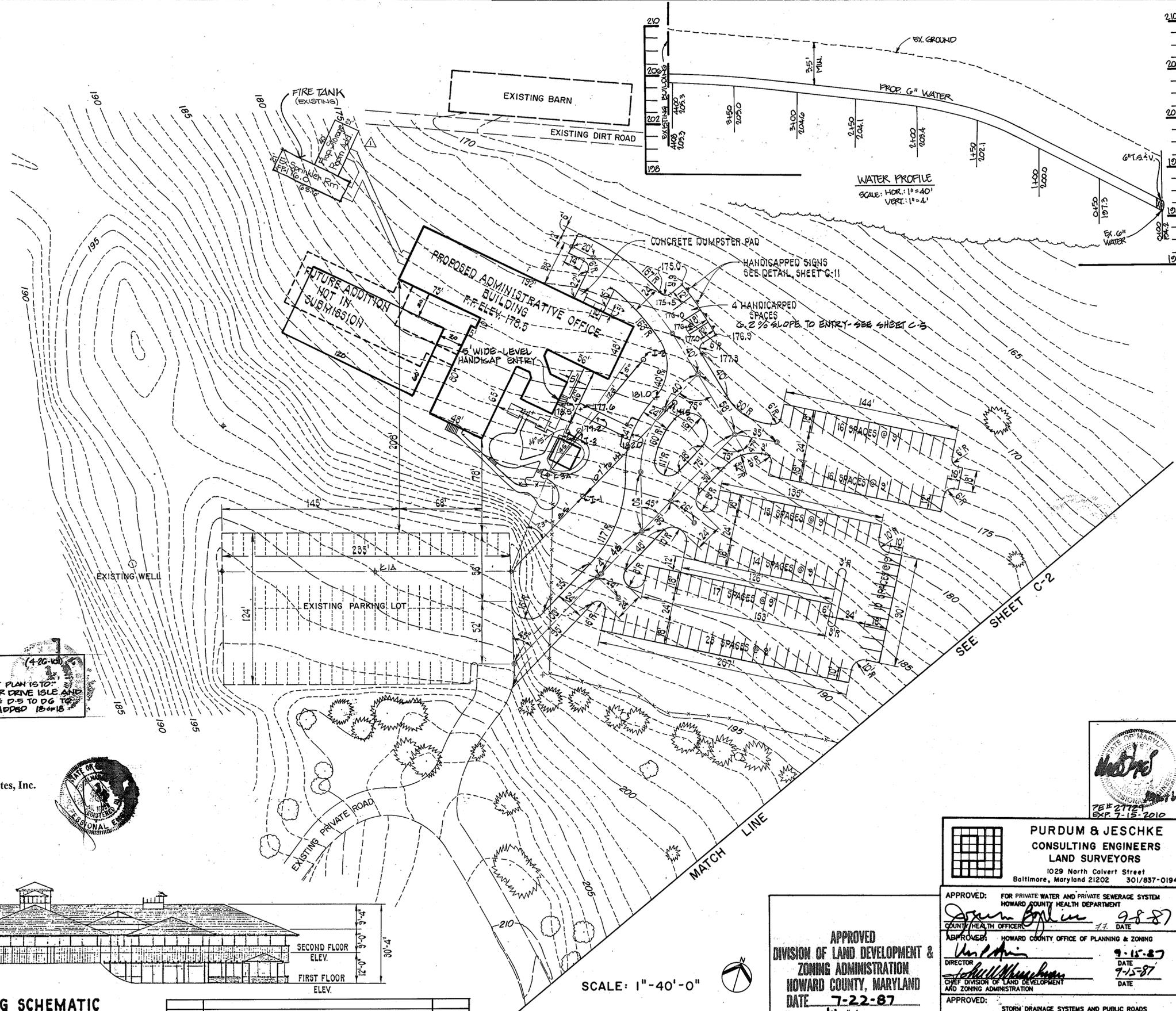
**BUILDING SCHEMATIC**  
NOT TO SCALE

SCALE: 1" = 40' - 0"

Proposed 30' x 40'  
Two (2) Story Garage /  
Storage Building  
SEE DETAILS ON  
SHEET 16 OF 18

**'PURPOSE STATEMENT'**

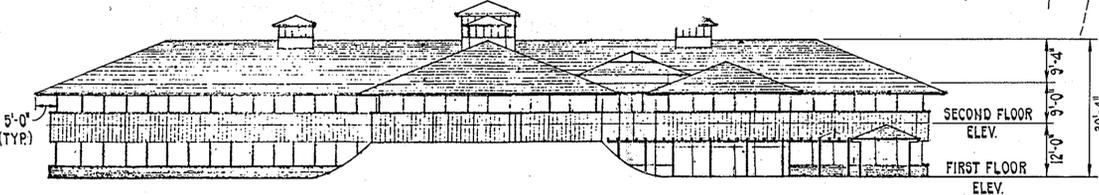
THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO:  
ADD A KEYSTONE RETAINING WALL ALONG THE REAR DRIVE  
15L6 AND LOWER STORM DRAIN OUTFALL FROM STRUCTURE D-5  
TO D-6 TO ACCOMMODATE SAME. ONE NEW SHEET HAS BEEN  
ADDED - 18 OF 18  
(4-26-10)



**PURPOSE STATEMENT**  
 THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO ADD A KEYSTONE RETAINING WALL ALONG THE REAR DRIVE ISLE AND LOWER STORM DRAIN CUTFALL FROM STRUCTURE D-5 TO D-6 TO ACCOMMODATE SAME. ONE NEW CHEST HAS BEEN ADDED 15'x15' (4-26-10)

- REVISION 7-7-04 (#2)  
ADD WATER PROFILE (RHW ENG)
- REVISION 3-23-98  
\* ADD STORAGE RM. TO EX. SPRINKLER RM.  
\* ADD SIDEWALK FROM OFFICE BLDG TO STORAGE RM
- REVISION 11/1/88 SL  
ADD FIRE TANK

**J. E. Scott & Associates, Inc.**  
 2708 Dillon Street  
 Baltimore, Maryland 21224  
 (410) 534-7442



**BUILDING SCHEMATIC**  
 NOT TO SCALE

| NO. | REVISION                               | DATE     |
|-----|--|----------|
| 3   | SEE "PURPOSE STATEMENT"                | 4-26-10  |
| 2   | REVISED SHEET INDEX. ADDED 2 NEWSHEETS | 10-22-09 |
| 1   | ADDITION OF TEMPORARY MODULAR BUILDING | 8-30-92  |

SCALE: 1"=40'-0"

APPROVED  
 DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION  
 HOWARD COUNTY, MARYLAND  
 DATE 7-22-87

**PURDUM & JESCHKE**  
 CONSULTING ENGINEERS  
 LAND SURVEYORS  
 1029 North Calvert Street  
 Baltimore, Maryland 21202 301/837-0194

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEM  
 HOWARD COUNTY HEALTH DEPARTMENT  
 COUNTY HEALTH OFFICER: *[Signature]* DATE: 9-8-87  
 APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING  
 DIRECTOR: *[Signature]* DATE: 9-15-87  
 CHIEF DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION  
 APPROVED: STORM DRAINAGE SYSTEMS AND PUBLIC ROADS  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 DIRECTOR: *[Signature]* DATE: 9/16/87  
 CHIEF BUREAU OF ENGINEERING: *[Signature]* DATE: 9-14-87

**Gaudreau, Inc.**  
 Architects Planners Engineers  
 Baltimore

810 Light Street Baltimore Maryland 21230

**Faisant Associates, Inc.**  
 Structural Engineers

**Kibart, Inc.**  
 Mechanical/Electrical Engineers

**Purdum & Jeschke**  
 Civil Engineers

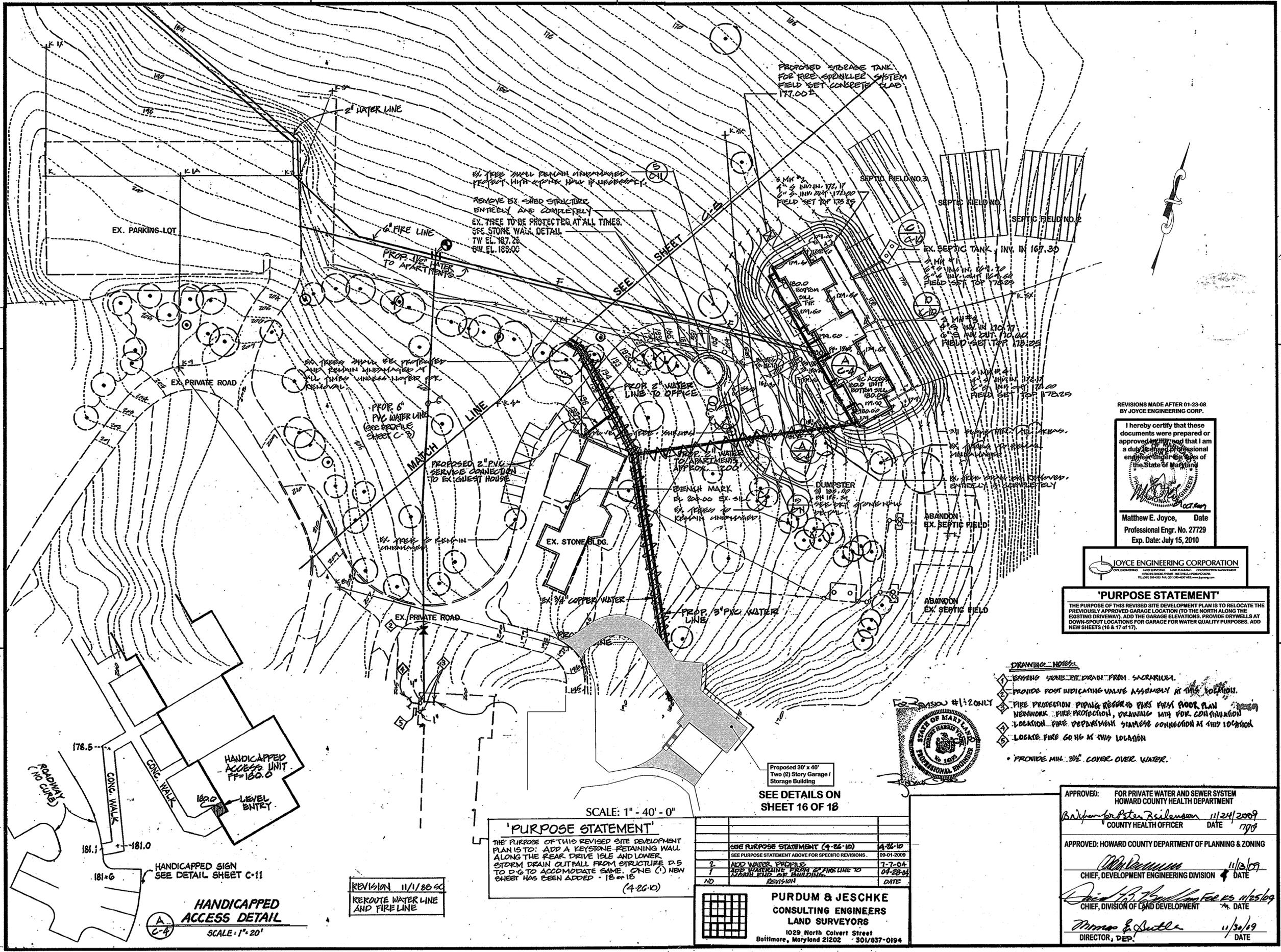
**DEVELOPER'S CERTIFICATION**  
 I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATION OF ATTENDANCE AT THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF ANY SEDIMENT EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]*  
**ENGINEER'S CERTIFICATION**  
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

DEED: 393/29  
 ELECTION DISTRICT: 3  
 TAX MAP: 10 PARCEL: 35

**SISTERS OF BON SECOURS, U.S.A.**  
 1525 MARRIOTTSVILLE ROAD  
 MARRIOTTSVILLE, MD. 21104  
 ADMINISTRATIVE OFFICE BUILDING  
 SITE PLAN

PROJ NO: SDP-87-252  
 SCALE: **C-3**  
 DATE: AUG. 17, 1987  
 SHEET 3 OF 18



810 Light Street Baltimore Maryland 21202

Faisant Associates, Inc.  
Structural Engineers  
Kibart, Inc.  
Mechanical/Electrical Engineers  
Purdum & Jeschke  
Civil Engineers

REVISIONS MADE AFTER 01-23-08  
BY JOYCE ENGINEERING CORP.

I hereby certify that these documents were prepared or approved by me and that I am a duly licensed Professional Engineer under the laws of the State of Maryland.  
Matthew E. Joyce, Date  
Professional Engr. No. 27729  
Exp. Date: July 15, 2010



**'PURPOSE STATEMENT'**  
THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO RELOCATE THE PREVIOUSLY APPROVED GARAGE LOCATION (TO THE NORTH ALONG THE EXISTING DRIVEWAY), ADD THE GARAGE ELEVATIONS, PROVIDE DRYWELLS AT DOWN-SPOUT LOCATIONS FOR GARAGE FOR WATER QUALITY PURPOSES. ADD NEW SHEETS (16 & 17 OF 17).

- DRAWING NOTES**
- EXISTING 4" DIA. 12" DEEP DRAIN FROM SACRAMENTO.
  - PROVIDE FOOT INDICATING VALVE ASSEMBLY AT THIS LOCATION.
  - PIPE PROTECTION PIPING REFER TO THIS FRESH FLOOR PLAN NETWORK. FIRE PROTECTION DRAWING WITH FOR CONTINUATION.
  - LOCATION FIRE DEPARTMENT STAIRS CONNECTION AT THIS LOCATION.
  - LOCATE FIRE GO NG AT THIS LOCATION.
  - PROVIDE MIN. 3/8" COVER OVER WATER.



Proposed 30' x 40' Two (2) Story Garage / Storage Building  
SEE DETAILS ON SHEET 16 OF 18

SCALE: 1" = 40' - 0"

**'PURPOSE STATEMENT'**  
THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO: ADD A KEYSTONE RETAINING WALL ALONG THE REAR DRIVE ISLE AND LOWER STORM DRAIN OUTFALL FROM STRUCTURE D-5 TO D-6 TO ACCOMMODATE SAME. ONE (1) NEW SHEET HAS BEEN ADDED - 18 OF 18 (4-26-10)

REVISION 11/11/88  
REROUTE WATER LINE AND FIRE LINE

**HANDICAPPED ACCESS DETAIL**  
SCALE: 1" = 20'

| NO. | REVISION   | DATE       |
|-----|--|------------|
| 1   | ADD WATER PROFILE  | 1-7-04     |
| 2   | ADD WATERLINE FROM EX. FIRELINE TO NORTH END OF BUILDING | 04-28-04   |
| 3   | SEE PURPOSE STATEMENT ABOVE FOR SPECIFIC REVISIONS.      | 09-01-2009 |
| 4   | SEE PURPOSE STATEMENT (4-26-10)                          | 4-26-10    |

**PURDUM & JESCHKE**  
CONSULTING ENGINEERS  
LAND SURVEYORS  
1029 North Colvert Street  
Baltimore, Maryland 21202 301/637-0194

APPROVED: FOR PRIVATE WATER AND SEWER SYSTEM  
HOWARD COUNTY HEALTH DEPARTMENT  
Baltimore for Peter Reichenborn 11/24/2009  
COUNTY HEALTH OFFICER DATE 11/09

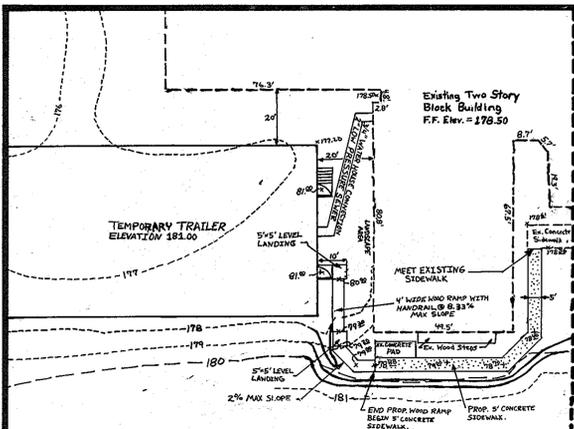
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
11/30/09  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE  
11/30/09  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
11/30/09  
DIRECTOR, DEP. DATE

DEED • 393/29  
ELECTION DISTRICT • 3  
TAX MAP • 10 PARCEL 35



**SISTERS OF BON SECOURS, U.S.A.**  
1525 MARRIOTTSVILLE ROAD  
MARRIOTTSVILLE, MD, 21104  
HOWARD CO., MD.  
GRADING AND UTILITY PLAN

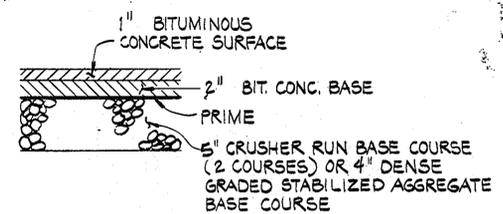
PROJ NO SDP-87-252  
SCALE  
DATE AUG. 17, 1987  
DWG NO  
C-4  
Sheet 4 of 18  
SHEET



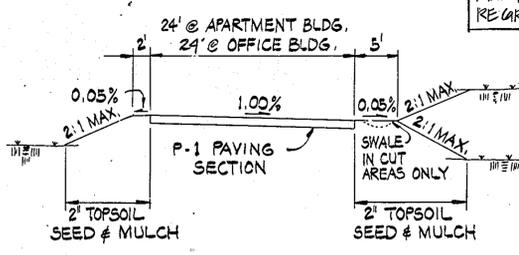
INSET  
PROPOSED TEMPORARY MODULAR BUILDING AND SIDEWALK  
Scale = 1" = 30'

REVISION 3/23/78  
Add 21'x40' Storage Add, Sidewalk & 35'x24' CMP Arch, Regrade as Necessary

J.E. Scott & Assoc., Inc.  
2708 Dillon Street  
Baltimore, MD 21224  
(410) 534-7442



A P-1 PAVING SECTION  
NOT TO SCALE



B TYPICAL ROADWAY SECTION  
NOT TO SCALE

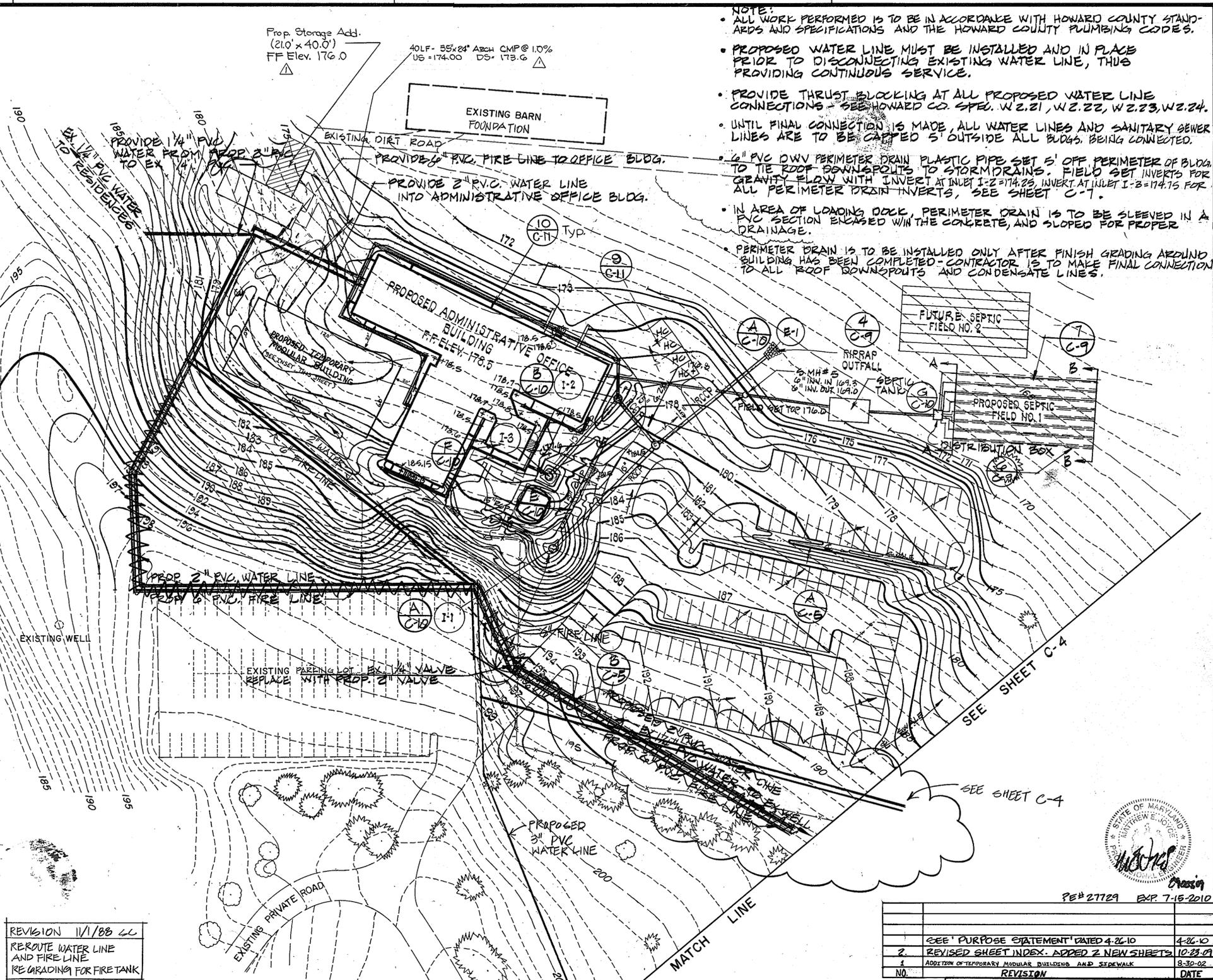
REVISION 11/1/88  
REROUTE WATER LINE AND FIRE LINE  
RE GRADING FOR FIRE TANK

NOTES: ROADWAY DESIGN SPEED - 15MPH  
• ZONING - Z  
• SLOPE FROM HANDICAPPED PARKING TO DOOR - 6.2%  
• OBTAIN LETTER  
• DETAIL DESIGNATION  
• SHEET NUMBER

SCALE: 1" = 40' - 0"

'PURPOSE STATEMENT' (4-26-10)  
THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO: ADD A KEYSTONE RETAINING WALL ALONG THE REAR DRIVE ISLE & LOWER STORM DRAIN OUTFALL FROM STRUCTURE D-5 TO D-6 TO ACCOMMODATE SAME. ONE (1) NEW SHEET HAS BEEN ADDED - 15 OF 12.

- NOTE:  
• ALL WORK PERFORMED IS TO BE IN ACCORDANCE WITH HOWARD COUNTY STANDARDS AND SPECIFICATIONS AND THE HOWARD COUNTY PLUMBING CODES.  
• PROPOSED WATER LINE MUST BE INSTALLED AND IN PLACE PRIOR TO DISCONNECTING EXISTING WATER LINE, THUS PROVIDING CONTINUOUS SERVICE.  
• PROVIDE THRUST BLOCKING AT ALL PROPOSED WATER LINE CONNECTIONS - SEE HOWARD CO. SPEC. W 2.21, W 2.22, W 2.23, W 2.24.  
• UNTIL FINAL CONNECTION IS MADE, ALL WATER LINES AND SANITARY SEWER LINES ARE TO BE CAPPED 5' OUTSIDE ALL BLDGS. BEING CONNECTED.  
• 6" PVC DOWN PERIMETER DRAIN PLASTIC PIPE SET 5' OFF PERIMETER OF BLDG. TO TIE ROOF DOWNSPOUTS TO STORM DRAINS. FIELD SET INVERTS FOR GRAVITY FLOW WITH INVERT AT INLET I-2 = 174.25, INVERT AT INLET I-3 = 174.15 FOR ALL PERIMETER DRAIN INVERTS. SEE SHEET C-7.  
• IN AREA OF LOADING DOCK, PERIMETER DRAIN IS TO BE SLEEVED IN A PVC SECTION ENCASED WITH THE CONCRETE, AND SLOPED FOR PROPER DRAINAGE.  
• PERIMETER DRAIN IS TO BE INSTALLED ONLY AFTER FINISH GRADING AROUND BUILDING HAS BEEN COMPLETED - CONTRACTOR IS TO MAKE FINAL CONNECTION TO ALL ROOF DOWNSPOUTS AND CONDENSATE LINES.



| NO. | REVISION  | DATE     |
|-----|---|----------|
| 1   | SEE 'PURPOSE STATEMENT' DATED 4-26-10               | 4-26-10  |
| 2   | REVISED SHEET INDEX. ADDED 2 NEW SHEETS             | 10-23-09 |
| 3   | ADDITION OF TEMPORARY MODULAR BUILDING AND SIDEWALK | 8-30-02  |

APPROVED  
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION  
HOWARD COUNTY, MARYLAND  
DATE 7-22-87

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEM  
HOWARD COUNTY HEALTH DEPARTMENT  
COUNTY HEALTH OFFICER: *James J. Ogilvie* DATE: 7-28-87  
APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING  
DIRECTOR: *Van P. Amis* DATE: 9-15-87  
CHIEF DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION: *Richard H. Bewick* DATE: 7-15-87  
APPROVED: STORM DRAINAGE SYSTEMS AND PUBLIC ROADS  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
DIRECTOR: *James J. Ogilvie* DATE: 7-14-87  
CHIEF BUREAU OF ENGINEERING: *Richard H. Bewick* DATE: 7-14-87



810 Light Street Baltimore Maryland 21230  
Faisant Associates, Inc.  
Structural Engineers  
Kibart, Inc.  
Mechanical/Electrical Engineers  
Purdum & Jeschke  
Civil Engineers

DEVELOPER'S CERTIFICATION  
I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATION OF ATTENDANCE AT THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF ANY SEDIMENT EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY HOWARD SOIL CONSERVATION DISTRICT.

