GENERAL CONSTRUCTION NOTES:

- THE LOCATION OF EXISTING UTILITIES AS SHOWN IN THIS SET OF PLANS ARE APPROXIMATE ONLY, AND THE CONTRACTOR SHOULD LOCATE AND IDENTIFY ALL UTILITIES TO HIS OWN SATISFACTION PRIOR TO STARTING ANY CONSTRUCTION.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY STANDARD SPECIFICATIONS FOR SITE DEVELOPMENT, VOL. IV PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE
- 3. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- 4. ANY DAMAGE TO OFF-SITE RIGHTS OF WAY, PUBLIC ROADS, OR ADJACENT PROPERTIES SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- 5. THE CONTRACTOR SHALL MAINTAIN A TWO-FOOT MINIMUM BENCH BEHIND ALL PROPOSED CURB
- 6. ALL PROPOSED PAVING AND CURB AND GUTTER SHALL MEET EXISTING PAVING AND EXISTING CURB AND GUTTER FOR LINE, GRADE AND STYLE.
- 7. SUITABLE MATERIAL SHALL BE USED AS FILL AND ALL FILL AREAS SHALL BE ROLLED TO A MINIMUM DEGREE OF COMPACTION OF 95% OF THE DRY UNIT WEIGHT AS DETERMINED BY ASTM D-698 SPECIFICATIONS, 8" LIFTS MAXIMUM. A SOILS ENGINEER'S REPORT HAS BEEN PREPARED AND IS AVAILABLE FOR REVIEW IN THE ENGINEER'S OFFICE. HOWEVER, THE CONTRACTOR SHALL USE ANY INFORMATION IN THE REPORT AT HIS OWN RISK.
- 8. REFER TO THE SITE PLAN FOR EXISTING UTILITIES TO BE REMOVED OR ABANDONED IN PLACE.
- 9. PATCH EXISTING PAVEMENT AT ALL UTILITY CUTS TO MATCH EXISTING PAVEMENT.
- 10. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE IN GRASS AND PAVED AREAS DURING ALL PHASES OF CONSTRUCTION AND FINISHED GRADES.
- 11. ALL AREAS SHALL HAVE A MINIMUM 2% SLOPE AWAY FROM THE BUILDING AND TO THE CURB LINE, UNLESS OTHERWISE NOTED.

GENERAL UTILITY NOTES:

- 1. THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 FIVE DAYS PRIOR TO STARTING WORK.
- ALL WATER MAINS SHALL HAVE A STANDARD MINIMUM COVER OF 4.0 FEET WITH THE EXCEPTION OF CROSSINGS WHERE MINIMUM COVER OF 3.0 FEET WILL BE ALLOWED, WITH A MINIMUM OF 0.5 FEET CLEAR OF OTHER UTILITIES, EXCEPT SANITARY SEWER.
- CONTRACTOR SHALL FURNISH THE OWNER A LETTER CERTIFYING THAT ALL WATER LINES HAVE BEEN STERILIZED BY METHODS OUTLINED BY THE LOCAL PLUMBING CODE.
- 4. CONTRACTOR SHALL FURNISH THE OWNER A LETTER CERTIFYING THAT PRESSURE TESTS HAVE BEEN SATISFACTORILY MADE AND A LETTER FROM THE LOCAL FIRE DEPARTMENT INDICATING THAT THE PRESSURE TEST FOR FIRE LINES HAVE BEEN SATISFACTORILY COMPLETED.
- 5. AT ALL WATER OVER SANITARY SEWER CROSSINGS THE MINIMUM CLEAR DISTANCE SHALL BE 12 INCHES.
- 6. ALL OF THE LOCAL AUTHORITIES STANDARD SPECIFICATIONS ON MINIMUM COVER, BUTTRESSES, ANCHORS, AND OTHER APPROPRIATE LOCAL CONSTRUCTION STANDARDS AND REQUIREMENTS FOR STERILIZING AND PRESSURE TESTING OF THE WATER SYSTEM SHALL
- 7. ALL UTILITIES IN PAVED AREAS SHALL HAVE FULL TRENCH COMPACTION.
- 8. ALL SANITARY SEWER LINES LEAVING A BUILDING SHALL HAVE A MINIMUM COVER OF 30 INCHES BELOW PROPOSED GRADES.
- 9. ANY NEW UTILITIES TO BE INSTALLED THROUGH EXISTING ITEMS TO REMAIN MUST BE PATCHED TO EQUAL THE EXISTING CONDITIONS IN ACCORDANCE WITH THE SPECIFICATIONS.
- 11. WATER AND SEWER FOR THIS PROJECT IS PUBLIC. CONTRACT NO. 24-3901-D DRAINAGE AREA IS IN THE PATUXENT WATERSHED.
- 12. THIS PROPERTY IS WITHIN THE METROPOLITAN WATER AND SEWER DISTRICT.
- 13. STORMWATER MANAGEMENT FOR PARCEL 'A' WAS PREVIOUSLY PROVIDED WITHIN SWMF CONSTRUCTED AS PART OF F-88-160.

GENERAL TRAFFIC NOTES:

- ALL OPEN EXCAVATIONS AND TRENCHES SHALL BE PLATED AT THE END OF EACH WORK DAY WITH "STEEL PLATES AHEAD" WARNING SIGNS DISPLAYED IN ADVANCE.
- 2. THE CONTRACTOR MUST MAINTAIN ONE (1) TEN FOOT (10') LANE FOR TRAFFIC DURING WORKING HOURS FOR EACH DIRECTION OF TRAVEL OR PROVIDE A TWO-MAN FLAGGING OPERATION EQUIPPED WITH "SLOW/STOP" PADDLES.
- 3. ALL TRAFFIC CONTROL MUST BE IN ACCORDANCE WITH THE CURRENT EDITIONS WITH REVISIONS OF THE FEDERAL HIGHWAY M.U.T.C.D. AND MARYLAND S.H.A. WORK ZONE TRAFFIC CONTROL STANDARDS AND TYPICALS. ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT
- 4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SUPPY, INSTALL, AND MAINTAIN ALL TRAFFIC CONTROL EQUIPMENT.
- THE CONTRACTOR SHALL MAINTAIN A MINIMUM FOUR FOOT (4') WIDE PEDESTRIAN FOOTWAY OR AN APPROPRIATE PEDESTRIAN DETOUR.
- 6. ADEQUATE ROAD FACILITIES TEST EVALUATION (TRAFFIC STUDY) HAS BEEN PREPARED FOR THIS SITE BY THE TRAFFIC GROUP, DATED MAY 16,2002.
- 7. ACCESS TO US ROUTE 1 PERMITTED THROUGH PLAT NO. 14978 & 14979.