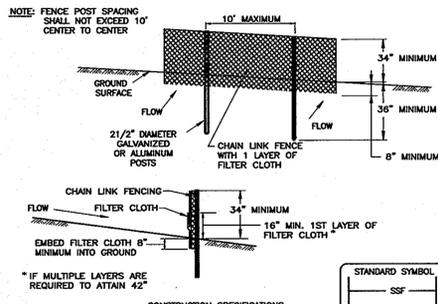
ENGINEER'S CERTIFICATION  
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Richard H. Bewick, Engineer  
DEED: 393/29  
ELECTION DISTRICT: 3  
TAX MAP: 10 PARCEL 35



SISTERS OF BON SECOURS, U.S.A.  
1525 MARRIOTTSTVILLE ROAD  
MARRIOTTSTVILLE, MD. 21104  
HOWARD CO., MD.  
ADMINISTRATIVE OFFICE BUILDING  
GRADING & UTILITY PLAN  
PROJ NO SDP-87-252  
SCALE 1" = 40'  
DATE AUG. 17, 1987  
DWG NO C-5  
SHEET 5 OF 18

**DETAIL 33 - SUPER SILT FENCE**



CONSTRUCTION SPECIFICATIONS

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

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

**SUPER SILT FENCE**

| DESIGN CRITERIA |                 |                        |                             |
|-----------------|-----------------|------------------------|-----------------------------|
| SLOPE           | SLOPE STEEPNESS | SLOPE LENGTH (MAXIMUM) | SILT FENCE LENGTH (MAXIMUM) |
| 0 - 10%         | 0 - 10:1        | UNLIMITED              | UNLIMITED                   |
| 10 - 20%        | 10:1 - 5:1      | 200 FEET               | 1,500 FEET                  |
| 20 - 33%        | 5:1 - 3:1       | 100 FEET               | 1,000 FEET                  |
| 33 - 50%        | 3:1 - 2:1       | 100 FEET               | 500 FEET                    |
| 50% +           | 2:1 +           | 50 FEET                | 250 FEET                    |

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE II - 28 - 3A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**PURDUM & JESCHKE**  
CONSULTING ENGINEERS  
LAND SURVEYORS  
1029 North Colvert Street  
Baltimore, Maryland 21202 301/837-0194

**'PURPOSE STATEMENT'**

THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO RELOCATE THE PREVIOUSLY APPROVED GARAGE LOCATION (TO THE NORTH ALONG THE EXISTING DRIVEWAY), ADD THE GARAGE ELEVATIONS, PROVIDE DRYWELLS AT DOWN-SPOUT LOCATIONS FOR GARAGE FOR WATER QUALITY PURPOSES. ADD NEW SHEETS (16 & 17) OF 17.

| DATE       | REVISION DESCRIPTION   |
|------------|--|
| 1/06/09    | FOR REVISIONS DETAILS SEE 'PURPOSE STATEMENT' DATED JAN. 6, 2009 |
| 09-01-2009 | SEE PURPOSE STATEMENT ABOVE FOR SPECIFIC REVISIONS               |
| 4-26-10    | SEE 'PURPOSE STATEMENT' DATED 4-26-10                            |

**JOYCE ENGINEERING CORPORATION**  
ONE ENGINEERING LAND SURVEYING LAND PLANNING CONSTRUCTION MANAGEMENT  
WWW.JOYCE-ENG.COM REGISTERED PROFESSIONAL ENGINEERS  
TEL: (410) 595-4810 FAX: (410) 595-4810 WWW.JOYCE-ENG.COM

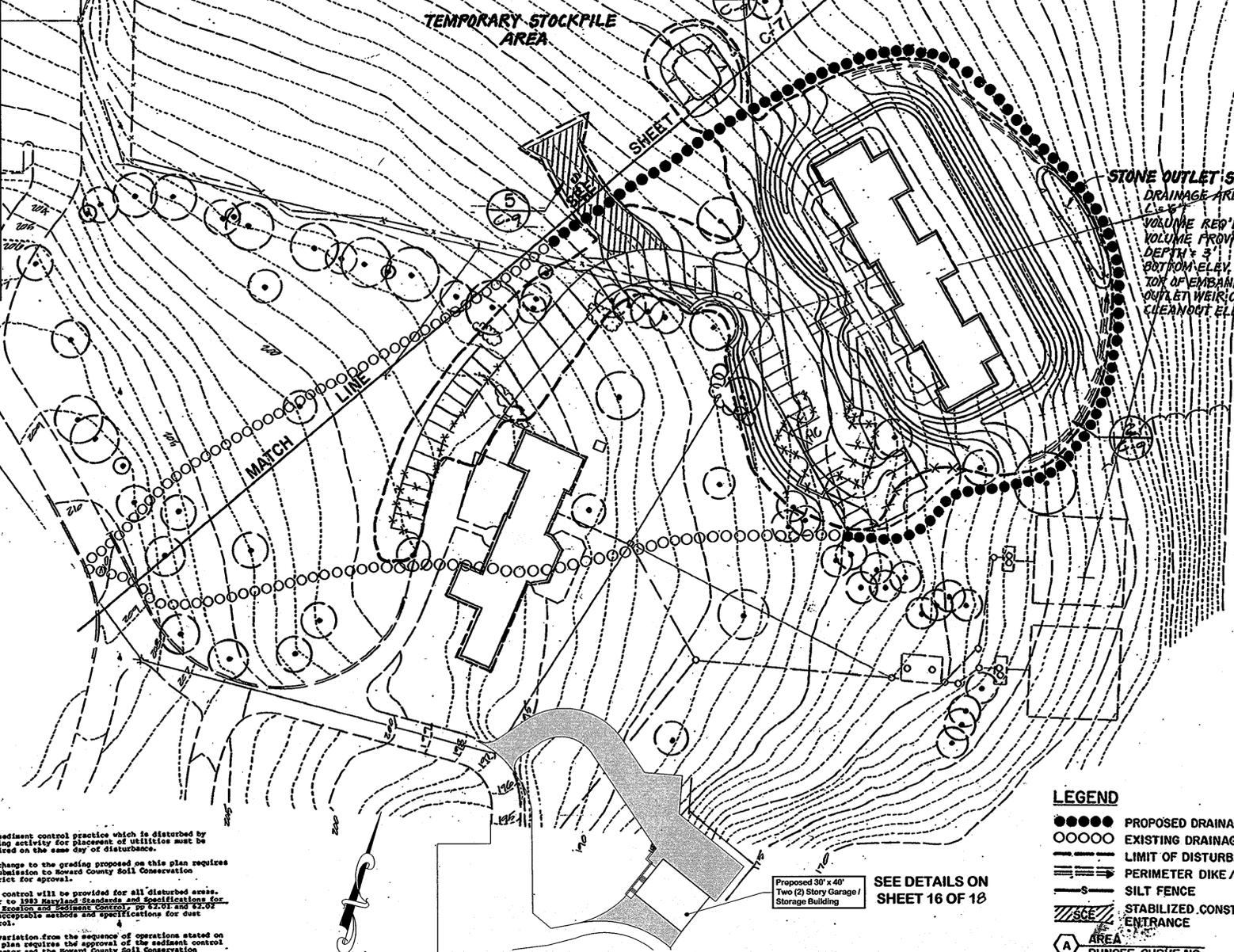
REVISIONS MADE AFTER 01-23-09 BY JOYCE ENGINEERING CORP.

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

*Matthew E. Joyce*  
Matthew E. Joyce, Date  
Professional Engr. No. 27729  
Exp. Date: July 15, 2010

- \* SEQUENCE OF CONSTRUCTION**
- Notify the Howard County Soil Conservation District and the Howard County Bureau of Licenses, Inspection and Permits at least 48 hours before any work begins.
  - Clear and grub for sediment and erosion control measures or devices only.
  - Install all sediment and erosion control measures and devices.
  - Notify Howard County Department of Permits and Licenses, Sediment Control Division, upon completion of said installation.
  - With the approval of Howard County Department of Permits and Licenses and the sediment control inspector, clear and grub remainder of site.
  - Take the appropriate precautions to existing site conditions.
  - Begin earthwork operations beginning with topsoil removal and stockpiling.
  - Start major grading, maintain positive drainage to sediment control structures.
  - Stabilize rough graded areas.
  - During building construction maintain all sediment control measures.
  - Place building floor area and parking areas to subgrade.
  - Construct foundation walls.
  - Install all utilities.
  - Place base stone on building and paving subgraded areas.
  - Stabilize all remaining disturbed areas outside of building and paved areas.
  - Complete paving.
  - Grade to proposed finished grades stabilize with permanent seed mix.
  - After obtaining permission from the sediment control inspector, remove all erosion control devices and stabilize those areas.

\* NOTE: THE SEDIMENT CONTROL PLAN FOR THE APARTMENT BUILDING AND OFFICE BUILDING ARE SEPARATE AND CAN BE CONSTRUCTED INDEPENDENTLY



- \* SEDIMENT EROSION CONTROL NOTES**
- A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction (992-2437).
  - Refer to 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control for the standard details and detailed specifications of each practice specified herein.
  - On all sites disturbed areas in excess of 2 acres approval of the inspection agency shall be required 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.
  - With the approval of the sediment control inspector, minor field adjustments can and will be made to insure the control of any sediment. Changes in sediment control practices require prior approval of the sediment control inspector and the Howard County Soil Conservation District.
  - Additional sediment controls must be provided if deemed necessary by the Howard County Department of Sediment Control Inspector.
  - Following initial soil disturbance, permanent or temporary stabilization shall be completed within a seven calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes greater than 1:1 (horizontal to 1 vertical (H:V)) and b) fourteen 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 volume 1, chapter 2 of the Howard County Design Manual.
  - All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control for permanent seeding (Sec. 211) and temporary seeding (Sec. 50) and mulching (Sec. 51). Temporary seeding which alone can only be done when recommended seeding dates can not only for proper germination and establishment of grasses.
  - All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
  - Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
  - Any change to the grading proposed on this plan requires resubmission to Howard County Soil Conservation District for approval.
  - Dust control will be provided for all disturbed areas. Refer to 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control for details and specifications for acceptable methods and specifications for dust control.
  - Any variation from the sequence of operations stated on this plan requires the approval of the sediment control inspector and the Howard County Soil Conservation District prior to the initiation of the change.
  - Any disturbed earth left idle for periods exceeding 30 days shall be stabilized according to temporary stabilization specifications.
  - At the end of each working day, all sediment control practice will be inspected and left in operational condition.

10. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
  11. Any change to the grading proposed on this plan requires resubmission to Howard County Soil Conservation District for approval.
  12. Dust control will be provided for all disturbed areas. Refer to 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control for details and specifications for acceptable methods and specifications for dust control.
  13. Any variation from the sequence of operations stated on this plan requires the approval of the sediment control inspector and the Howard County Soil Conservation District prior to the initiation of the change.
  14. Any disturbed earth left idle for periods exceeding 30 days shall be stabilized according to temporary stabilization specifications.
  15. At the end of each working day, all sediment control practice will be inspected and left in operational condition.
- SITE ANALYSIS: APT. 15A-09**
- |                                    |              |
|------------------------------------|--------------|
| TOTAL AREA OF PROPERTY             | 312.65 ACRES |
| AREA DISTURBED                     | 0.97 ACRES   |
| AREA TO BE RESEED OR PAVED         | 0.22 ACRES   |
| AREA TO BE VEGETATIVELY STABILIZED | 0.77 ACRES   |
- See sheet 16 of 17 for earthwork number and disturbed area.
- |            |               |
|------------|---------------|
| TOTAL CUT  | 1967 CU. YDS. |
| TOTAL FILL | 1565 CU. YDS. |
17. All disturbed areas shall be stabilized with permanent seed and mulch in accordance with plans approved by the Howard County Conservation District.
  18. All parking lot islands shall be seeded as per Howard County specifications and standard details.
  19. The Contractor shall repair and maintain existing sediment control devices until all areas within the limit of construction are stabilized. At that point all sediment control devices shall be removed and areas restored and stabilized.

SCALE: 1" = 40'

REVISION 11/1/88 SC  
REVISE PARKING SPACES

**'PURPOSE STATEMENT'**

THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO: ADD A KEYSTONE RETAINING WALL ALONG THE REAR DRIVE ISLE AND LOWER STORM DRAIN CUTFALL FROM STRUCTURE D-5 TO D-6 TO ACCOMMODATE SAME ONE (1) NEW SHEET HAS BEEN ADDED - IS OF 18 (4-26-10)

Reviewed for Howard SCD and Streets Technical Requirements

USDA - Natural Resources Conservation Service Date

This development plan is approved for the soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT

*John K. Korbman*  
John K. Korbman Date 11/10/09  
Howard SCD

Proposed 30' x 40' Two (2) Story Garage/Storage Building

SEE DETAILS ON SHEET 16 OF 18

**LEGEND**

- PROPOSED DRAINAGE AREA
- EXISTING DRAINAGE AREA
- LIMIT OF DISTURBANCE
- == PERIMETER DIKE / SWALE
- S- SILT FENCE
- ▨ STABILIZED CONSTRUCTION ENTRANCE
- A AREA RUNOFF CURVE NO.

**ENGINEERS' CERTIFICATION**

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

*Matthew E. Joyce*  
Signature of Engineer (print name below signature) Date 11/24/09  
Matthew E. Joyce, P.E.

**DEVELOPER'S CERTIFICATION**

"I/we certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at the Department of 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."

*Dr. Alice Talone*  
Signature of Developer (print name below signature) Date 10/29/09  
Sisters of Bon Secours, USA Dr. ALICE TALONE

APPROVED: FOR PRIVATE WATER AND SEWER SYSTEM HOWARD COUNTY HEALTH DEPARTMENT

*Peter Baileman*  
Signature for Peter Baileman 11/24/2009  
COUNTY HEALTH OFFICER DATE 11/24/09

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*Matthew E. Joyce*  
Signature of Engineer (print name below signature) Date 11/24/09  
Matthew E. Joyce, P.E.

*Matthew E. Joyce*  
Signature of Developer (print name below signature) Date 11/24/09  
Matthew E. Joyce, P.E.

**Gaudreau, Inc.**  
Architects Planners Engineers  
Baltimore

810 Light Street Baltimore Maryland 21230

**Faisant Associates, Inc.**  
Structural Engineers  
**Kibart, Inc.**  
Mechanical/Electrical Engineers  
**Purdum & Jeschke**  
Civil Engineers

DEED: 393/29  
ELECTION DISTRICT: 3  
TAX MAP: 10 PARCEL 35



**SISTERS OF BON SECOURS, U.S.A.**

1525 MARRIOTTSVILLE ROAD  
MARRIOTTSVILLE, MD, 21104

**SEDIMENT AND EROSION CONTROL PLAN**

PROJ NO SDP-87-252  
SCALE: 1" = 40'

DATE: AUG. 17, 1997

DWG NO: C-6  
SHEET 6 OF 18

**SEQUENCE OF CONSTRUCTION**

1. Notify the Howard County Soil Conservation District and the Howard County Bureau of Licenses, Inspection and Permits at least 48 hours before any work begins.
2. Clear and grub for sediment and erosion control measures or devices only.
3. Install all sediment and erosion control measures and devices.
4. Notify Howard County Department of Permits and Licenses, Sediment Control Division, upon completion of said installation.
5. With the approval of Howard County Department of Permits and Licenses and the sediment control inspector, clear and grub remainder of site.
6. Make the appropriate removals to existing site conditions.
7. Begin earthwork operations beginning with topsoil removal and stockpiling.
8. Start major grading, maintain positive drainage to sediment control structures.
9. Stabilize rough graded areas.
10. Bring building construction maintain all sediment control measures.
11. Place building floor area and parking areas to subgrade.
12. Construct foundation walls.
13. Install all utilities.
14. Place base stone on building and paving subgraded areas.
15. Stabilize all remaining disturbed areas outside of building and paved areas.
16. Complete paving.
17. Grade to proposed finished grades stabilize with permanent seed mix.
18. After obtaining permission from the sediment control inspector, remove all erosion control devices and stabilize those areas.

**SEDIMENT EROSION CONTROL NOTES**

1. A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction (197-2437).
2. Refer to 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control for the standard details and detailed specifications of each practice specified herein.
3. On all sites disturbed areas in excess of 2 acres approval of the inspection agency shall be required 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.
4. With the approval of the sediment control inspector, minor field adjustments can and will be made to insure the control of any sediment. Changes in sediment control practices require prior approval of the sediment control inspector and the Howard County Soil Conservation District.
5. Additional sediment controls must be provided if deemed necessary by the Howard County Department Sediment Control Inspector.
6. Following initial soil disturbance, permanent or temporary stabilization shall be complete within: a) seven calendar days as to the surface of all perimeter control, dikes, swales, ditches, perimeter slopes, and all slopes greater than 3 horizontal to 1 vertical (3:1) and b) fourteen days as to all other disturbed or graded areas on the project site.
7. All sediment traps basins shown must be fenced and warning signs posted around their perimeter in accordance with volume 1, chapter 2 of the Howard County Design Manual Storm Drainage.
8. All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control for permanent seedings (Sec. 51) and (Sec. 52). Temporary seeding (Sec. 50) and mulching (Sec. 53). Temporary stabilization with mulch alone can only be done when recommended seeding dates can not all for proper germination and establishment of grasses.
9. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
10. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
11. Any change to the grading proposed on this plan requires re-submission to Howard County Soil Conservation District for approval.
12. Dust control will be provided for all disturbed areas. Refer to 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control, pp 62-61 and 62-62 for acceptable methods and specifications for dust control.
13. Any variation from the sequence of operations stated on this plan requires the approval of the sediment control inspector and the Howard County Soil Conservation District prior to the initiation of the change.
14. Any disturbed earth left idle for periods exceeding 30 days shall be stabilized according to temporary stabilization specifications.
15. At the end of each working day, all sediment control practices will be inspected and left in operational condition.
16. **SIZE ANALYSIS: OFFICE SITE**  
 TOTAL AREA OF PROPERTY ----- 312.45 ACRES  
 AREA DISTURBED ----- 36 ACRES  
 AREA TO BE ROOFED OR PAVED ----- 1.48 ACRES  
 AREA TO BE VEGETATIVELY STABILIZED ----- 0.44 ACRES (3.18 A)  
 TOTAL CUT ----- 8544 CU.YDS.  
 TOTAL FILL ----- 8345 CU.YDS.
17. All disturbed areas shall be stabilized with permanent seed and mulch in accordance with plans approved by the Howard County Conservation District.
18. All parking lot islands shall be sodded as per Howard County specifications and standard details.
19. The Contractor shall repair and maintain existing sediment control devices until all areas within the limit of construction are stabilized. At that point all sediment control devices shall be removed and areas restored and stabilized.

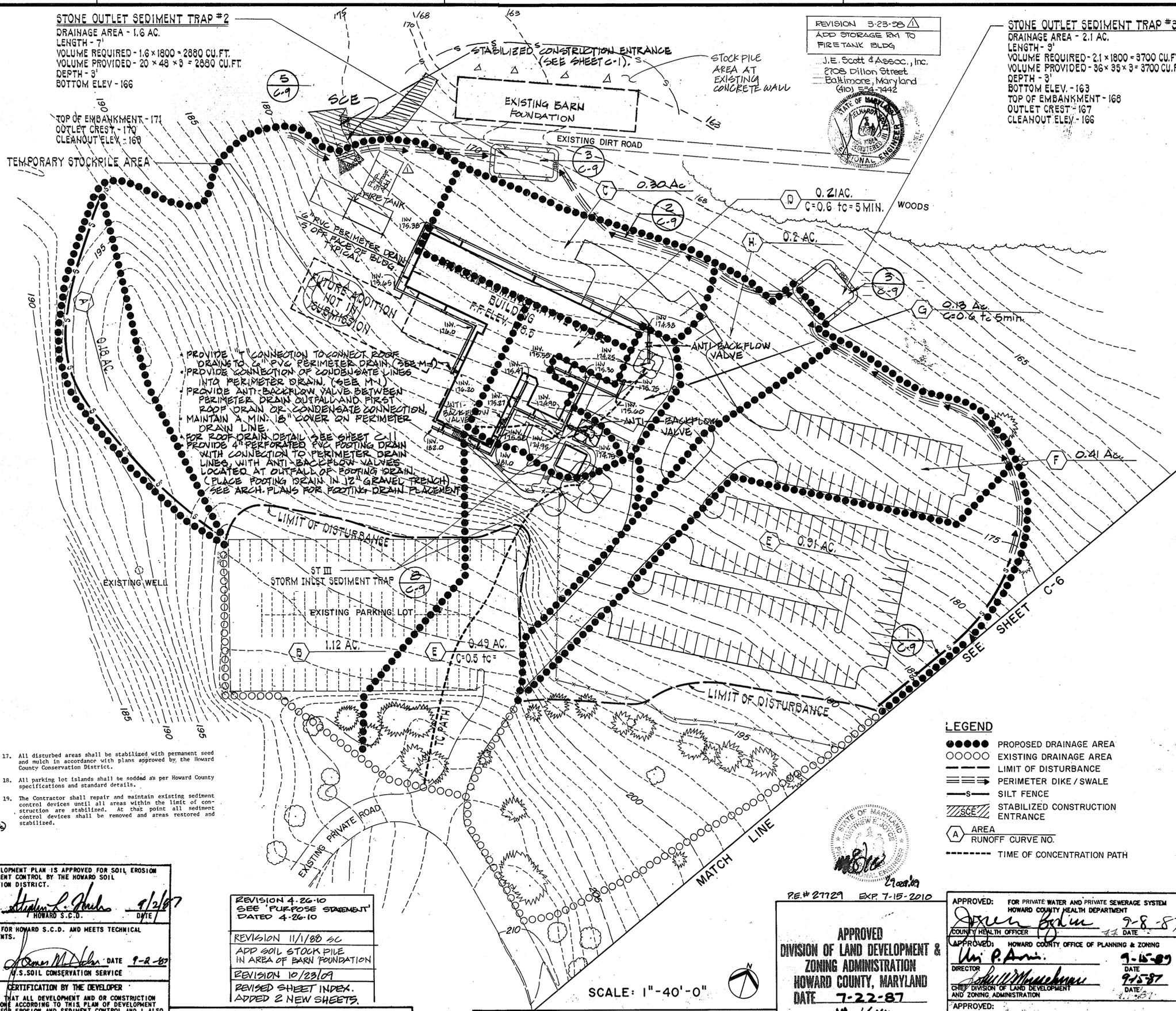
**STONE OUTLET SEDIMENT TRAP #2**

DRAINAGE AREA - 1.6 AC.  
 LENGTH - 7'  
 VOLUME REQUIRED - 1.6 x 1800 = 2880 CU.FT.  
 VOLUME PROVIDED - 20 x 48 x 3 = 2880 CU.FT.  
 DEPTH - 3'  
 BOTTOM ELEV - 166

TOP OF EMBANKMENT - 171  
 OUTLET CREST - 170  
 CLEANOUT ELEV - 169

**STONE OUTLET SEDIMENT TRAP #3**

DRAINAGE AREA - 2.1 AC.  
 LENGTH - 9'  
 VOLUME REQUIRED - 2.1 x 1800 = 3700 CU.FT.  
 VOLUME PROVIDED - 36 x 35 x 3 = 3700 CU.FT.  
 DEPTH - 3'  
 BOTTOM ELEV. - 163  
 TOP OF EMBANKMENT - 168  
 OUTLET CREST - 167  
 CLEANOUT ELEV - 166



REVISION 3-23-28  
 ADD STORAGE RM TO FIRE TANK BLDG

J.E. Scott & Assoc., Inc.  
 2703 Dillon Street  
 Baltimore, Maryland  
 (410) 554-1442



- LEGEND**
- PROPOSED DRAINAGE AREA
  - EXISTING DRAINAGE AREA
  - — — — LIMIT OF DISTURBANCE
  - — — — PERIMETER DIKE / SWALE
  - — — — SILT FENCE
  - — — — STABILIZED CONSTRUCTION ENTRANCE
  - △ AREA
  - RUNOFF CURVE NO.
  - — — — TIME OF CONCENTRATION PATH

**RESPONSIBLE PERSONNEL CERTIFICATION**  
 "I HEREBY CERTIFY THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE FROM A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT."  
 SIGNATURE OF DEVELOPER: *Nicole Quintana* DATE: 8/24/87  
 CERTIFICATION BY THE ENGINEER  
 "I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY BEST KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."  
 SIGNATURE OF ENGINEER: *Richard H. Perini* DATE: 8/24/87

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 APPROVED: *Howard S.C.D.* DATE: 9/2/87  
 REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.  
 SIGNATURE: *Howard S.C.D.* DATE: 9-2-87  
 U.S. SOIL CONSERVATION SERVICE  
 CERTIFICATION BY THE DEVELOPER  
 "I CERTIFY THAT ALL DEVELOPMENT AND OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS DEEMED NECESSARY."  
 SIGNATURE OF DEVELOPER: *Nicole Quintana* DATE: 8/24/87

REVISION 4-26-10  
 SEE "PURPOSE STATEMENT" DATED 4-26-10  
 REVISION 11/1/88 SC  
 ADD SOIL STOCK PILE IN AREA OF BARN FOUNDATION  
 REVISION 10/23/09  
 REVISED SHEET INDEX. ADDED 2 NEW SHEETS.  
**PURDUM & JESCHKE**  
 CONSULTING ENGINEERS  
 LAND SURVEYORS  
 1029 North Calvert Street  
 Baltimore, Maryland 21202 301/857-0194

REVISION 2-21-79 EXP. 7-15-2010  
**APPROVED**  
 DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION  
 HOWARD COUNTY, MARYLAND  
 DATE: 7-22-87  
**'PURPOSE STATEMENT' (4-26-10)**  
 THE PURPOSE OF THIS REVISED SITE DEVELOPMENT IS TO: ADD A KEYSTONE RETAINING WALL ALONG REAR DRIVE 10LE AND TO LOWER STORM DRAIN OUTFALL FROM STRUCTURE D-5 TO D-6 TO ACCOMMODATE SAME. ADD SHEET 18-F-13

APPROVED: *John P. An...* DATE: 7-28-87  
 COUNTY HEALTH OFFICER  
 APPROVED: *John P. An...* DATE: 7-28-87  
 DIRECTOR  
 APPROVED: *John P. An...* DATE: 7-28-87  
 CHIEF DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION  
 APPROVED: *John P. An...* DATE: 7-28-87  
 STORM DRAINAGE SYSTEMS AND PUBLIC ROADS  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 APPROVED: *John P. An...* DATE: 7-28-87  
 CHIEF BUREAU OF ENGINEERING

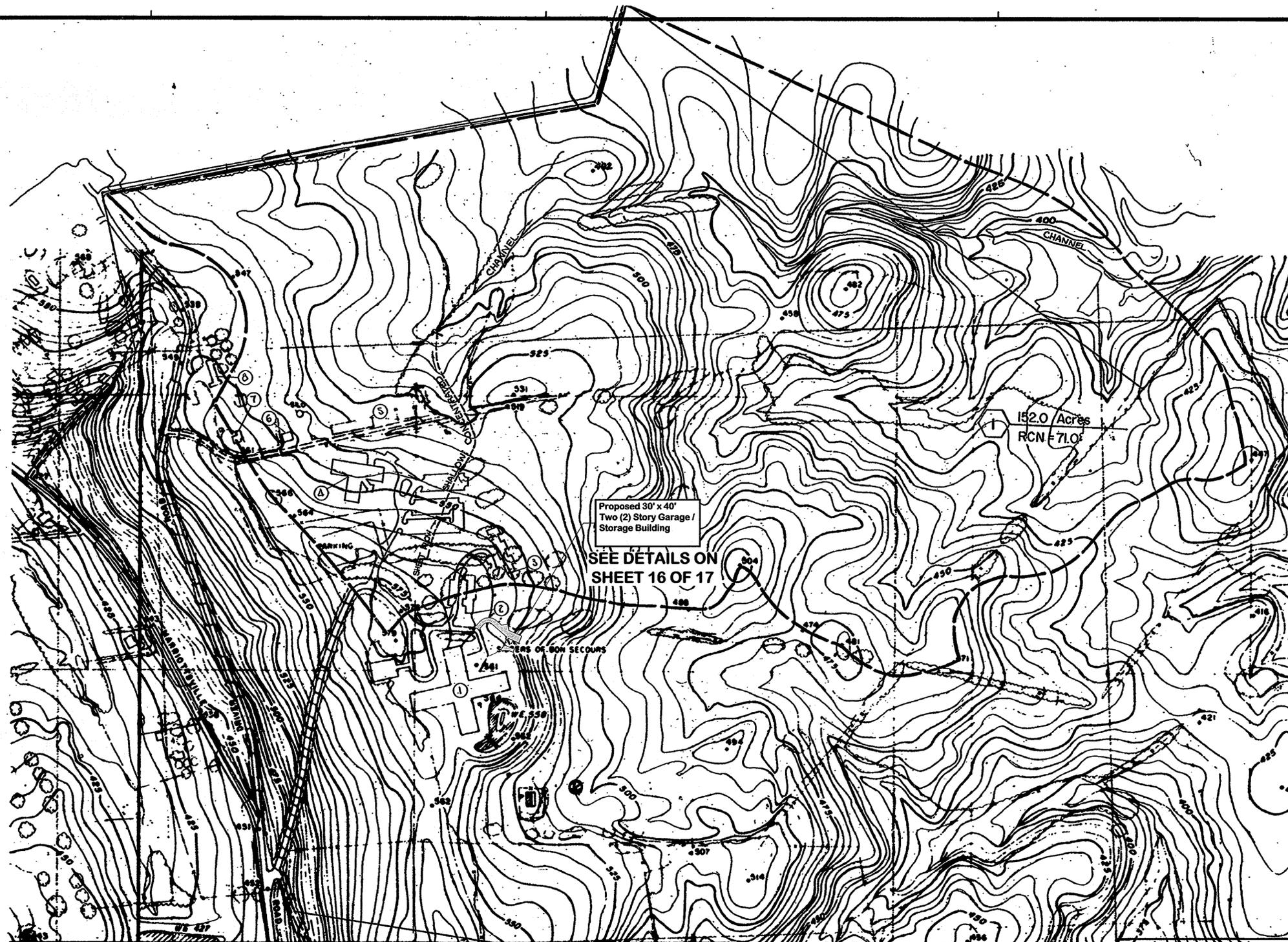
APPROVED: *John P. An...* DATE: 7-28-87  
 COUNTY HEALTH OFFICER  
 APPROVED: *John P. An...* DATE: 7-28-87  
 DIRECTOR  
 APPROVED: *John P. An...* DATE: 7-28-87  
 CHIEF DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION  
 APPROVED: *John P. An...* DATE: 7-28-87  
 STORM DRAINAGE SYSTEMS AND PUBLIC ROADS  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 APPROVED: *John P. An...* DATE: 7-28-87  
 CHIEF BUREAU OF ENGINEERING

**Gaudreau, Inc.**  
 Architects Planners Engineers  
 Baltimore  
 810 Light Street Baltimore Maryland 21203

**Faisant Associates, Inc.**  
 Structural Engineers  
**Kibart, Inc.**  
 Mechanical/Electrical Engineers  
**Purdum & Jeschke**  
 Civil Engineers

**DEVELOPER'S CERTIFICATION**  
 I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATION OF ATTENDANCE AT THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF ANY SEDIMENT EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY HOWARD SOIL CONSERVATION DISTRICT.  
*Nicole Quintana* 8/24/87  
**ENGINEER'S CERTIFICATION**  
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
*Richard H. Perini* 8/24/87  
 DEED: 393/29  
 ELECTION DISTRICT: 3  
 TAX MAP: 10 PARCEL: 35

**SISTERS OF BON SECOURS, U.S.A.**  
 1525 MARIOTTSTVILLE ROAD  
 MARIOTTSTVILLE, MD. 21104  
 HOWARD CO. M.D.  
 SEDIMENT AND EROSION CONTROL PLAN AND DRAINAGE AREA MAP  
 PROJ NO: SDP-87-252  
 SCALE: \_\_\_\_\_  
 DATE: AUG. 17, 1987  
**C-7**  
 SHEET 7 OF 18



**DRAINAGE AREA MAP**

SCALE: 1"=200'

**'PURPOSE STATEMENT'**  
 THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO RELOCATE THE PREVIOUSLY APPROVED GARAGE LOCATION (TO THE NORTH ALONG THE EXISTING DRIVEWAY), ADD THE GARAGE ELEVATIONS, PROVIDE DRYWELLS AT DOWN-SPOUT LOCATIONS FOR GARAGE FOR WATER QUALITY PURPOSES. ADD NEW SHEETS (16 & 17 OF 17).

| DATE       | REVISION DISCUSSION                                |
|------------|--|
| 09-01-2009 | SEE PURPOSE STATEMENT ABOVE FOR SPECIFIC REVISIONS |
| 4-26-10    | SEE 'PURPOSE STATEMENT' DATED 4-26-10              |
|            |  |
|            |  |
|            |  |

**'PURPOSE STATEMENT' (4-26-10)**  
 THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO: ADD A KEYSTONE RETAINING WALL ALONG THE REAR DRIVE ISLE AND LOWER STORM DRAIN OUTFALL STRUCTURE D-5 TO D-6 TO ACCOMMODATE SAME. ONE (1) NEW SHEET HAS BEEN ADDED. 15-0-18



REVISIONS MADE AFTER 01-23-08 BY JOYCE ENGINEERING CORP.

I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 Matthew E. Joyce, Date  
 Professional Engr. No. 27729  
 Exp. Date: July 15, 2010

**PURDUM & JESCHKE**  
 CONSULTING ENGINEERS  
 LAND SURVEYORS  
 1029 North Colvert Street  
 Baltimore, Maryland 21202 301/837-0194

APPROVED: FOR PRIVATE WATER AND SEWER SYSTEM  
 HOWARD COUNTY HEALTH DEPARTMENT  
*B. Wilson for Peter Beilenson* DATE 11/24/09  
 COUNTY HEALTH OFFICER  
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Matthew E. Joyce* DATE 11/13/09  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
*James H. Sullivan* DATE 11/25/09  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
*Thomas G. Suttler* DATE 11/20/09  
 DIRECTOR



810 Light Street Baltimore Maryland 21230

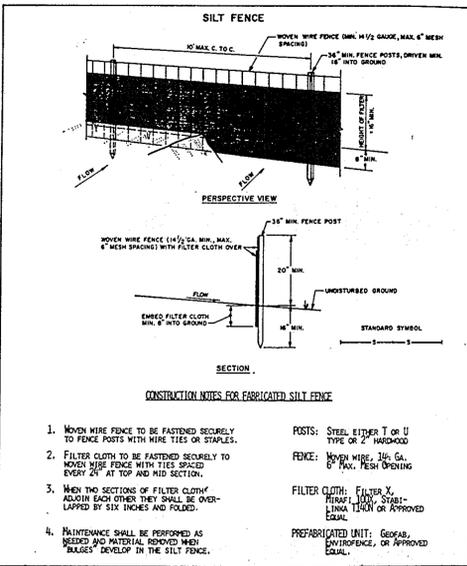
Faisant Associates, Inc.  
 Structural Engineers  
 Kibart, Inc.  
 Mechanical/Electrical Engineers  
 Purdum & Jeschke  
 Civil Engineers

DEED # 393/29  
 ELECTION DISTRICT # 3  
 TAX MAP # 10 PARCEL # 35

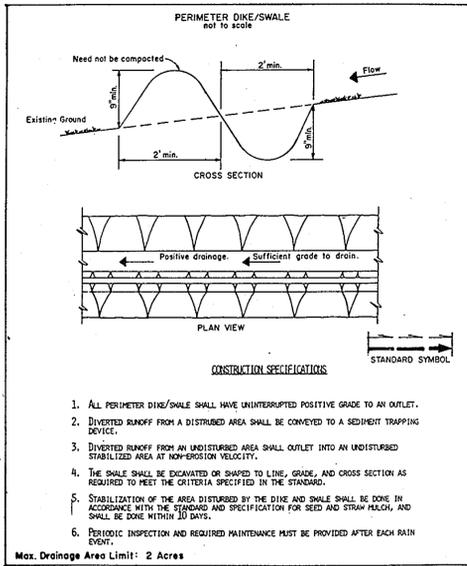
**SISTERS OF BON SECOURS, U.S.A.**  
 1525 MARRIOTTVILLE ROAD  
 MARRIOTTVILLE, MD. 21104  
 HOWARD CO., MD.  
**DRAINAGE AREA MAP**

PROJ NO SDP-87-252  
 SCALE  
 DATE AUG. 17, 1987  
 DWG NO  
**C-8**  
 SHEET 8 of 18

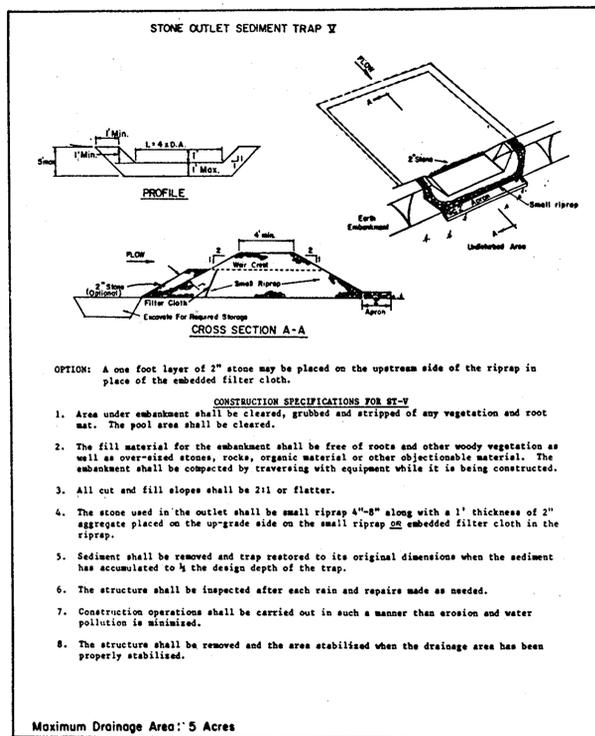
**SEDIMENT & EROSION CONTROL NOTES AND DETAILS**



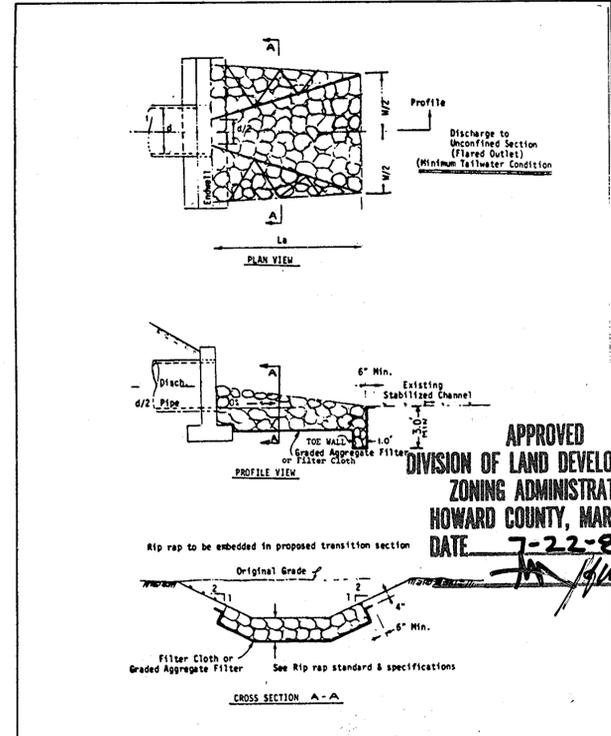
**3 SILT FENCE DETAIL**  
NTS



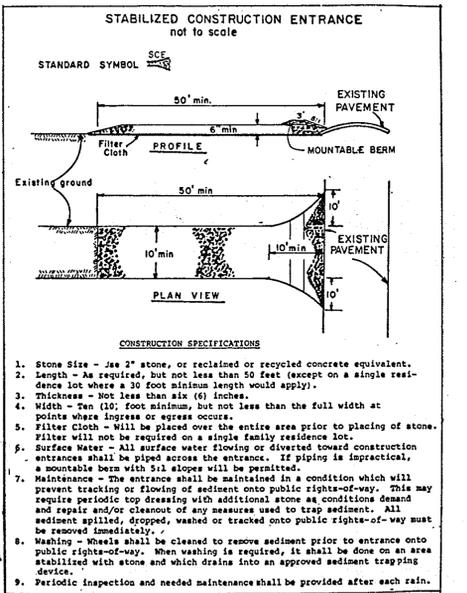
**PDS-1 PERIMETER DIKE/SWALE DETAIL**  
NTS



**3 STONE OUTLET SEDIMENT TRAP ST-V**



**4 RIPRAP OUTLET PROTECTION - I RDP-I**



**5 SCE STAB. CONSTRUCTION ENTRANCE**  
NTS

**PERMANENT SEEDING NOTES**

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

**Seedbed Preparation:** Loosen upper three inches of soil by raking, discing or other acceptable means before seeding.

**Soil Amendments:** In lieu of soil test recommendations, use one of the following scheduled:

- 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq ft).
- 2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq ft) before seeding. Harrow or disc into upper three inches of soil.

**Seeding -** For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000 sq ft) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (.05 lbs/1000 sq ft) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) 2 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 31 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 untreated 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 slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq ft) for anchoring.

**Maintenance -** Inspect all seeded areas and make needed repairs, replacements and reseedings.

**TEMPORARY SEEDING NOTES**

Apply to graded or cleared areas likely to be redistributed where a short-term vegetative cover is needed.

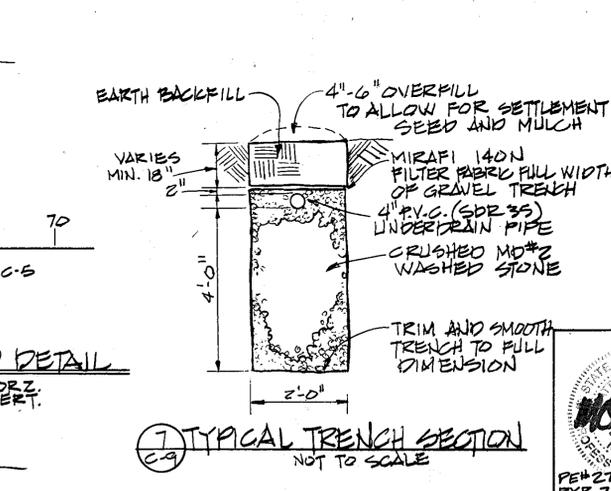
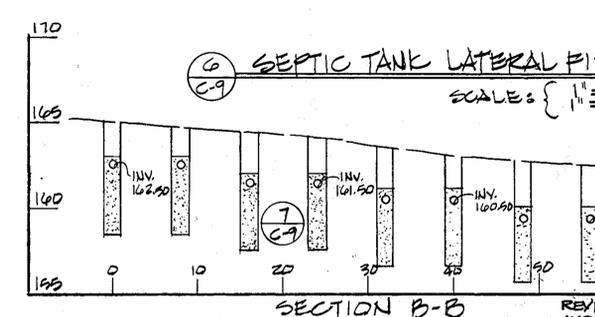
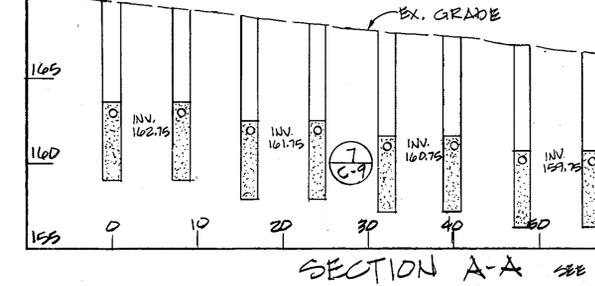
**Seedbed Preparation:** Loosen upper three inches of soil by raking, discing or other acceptable means before seeding.

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

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

**Mulching:** Apply 1 1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of untreated 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 slopes, 8 ft or higher, use 348 gal per acre (8 gal/1000 sq ft) for anchoring.

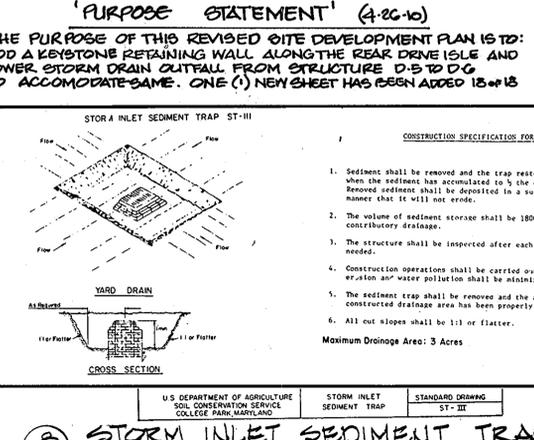
Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.



**TEMPORARY METHOD FOR DUST CONTROL**

- Mulches** - See standards for critical area stabilization with mulches only. Chemical mulch binders may be used instead of asphalt to bind mulch material. Binders such as Cursal or Terratack should be used according to manufacturer's recommendations.
- Vegetative Cover** - See standards for temporary vegetative cover.
- Spray-on Adhesives** - On mineral soils (not effective on muck soils). Keep traffic off these areas.
 

| Water dilution           | Type of Nozzle | Apply-gallons/ac. |
|--------------------------|----------------|-------------------|
| Antonic asphalt emulsion | 7:1            | 1,200             |
| Laten emulsion           | 121/2:1        | 235               |
| Resin-in-water emulsion  | 4:1            | 300               |
- Tillage** - to roughen surface and bring clods to the surface. This is an emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12' apart, spring-toothed harrows, and similar plows are examples of equipment which may produce the desired effect.
- Irrigation** - This is generally done as an emergency treatment. Site is sprinkled with water until the surface is moist. Repeat as needed.
- Barriers** - Solid board fences, snow fences, burlap fences, crate walls, bales of hay and similar material can be used to control air currents and soil blowing. Barriers placed at right angles to prevailing currents at intervals of about 15 times their height are effective in controlling soil blowing.
- Calcium Chloride** - Apply at rate that will keep surface moist. May need retreatment.



**6 STORM INLET SEDIMENT TRAP**

**RESponsible Personnel Certification**

"I HEREBY CERTIFY THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE FROM A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT."

**CERTIFICATION 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."

**CERTIFICATION BY THE DEVELOPER**

"I CERTIFY THAT ALL DEVELOPMENT AND OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS DEEMED NECESSARY."

**PURDUM & JESCHKE CONSULTING ENGINEERS LAND SURVEYORS**  
1029 North Calvert Street  
Baltimore, Maryland 21202 301/837-0194

**APPROVED: STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.**

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
APPROVED: [Signature] DATE 9-16-07

CHIEF, BUREAU OF ENGINEERING

APPROVED: [Signature] DATE 9-14-87

HOWARD COUNTY HEALTH DEPARTMENT  
APPROVED: [Signature] DATE 8-8-82

COUNTY HEALTH OFFICER

APPROVED: [Signature] DATE 9-15-87

PLANNING DIRECTOR  
HOWARD COUNTY OFFICE OF PLANNING AND ZONING

**DEVELOPER'S CERTIFICATION**

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

**ENGINEER'S CERTIFICATION**

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

**Richard H. Condit**  
DEED # 393 / 29  
ELECTION DISTRICT # 3  
TAX MAP # 10 PARCEL 35

**SISTERS OF BON SECOURS, U.S.A.**  
1525 MARIOTTSTVILLE ROAD  
MARIOTTSTVILLE, MD. 21104  
HOWARD CO., MD.

**EROSION CONTROL DETAILS**

PROJ NO SDP-87-252  
SCALE  
DATE AUG. 17, 1987  
DWG NO  
**C-9**  
SHEET 9 OF 18

**Gaudreau, Inc.**  
Architects Planners Engineers  
Baltimore

810 Light Street Baltimore Maryland 21230

**Faisant Associates, Inc.**  
Structural Engineers

**Kibart, Inc.**  
Mechanical/Electrical Engineers

**Purdum & Jeschke**  
Civil Engineers

**APPROVED**  
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION  
HOWARD COUNTY, MARYLAND  
DATE 7-22-87

**Richard H. Condit**  
DEED # 393 / 29  
ELECTION DISTRICT # 3  
TAX MAP # 10 PARCEL 35

**Professional Engineer Seal**  
No. 10559  
Professional Engineer

**Professional Engineer Seal**  
No. 10559  
Professional Engineer



810 Light Street Baltimore Maryland 21230

Faisant Associates, Inc.  
Structural Engineers  
Kibart, Inc.  
Mechanical/Electrical Engineers  
Purdum & Jeschke  
Civil Engineers

**DEVELOPER'S CERTIFICATION**  
I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATION OF ATTENDANCE AT THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF ANY SEDIMENT EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY HOWARD SOIL CONSERVATION DISTRICT.