GENERAL NOTES:

- 1. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
- 2. THE CONTOURS SHOWN HEREON HAVE BEEN TAKEN FROM "ALTA\ASCM LAND TITLE AND TOPOGRAPHIC SURVEY" EXTENDED STAY AMERICA,
- COLUMBIA JUNCTION, PREPARED BY STV INC. AND DATED 10/8/01.
- VERTICAL CONTROL AND HORIZONTAL CONTROL BASED UPON HOWARD COUNTY, NAD '83 CONTROL.
- 4. FOREST STAND DELINEATION BY ECO-SCIENCES, INC. DATED FEB., 1999. CIPPE FOREST CONSERVATION REQUIREMENT FOR THE ENTIRE SITE INCLUDING PARCELS A AND B AS DETERMINED PER F-01-87 IS PROVIDED BY A
- AMOUNT OF \$51,183.00.
- 6. THERE ARE NO WETLANDS, WETLAND BUFFERS, STREAMS, OR STREAM BUFFERS LOCATED ON THIS SITE AS CERTIFIED BY GEO-TECHNOLOGY ASSOCIATES, INC. LETTER DATED 7 SEPT. 2001 7. ALL PROPOSED EXTERIOR LIGHTING SHALL BE DIRECTED/REFLECTED AWAY

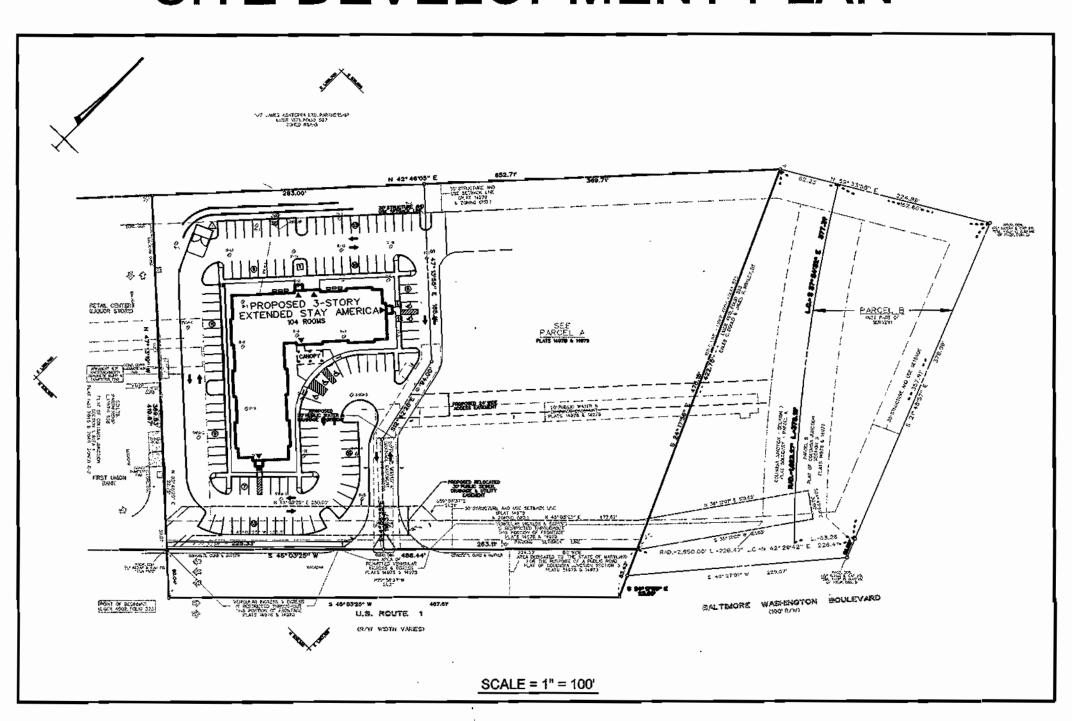
FROM ALL ADJACENT PUBLIC ROADS AND RESIDENTIAL ZONING DISTRICTS IN ACCORDANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING

- 8. ALL LANDSCAPING REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL SECTION 16.124(B)(3)(ii).
- 9. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WILL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$9,480. 19 SHADE TREES @ \$300 PER TREE - \$5700 14 EVERGREEN TREES @ \$150 PER TREE - \$2100 56 SHRUBS @ \$30 PER SHRUB -
- 10. A MARYLAND STATE HIGHWAY ACCESS PERMIT MUST BE OBTAINED PRIOR TO STARTING ANY CONSTRUCTION ACTIVITIES WITHIN THE STATE HIGHWAY
- 11. THE SUBJECT PROPERTY IS ZONED B-2 PER THE 10/18/93 COMPREHENSIVE
- 12. PREVIOUS DEPARTMENT OF PLANNING AND ZONING REFERENCE NUMBERS INCLUDE: SP-99-011, WP-99-35, F-01-087, F-02-169.
- 13. THIS PLAN SHALL BE SUBJECT TO COMPLIANCE WITH THE FOURTH EDITION OF THE HOWARD COUNTY SUBDIVISION REGULATIONS AND THE AMENDED ZONING REGULATIONS, COUNCIL BILL 50-2001.
- 14, LOADING/UNLOADING SPACE IS NOT NECESSARY FOR THIS TYPE OF HOTEL. NO SERVICE OR FOOD DELIVERIES ARE SCHEDULED FOR THIS DEVELOPMENT.
- 15. THE SURVEYED PREMISES AS INDICATED HEREON IS LOCATED WITHIN A ZONE "C" AREA DETERMINED TO BE OUTSIDE OF THE 500-YEAR FLOOD PLAIN AS INDICATED ON FEMA FLOOD INSURANCE RATE MAP NO. 240044-0044B, DATED

16. DRIVEWAY ACCESS AND MAINTENANCE AGREEMENT REFERENCE NUMBERS ARE 15807-15808

ESA MANAGEMENT, INC.

COLUMBIA JUNCTION SECTION 3 - PARCEL 'A' 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SITE DEVELOPMENT PLAN



SITE DATA TABULATION:

GENERAL SITE DATA

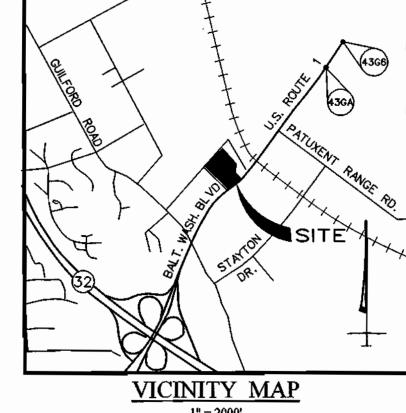
1. PRESENT ZONING: B-2 (BUSINESS, GENERAL)
2. APPLICABLE DPZ FILE REFERENCES:
SP-99-011, WP-99-35, F-01-087, F-02-169
3. PROPOSED USE OF SITE: HOTEL
4. PROPOSED WATER X PUBLIC
PROPOSED SEWER X PUBLIC
AREA TABULATION
1. TOTAL AREA OF SITE: 5.93 AC.
2. AREA OF 100 YR. FLOODPLAIN:N/A
3. NET AREA OF SITE:
4. AREA OF THIS PLAN SUBMISSION:2.75 AC.
5. APPROXIMATE LIMIT OF DISTURBANCE:
6. BUILDING COVERAGE OF SITE (PERMITTED):
7. BUILDING COVERAGE OF SITE (PROPOSED):
OPEN SPACE DATA
1. OPEN SPACE ON SITE (0.0%):
2. AREA OF RECREATION OPEN SPACE REQUIRED BY
SUBDIVISION & LAND DEVELOPMENT REGULATIONS
ACRES REQUIRED: N/A
ACRES PROVIDED: N/A
PARKING SPACE DATA
1. FLOOR SPACE ON EACH LEVEL PER BUILDING(S)
PER USE, 3 FLOORS @ 15,500 SF E.A.:
2. MAXIMUM NUMBER OF EMPLOYEES, TENANTS
ON-SITE PER USE: 10 EMPLOYEES MAX. SHIFT
3. TOTAL NUMBER OF GUEST ROOMS 104
4. NUMBER OF PARKING SPACES REQUIRED BY
ZONING REGULATIONS, 1 PER ROOM: 104
5. TOTAL NUMBER OF PARKING SPACES PROVIDED
ON-SITE:115
6. TOTAL NUMBER OF SERVICE PARKING SPACES PROVIDED
ON-SITE:0
7. NUMBER OF HANDICAPED PARKING SPACES PROVIDED
ON-SITE: 5



ESA BUILDING ELEVATION

OWNER MR. STEVE BREEDEN SECURITY DEVELOPMENT CORP. 8480 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MD 21041 410-465-4244

<u>DEVELOPER</u> MR. BOB GRAHAM ESA SERVICES, INC. 124 CHESHIRE DR. GREENSBURG, PA 15601 724-853-3593



BENCHMARK - NAD '83

BENCHMARK *43GA: STAMPED DISC SET ON 3' CYLINDRICAL CONC. BASE 1"-2" BELOW SURFACE,
72.5'SW OF C&P POLE *178, 4.8'FROM EOP
NORTHBOUND LANE OF U.S. ROUTE 1.
ELEVATION * 241.665'

BENCHMARK *43G6: STAMPED DISC SET ON 3' CYLINDRICAL CONC. BASE 1"-2" BELOW SURFACE, 68.8' SW OF F.H. AT CORNER OF MOTEL 3.5' SE OF EOP NORTHBOUND LANE OF U.S. ROUTE 1. ELEVATION = 220.142'

COUP

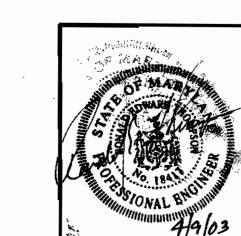
SHEET INDEX

- TITLE SHEET
- EXISTING CONDITIONS
- SITE PLAN
- GRADING PLAN UTILITY PLAN
- STORM DRAIN DRAINAGE AREA MAP
- STORM DRAIN PROFILES
- SANITARY SEWER & WATER PROFILES
- STORMWATER MANAGEMENT DRAINAGE AREA MAP STORMWATER MANAGEMENT DETAILS AND PROFILES
- STORMWATER MANAGEMENT DETAILS AND NOTES
- EROSION & SEDIMENT CONTROL PLAN
- 14 C-7.2 EROSION & SEDIMENT CONTROL NOTES
- 15 C-7.3 EROSION & SEDIMENT CONTROL NOTES
- 16 C-7.4 EROSION & SEDIMENT CONTROL DETAILS
- LANDSCAPE PLAN AND DETAILS

Columbia Junction

<u>| 15807,45808 | 1</u>

- RETAINING WALL PLAN
- 19 C-9.2 RETAINING WALL NOTES & DETAILS
- 20 C-10.1 TRAFFIC PLAN



Launch No 2787 3/21/02 Permit Submittal Permit Clearance Bid Issue Project No. 10725 AJC III Drawn By KTL Checked By

MD

35.7				
NO.	DATE		REVIS	SION

PROJECT: APPROVED: DEPT. OF PLANNING AND ZONING **COLUMBIA JUNCTION** SECTION 3- PARCEL 'A' n of Land Development HB LOCATION: TAX MAP 48 - BLOCK 1 PARCELS 90, 91, 114 & 548 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