**ENGINEER'S CERTIFICATION**  
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

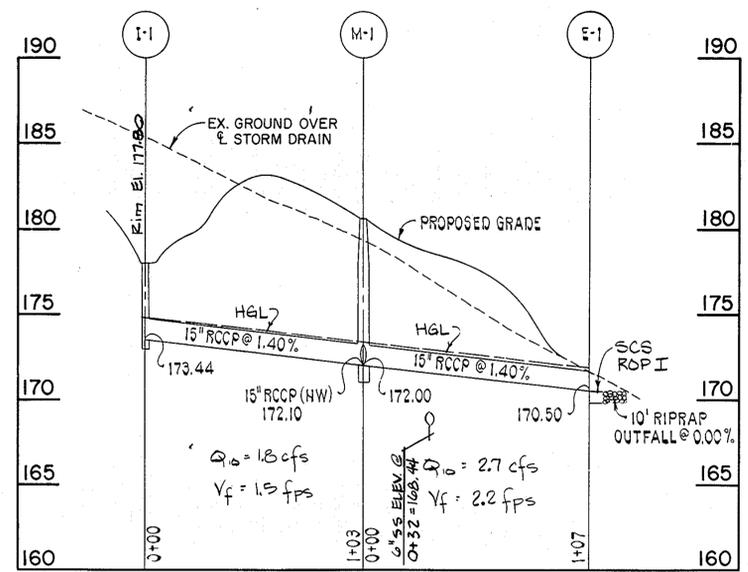
Richard H. Smith, P.E.  
DEED # 393/29  
ELECTION DISTRICT # 3  
TAX MAP # 10 PARCEL 35



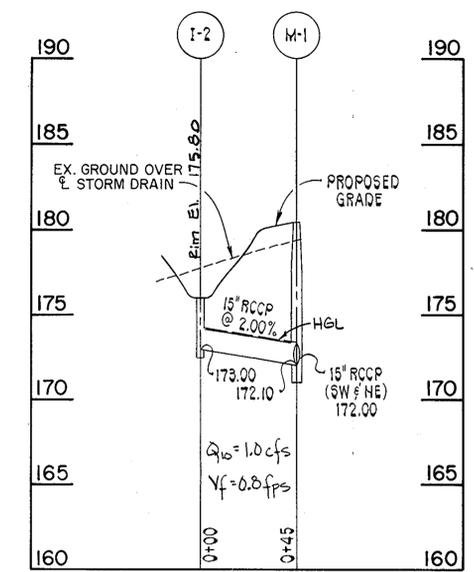
**SISTERS OF BON SECOURS, U.S.A.**  
1525 MARIOTTSTVILLE ROAD  
MARIOTTSTVILLE, MD. 21104  
HOWARD COUNTY  
UTILITY PROFILES

PROJ NO SDP-87-252  
SCALE  
DATE AUG. 17, 1987  
DWG NO  
**C-10**  
SHEET 10 OF 18

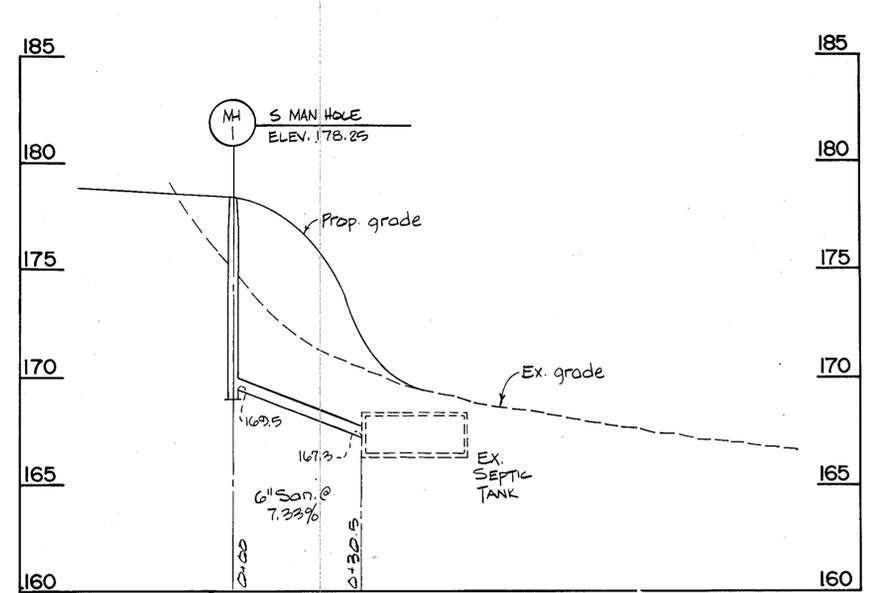
SDP-87-252



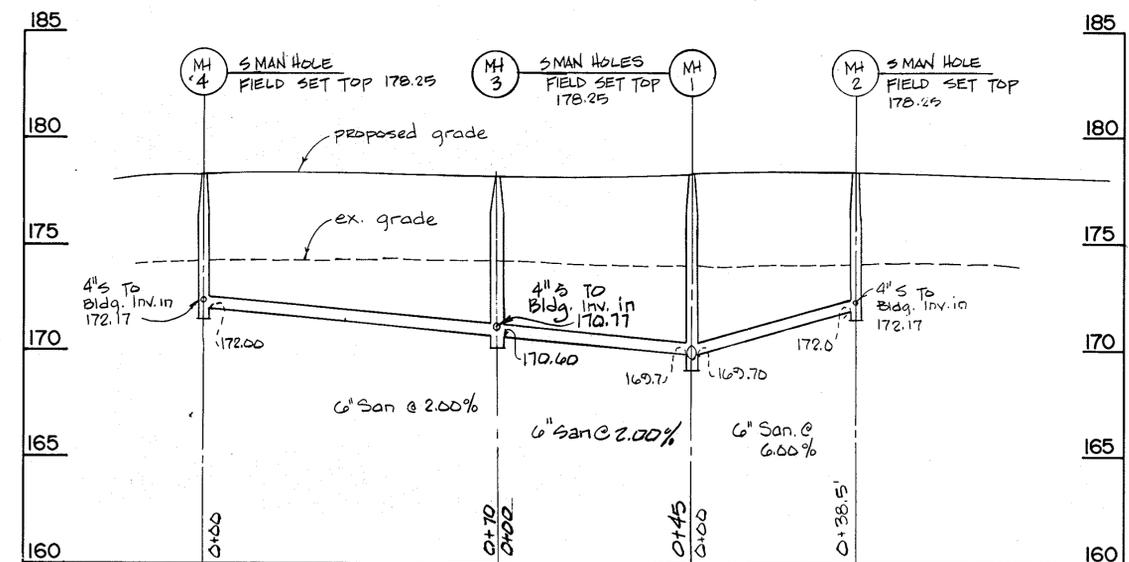
**A STORM DRAIN PROFILE**  
SCALE: 1" = 40' HORIZ.  
1" = 5' VERT.



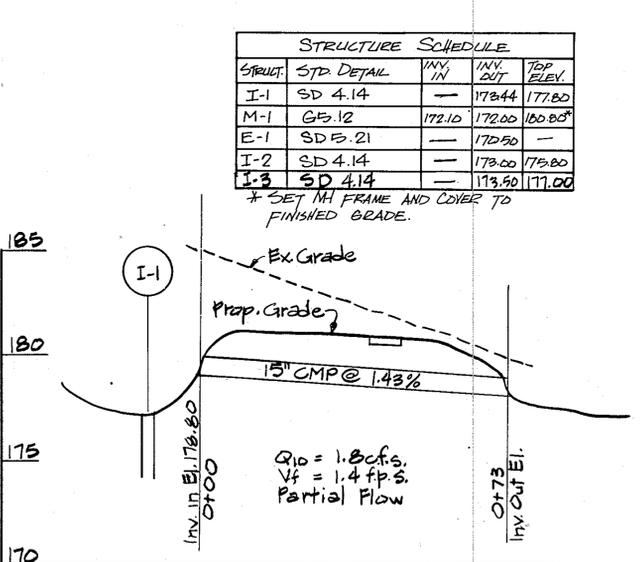
**B STORM DRAIN PROFILE**  
SCALE: 1" = 40' HORIZ.  
1" = 5' VERT.



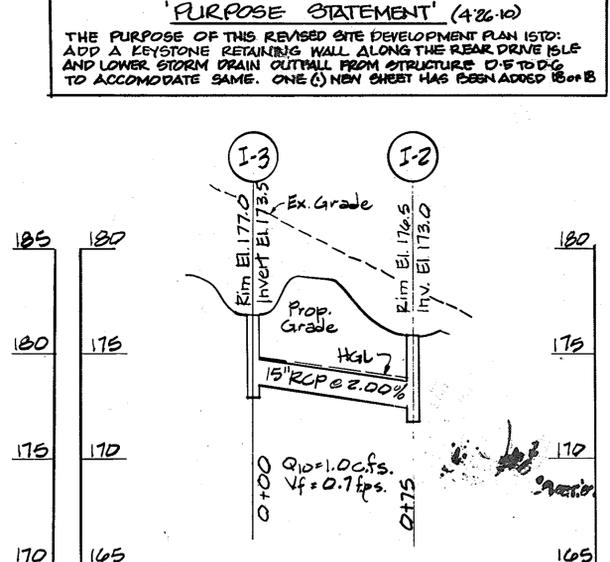
**C SANITARY PROFILE**  
SCALE: 1" = 20' HORIZ.  
1" = 4' VERT.



**D SANITARY PROFILE**  
SCALE: 1" = 20' HORIZ.  
1" = 4' VERT.



**E BASIN OVERFLOW DISCHARGE PIPE**  
SCALE: 1" = 20' HORIZ.  
1" = 4' VERT.



**F STORM DRAIN PROFILE**  
SCALE: 1" = 20' HORIZ.  
1" = 4' VERT.

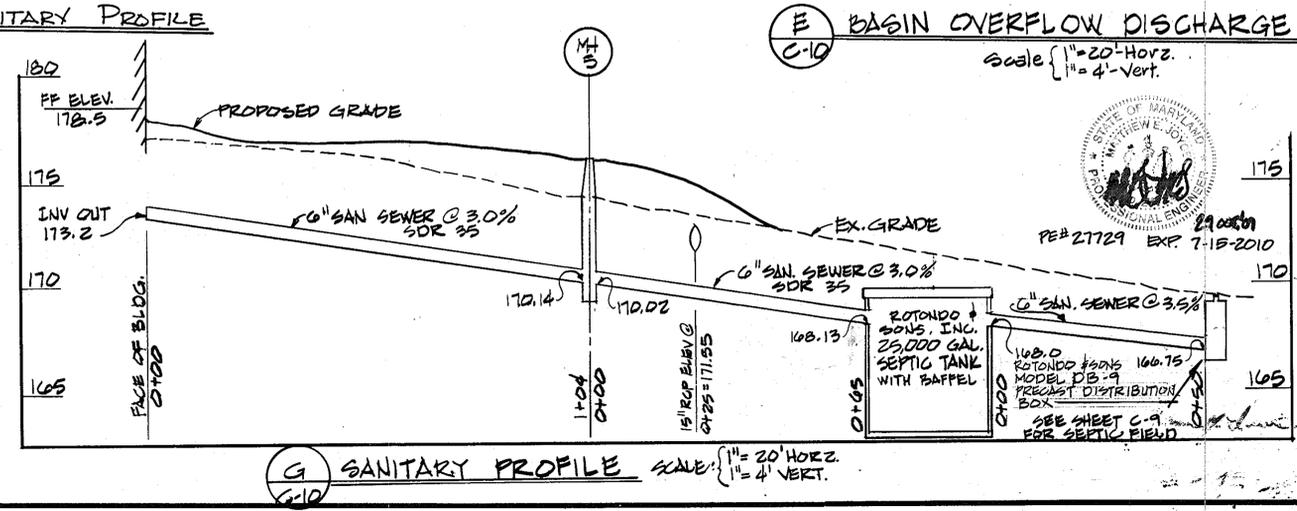
**STRUCTURE SCHEDULE**

| STRUCT. | STD. DETAIL | INV. IN | INV. OUT | TOP ELEV. |
|---------|-------------|---------|----------|-----------|
| I-1     | SD 4.14     | ---     | 172.44   | 177.80    |
| M-1     | GS. 12      | 172.10  | 172.00   | 160.80*   |
| E-1     | SD F. 21    | ---     | 170.50   | ---       |
| I-2     | SD 4.14     | ---     | 173.00   | 175.00    |
| I-3     | SD 4.14     | ---     | 173.50   | 177.00    |

\* SET MH FRAME AND COVER TO FINISHED GRADE.

**'PURPOSE STATEMENT' (4-26-10)**  
THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO: ADD A KEYSTONE RETAINING WALL ALONG THE REAR DRIVE 16L6 AND LOWER STORM DRAIN OUTFALL FROM STRUCTURE C-5 TO D-6 TO ACCOMMODATE SAME. ONE (1) NEW SHEET HAS BEEN ADDED TO SHEET C-10.

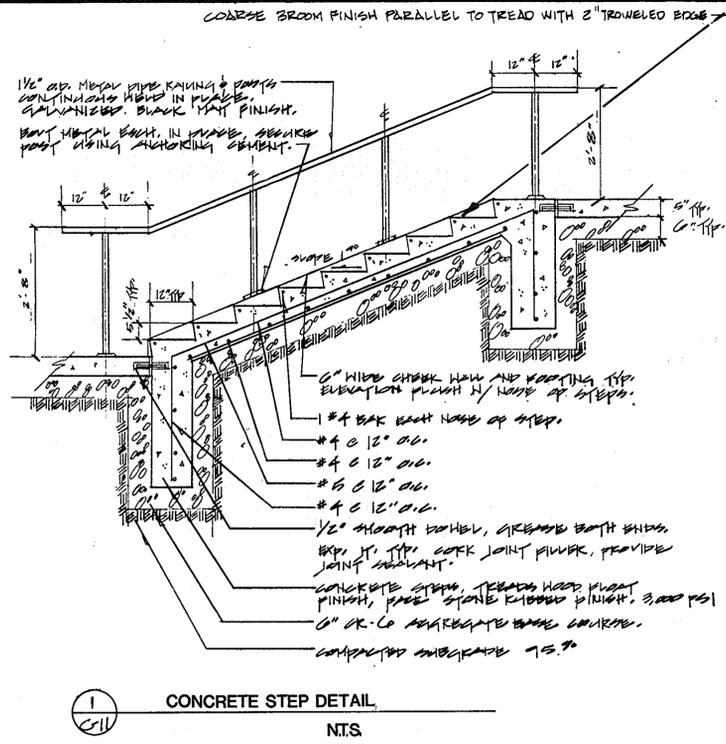
Reviewed for Howard Soil Conservation District and meets technical requirements.  
U.S. Soil Conservation Service  
Date 9-2-87  
This Development Plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.  
Date 9/2/87  
Howard Soil Conservation District



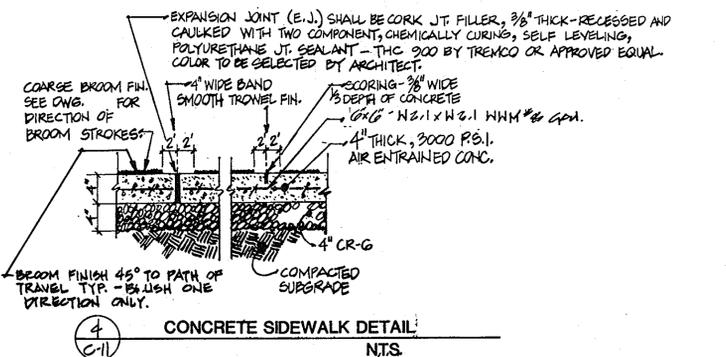
**G SANITARY PROFILE**  
SCALE: 1" = 20' HORIZ.  
1" = 4' VERT.

REVISION: 4-26-10 SEE 'PURPOSE STATEMENT' DATED 4-26-10  
REVISION: 10-23-09; REVISION TO SHEET INDEX. ADDED 2 NEW SHEETS  
APPROVED  
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION  
HOWARD COUNTY, MARYLAND  
DATE 7-22-87  
PLAN APPROVAL STAMP

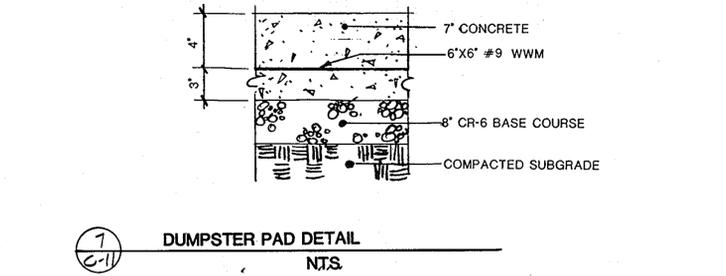
PURDUM & JESCHKE CONSULTING ENGINEERS LAND SURVEYORS  
1029 North Calvert Street  
Baltimore, Maryland 21202 301/837-0194  
APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
HOWARD COUNTY HEALTH DEPARTMENT  
DATE 9-8-87  
APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING  
DATE 9-15-87  
APPROVED: STORM DRAINAGE SYSTEMS AND PUBLIC WORKS  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
DATE 9-14-87



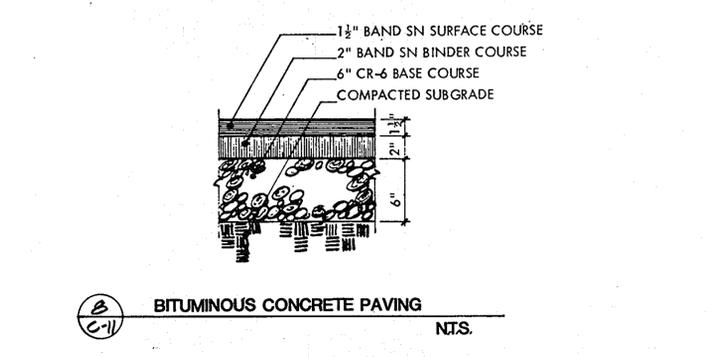
1 CONCRETE STEP DETAIL N.T.S.



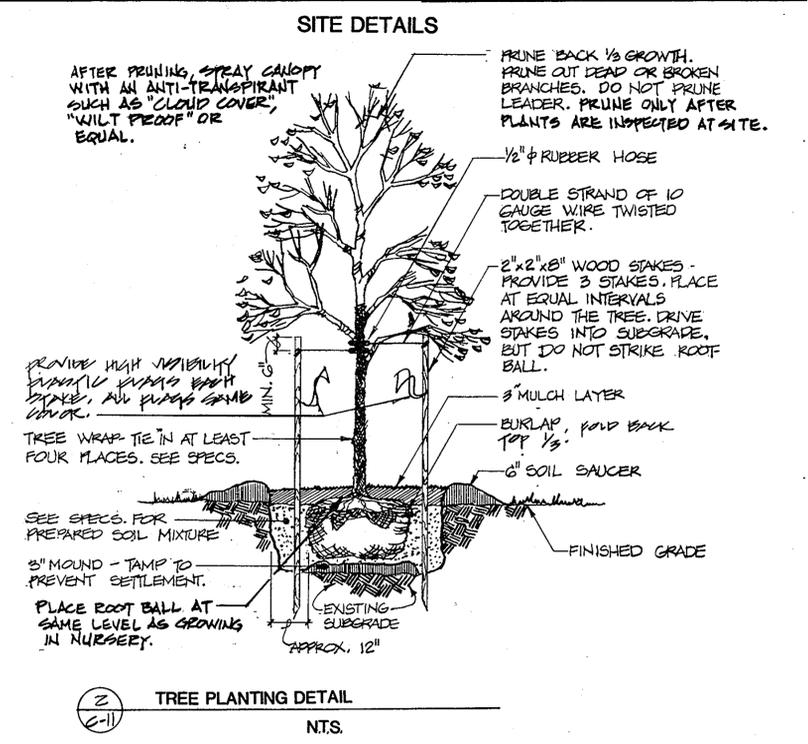
4 CONCRETE SIDEWALK DETAIL N.T.S.



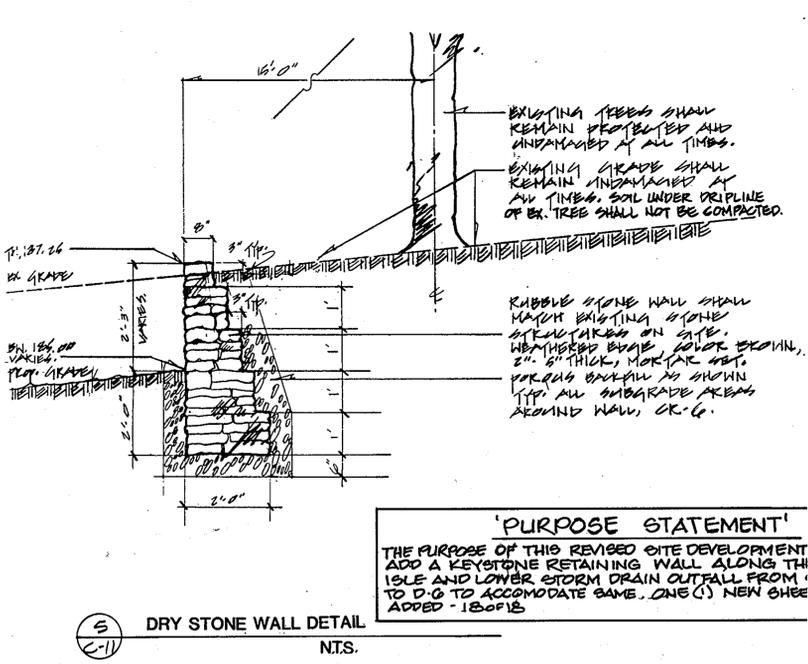
7 DUMPSTER PAD DETAIL N.T.S.



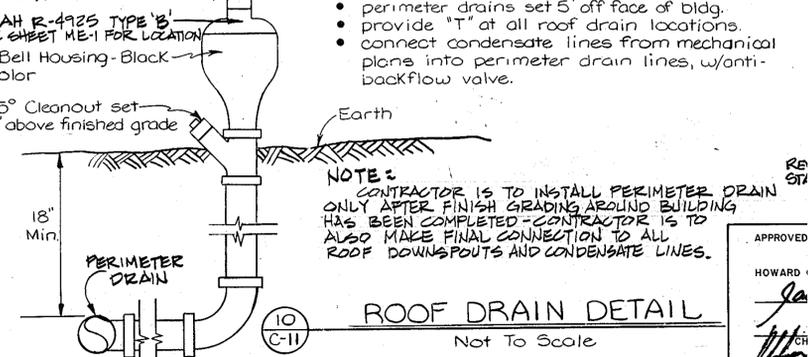
8 BITUMINOUS CONCRETE PAVING N.T.S.



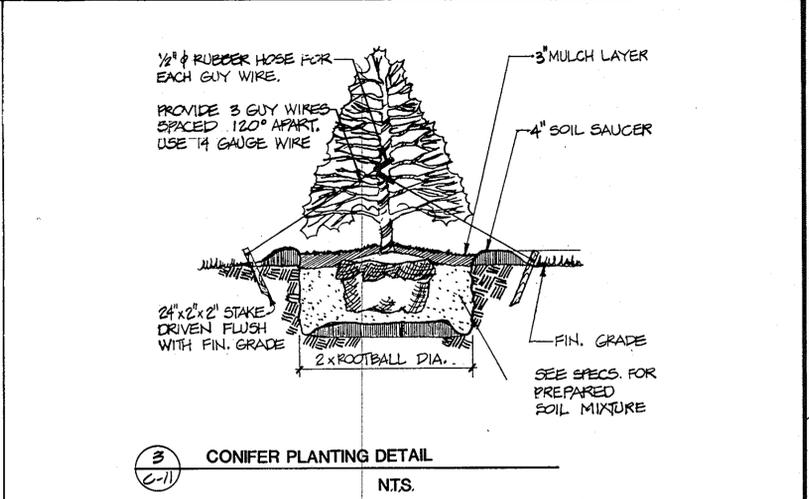
2 TREE PLANTING DETAIL N.T.S.



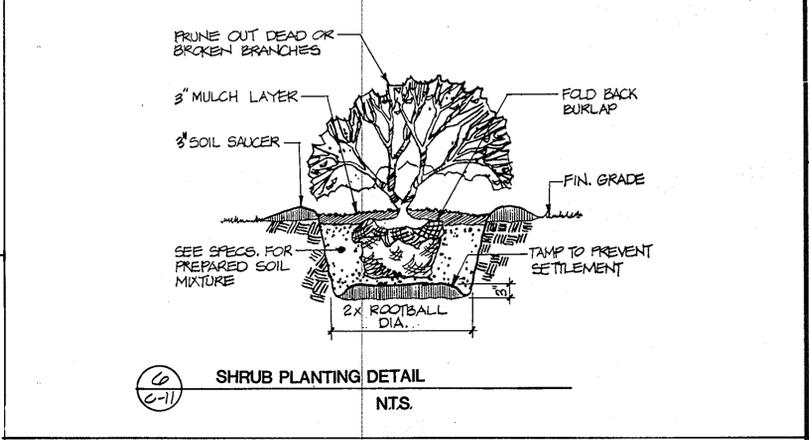
5 DRY STONE WALL DETAIL N.T.S.



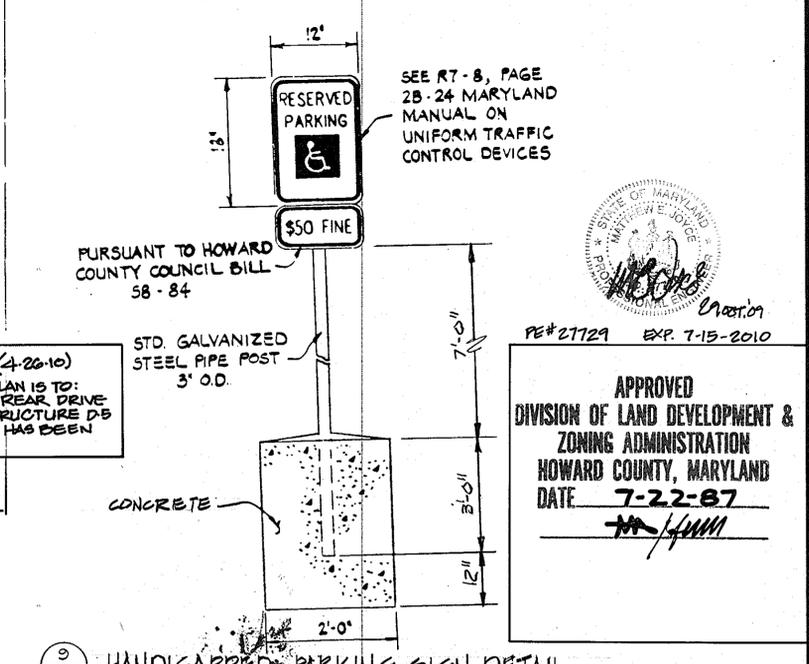
10 ROOF DRAIN DETAIL Not To Scale



3 CONIFER PLANTING DETAIL N.T.S.



6 SHRUB PLANTING DETAIL N.T.S.



9 HANDICAPPED PARKING SIGN DETAIL

APPROVED FOR Private Water and Private Sewerage Systems  
 HOWARD COUNTY HEALTH DEPARTMENT  
 COUNTY HEALTH OFFICER  
 DATE 9-8-87

APPROVED FOR Storm  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 DIRECTOR  
 DATE 9-14-87

APPROVED FOR Planning and Zoning  
 HOWARD COUNTY OFFICE OF PLANNING AND ZONING  
 PLANNING DIRECTOR  
 DATE 9-11-87

APPROVED FOR Development and Zoning  
 CHIEF DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION  
 DATE 9-15-87

**'PURPOSE STATEMENT' (4-26-10)**  
 THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO: ADD A KEYSTONE RETAINING WALL ALONG THE REAR DRIVE ISLE AND LOWER STORM DRAIN OUTFALL FROM STRUCTURE D5 TO D-6 TO ACCOMMODATE SAME. ONE (1) NEW SHEET HAS BEEN ADDED - 18 OF 18

**Gaudreau, Inc.**  
 Architects Planners Engineers  
 Baltimore

810 Light Street Baltimore Maryland 21230

**Faisant Associates, Inc.**  
 Structural Engineers

**Kibart, Inc.**  
 Mechanical/Electrical Engineers

**Purdum & Jeschke**  
 Civil Engineers

**DEVELOPER'S CERTIFICATION**  
 I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATION OF ATTENDANCE AT THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF ANY SEDIMENT EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY HOWARD SOIL CONSERVATION DISTRICT.