7/03 Date ot/Parcel

Section/Area

Sewer Code

6th

Census Tract

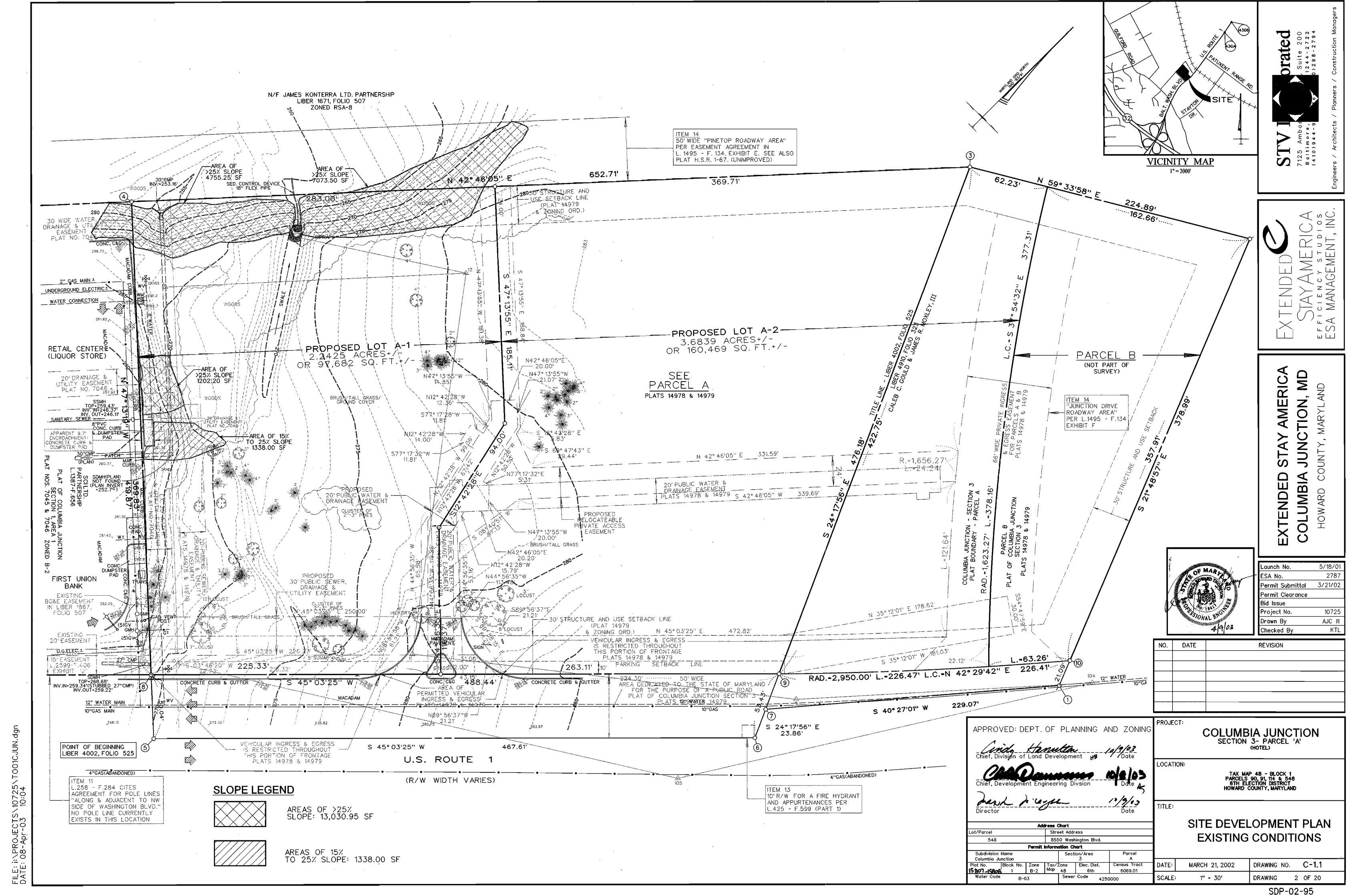
548 8550 Washington Blvd. Subdivision Name

Block No. Zone Tax/Zone Elec. Dist.

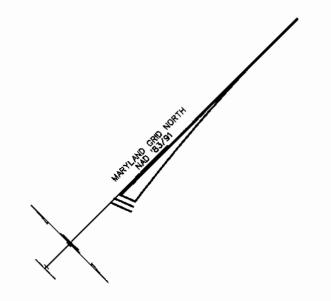
B-2 Map 48

SITE DEVELOPMENT PLAN TITLE SHEET

MARCH 21, 2002 DRAWING NO. C-1.0 DATE: SCALE: DRAWING 1 OF 20



N/F JAMES KONTERRA LTD. PARTNERSHIP LIBER 1671, FOLIO 507 ZONED RSA-8



N 42° 46'05" L

ੈਹੀ-ਫ਼ਿੰਫੈਨੈਨ **488.44'**

Columbia Junction

15807-15808, 1 B-2 Map 48

PROPOSED 3-STORY EXTENDED STAY AMERICAN

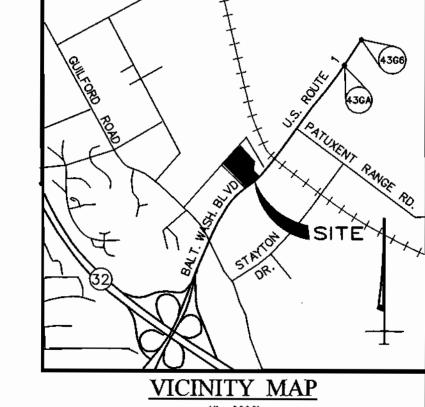
104 ROOMS

S 45° 03'25" W

HEAVY DUTY BITUMINOUS PAVING (SEE DETAIL SHT. C-5.1)

BITUMINOUS PAVING (SEE DETAIL SHT. C-5.1)

CONCRETE PAVING (SEE DETAIL SHT. C-5.1)



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BENCHMARK - NAD '83

BENCHMARK *43GA: STAMPED DISC SET ON 3'CYLINDRICAL CONC. BASE 1"-2" BELOW SURFACE, 72.5'SW OF C&P POLE *178, 4.8'FROM EOP NORTHBOUND LANE OF U.S. ROUTE 1. **ELEVATION = 241.665'** BENCHMARK *43G6: STAMPED DISC SET ON 3'CYLINDRICAL CONC. BASE 1"-2" BELOW SURFACE, 68.8'SW OF F.H. AT CORNER OF MOTEL, 3.5'SE OF EOP NORTHBOUND LANE OF U.S. ROUTE 1. ELEVATION - 220.142'

CONSTRUCTION NOTES:

- INSTALL CURB AND GUTTER PER DETAIL, SHEET C-5.1.
- INSTALL SIDEWALK PER DETAIL, SHEET C-5.1.
- INSTALL HANDICAP RAMP PER APPLICABLE DETAIL, SHEET C-5.1.
- INSTALL BITUMINOUS CONCRETE PAVING PER DETAIL, SHEET C-5.1. (PARKING SPACES ONLY).
- INSTALL HEAVY DUTY BITUMINOUS PAVING PER DETAIL, SHEET C-5.1.
- PROVIDE HANDICAP PARKING SPACE STRIPING. PROVIDE HANDICAP PARKING SIGNAGE (VAN ACCESSIBLE
- INSTALL CONCRETE DUMPSTER PAD PER DETAIL ON SHEET C-5.1. INSTALL TRASH ENCLOSURE PER DETAIL ON SHEET C-5.1.
- INSTALL STEPS PER DETAIL ON SHEET C-5.1.
- SATELLITE DISH TO BE INSTALLED BY OTHERS
- ELECTRICAL TRANSFORMER TO BE INSTALLED BY OTHERS.
- LIGHT POLES TO BE INSTALLED BY OTHERS.
- INSTALL SITE SIGNAGE.
- INSTALL SEGMENTAL BLOCK RETAINING WALL. PROVIDE 4" WIDE PAVEMENT MARKINGS AS INDICATED.
 USE TWO COATS OF ALCYD TYPE TRAFFIC LANE MARKING
 PAINT (WHITE UNLESS OTHERWISE DIRECTED).
- C-17 LIMIT OF PAVEMENT.
- NOT USED C-19

C-25

C-26

- C-20 INSTALL CONCRETE WHEEL STOP.
 - PROVIDE CONCRETE CHEEK WALL AND RAILING FOR GRADE
 - REMOVE CURB TO NEAREST JOINT AND INSTALL NEW FOR STORM DRAIN CONSTRUCTION.
 - INSTALL "NO LEFT TURN" (R3-2) GRAPHIC TRAFFIC SIGN PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND
 - INSTALL STANDARD STOP SIGN (R1-1) WITH "RIGHT TURN ONLY" SIGN (R3-3(4)) MOUNTED BELOW STOP SIGN PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND HOWARD COUNTY

PROJECT:

DATE:

DESIGN MANUAL VOL. 3. INSTALL TRAFFIC DIRECTIONAL SIGNAGE (M4-5, M3-1 or M3-3,

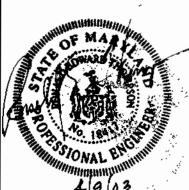
HOWARD COUNTY DESIGN MANUAL VOL. 3.

M1-4 AND M6-1 or M6-3) PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND HOWARD COUNTY DESIGN MAUNAL VOL. 3.

INSTALL TRAFFIC DIRECTIONAL SIGNAGE (M4-3, M 1-4 AND M 6-1) APPROX. 100 FT. FROM INTERSECTION OF ACCESS EASEMENT AND ROAD ALIGNMENT OF JUNCTION DR. PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND HOWARD COUNTY DESIGN MAUNAL VOL. 3.

Census Tract

6069.01



5/18/01 _aunch No 2787 Permit Submittal 3/21/02 Permit Clearance Bid Issue Project No. 10725 AJC III Drawn By KTL Checked By

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DATE REVISION

- 1. ALL SIDEWALKS TO BE 5' WIDE UNLESS OTHERWISE NOTED.
- 2. ALL CURB RADIITO BE 5' UNLESS OTHERWISE NOTED.

- 5. REFER TO PHOTOMETRIC PLAN FOR LIGHT POLE LOCATIONS.

APPROVED: DEPT. OF PLANNING AND ZONING Development Engineering Divsion Director Date

Address Chart ot/Parcel Street Address 8550 Washington Blvd. 548 Permit Information Chart Subdivision Name

6th

4250000

Sewer Code

COLUMBIA JUNCTION SECTION 3- PARCEL 'A' (HOTEL)

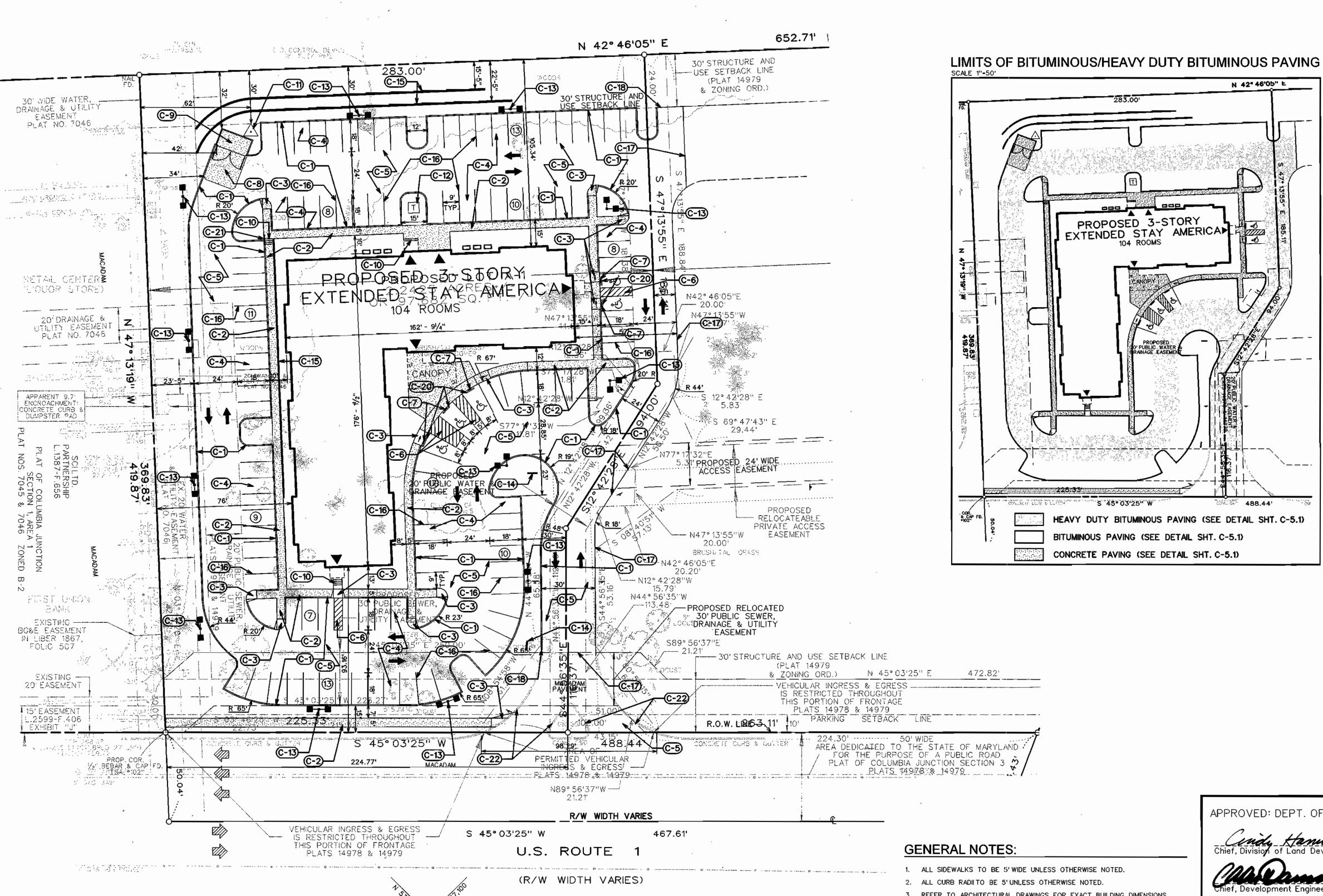
LOCATION:

TAX MAP 48 - BLOCK 1
PARCELS 90, 91, 114 & 548
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SITE DEVELOPMENT PLAN SITE PLAN

DRAWING NO. C-2.1 MARCH 21, 2002 1" = 30' DRAWING 3 OF 20

SDP-02-95

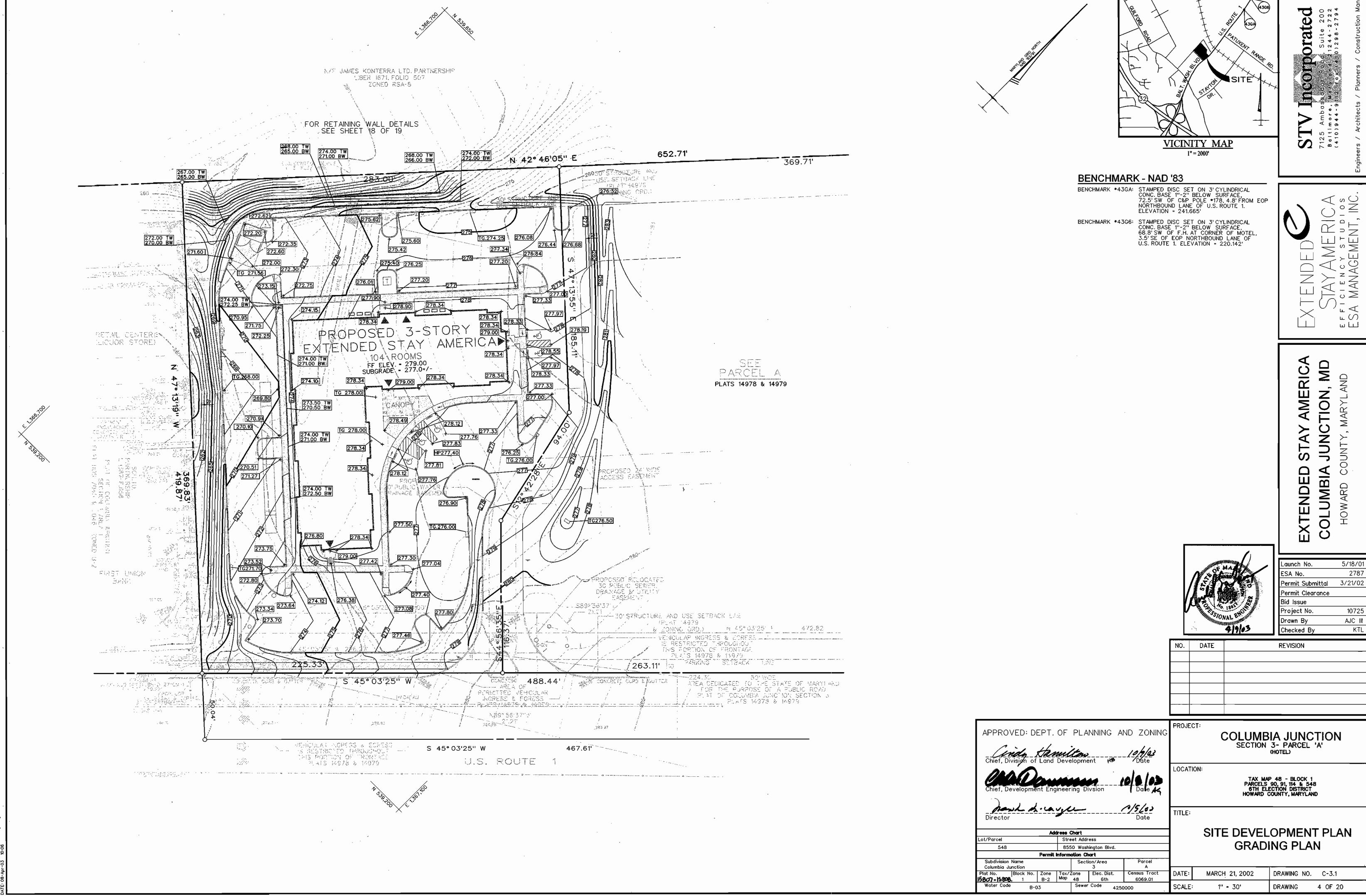


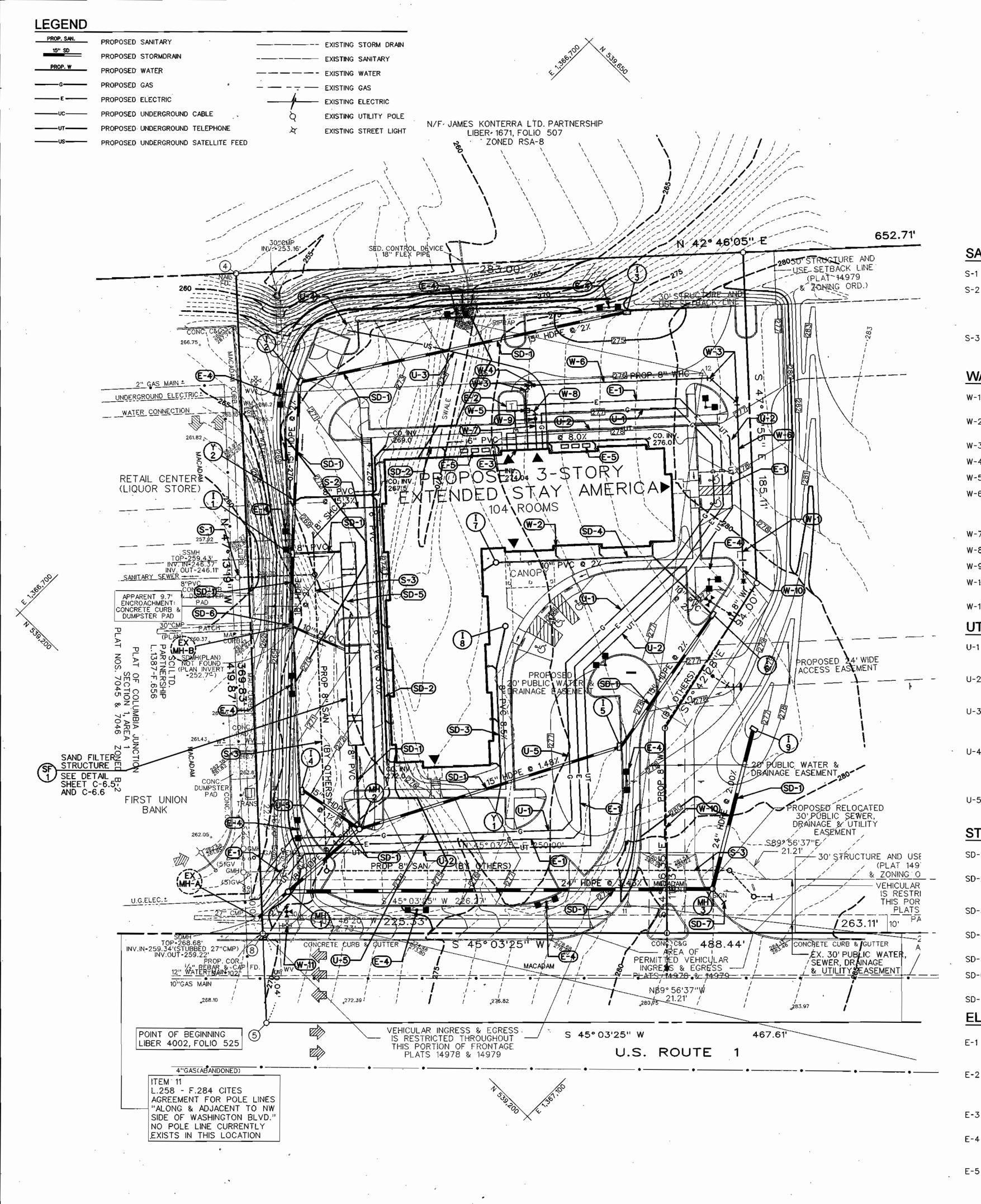
3. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS.