**ENGINEER'S CERTIFICATION**  
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Richard H. Berish, PE  
 DEED # 393/29  
 ELECTION DISTRICT # 3  
 TAX MAP # 10 PARCEL 35

APPROVED  
 DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION  
 HOWARD COUNTY, MARYLAND  
 DATE 7-22-87

**SISTERS OF BON SECOURS, U.S.A.**  
 1525 MARRIOTTSVILLE ROAD  
 MARRIOTTSVILLE, MD. 21104  
 HOWARD CO., MD.  
 SITE DETAILS

PROJ NO SDP-87-252  
 SCALE  
 DATE AUG. 17, 1987

DWG NO  
**C-11**  
 SHEET 11 OF 18

| SYM.    | QUA. | BOTANICAL NAME                    | COMMON NAME                | SIZE                        | REMARKS                         |
|---------|------|-----------------------------------|----------------------------|-----------------------------|---------------------------------|
| TREE    | AC   | Acer platanoides<br>"Royal Red"   | Royal Red Maple            | 3"-3 1/2" cal.<br>13'-15" H | B&B<br>Full Head                |
| CR      | 2    | Cryptomeria japonica<br>"Lobby"   | Lobby Japanese Cryptomeria | 7'-8" H                     | B&B<br>Symmetrical              |
| LC      | 6    | Cupressocyparis leylandii         | Leyland Cypress            | 6'-7" H                     | B&B<br>Unsheared<br>Symmetrical |
| PY      | 4    | Fyrus coryliana<br>"Brofad"       | Brofad Pear                | 2"-2 1/2" cal.<br>10'-12" H | B&B<br>Full Head                |
| SHRUBS: | CA   | Clethra alnifolia                 | Summersweet-Clethra        | 30"-36" H                   | Cent.<br>Plant 4" O.C.          |
| IB      | 13   | Ilex meserveae<br>"Blue Prince"   | Blue Prince Holly          | 24"-30" H                   | Cent.<br>Plant 3" O.C.          |
| IB      | 28   | Ilex meserveae<br>"Blue Princess" | Blue Princess Holly        | 24"-30" H                   | Cent.<br>Plant 3" O.C.          |
| INS     | 9    | Ilex "Nellie R. Stevens"          | Nellie R. Stevens<br>Holly | 3'-4" H                     | B&B<br>Symmetrical              |

| SYM.        | QUA. | BOTANICAL NAME                        | COMMON NAME              | SIZE       | REMARKS                               |
|-------------|------|---------------------------------------|--------------------------|------------|---------------------------------------|
| PMC         | 43   | Pinus mugo "Compacta"                 | Compact Mugo Pine        | 15"-20" H  | Cont.<br>Plant 24" O.C.               |
| PL          | 50   | Prunus laurocerasus<br>"Schipkaensis" | Cherry Laurel            | 30"-36" H  | Cont.<br>Plant 4" O.C.                |
| RH          | 10   | Rhododendron P.J.M.                   | P.J.M. Rhododendron      | 18"-24" H  | Cont.<br>Plant 30" O.C.               |
| GRND COVER: | 50   | Hemerocallis "Bonanza"                | Bonanza Daylily          | 2 qt. pot. | Plant 12" O.C.<br>Alternate varieties |
| Day         | 50   | Hemerocallis "King Alfred"            | King Alfred Daylily      | 2 qt. pot. | Plant 12" O.C.<br>Alternate varieties |
| Day         | 20   | Haifa ejobaldiana<br>"Elegans"        | Flax Lily                | 1 qt. pot. | Plant 15" O.C.                        |
| Day         | 20   | Haifa "Blue Skies"                    | Blue Skies Plantain-Lily | 1 qt. pot. | Plant 12" O.C.                        |

| SYM. | QUA. | BOTANICAL NAME                                 | COMMON NAME              | SIZE       | REMARKS                            |
|------|------|--|--------------------------|------------|------------------------------------|
| CT   | 50   | Iberis sempervirens<br>"Bluemount Snow"        | Bluemount Snow Candytuft | 1 qt. pot. | Plant 8" O.C.                      |
| CT   | 800  | Ophiopogon japonicus                           | Mondo Grass              | 1 qt. pot. | Plant 12" O.C.                     |
| CT   | 50   | Narcissus pseudonarcissus<br>"Duke of Windsor" | Daffodil                 | Top size   | Plant 12" O.C.<br>Plant throughout |
| CT   | 50   | Narcissus pseudonarcissus<br>"Pheasant's Eye"  | Daffodil                 | Top size   | Plant 12" O.C.<br>Plant throughout |

**PLANTING NOTES**

THE CONTRACTOR SHALL NOTIFY THE CONTRACTING OFFICER AT LEAST 24 HOURS PRIOR TO STARTING PLANTING OPERATIONS.

The contractor shall maintain a qualified supervisor on the site at all times during construction through completion of pick up work.

The contractor shall verify all plant material quantities prior to installation. Plant material quantities listed for convenience of contractor. Actual number of symbols shall have priority over quantity designated.

All plant material shall be subject to approval by the landscape architect and/or owner prior to installation.

The contractor shall advise landscape architect of any substitutions of plant material required due to availability and such substitutions shall be subject to approval by the landscape architect and/or owner prior to installation per specification.

Ground cover planting shall be continuous under shrubs and beneath exterior balcony overhangs: In all other areas plant as shown on plan.

Fine prune all specimen trees after planting.

Upon completion remove all extraneous material and debris, broom and wash the area clean.

All transitions between the turf and shrub areas shall be unheeded.

All landscape areas to be free of debris, building materials, and unsuitable soils to a depth of 12" below finished grade. All landscape areas to have 4"-6" of topsoil and are to be crowned a minimum of 6" higher than adjacent curbs or walks, after earth settlement.

See detail 2 sheet C-11 for tree planting, staking and guying.

See details 346 sheet C-11 for shrub planting.

Remove all twine and wire from tree and shrub earth balls and from tree trunks.

Lawn trees to be mulched with a 2' wide by a minimum of 4" deep shredded hardwood bark or approved alternate design for trunk protection.

Shrub beds to be mulched with 3" of shredded hardwood and hardwood bark.

Trees to be placed a minimum of 30' from parking stalls and walkways.

Installation of plant material shall be in accordance with the American Association of Nurserymen Landscape Standards and with the general planting specifications as set forth by City.

Limbs deciduous, high-canopy (shade trees) to 6'-0" above grade.

Trees to be saved shall be protected during construction as follows:

- Line off trees with bright color ribbon to warn contractors.
- Do not nail boards to trees.
- Do not cut feeder roots within drip line of trees.
- Damaged trunks or roots to be painted with quality tree paint.
- Cut damaged limbs at tree trunk and paint out surface with quality tree paint.
- Trees which border construction shall be protected using tree fencing as per detail.

The preservation areas and measures to be used during work are outlined, see detail. Grade to be preserved and slope of trees by use of tree wall and/or tree wall construction per details.

Deciduous material will be guaranteed to break dormancy if planted in dormant season.

Replacements and Conditions:

- Replacements will be made during the next planting period, unless the Landscape Contractor agrees to an earlier date.
- There will be a one-time replacement policy. The cost will be borne by the Contractor at no additional cost to the Owner.
- A replacement will be of the same size and species as the original with no additional soil additives to be used.
- The Landscape Contractor will not be responsible for plant material that has been damaged to vandalism, fire, removal, relocation or other activities beyond the Landscape Contractor's control.
- Plant losses due to abnormal weather conditions such as floods, excessive wind damage, drought, severe freezing or abnormal rains will in no way be the responsibility of the Landscape Contractor.
- Ground covers, broadleaf evergreens, Bradford pears, red, willow and scarlet oaks and all conifers, except white pines, will not be guaranteed if planted between November 15th and March 15th. An exception to this would be if the Landscape Contractor states in writing that he or she will guarantee plants planted at this time.

Contractor shall note the location of light standards and verify in the field. Trees shall be planted no closer than fifteen (15) feet from light standards. Contact the contracting officer prior to making changes in plant locations.

Contractor shall note underground utilities shown on drawing (utility plan). All minor trees shall be planted a minimum of 15' feet from utilities, all major trees a minimum of ten (10) feet, and all shrubs shall be planted a minimum of two (2) feet from utilities.

Stake all trees the same day of planting. Provide high visibility plastic flags each stake.

All plant material to be planted within the following schedule:

**MAJOR AND MINOR TREES (DECIDUOUS)**

- March 1st to June 15th
- September 15th to December 15th

**CONIFERS (EVERGREEN)**

- March 15th to June 15th
- September 1st to November 30th

**GROUND COVER**

- March 15th to June 15th
- September 1st to November 30th

Pruning, as described in specifications, shall be done by an individual having pruning experience in accordance with good horticultural practice.

All plant pits, rootballs, and beds shall be soaked thoroughly immediately following planting.

**Gaudreau, Inc.**  
Architects Planners Engineers  
Baltimore

810 Light Street Baltimore Maryland 21203

**Faisant Associates, Inc.**  
Structural Engineers

**Kibart, Inc.**  
Mechanical/Electrical Engineers

**Purdum & Jeschke**  
Civil Engineers

**DEVELOPER'S CERTIFICATION**

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

*Richard H. Benoit*  
DATE

**ENGINEER'S CERTIFICATION**

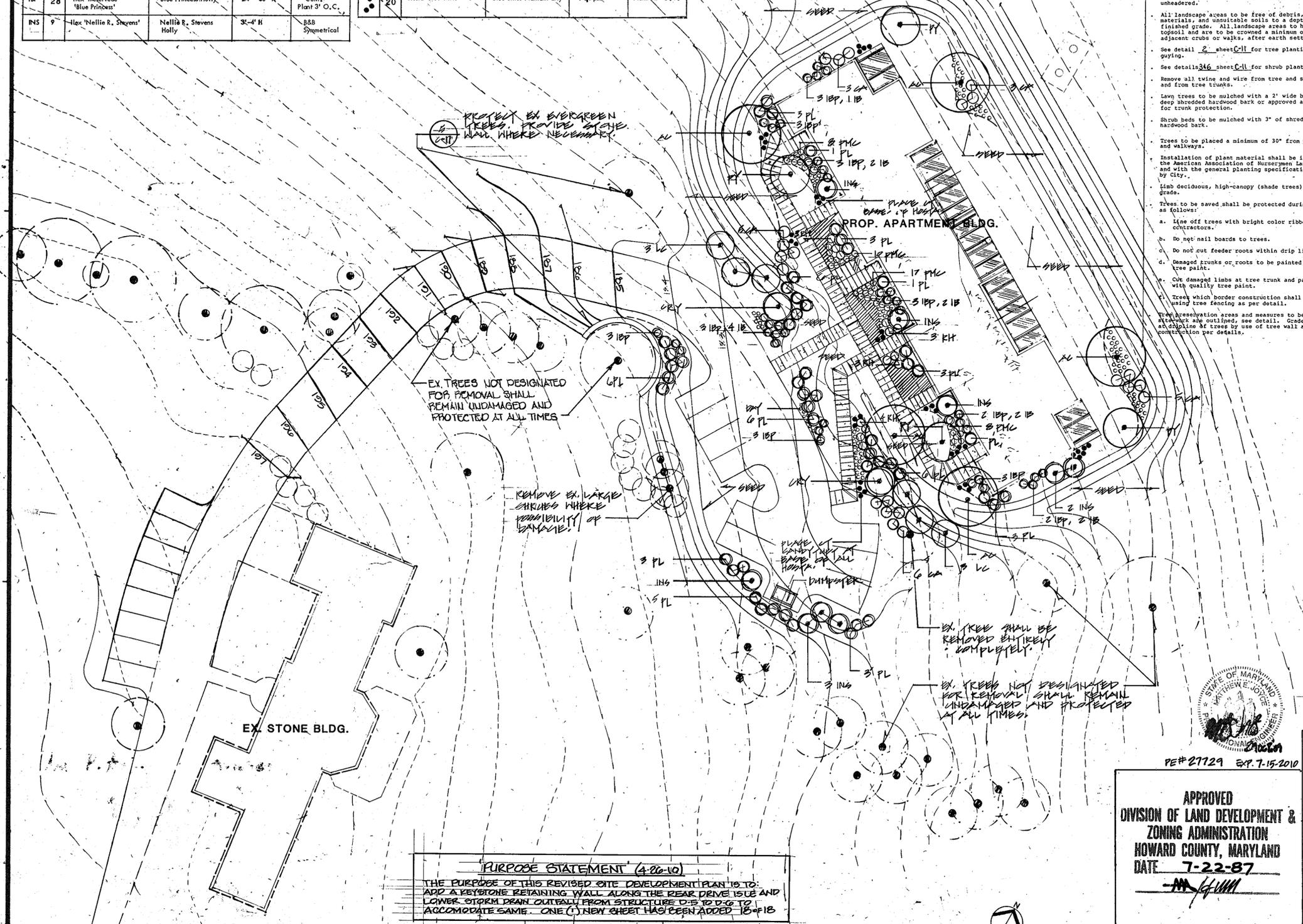
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Richard H. Benoit*  
DATE

DEED 393/29  
ELECTION DISTRICT 3  
TAX MAP 10 PARCEL 35

**SISTERS OF BON SECOURS, U.S.A.**  
MARRIOTTSTVILLE ROAD  
MARRIOTTSTVILLE, MARYLAND  
APARTMENT BUILDING  
LANDSCAPING PLAN

PROJ NO SDP-87-252  
SCALE 1" = 20'  
DATE AUG. 17, 1987  
DWG NO L-1  
SHEET 12 OF 18



**PURDUM & JESCHKE**  
CONSULTING ENGINEERS  
LAND SURVEYORS  
1029 North Calvert Street  
Baltimore, Maryland 21202 301/837-0194

**APPROVED**  
DIVISION OF LAND DEVELOPMENT &  
ZONING ADMINISTRATION  
HOWARD COUNTY, MARYLAND  
DATE 7-22-87

REVISED 4-20-10 SEE PURPOSE STATEMENT DATED 4-20-10  
REVISED: 10-23-09, REVISION TO SHEET INDEX.  
ADDED 2 NEW SHEETS.

APPROVED: For Storm Drainage Systems and Roads.  
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*James J. Slone* DIRECTOR 9-14-87 DATE  
*Robert S. Roth* CHIEF, BUREAU OF ENGINEERING 9-14-87 DATE

APPROVED: For Private Water and Private Sewerage Systems.  
HOWARD COUNTY HEALTH DEPARTMENT  
*John P. ...* COUNTY HEALTH OFFICER 9-8-87 DATE

APPROVED: Howard County Office of Planning and Zoning  
*John P. ...* PLANNING DIRECTOR 9-15-87 DATE  
*Richard H. Benoit* CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION 9-15-87 DATE

**PURPOSE STATEMENT (4-20-10)**

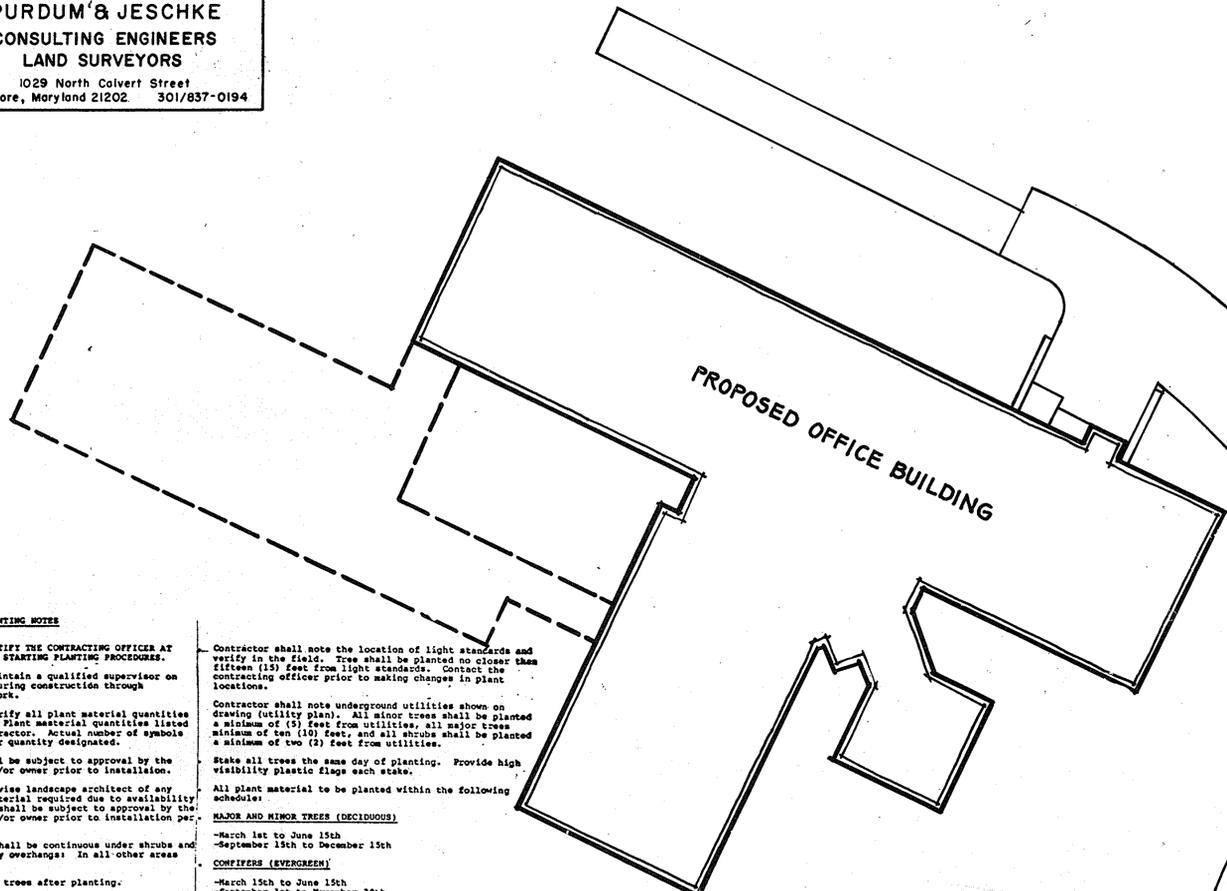
THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO ADD A REVISION REMAINING WALL ALONG THE REAR DRIVE ISLE AND LOWER STORM DRAIN OUTFALL FROM STRUCTURE C-5 TO DO TO ACCOMMODATE SAME. ONE (1) NEW SHEET HAS BEEN ADDED. 18 OF 18

SCALE: 1"=20'-0"

SDP-87-252



**PURDUM & JESCHKE**  
**CONSULTING ENGINEERS**  
**LAND SURVEYORS**  
 1029 North Calvert Street  
 Baltimore, Maryland 21202 301/837-0194



| BOTANICAL NAME                | COMMON NAME        | QUANT. | SPACING  | REMARKS         |
|-------------------------------|--------------------|--------|----------|-----------------|
| <b>TREES</b>                  |                    |        |          |                 |
| ACER RUBRUM                   | RED MAPLE          | 5      | AS SHOWN | B&B 2" CAL.     |
| ILEX OPACA                    | AMERICAN HOLLY     | 2      | 20' O.C. | B&B 6' HT.      |
| ILEX OPACA 'FOSTERI'          | FOSTERS HOLLY      | 1      |          | B&B 5' HT.      |
| LIQUIDAMBER STYRACIPLUA       | SWEETGUM           | 10     | 28' O.C. | B&B 2 1/2" CAL. |
| PIRUS CALLERYANA 'BRADFORD'   | BRADFORD PEAR      | 3      |          | B&B 2" CAL.     |
| <b>SHRUBS</b>                 |                    |        |          |                 |
| ABELIA GRANDIFLORA            | ABELIA             | 47     | 6' O.C.  | 2 GAL.          |
| CORTODERA SELLONIA            | PAMPAS GRASS       | 45     | 8' O.C.  | 1 GAL.          |
| EUONYMUS ALATUS               | WINGED EUONYMUS    | 11     | 6' O.C.  | 2 GAL.          |
| ILEX CORNUTA 'BURFORDI' NANA' | DWF. BURFORD HOLLY | 33     | 4' O.C.  | 2 GAL.          |
| LAGERSTROEMIA INDICA 'NANA'   | DWF. CRAPEMYRTLE   | 18     | 4' O.C.  | 2 GAL.          |
| PIRUS MUGO 'COMPACTA'         | MUGO PINE          | 9      | 2' O.C.  | 2 GAL.          |

NOTE: ALL AREAS DISTURBED BY EXCAVATION ARE TO BE SEEDED & MULCHED.  
 \*SEE SITE DETAIL SHEET FOR PLANTING AND PAVING DETAILS.  
 \*785 SQUARE YARDS BERMUDA SOD FOR PARKING AREA.

**PLANTING NOTES**

THE CONTRACTOR SHALL NOTIFY THE CONTRACTING OFFICE AT LEAST 24 HOURS PRIOR TO STARTING PLANTING PROCEDURES.  
 The contractor shall maintain a qualified supervisor on the site at all times during construction through completion of pick up work.

The contractor shall verify all plant material quantities prior to installation. Plant material quantities listed for convenience of contractor. Actual number of symbols shall have priority over quantity designated.

All plant material shall be subject to approval by the Landscape Architect and/or owner prior to installation.

The contractor shall advise landscape architect of any substitutes of plant material required due to availability and such substitutions shall be subject to approval by the landscape architect and/or owner prior to installation per specification.

Ground cover planting shall be continuous under shrubs and beneath exterior balcony overhangs; in all other areas plant as shown on plan.

Pin prune all specimen trees after planting.

Upon completion remove all extraneous material and debris, broom and wash the area clean.

All transitions between the turf and shrub areas shall be unobscured.

All landscape areas to be free of debris, building materials, and unsuitable soils to a depth of 12" below finished grade. All landscape areas to have 4-6" of topsoil and are to be crowned a minimum of 6" higher than adjacent curbs or walks, after earth settlement.

See details 2 about #11 for tree planting, staking and tying.

See details 26 about #11 for shrub planting.

Remove all twigs and 1/2" from tree and shrub earth balls and from tree trunks.

Low trees to be mulched with a 2' wide by a minimum of 4" deep shredded hardwood bark or approved alternate design for trunk protection.

Shrub beds to be mulched with 3" of shredded hardwood and hardwood bark.

Trees to be placed a minimum of 30' from parking stalls and walkways.

Installation of plant material shall be in accordance with the American Nurserymen Landscape Standards and with the general planting specifications as set forth by City.

1. All deciduous, high-canopy (shade trees) to 6"-8" above grade.

2. Trees to be staked shall be protected during construction as follows:

a. Use off trees with bright color ribbon to warn contractors.

b. Do not nail boards to trees.

c. Do not cut feeder roots within drip line of trees.

d. Damaged gnaws or roots to be painted with quality tree paint.

e. Cut damaged limbs at tree trunk and paint cut surface with quality tree paint.

f. Trees which require construction shall be protected using tree fencing as per detail.

Tree preservation areas and measures to be used during construction are outlined, see details. Grade to be preserved at all times by use of tree wall and/or tree well construction per details.

Contractor shall note the location of light standards and verify in the field. Tree shall be planted no closer than fifteen (15) feet from light standards. Contact the contracting officer prior to making changes in plant locations.

Contractor shall note underground utilities shown on drawing (utility plan). All minor trees shall be planted a minimum of (5) feet from utilities, all major trees a minimum of ten (10) feet, and all shrubs shall be planted a minimum of two (2) feet from utilities.

Stake all trees the same day of planting. Provide high visibility plastic flags each stake.

All plant material to be planted within the following schedule:

MAJOR AND MINOR TREES (DECIDUOUS)

-March 1st to June 15th

-September 15th to December 15th

CONIFERS (EVERGREEN)

-March 15th to June 15th

-September 1st to November 30th

GROUND COVER

-March 15th to June 15th

-September 1st to November 30th

Pruning, as described in specifications, shall be done by an individual having pruning experience in accordance with good horticultural practice.

All plant pits, rootballs, and beds shall be soaked thoroughly immediately following planting.

Warranty:

1. The Landscaping Contractor will conduct a final inspection with the Architect at the end of the one year period. It will be the Landscaping Contractor's responsibility to notify the Architect within ten days of the anticipated meeting.

2. Any material that is 25% dead or more shall be considered dead and must be replaced at no charge, providing the Landscaping Contractor has received at least 90% of the Contract Price. A tree shall be considered dead when the main leader has died back, or there is 25% of the crown dead.

3. Deciduous material will be guaranteed to break dormancy if planted in dormant season.

Replacements and Conditions:

1. Replacements will be made during the next planting period, unless the Landscaping Contractor agrees to an earlier date.

2. There will be a one-time replacement policy. The cost will be borne by the Contractor at no additional cost to the Owner.

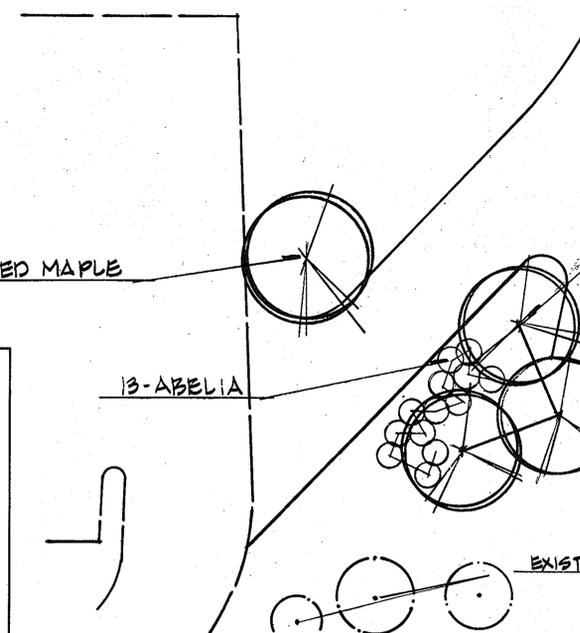
3. A replacement will be of the same size and species as the original with no additional soil additives to be used.

4. The Landscaping Contractor will not be responsible for plant material that has been damaged to vandalism, fire, removal, relocation or other activities beyond the Landscaping Contractor's control.

5. Plant losses due to abnormal weather conditions such as floods, excessive wind damage, drought, severe freezing or abnormal rains will in no way be the responsibility of the Landscaping Contractor.