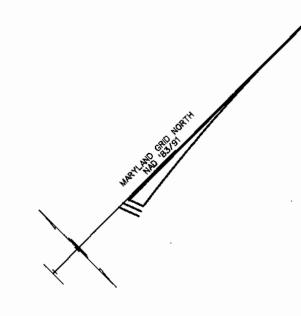
4. ALL DIMENSIONS RELATING TO BUILDING ARE TO FACE STUD (fos).

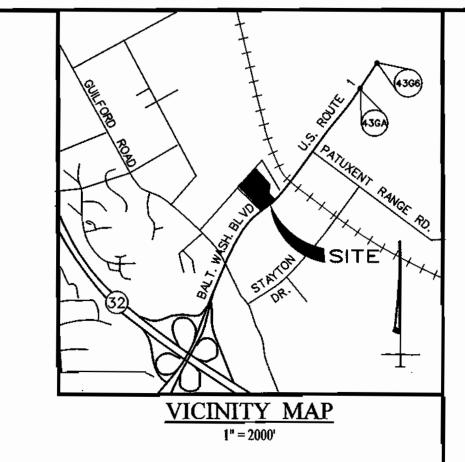
TYPICAL OPERATION AND MANAGEMENT OF THE "EXTENDED STAY" TYPE OF HOTEL DOES NOT WARRANT A NEED FOR A LOADING/UNLOADING SPACE. NO FOOD SERVICE OR LAUNDRY PICK-UP IS PROVIDED FOR THIS HOTEL. THEREFORE THE APPLICANT IS REQUESTING RELIEF OF SECTION 133F (OFF-STREET LOADING FACILITIES).

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BENCHMARK - NAD '83

BENCHMARK *43GA: STAMPED DISC SET ON 3' CYLINDRICAL CONC. BASE 1"-2" BELOW SURFACE, 72.5' SW OF C&P POLE *178, 4.8' FROM EOP NORTHBOUND LANE OF U.S. ROUTE 1. ELEVATION - 241.665'

BENCHMARK *43G6: STAMPED DISC SET ON 3' CYLINDRICAL CONC. BASE 1"-2" BELOW SURFACE, 68.8'SW OF F.H. AT CORNER OF MOTEL

3.5' SE OF EOP NORTHBOUND LANE OF U.S. ROUTE 1. ELEVATION = 220.142'



PROPOSED LIGHT DATA

McGRAW - EDISON CAL CONCOURSE III (SHOEBOX 28' (25' POLE ATOP 3' BASE)

400 WATT METAL HALIDE

TYPE OF SHIELD: SPILL LIGHTING ELIMINATOR

MD O 3 OLUMBI C



DATE

	Permit Submittal	3/21/02
	Permit Clearance	
	Bid Issue	
	Project No.	10725
3	Drawn By	AJC III
٧	Checked By	KTL
	REVISION	

2787

Launch No.

APPROVED: DEPT. OF PLANNING AND ZONING

Address Chart Street Address ot/Parcel 548 8550 Washington Blvd. Permit Information Chart Subdivision Name Columbia Junction

B-2 Map 48 6th

Sewer Code

Block No. Zone Tax/Zone Elec. Dist.

B-03

15807-15808 1 Water Code

PROJECT: **COLUMBIA JUNCTION** SECTION 3- PARCEL 'A' (HOTEL)

LOCATION:

Census Tract

TAX MAP 48 - BLOCK 1
PARCELS 90, 91, 114 & 548
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

UTILITY PLAN

SITE DEVELOPMENT PLAN

DATE: MARCH 21, 2002 DRAWING NO. C-4.1 DRAWING 5 OF 20 SCALE: 1" - 301

SDP-02-95

SANITARY NOTES:

- S-1 FIELD VERIFY LOCATION OF EXISTING SHC AND UG ELECTRIC.
- S-2 INSTALL 8" PVC (SDR-26) PIPE FROM EX. 4" SHC STUB TO 5' OUTSIDE OF PROPOSED BUILDING. REFER TO DRAWING C-6.3 FOR PROFILE. PLUMBER SHALL PERFORM BUILDING CONNECTION. CONTRACTOR SHALL COORDINATE BUILDING CONNECTION WITH MECHANICAL DRAWINGS. PROVIDE CLEANOUTS AS INDICATED.
- S-3 PROPOSED PUBLIC SANITARY SEWER- SEE WATER & SEWER CONTRACT NO.24-3901-D FOR DETAILS AND PROFILES.