6. Ground covers, broadleaf evergreens, Bradford pears, red, willow and scarlet oaks and all conifers, except white pines, will not be guaranteed if planted between November 15th and March 15th. An exception to this would be if the Landscaping Contractor states in writing that he or she will guarantee plants planted at this time.

**'PURPOSE STATEMENT' (4-26-10)**  
 THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO: ADD A KEYSTONE RETAINING WALL ALONG THE REAR DRIVE ISLE AND LOWER STORM DRAIN OUTFALL FROM STRUCTURE D-5 TO D-6 TO ACCOMMODATE SAME. ONE (1) NEW SHEET HAS BEEN ADDED 1208 1B



APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEM  
 HOWARD COUNTY HEALTH DEPARTMENT  
 COUNTY HEALTH OFFICER DATE 9-8-87  
 APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING  
 DIRECTOR DATE 9-15-87  
 CHIEF DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION  
 APPROVED: STORM DRAINAGE SYSTEMS AND PUBLIC ROADS  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 DIRECTOR DATE 9-14-87  
 CHIEF BUREAU OF ENGINEERING DATE

APPROVED  
 DIVISION OF LAND DEVELOPMENT &  
 ZONING ADMINISTRATION  
 HOWARD COUNTY, MARYLAND  
 DATE 7-22-87

**Gaudreau, Inc.**  
 Architects Planners Engineers  
 Baltimore  
 810 Light Street Baltimore Maryland 21230

Faisant Associates, Inc.  
 Structural Engineers  
 Kibart, Inc.  
 Mechanical/Electrical Engineers  
 Purdum & Jeschke  
 Civil Engineers

**DEVELOPER'S CERTIFICATION**  
 I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATION OF ATTENDANCE AT THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF ANY SEDIMENT EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY HOWARD SOIL CONSERVATION DISTRICT.

**ENGINEER'S CERTIFICATION**  
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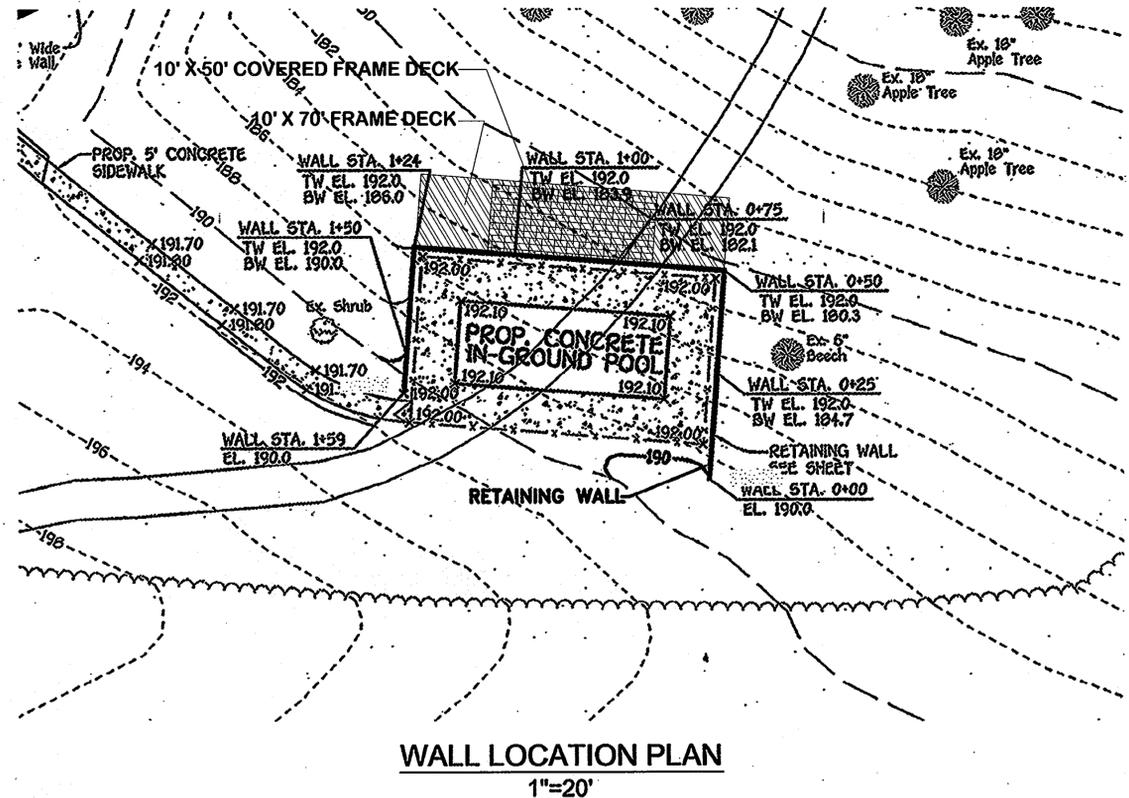
DEED: 393/29  
 ELECTION DISTRICT: 3  
 TAX MAP: 10 PARCEL 35



**SISTERS OF BON SECOURS, U.S.A.**  
 1525 MARRIOTTSTVILLE ROAD  
 MARRIOTTSTVILLE, MD. 21104  
 HOWARD CO., MD.  
 LANDSCAPING PLAN

PROJ NO SDP-87-252  
 SCALE  
 DATE AUG. 17, 1987  
 DWG NO  
**L-2**  
 SHEET 13 OF 18





- NOTES:**
- 1.) No trees shall be planted within 10 feet of the top of the retaining wall.
  - 2.) Retaining walls shall only be constructed under the observation of a registered professional engineer and a (NICET, WACEL, or equiv.) certified soils technician.
  - 3.) The required bearing pressure beneath the wall system shall be verified in the field by a certified soils technician. Testing documentation must be provided to the Howard County Inspector prior to start of construction. The required bearing test shall be the Dynamic Cone Penetrometer test ASTM STP-399.
  - 4.) The suitability of fill material shall be confirmed by the on-site soils technician. Each 8" lift must be compacted to a minimum 95% standard proctor density and the testing report shall be made available to the Howard County Inspector upon completion of construction.

**'PURPOSE STATEMENT'**  
 THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO ADD A NEW 1" HDPE WATER SUPPLY TO THE NEW POOL, ABANDON THE EXISTING 1" WATER TO THE ABANDONED (AND NOW REMOVED) POOL, TO ADD A NEW WATER VAULT NEAR THE EXISTING PUMP HOUSE, AND RE-DIRECT THE FOUR (4) WELL WATER MAINS INTO THE NEW WATER VAULT, AND TO ADD A 10' BY 70' COVERED DECK ALONG THE EAST SIDE OF THE NEW POOL.

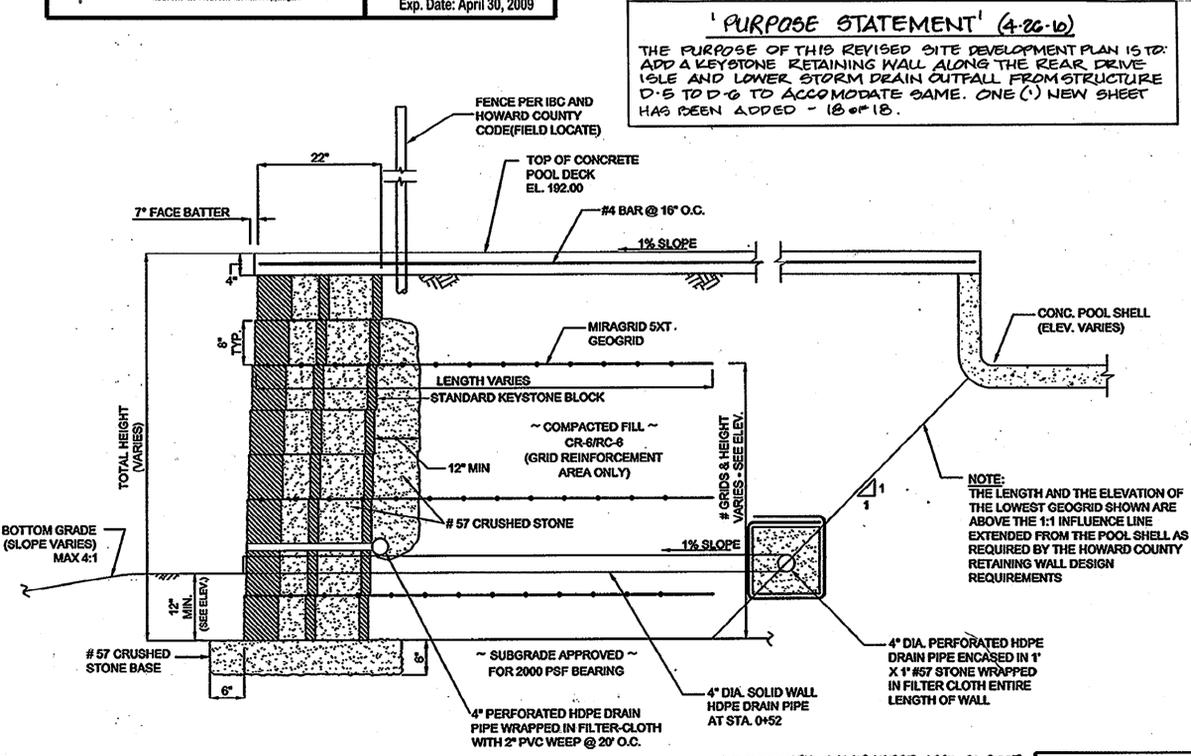
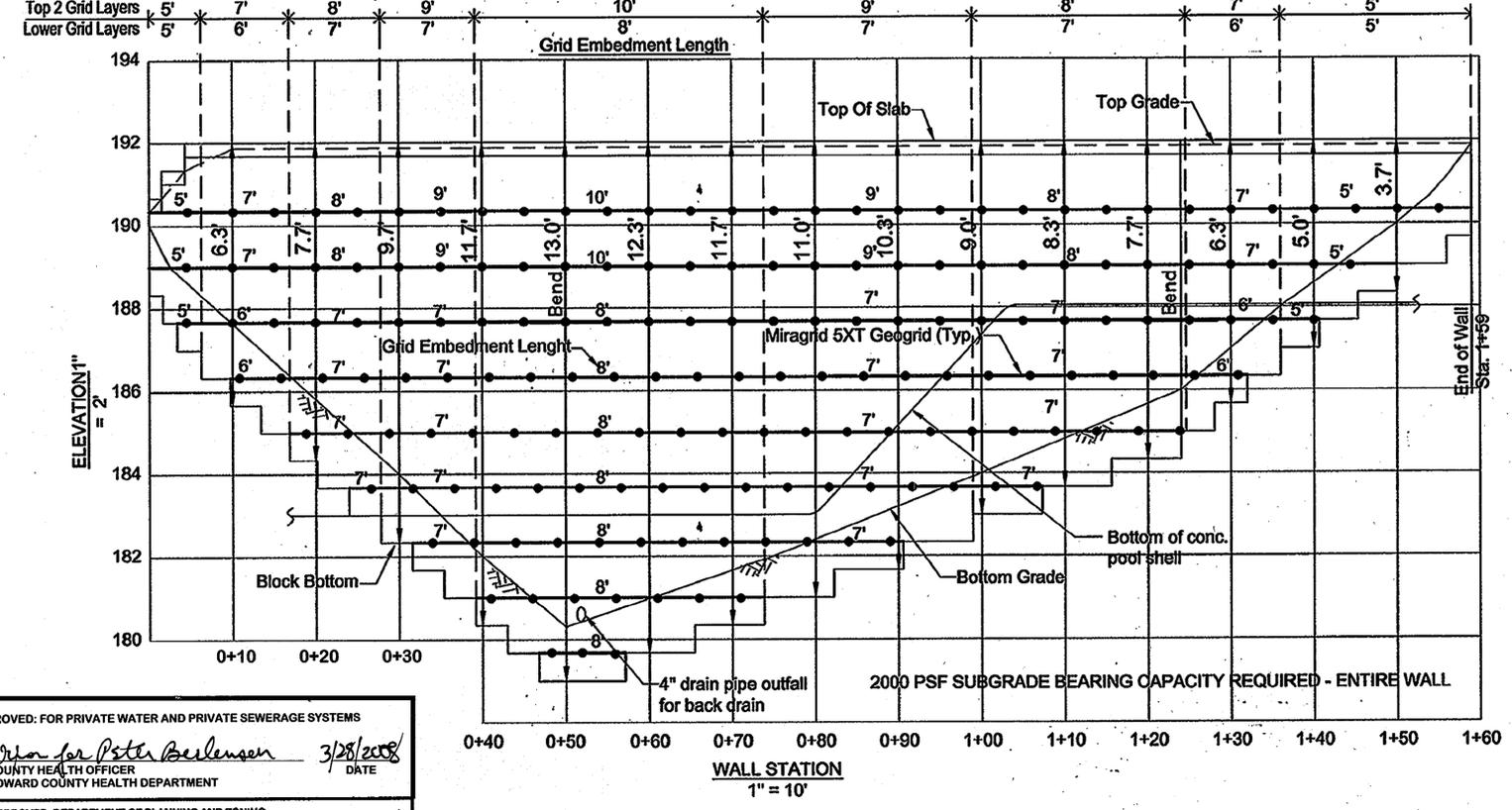
**SPECIFICATIONS**  
**KEYSTONE MODULAR CONCRETE BLOCK RETAINING WALL**

- PART 1: GENERAL**
- 1.01 Description**  
 A. Work shall consist of furnishing and construction of a KEYSTONE Retaining Wall System in accordance with these specifications and in reasonably close conformity with the lines, grades, design, and dimensions shown on the plans.  
 B. Work includes preparing foundation soil, furnishing and installing leveling pad, unit drainage fill and backfill to the lines and grades shown on the construction drawings.  
 C. Work includes furnishing and installing geogrid soil reinforcement of the type, size, location, and lengths designated on the construction drawings.
- 1.02 Delivery, Storage and Handling**  
 A. Contractor shall check all materials upon delivery to ensure that the proper type, grade, color, and certification has been received.  
 B. Contractor shall protect all materials from damage due to job site conditions and in accordance with manufacturer's recommendations. Damaged materials shall not be incorporated into the work.
- PART 2: PRODUCTS**
- 2.01 Modular Concrete Retaining Wall Units**  
 A. Modular concrete units shall conform to the following architectural requirements:  
 face color - concrete grey - standard manufacturer's color may be specified by the Owner.  
 face finish - sculptured rock face in angular tri-planer configuration. Other face finishes will not be allowed without written approval of Owner.  
 bond configuration - running with bonds nominally located at midpoint vertically adjacent units, in both straight and curved alignments.  
 exposed surfaces of units shall be free of chips, cracks or other imperfections when viewed from a distance of 10 feet under diffused lighting.  
 B. Modular concrete materials shall conform to the requirements of ASTM C1372 - Standard Specifications for Segmental Retaining Wall Units.  
 C. Modular concrete units shall conform to the following structural and geometric requirements measured in accordance with appropriate references:  
 compressive strength = 3000 psi minimum;  
 absorption = 5% maximum (5% in northern states) for standard weight aggregates;  
 dimensional tolerances = ± 1/8" from nominal unit dimensions, not including rough 1/16" face, ± 1/16" unit height - top and bottom planes;  
 unit size - 8" (H) x 18" (W) x 22" (D) minimum;  
 unit weight - 100 lbs/ft<sup>2</sup> minimum for standard weight
- 2.02 Shear Connectors**  
 A. Shear connectors shall be 1/2 inch diameter thermoset isotropic polyester resin-protected fiberglass reinforcement rods or equivalent to provide connection between vertically and horizontally adjacent units. Strength of shear connectors between vertical adjacent units shall be applicable over a design temperature of 10 degrees F to + 100 degrees F.  
 B. Shear connectors shall be capable of holding the geogrid in the proper design position during grid pre-tensioning and backfilling.
- 2.03 Base Leveling Pad Material**  
 A. Material shall consist of a compacted #57 crushed stone base as shown on the construction drawings.
- 2.04 Unit Drainage Fill**  
 A. Unit drainage fill shall consist of #57 crushed stone
- 2.05 Reinforced Backfill**  
 A. Reinforced backfill shall be CR-60-6.

REVISIONS MADE AFTER 04-23-08 BY JOYCE ENGINEERING CORP.

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

William A. Joyce, Date 12-29-09  
 Professional Engr. No. 12243  
 Exp. Date: April 30, 2009



**'PURPOSE STATEMENT' (4-26-10)**  
 THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO ADD A KEYSTONE RETAINING WALL ALONG THE REAR DRIVE ISLE AND LOWER STORM DRAIN OUTFALL FROM STRUCTURE D-5 TO D-6 TO ACCOMMODATE SAME. ONE (1) NEW SHEET HAS BEEN ADDED - 18 OF 18.

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

Brian for Peter Beilensen 3/28/08  
 COUNTY HEALTH OFFICER  
 HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

March P. C. 3/30/08  
 DIRECTOR - DEPARTMENT OF PLANNING AND ZONING

John H. 3/21/08  
 CHIEF, DIVISION OF LAND DEVELOPMENT

3/21/08  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

**OWNER**  
 SISTERS OF BON SECOURS, U.S.A.  
 1825 MARRIOTTVILLE RD.  
 MARRIOTTVILLE, MD 21104.

**DEVELOPER**  
 THE WHITING TURNER CONTRACTING COMPANY  
 300 EAST JOFFA RD.  
 TOWSON, MD. 21286

SUPPLEMENTAL SHEET ADDED APRIL 30, 2007

**SISTERS OF BON SECOURS, U.S.A.**  
 ZONED: RC-DEO  
 TAX MAP No. 10 PARCEL No. 35 GRD No. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

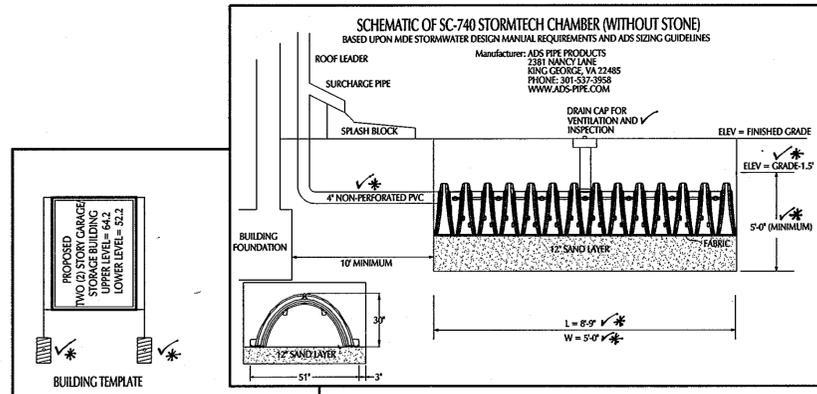
|                                |                          |              |
|--------------------------------|--------------------------|--------------|
| SUBDIVISION                    | SECTION / AREA           | PARCEL NO.   |
| SISTERS OF BON SECOURS, U.S.A. | N/A                      | 35           |
| PLAT No.                       | BLOCK                    | ZONE         |
| 393/23                         | 10, 11, 17               | RC-DEO       |
| WATER CODE: N/A - WELL         | TAX MAP No.              | ELECT. DIST. |
|                                | 10                       | THIRD        |
|                                |                          | CENSUS TR.   |
|                                |                          | 6830         |
|                                | SEWER CODE: N/A - SEPTIC |              |



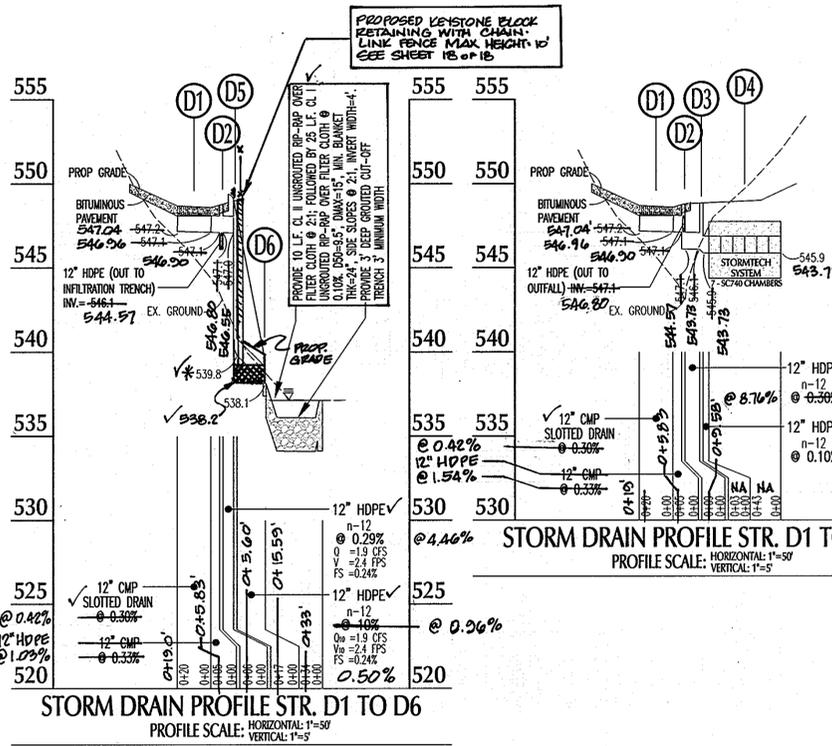
**HILLIS-CARNES**  
 ENGINEERING ASSOCIATES  
 10975 Guilford Road, Suite A Annapolis Junction, MD  
 (410) 880-4788 Fax: (410) 880-4098

**RETAINING WALL LOCATION PLAN & CONSTRUCTION DETAILS**  
**BON SECOURS POOL WALL HOWARD COUNTY, MD**

|            |              |                |
|------------|--------------|----------------|
| REVISIONS: | DESIGNED BY: | CX             |
| 012308     | JOB NUMBER:  | 06358G         |
| 10-23-09   | SCALE:       | AS SHOWN       |
| 4-26-10    | DATE:        | 03/19/07       |
|            | APPROVED BY: | RWS            |
|            | DRAWN BY:    | CX             |
|            |              | 15 OF 18 SHEET |



CONTRACTOR TO CONSTRUCT SC-740 STORMTECH CHAMBER PER DETAIL THIS SHEET. CONTRACTOR TO PROVIDE POSITIVE DRAINAGE FOR ALL ROOF DRAINS TO CHAMBER SHOWN THUS:



**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED UNDERGROUND FACILITIES (I-1)**

1. THE UNDERGROUND STORMWATER MANAGEMENT FACILITY IS PRIVATELY OWNED AND IT SHALL BE THE RESPONSIBILITY OF THE OWNER TO PERIODICALLY INSPECT AND CLEAN THE FACILITY TO MAINTAIN ITS OPERATION AND FUNCTION.
2. THE UNDERGROUND STORMWATER MANAGEMENT FACILITY SHALL BE INSPECTED YEARLY AT A MINIMUM AND AFTER ESPECIALLY SEVERE STORM EVENTS.
3. WHEN SEDIMENT ACCUMULATION OF MORE THAN 2" IS OBSERVED OR ANY DEBRIS THAT MIGHT OBSTRUCT THE OUTFALL IS OBSERVED, THE FACILITY SHALL BE CLEANED.
4. THE FACILITY SHALL BE CLEANED IMMEDIATELY AFTER PETROLEUM SPILLS. THE OWNER SHALL CONTACT THE APPROPRIATE REGULATORY AGENCIES NOTIFYING THEM OF THE SPILL AND CLEANUP OPERATION.
5. THE SEDIMENT AND DEBRIS SHALL BE REMOVED FROM THE UNDERGROUND STORMWATER MANAGEMENT FACILITY BY VACUUM TRUCK OR OTHER MANUAL MEANS. THE OWNER SHALL FOLLOW PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIAL AND LIQUID.
6. THE INLET AND OUTFALL PIPES SHALL BE CHECKED FOR ANY OBSTRUCTIONS AT LEAST ONCE EVERY SIX (6) MONTHS. IF OBSTRUCTIONS ARE FOUND, THE OWNER SHALL HAVE THEM REMOVED AND PROPERLY DISPOSED OF.

**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER INFILTRATION TRENCHES (I-1, I-2, & I-3)**

1. THE MONITORING WELLS AND STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM EVENT.
2. WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS SHALL BE RECORDED OVER A PERIOD OF SEVERAL DAYS TO ENSURE TRENCH DRAINAGE.
3. A LOGBOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
4. WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN THE 72 HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
5. THE MAINTENANCE LOGBOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO ENSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
6. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

**STORMTECH DOWNSPOUT SPECIFICATION AND NOTES**

- 1.0 GENERAL
- 1.1 STORMTECH CHAMBERS ARE DESIGNED TO CONTROL STORMWATER RUNOFF. AS A SUBSURFACE RETENTION SYSTEM, STORMTECH CHAMBERS RETAIN AND ALLOW EFFECTIVE INFILTRATION OF WATER INTO THE SOIL. AS A SUBSURFACE DETENTION SYSTEM, STORMTECH CHAMBERS DETAIN AND ALLOW FOR THE METICULOUS FLOW OF WATER TO AN OUTFALL.
- 2.0 CHAMBER PARAMETERS
- 2.1 THE CHAMBER SHALL BE INJECTION MOLDED OF POLYPROPYLENE RESIN TO BE INHERENTLY RESISTANT TO ENVIRONMENTAL STRESS CRACKING (ESC) AND TO MAINTAIN ADEQUATE STIFFNESS THROUGH HIGHER TEMPERATURES EXPERIENCED DURING INSTALLATION AND SERVICE.
- 2.2 THE NOMINAL CHAMBER DIMENSIONS OF THE STORMTECH SC-740 SHALL BE 30.0 INCHES TALL, 9.0 INCHES WIDE AND 9.0 INCHES LONG. THE NOMINAL CHAMBER DIMENSIONS OF THE STORMTECH SC-310 SHALL BE 18.0 INCHES TALL, 9.0 INCHES WIDE AND 9.0 INCHES LONG. THE INSTALLED LENGTH OF A JOINED CHAMBER SHALL BE 18.0 INCHES.
- 2.3 THE CHAMBER SHALL HAVE A CONTINUOUSLY CURVED SECTION PROFILE.
- 2.4 THE CHAMBER SHALL BE OPEN-BOTTOMED.
- 2.5 THE CHAMBER SHALL INCORPORATE AN OVERLAPPING CONNECTION JOINT SYSTEM TO ALLOW CHAMBER ROWS OF ALMOST ANY LENGTH TO BE CREATED. THE JOINT CONNECTION JOINT SYSTEM SHALL BE EFFECTIVE WHILE ALLOWING A CHAMBER TO BE TRIMMED TO SHORTEN ITS OVERALL LENGTH.
- 2.6 THE NOMINAL STORAGE VOLUME OF A JOINED STORMTECH SC-740 CHAMBER SHALL BE 74.0 CUBIC FEET PER CHAMBER WHEN INSTALLED PER STORMTECH TYPICAL DETAILS (INCLUDES THE VOLUME OF CURVED ANGLE STONE WITH AN ASSUMED 40% POROSITY). THE INSTALLED STORAGE VOLUME OF STORMTECH SC-310 CHAMBER SHALL BE 31.0 CUBIC FEET PER CHAMBER WHEN INSTALLED PER STORMTECH TYPICAL DETAILS (INCLUDES THE VOLUME OF CURVED ANGLE STONE WITH AN ASSUMED 40% POROSITY). THIS EQUATES TO 1.3 CUBIC FEET OF STORAGE PER SQUARE FOOT OF BED.
- 2.7 THE CHAMBER SHALL HAVE HORIZONTAL CROSS PENETRATING THE SIDEWALLS TO ALLOW FOR LATERAL CONVEYANCE OF WATER.
- 2.8 THE CHAMBER SHALL HAVE TWO ORIFICES NEAR ITS TOP TO ALLOW FOR EQUALIZATION OF AIR PRESSURE BETWEEN ITS INTERIOR AND EXTERIOR.
- 2.9 THE CHAMBER SHALL HAVE BOTH OF ITS ENDS OPEN TO ALLOW FOR UNIMPEDED HYDRAULIC FLOWS AND VISUAL INSPECTIONS DOWN A ROW'S ENTIRE LENGTH.
- 2.10 THE CHAMBER SHALL HAVE 14 CORRUGATIONS.
- 2.11 THE CHAMBER SHALL HAVE A SPECIAL UNIDENTIFIED, FLAT SURFACE ON THE TOP OF THE CHAMBER FOR AN OPTIONAL 4-INCH INSPECTION PORT OR CLEAN-OUT.
- 2.12 THE CHAMBER SHALL BE ANALYZED AND DESIGNED USING ANALYTICAL METHODS FOR THERMOPLASTIC COLLECTORS CONTAINED IN THE LARO BRIDGE DESIGN SPECIFICATIONS, 2ND EDITION, INCLUDING HYPER SPECIFICATIONS THROUGH 2001. DESIGN LIVE LOAD SHALL BE THE AASHTO HS20 TRUCK. DESIGN SHALL CONSIDER EARTH AND LIVE LOADS AS APPROPRIATE FOR THE MINIMUM TO MAXIMUM SPECIFIED DEPTH OF FILL.
- 2.13 THE CHAMBER SHALL BE MANUFACTURED IN AN ISO 9001:2000 CERTIFIED FACILITY.
- 3.0 END CAP PARAMETERS
- 3.1 THE END CAP SHALL BE INJECTION MOLDED OF POLYPROPYLENE RESIN TO BE INHERENTLY RESISTANT TO ENVIRONMENTAL STRESS CRACKING AND TO TEMPERATURES EXPERIENCED DURING INSTALLATION AND SERVICE.
- 3.2 THE END CAP SHALL BE DESIGNED TO FIT INTO ANY CORRUGATION OF A CHAMBER, WHICH ALLOWS CAPPING A CHAMBER THAT HAS ITS LENGTH TRIMMED; SEPARATING ROWS INTO STORAGE BAYS OF VARIOUS LENGTHS.
- 3.3 THE END CAP SHALL HAVE SAW CUTS TO ALLOW EASY CUTTING FOR VARIOUS DIAMETERS OF PIPE THAT MAY BE USED TO INLET THE SYSTEM.
- 3.4 THE END CAP SHALL HAVE EXCESS STRUCTURAL ASSIGNMENTS TO ALLOW CUTTING AN ORIFICE OF ANY SIZE AT ANY INVERT ELEVATION.
- 3.5 THE PRIMARY FACE OF AN END CAP SHALL BE CURVED OUTWARD TO RESIST HORIZONTAL LOADS GENERATED NEAR THE EDGES OF BEDS.
- 3.6 THE END CAP SHALL BE MANUFACTURED IN AN ISO 9001:2000 CERTIFIED FACILITY.

**STORM DRAIN AS-BUILT SHEET 1 of 1**  
**ENGINEER'S AS-BUILT CERTIFICATION: 02-26-13**  
 I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS STORMWATER MANAGEMENT FACILITY HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.

**STORM DRAIN AS-BUILT 02-26-2009 BY JOYCE ENGINEERING CORP.**

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

*W. J. Joyce*  
 Professional Engineer No. 12243  
 Exp. Date: Dec. 17, 2014

**'PURPOSE STATEMENT'**

THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO: ADD A KEYSTONE RETAINING WALL ALONG THE REAR DRIVE W/ A LOWER STORM DRAIN OUTFALL FROM STRUCTURE D-5 TO D-6 TO ACCOMMODATE SAME. ONE NEW SHEET HAS BEEN ADDED - 18 OF 18 (4.26.10)



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

*W. J. Joyce*  
 Professional Engineer No. 12243  
 Exp. Date: Dec. 17, 2014

Signature: *W. J. Joyce*  
 27729  
 License No: 27729  
 Date: Jul. 15, 2010  
 Exp Date: Jul. 15, 2010

**ATTENTION:**  
 THIS PLAN SHALL BE USED ONLY FOR ITS INTENDED PURPOSE AS NOTED IN THE TITLE BLOCK.

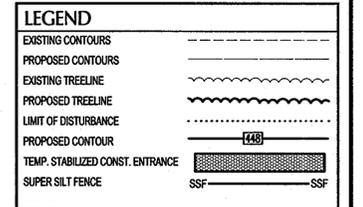
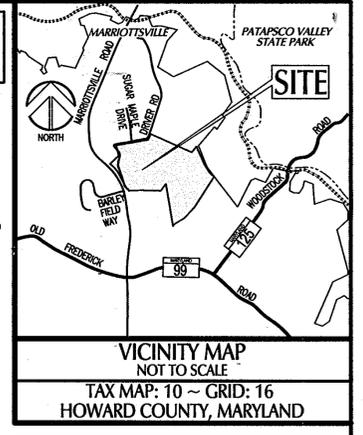
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 Service Protection Center

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 www.missutility.net/lincs

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**OWNER/DEVELOPER/APPLICANT:**  
 SISTERS OF BON-SECOURS, USA  
 C/O BOB HUBBLE  
 1525 MARRIOTTVILLE ROAD  
 MARRIOTTVILLE, MARYLAND 21104  
 PHONE: 410-442-3215

**CONTRACTOR:**  
 WHITING-TURNER CONTRACTING  
 C/O LARRY GOSS  
 1525 MARRIOTTVILLE ROAD  
 MARRIOTTVILLE, MARYLAND 21104  
 PHONE: 410-821-8585

APPROVED: FOR PRIVATE WATER AND SEWER SYSTEM  
 HOWARD COUNTY HEALTH DEPARTMENT

*B. Wilson for Peter Beileman* 11/24/2009  
 COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*W. J. Joyce* 11/2/09  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*W. J. Joyce* 11/2/09  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*M. G. Sullivan* 11/30/09  
 DIRECTOR, DATE

| DATE    | NO. | REVISION DESCRIPTION  |
|---------|-----|---|
| 4-26-10 | 1   | REVISOR TO ADD NEW KEYSTONE RETAINING WALL AND ONE NEW SHEET FOR PROFILE AND SPEC. (18 OF 18) |

**SISTERS OF BON-SECOURS, USA**  
 TAX PARCEL 35  
 LIBER: 393 AT FOLIO: 29

OWNER/DEVELOPER:  
 SISTERS OF BON-SECOURS, USA  
 1525 MARRIOTTVILLE ROAD  
 MARRIOTTVILLE, MARYLAND 21104

**JOYCE ENGINEERING CORPORATION**  
 CIVIL ENGINEERING LAND SURVEYING LAND PLANNING CONSTRUCTION MANAGEMENT  
 1036 BELMONT AVENUE, BETHESDA, MARYLAND 20814  
 TEL: (301) 996-4333 FAX: (301) 996-4600 www.joyceeng.com

ADDRESS CHART

| LOT/PARCEL | STREET ADDRESS                                    |
|------------|---|
| 35         | 1525 MARRIOTTVILLE ROAD, MARRIOTTVILLE, MD. 21104 |

PERMIT INFORMATION CHART

| SECTION/AREA                | LOT/PARCEL |
|-----------------------------|------------|
| SISTERS OF BON-SECOURS, USA | 35         |

TITLE: STORM DRAIN & STORMWATER MANAGEMENT PLAN, PROFILES, NOTES, AND DETAILS FOR PROPOSED GARAGE

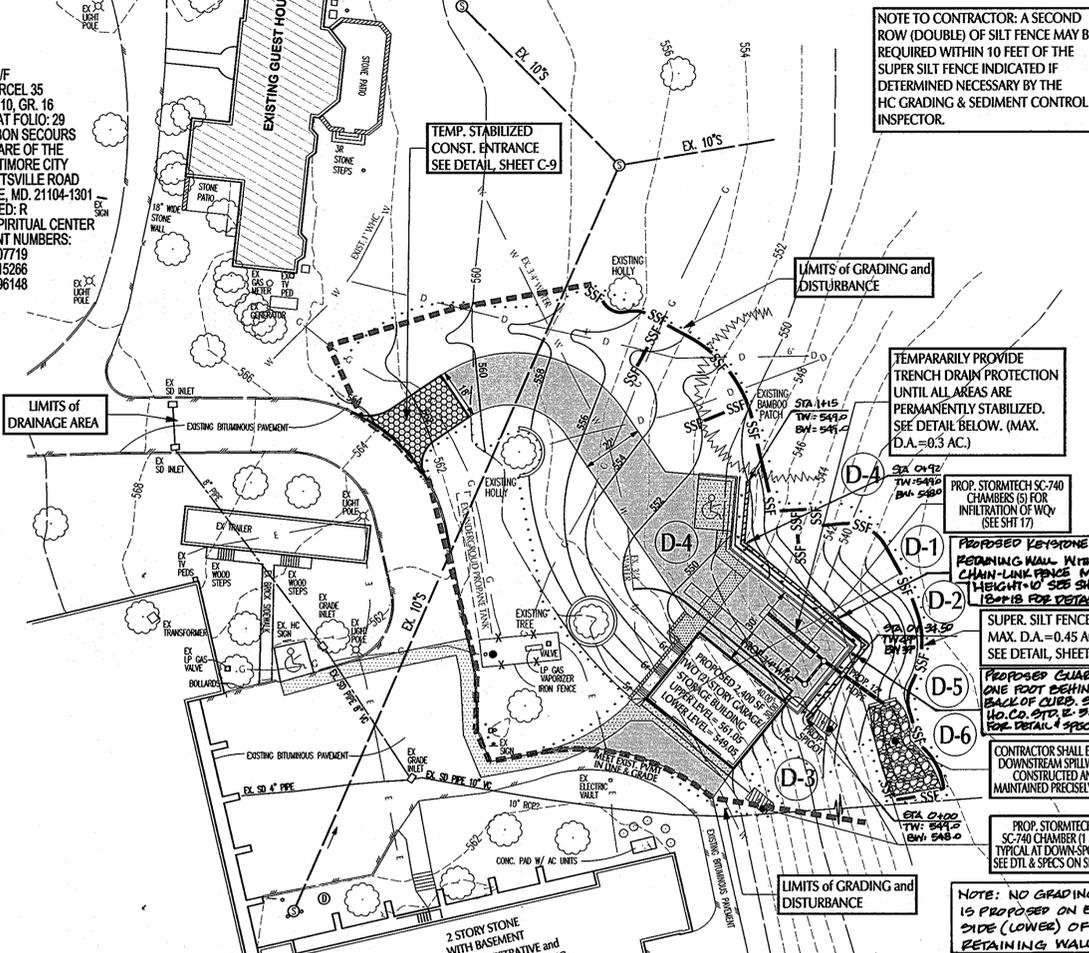
| DES BY | SCALE    | PROJ. NO.  |
|--------|----------|------------|
| WAJ    | 1" = 30' | DSP-87-252 |

| DRN BY | DATE          | APPROVED |
|--------|---------------|----------|
| HAL    | JANUARY, 2009 | 17 OF 18 |

**SEDIMENT & EROSION CONTROL PLAN for GARAGE**

SCALE: 1" = 30'  
 TOTAL DISTURBED AREA = 0.43 AC. OR 18,750 SF  
 TOTAL IMPERVIOUS AREA = 0.16 AC. OR 7,150 SF  
 TOTAL AREA TO BE VEGETATIVELY STABILIZED = 0.27 AC. OR 11,760 SF  
 850 C.Y. OF SPOIL TO BE TAKEN TO A SITE WITH AN APPROVED AND VALID SEDIMENT & EROSION CONTROL PLAN WITHIN THE HOWARD COUNTY.

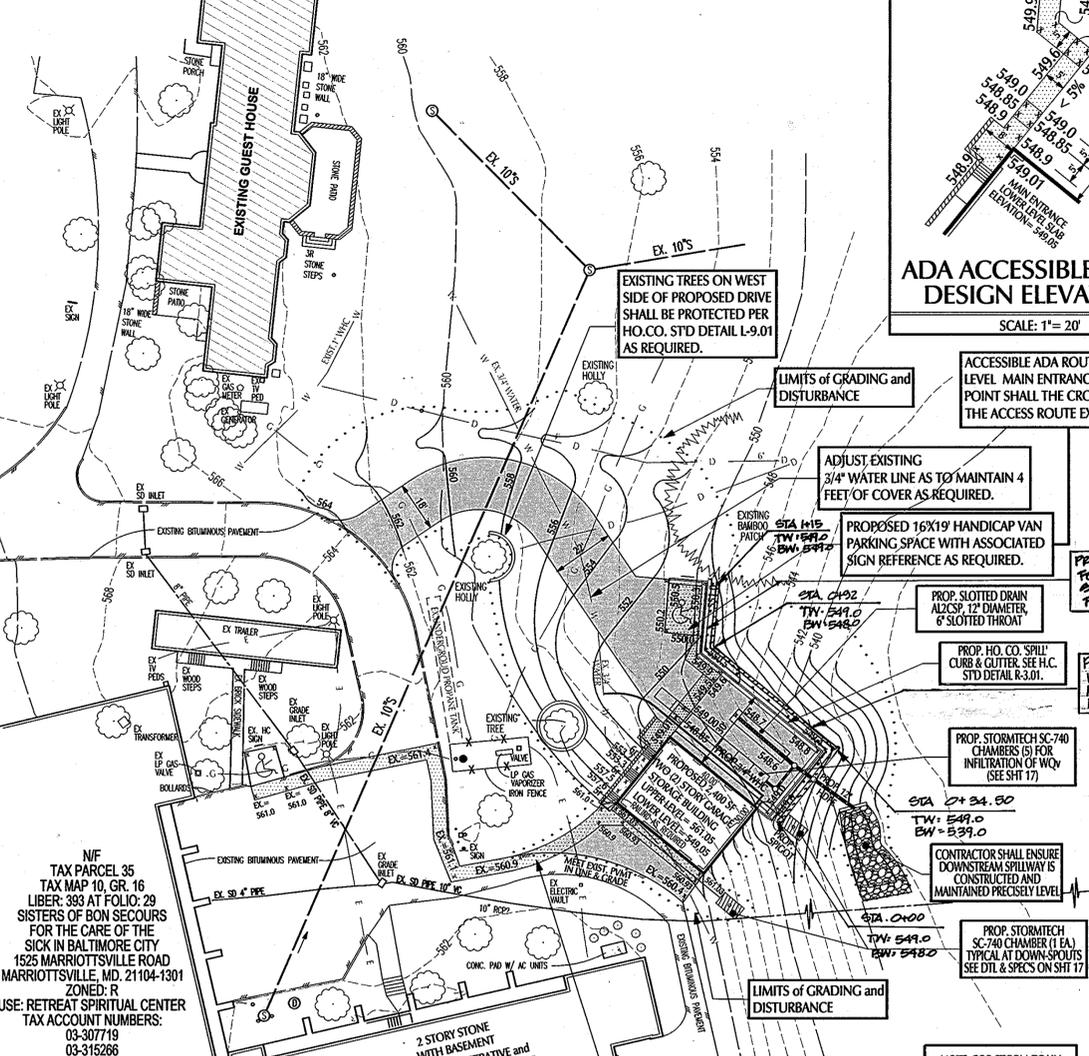
NOTE TO CONTRACTOR: A SECOND ROW (DOUBLE) OF SILT FENCE MAY BE REQUIRED WITHIN 10 FEET OF THE SUPER SILT FENCE INDICATED IF DETERMINED NECESSARY BY THE H.C. GRADING & SEDIMENT CONTROL INSPECTOR.



N/F  
 TAX PARCEL 35  
 TAX MAP 10, GR. 16  
 LIBER: 393 AT FOLIO: 29  
 SISTERS OF BON SECOURS  
 FOR THE CARE OF THE  
 SICK IN BALTIMORE CITY  
 1525 MARRIOTTVILLE ROAD  
 MARRIOTTVILLE, MD. 21104-1301  
 ZONED: R  
 USE: RETREAT SPIRITUAL CENTER  
 TAX ACCOUNT NUMBERS:  
 03-307719  
 03-315266  
 03-296148

**REVISED SITE PLAN FOR GARAGE RELOCATION**

SCALE: 1" = 30'



NOTE: ADA ACCESSIBLE ROUTE SHALL NOT HAVE A CROSS SLOPE EXCEEDING 2%

**ADA ACCESSIBLE ROUTE DESIGN ELEVATIONS**

SCALE: 1" = 20'

ACCESSIBLE ADA ROUTE TO LOWER LEVEL MAIN ENTRANCE. AT NO POINT SHALL THE CROSS SLOPE OF THE ACCESS ROUTE EXCEED 2%.

ADJUST EXISTING 3/4" WATER LINE AS TO MAINTAIN 4 FEET OF COVER AS REQUIRED.

PROPOSED 16'X19' HANDICAP VAN PARKING SPACE WITH ASSOCIATED SIGN REFERENCE AS REQUIRED.

PROP. HO. CO. SPILL CURB & GUTTER. SEE H.C. STD DETAIL R-3.01.

PROPOSED LEYSTONE BLOCK RETAINING WALL WITH CHAIN LINK FENCE. MAX. HEIGHT = 10'. SEE SHEET 12 OF 16 FOR DETAILS.

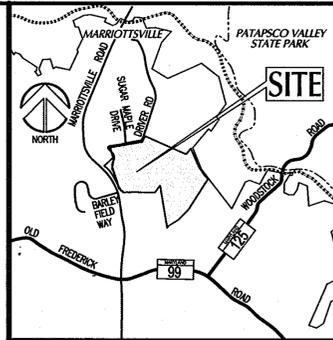
PROPOSED GUARD RAIL ONE FOOT BEHIND BACK OF CURB. SEE HOWARD COUNTY STD. P. 5.10 FOR DETAILS & SPECIFICATIONS.

PROP. STORMTECH SC-740 CHAMBERS (S) FOR INFILTRATION OF WQV (SEE SHT 17)

PROP. STORMTECH SC-740 CHAMBERS (S) FOR INFILTRATION OF WQV (SEE SHT 17)

PROP. STORMTECH SC-740 CHAMBER (1 EA.) TYPICAL AT DOWN-SPOUTS. SEE DTL & SPECS ON SHT 17

NOTE: FOR STORM DRAIN PLAN, DETAILS AND PROFILES, SEE SHEET SP-17 OF 17.



VICINITY MAP NOT TO SCALE  
 TAX MAP: 10 ~ GRID: 16  
 HOWARD COUNTY, MARYLAND

**LEGEND**

|                                  |     |
|----------------------------------|-----|
| EXISTING CONTOURS                | --- |
| PROPOSED CONTOURS                | --- |
| EXISTING TREELINE                | --- |
| PROPOSED TREELINE                | --- |
| LIMIT OF DISTURBANCE             | --- |
| PROPOSED CONTOUR                 | --- |
| TEMP. STABILIZED CONST. ENTRANCE | --- |
| SUPER SILT FENCE                 | --- |
| DRAINAGE DIVIDE                  | --- |

APPROVED: FOR PRIVATE WATER AND SEWER SYSTEM  
 HOWARD COUNTY HEALTH DEPARTMENT  
 B. Wilson for Peter B. Silkman 11/24/09  
 COUNTY HEALTH OFFICER DATE 7/9/09

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
 [Signature] 11/13/09  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 11/25/09  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 1/30/09  
 DIRECTOR, DATE

|         |     |  |
|---------|-----|--|
| 4-26-09 | 1   | REVISED TO ADD NEW LEYSTONE WALL & ONE NEW SHEET FOR PEOPLE, DETAILS & SPECIFICATIONS SHEET 12 OF 16 |
| DATE    | NO. | REVISION DESCRIPTION   |

**SISTERS OF BON-SECOURS, USA**  
 TAX PARCEL 35  
 LIBER: 393 AT FOLIO: 29

OWNER/DEVELOPER:  
 SISTERS OF BON-SECOURS, USA  
 1525 MARRIOTTVILLE ROAD  
 MARRIOTTVILLE, MARYLAND 21104

**JOYCE ENGINEERING CORPORATION**  
 CIVIL ENGINEERING LAND SURVEYING LAND PLANNING CONSTRUCTION MANAGEMENT  
 10766 BALTIMORE AVENUE - BELTSVILLE, MARYLAND 20706  
 TEL: (301) 253-1533 FAX: (301) 255-4660 WWW: www.joyceeng.com

ADDRESS CHART

| LOT/PARCEL | STREET ADDRESS                                    |
|------------|---|
| 35         | 1525 MARRIOTTVILLE ROAD, MARRIOTTVILLE, MD. 21104 |

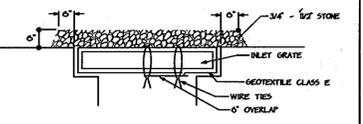
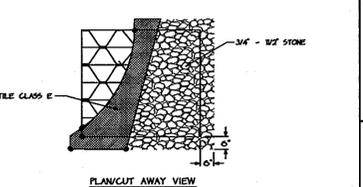
PERMIT INFORMATION CHART

|            |                             |              |              |                 |      |
|------------|-----------------------------|--------------|--------------|-----------------|------|
| SUBMISSION | SISTERS OF BON-SECOURS, USA | SECTION/AREA | N/A          | LOT/PARCEL #    | 35   |
| PLAN #     | 17                          | TAX/ZONE MAP | 10           | ELECT. DISTRICT | 380  |
| WATER CODE | N/A - WELL                  | SEWER CODE   | N/A - SEPTIC | CONV. TRACT     | 6030 |

TITLE: REVISED SITE PLAN FOR GARAGE RELOCATION and SEDIMENT & EROSION CONTROL PLAN

|        |     |          |               |           |            |
|--------|-----|----------|---------------|-----------|------------|
| DES BY | WAJ | SCALE    | 1" = 30'      | PROJ. NO. | DSP-87-252 |
| DRN BY | WAJ | DATE     | JANUARY, 2009 |           |            |
| CHK BY | JAL | APPROVED | WAJ           |           | 16 OF 18   |

**DETAIL 23D - AT GRADE INLET PROTECTION**



CONSTRUCTION SPECIFICATIONS

- LIFT GRATE AND MEAT WITH GEOTEXTILE CLASS E TO COMPLETELY COVER ALL OPENINGS. THEN SET GRATE BACK IN PLACE.
- PLACE 3/4" TO 1/2" STONE, 4'-0" THICK ON THE GRATE TO SECURE THE FABRIC AND PROVIDE ADDITIONAL FILTRATION.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E - 18 - 5A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**ATTENTION:**  
 THIS PLAN SHALL BE USED ONLY FOR ITS INTENDED PURPOSE AS NOTED IN THE TITLE BLOCK.

MISS UTILITY Service Protection Center  
 CALL TOLL FREE 1-800-257-7777  
 www.missutility.net/files

MEMBER THE SOIL SYSTEMS INTERNATIONAL

NOTE: EXISTING UTILITY INFORMATION SHOWN HEREON IS BASED UPON INFORMATION WHICH WAS AVAILABLE AT THE TIME OF THE BASE PLAN PREPARATION. DUE TO CONSTRUCTION INFORMATION DISCLOSURE RESTRICTIONS, JOYCE ENGINEERING CORP. SHALL NOT BE LIABLE OR RESPONSIBLE FOR THE COMPLETENESS OR ACCURACY OF THE INFORMATION SHOWN. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE THE EXACT LOCATION AND ELEVATION OF ALL EXISTING UTILITY MAINS, LINES AND/OR SERVICES THAT MAY OR COULD BE AFFECTED BY THE ANTICIPATED CONSTRUCTION SHOWN HEREON. THE CONTRACTOR SHALL CONDUCT "MISS UTILITY" PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY TO DETERMINE THE LOCATION OF ANY RECORDED UTILITY MAINS, LINES, AND/OR SERVICES AND PERFORM TEST PIT EXCAVATIONS BY HAND AS REQUIRED.

NOTE: EXISTING UNDERGROUND UTILITIES LOCATIONS ARE PER ACCURATE INFRASTRUCTURE DATA, INC. ADJUSTMENTS MAY BE REQUIRED HORIZONTALLY AND/OR VERTICALLY IN ACCORDANCE WITH THE GUIDELINES AND POLICY OF THE ASSOCIATED UTILITY SOURCE. SEE LEGEND ABOVE.

**OWNER/DEVELOPER/APPLICANT:**

SISTERS OF BON-SECOURS, USA  
 C/O BOB HUBBLE  
 1525 MARRIOTTVILLE ROAD  
 MARRIOTTVILLE, MARYLAND 21104  
 PHONE: 410-442-3215

**CONTRACTOR:**

WHITING-TURNER CONTRACTING  
 C/O LARRY COSS  
 1525 MARRIOTTVILLE ROAD  
 MARRIOTTVILLE, MARYLAND 21104  
 PHONE: 410-821-8585

**UTILITY LEGEND**

|          |             |
|----------|-------------|
| PROPANE  | - G - G - G |
| ELECTRIC | - E - E - E |
| DRAIN    | - D - D - D |
| WHC      | - W - W - W |

NOTE: EXISTING UNDERGROUND UTILITIES LOCATIONS ARE PER ACCURATE INFRASTRUCTURE DATA, INC. ADJUSTMENTS MAY BE REQUIRED HORIZONTALLY AND/OR VERTICALLY IN ACCORDANCE WITH THE GUIDELINES AND POLICY OF THE ASSOCIATED UTILITY SOURCE. SEE LEGEND ABOVE.

**SEQUENCE OF CONSTRUCTION:**

- OBTAIN FINE GRADING/BUILDING PERMIT ISSUANCE
- NOTIFY HOWARD COUNTY BUREAU OF INSPECTIONS AND PERMITS (410-313-1880) AT LEAST 24 HOURS PRIOR TO THE START OF ANY CONSTRUCTION. 1 DAY
- WITH WRITTEN PERMISSION BY THE INSPECTOR, INSTALL ALL PERIMETER SEDIMENT CONTROL DEVICES AS INDICATED INCLUDING S.C.E. SEE NOTE BY PLAN VIEW WHICH MAY REQUIRE DOUBLE ROW OF SF AS DIRECTED BY INSPECTOR. 1 DAY
- WITH WRITTEN PERMISSION BY THE INSPECTOR, BEGIN GRADING OPERATIONS. RELOCATE HORIZONTALLY AND/OR VERTICALLY ANY AND ALL EXISTING UTILITY SERVICES AS REQUIRED. NOTE: PERMANENTLY VEGETATIVELY STABILIZE ALL DISTURBED AREAS WITHIN 7 DAYS OF GRADING ACTIVITY. 2 WEEKS
- BEGIN BUILDING CONSTRUCTION & RETAINING WALL CONSTRUCTION. 26 WEEKS
- INSTALL PRIVATE NEW 94" WVC AND DRYWELLS, STORM TRENCH AND ASSOCIATED STORM DRAIN CONVEYANCE SYSTEM AS INDICATED. PROVIDE INLET PROTECTION DEVICES AS SHOWN. 1 WEEK
- PAVE NEW DRIVEWAY AS INDICATED. 1 DAY
- PERMANENTLY AND VEGETATIVELY STABILIZE ALL DISTURBED AREAS. WITH WRITTEN PERMISSION OF THE INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES. WRITTEN PERMISSION

NOTE: DURING GRADING AND AFTER EACH RAINFALL, THE CONTRACTOR SHALL INSPECT AND PROVIDE ALL NECESSARY MAINTENANCE ON THE SEDIMENT & EROSION CONTROL FACILITIES SHOWN HEREON.

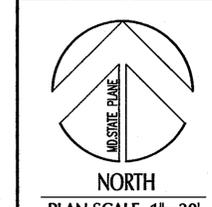
FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, TEMPORARY OR PERMANENT STABILIZATION SHALL BE COMPLETED WITHIN:

- 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DICES, SWALES, DITCH PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1.
- 14 CALENDAR DAYS FOR ALL OTHER DISTURBED AREAS.
- ALL SPOIL/BORROW MATERIAL MUST BE IMPORTED OR DISPOSED OF AT A SITE WITH AN APPROVED AN ACTIVE SEDIMENT, EROSION CONTROL PLAN.

THIS PLAN SHALL BE USED FOR ITS INTENDED PURPOSE AS STATED IN THE TITLE BLOCK. FOR BUILDING, AND ANY ADDITIONAL UTILITY INFORMATION, SEE THE APPROPRIATE PLAN FROM ARCHITECT.

**'PURPOSE STATEMENT'** (4-26-10)  
 THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO: ADD A LEYSTONE RETAINING WALL ALONG THE REAR DRIVE ISLE AND LOWER STORM DRAIN OUT FALL FROM STRUCTURE D-5 TO D-6 TO ACCOMMODATE SAME. ONE NEW SHEET HAS BEEN ADDED - 12 OF 18

**'PURPOSE STATEMENT'**  
 THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO RELOCATE THE PREVIOUSLY APPROVED GARAGE LOCATION (TO THE NORTH ALONG THE EXISTING DRIVEWAY), ADD THE GARAGE ELEVATIONS, PROVIDE DRYWELLS AT DOWN-SPOUT LOCATIONS FOR GARAGE FOR WATER QUALITY PURPOSES. ADD NEW SHEETS (16 & 17 OF 17).



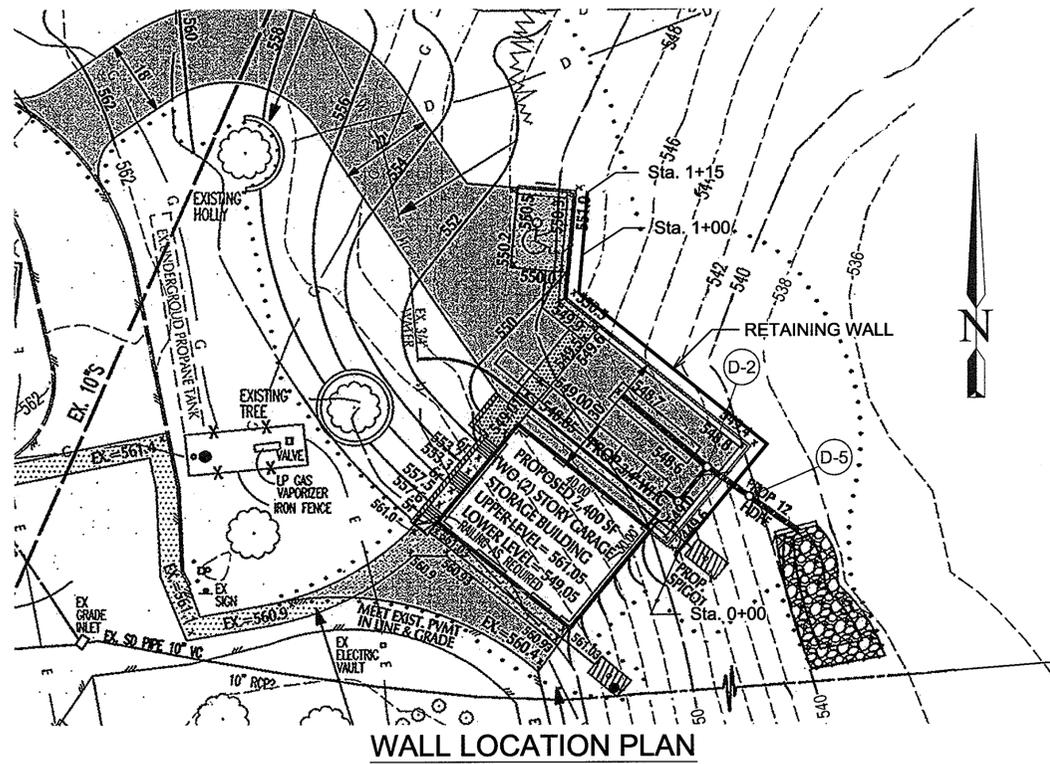
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer in the State of Maryland.

[Signature]  
 Signature: 27729 July 15, 2010  
 License No. Exp. Date

Reviewed for Howard SCD and meets Technical Requirements  
 USA - Natural Resources Conservation Service  
 This development plan is approved for the soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT  
 [Signature]  
 Signature of Engineer (print name below signature) Date 1/14/09  
 [Signature] Joyce, P.E. MATTHEW E. JOYCE

**ENGINEER'S CERTIFICATION**  
 I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.  
 [Signature] Joyce, P.E. MATTHEW E. JOYCE

**DEVELOPER'S CERTIFICATION**  
 "We certify that all development and construction will be done according to this plan for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at the Department of Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."  
 [Signature] Sisters of Bon Secours, USA SR. ALICE TAYLOR Date 10/29/09



**WALL LOCATION PLAN**  
1"=20'

**NOTES:**

- No trees shall be planted within 10 feet of the top of the retaining wall.
- Retaining walls shall only be constructed under the observation of a registered professional engineer and a (NICET, WACEL, or equiv.) certified soils technician.
- One soil boring shall be required every one hundred feet along the entire length of the wall. Copies of all boring reports shall be provided to the Howard County Inspector Prior to the start of construction.
- The required bearing pressure beneath the wall system shall be verified in the field by a certified soils technician. Testing documentation must be provided to the Howard County Inspector prior to start of construction. The required bearing test shall be the Dynamic Cone Penetrometer test ASTM STP-399.
- The suitability of fill material shall be confirmed by the on-site soils technician. Each 8" lift must be compacted to a minimum 95% standard proctor density and the testing report shall be made available to the Howard County Inspector upon completion of construction.
- Walls shall not be constructed on uncertified fill materials.
- Walls shall not be constructed within a Howard Co. right-of-way or easement.

**SPECIFICATIONS**  
**MODULAR CONCRETE BLOCK RETAINING WALL**

**PART 1: GENERAL**

- 1.01 Description  
A. Work shall consist of furnishing and construction of a Modular Retaining Wall System in accordance with these specifications and in reasonably close conformity with the lines, grades, design, and dimensions shown on the plans. Work includes preparing foundation soil, furnishing and installing leveling pad, unit drainage fill and backfill to the lines and grades shown on the construction drawings. Work includes furnishing and installing geogrid soil reinforcement of the type, size, location, and lengths designated on the construction drawings.

- 1.02 Delivery, Storage and Handling  
A. Contractor shall check all materials upon delivery to assure that the proper type, grade, color, and certification has been received.  
B. Contractor shall protect all materials from damage due to job site conditions and in accordance with manufacturer's recommendations. Damaged materials shall not be incorporated into the work.

**PART 2: PRODUCTS**

- 2.01 Modular Concrete Retaining Wall Units  
A. Modular concrete units shall conform to the following architectural requirements:  
1. face color - concrete gray - standard manufacturer's color may be specified by the Owner.  
2. face finish - sculptured rock face in angular tri-planer or flat configuration. Other face finishes will not be allowed without written approval of Owner.  
3. bond configuration - running with bonds nominally located at midpoint vertically adjacent units, in both straight and curved alignments.  
4. exposed surfaces of units shall be free of chips, cracks or other imperfections when viewed from a distance of 10 feet under diffused lighting.  
B. Modular concrete materials shall conform to the requirements of ASTM C1372 - Standard Specifications for Segmental Retaining Wall Units.  
C. Modular concrete units shall conform to the following structural and geometric requirements measured in accordance with appropriate references:  
1. compressive strength = 3000 psi minimum;  
2. absorption = 8% maximum (6% in northern states) for standard weight aggregates;  
3. dimensional tolerances = ± 1/8" from nominal unit dimensions - not including rough split face, ± 1/16" unit height - top and bottom planes;  
4. unit size - 8" (H) x 18" (W) x 12" (D) minimum;  
5. unit weight - 75 lbs/unit minimum for standard weight aggregates;

- inter-unit shear strength - 1000 pif minimum at 2 psi normal pressure;  
geogrid/unit peak connection strength - 1000 pif minimum at 2 psi normal force.  
D. Modular concrete units shall conform to the following constructability requirements: (if applicable)  
1. vertical setback = 1/8" per course (near vertical) or 1" per course per the design;  
2. alignment and grid positioning mechanism - fiberglass pins, two per unit minimum;  
3. maximum horizontal gap between erected units shall be 1/2 inch.

- 2.02 Shear Connectors (if applicable)  
A. Shear connectors shall be 1/2 inch diameter thermoset isophthalic polyester resin-impregnated fiberglass reinforcement rods or equivalent to provide connection between vertically and horizontally adjacent units.  
Strength of shear connectors between vertical adjacent units shall be applicable over a design temperature of 10 degrees F to +100 degrees F.  
B. Shear connectors shall be capable of holding the geogrid in the proper design position during grid pre-tensioning and backfilling.

- 2.03 Base Leveling Pad Material  
A. Material shall consist of a compacted #57 crushed stone base as shown on the construction drawings.

- 2.04 Unit Drainage Fill  
A. Unit drainage fill shall consist of #57 crushed stone

- 2.05 Reinforced Backfill  
A. Reinforced backfill shall type SM, be free of debris and meet the following gradation tested in accordance with ASTM D-422 and meet other properties shown on the plan:

| Sieve Size | Percent Passing |
|------------|-----------------|
| 2 inch     | 100-75          |
| 3/4 inch   | 100-75          |
| No. 40     | 0-60            |
| No. 200    | 0-40            |

Plasticity Index (PI) <10 and Liquid Limit <40 per ASTM D-4318.

- B. Material can be site excavated soils where the above requirements can be met. Unsuitable soils for backfill (high plastic clays or organic soils) shall not be used in the reinforced soil mass.  
2.06 Geogrid Soil Reinforcement  
A. Geosynthetic reinforcement shall consist of geogrids manufactured specifically for soil reinforcement

applications and shall be manufactured from high tenacity polyester yarn.

- 2.07 Drainage Pipe  
A. The drainage pipe shall be perforated corrugated HDPE pipe manufactured in accordance with ASTM D-1248.

**PART 3: EXECUTION**

- 3.01 Excavation  
A. Contractor shall excavate to the lines and grades shown on the construction drawings. Owner's representative shall be responsible for inspecting and approving the excavation prior to placement of leveling material or fill soils.

- 3.02 Base Leveling Pad  
A. Leveling pad material shall be placed to the lines and grades shown on the construction drawings, to a minimum thickness of 8 inches and extend laterally a minimum of 6" in front and behind the modular wall unit.  
B. Leveling pad shall be prepared to insure full contact to the base surface of the concrete units.

- 3.03 Modular Unit Installation  
A. First course of units shall be placed on the leveling pad at the appropriate line and grade. Alignment and level shall be checked in all directions and insure that all units are in full contact with the base and properly seated.  
B. Place the front of units side-by-side. Do not leave gaps between adjacent units. Layout of corners and curves shall be in accordance with manufacturer's recommendations.  
C. Install shearconnecting devices per manufacturer's recommendations.  
D. Place and compact drainage fill within and behind wall units. Place and compact backfill soil behind drainage fill. Follow wall erection and drainage fill closely with structure backfill.  
E. Maximum stacked vertical height of wall units, prior to unit drainage fill and backfill placement and compaction, shall not exceed three courses.

- 3.04 Structural Geogrid Installation  
A. Geogrid shall be oriented with the highest strength axis perpendicular to the wall alignment.  
B. Geogrid reinforcement shall be placed at the strengths, lengths, and elevations shown on the construction design drawings or as directed by the Engineer.  
C. The geogrid shall be laid horizontally on compacted backfill and attached to the modular wall units. Place the next course of modular concrete units over the geogrid. The geogrid shall be pulled taut, and anchored prior to

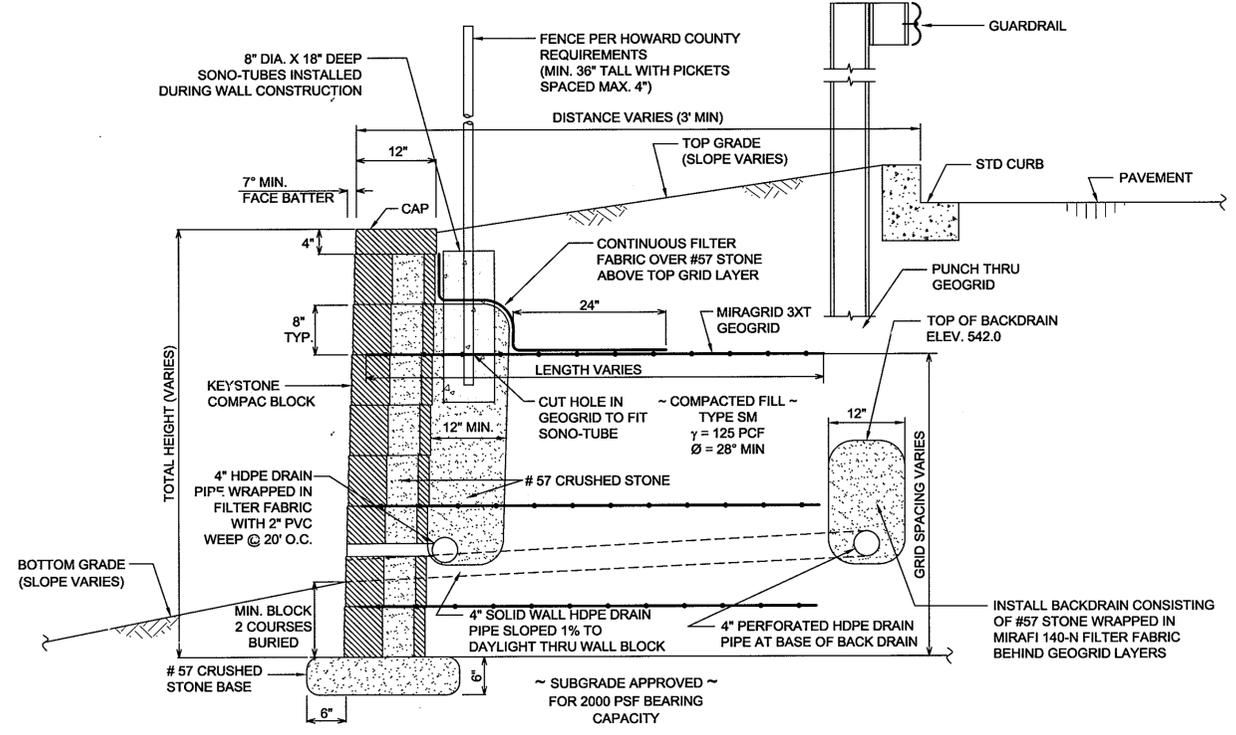
- backfill placement on the geogrid.  
D. Geogrid reinforcements shall be continuous throughout their embedment lengths and placed side-by-side to provide 100% coverage at each level. Spliced connections between shorter pieces of geogrid or gaps between adjacent pieces of geogrid are not permitted.

- 3.05 Reinforced Backfill Placement  
A. Reinforced backfill shall be placed, spread, and compacted in such a manner that minimizes the development of slack in the geogrid and installation damage.  
B. Reinforced backfill shall be placed and compacted in lifts not to exceed 6 inches where hand compaction is used, or 8 - 10 inches where heavy compaction equipment is used. Lift thickness shall be decreased to achieve the required density as required.  
C. Reinforced backfill shall be compacted to 95% of the maximum density as determined by ASTM D698. The moisture content of the backfill material prior to and during compaction shall be uniformly distributed throughout each layer and shall be + 3% to - 3% of optimum.  
D. Only lightweight hand-operated equipment shall be allowed within 3 feet from the tail of the modular concrete unit.

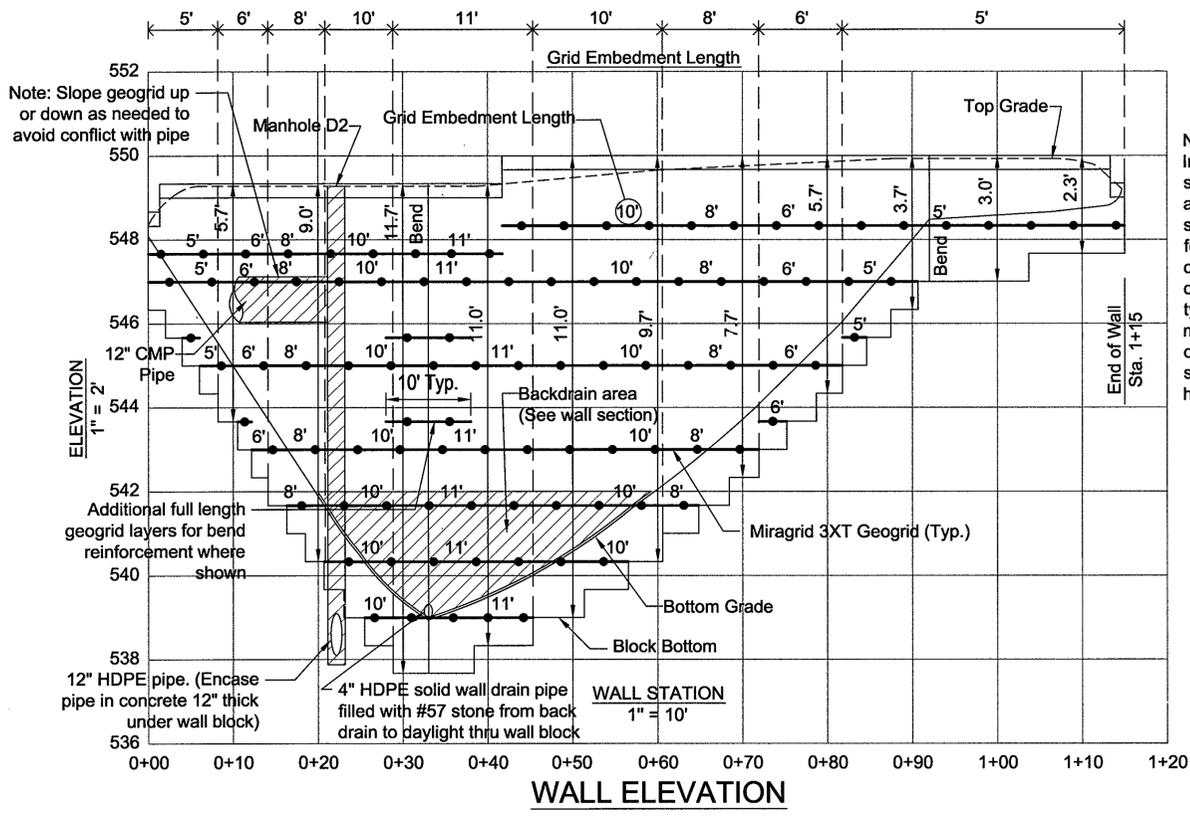
- E. Tracked construction equipment shall not be operated directly upon the geogrid reinforcement. A minimum fill thickness of 6 inches is required prior to operation of tracked vehicles over the geogrid. Tracked vehicle turning should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.  
F. Rubber tired equipment may pass over geogrid reinforcement at slow speeds, less than 10 MPH. Sudden braking and sharp turning shall be avoided.  
G. At the end of each day's operation, the Contractor shall slope the last lift of reinforced backfill away from the wall units to direct runoff away from wall face. The Contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.

- 3.06 Cap Installation  
A. Cap units shall be glued to underlying units with an all-weather adhesive recommended by the manufacturer.

- 3.07 Field Quality Control  
A. The Owner shall engage inspection and testing services, including independent laboratories, to provide quality assurance and testing services during construction.  
B. As a minimum, quality assurance testing should include foundation soil inspection, soil and backfill testing, verification of design parameters, and observation of construction for general compliance with design drawings and specifications.



**TYPICAL WALL SECTION**  
N.T.S.



Note: Slope geogrid up or down as needed to avoid conflict with pipe

Note: Install manhole structures and related pipe shown during wall construction. Backfill around entire perimeter of manhole structure D-2 for full wall height with a 3 foot thick wrap of compacted soil-cement consisting of a ratio of 180 lbs. Portland cement thoroughly mixed with 1 cu. yd. type SM soil at 3% over optimum moisture. Trim full length geogrids at face of manhole structure and embed in soil-cement. Place soil-cement within 2 hours after mixing

**WALL DETAILS & SPECS FOR REVISED SITE DEVELOPMENT PLAN**  
SISTERS OF BON SECOURS, USA  
1525 MARRIOTTVILLE ROAD  
MARRIOTTVILLE, MD 21104  
HOWARD COUNTY, MD  
TAX MAP: 10 PARCEL: 25  
ELECTION DISTRICT: 3  
SDP 87-252  
PLAT LIBER 393 FOLD: 29  
BLOCK: 10, 11, 16, 17  
ZONE: R CENSUS: 6030  
OWNER / ADDRESS:  
SAME AS ABOVE  
ATTN: BOB HUBBLE, PM.

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*David S. Leagle* 4/15/10  
DIRECTOR - DEPARTMENT OF PLANNING AND ZONING DATE  
*Kevin Sheehan* 4/15/10  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*Mike Demme* 4/10/10  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**HILLIS-CARNES**  
ENGINEERING ASSOCIATES  
10975 Guilford Road, Suite A Annapolis Junction, MD  
(410) 880-4788 Fax: (410) 880-4098

**RETAINING WALL CONSTRUCTION DETAILS**  
**BON SECOURS GARAGE WALL** **HOWARD COUNTY, MD**

**'PURPOSE STATEMENT'**  
THE PURPOSE OF THIS REVISED SITE DEVELOPMENT PLAN IS TO ADD A KEystone RETAINING WALL ALONG THE REAR DRIVE ISLE AND LOWER STORM DRAIN OUTFALL FROM STRUCTURE D-5 TO D-6 TO ACCOMMODATE SAME. ONE (1) NEW SHEET HAS BEEN ADDED - 18 OF 18.

**PROFESSIONAL CERTIFICATION**  
I HEREBY CERTIFY THAT THESE PLANS 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. 14434  
EXPIRATION DATE: 09/31/11



|  |                     |                  |
|--|---------------------|------------------|
| REVISIONS: 04/26/2010 - REVISED TO ADD THIS SHEET FOR THE PURPOSE OF THE NEW | JOB NUMBER: 06358-G | DESIGNED BY: RWS |
| KEYSTONE BLOCK RETAINING WALL  | SCALE: AS SHOWN     | DRAWN BY: AM     |
|  | DATE: 04/05/10      | APPROVED BY: RWS |