WATER NOTES:

- W-1 REMOVE TEMPORARY PLUG AND INSTALL 8" WATER LINE AS SHOWN ON THE PLAN.
- W-2 LOCATION OF PROPOSED SIAMESE CONNECTION AT BUILDING. REFER TO MECHANICAL DRAWINGS FOR INFORMATION.
- W-3 INSTALL 8" 1/8 HORIZ. BEND AND BUTTRESS
- W-4 INSTALL 8" VALVE WITH ROADWAY VALVE BOX
- W-5 INSTALL 8"X4" TEE.
- W-6 INSTALL 8" WATER LINE TO 5' OUTSIDE OF THE PROPOSED BUILDING. CONTRACTOR SHALL COORDINATE BUILDING CONNECTION WITH MECHANICAL DRAWINGS. REFER TO DRAWING C-6.3 FOR PROFILE AND STATIONING.
- W-7 INSTALL 4" WATER LINE.
- W-8 INSTALL 4" 1/8 HORIZ. BEND AND BUTTRESS.
- W-9 INSTALL 4" VALVE WITH ROADWAY "VALVE BOX".
- W-10 PROPOSED PUBLIC WATER SEE COUNTY DRAWING FOR DETAILS AND PROFILES.
- W-11 RELOCATE EX. FIRE HYDRANT

UTILITY NOTES:

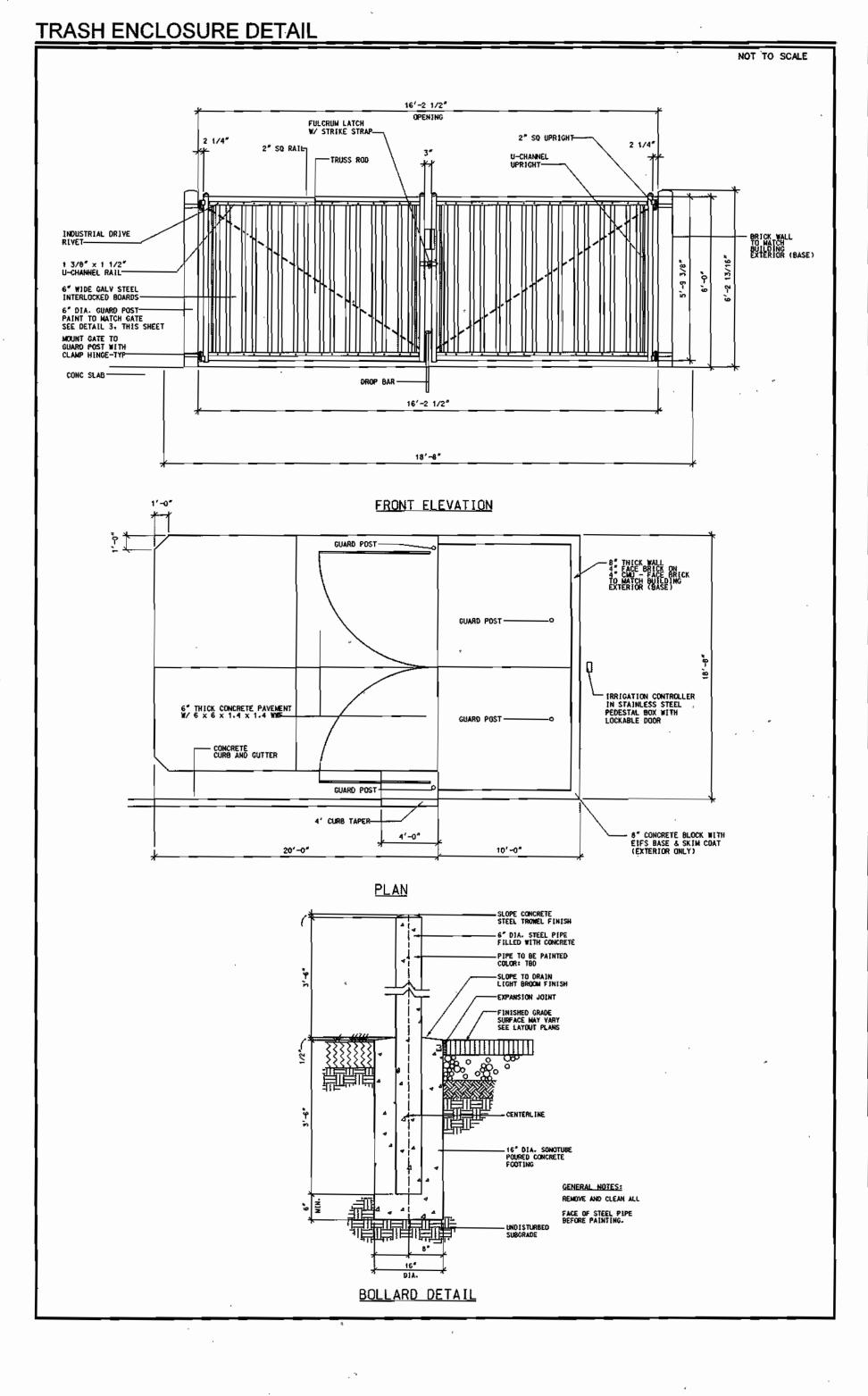
- U-1 PRIMARY GAS SERVICE BETWEEN THE MAIN AND THE BUILDING SHALL BE INSTALLED BY BGE GAS. CONTRACTOR SHALL COORDINATE WITH BGE GAS.
- U-2 INSTALL CONDUIT FOR UNDERGROUND TELEPHONE LINES.
 (TO BE INSTALLED BY VERIZON) CONTRACTOR SHALL COORDINATE WITH VERIZON FOR PROPOSED LOCATION OF SERVICE CONNECTION.
- U-3 INSTALL CONDUIT FOR SATELLITE DISH CABLE FEED.
 (TO BE PROVIDED BY SATELLITE DISH CONTRACTOR)
 CONTRACTOR SHALL COORDINATE BUILDING CONNECTIONS WITH MECHANICAL DRAWINGS.
- U-4 NEW SATLELITE DISH SHALL BE FURNISHED AND INSTALLED BY WORLD CINEMA INC. LOCATE SATELLITE AS SHOWN ON PLANS. CONTRACTOR SHALL COORDINATE INSTALLATION WITH WORLD CINEMA INC. CONTRACTOR SHALL COORDINATE BUILDING CONNECITON WITH ELECTRICAL DRAWINGS.
- U-5 PROPOSED GAS TO BE BELOW PROPOSED STORM. SEE SHT NO. C-6.2 FOR PROFILE.

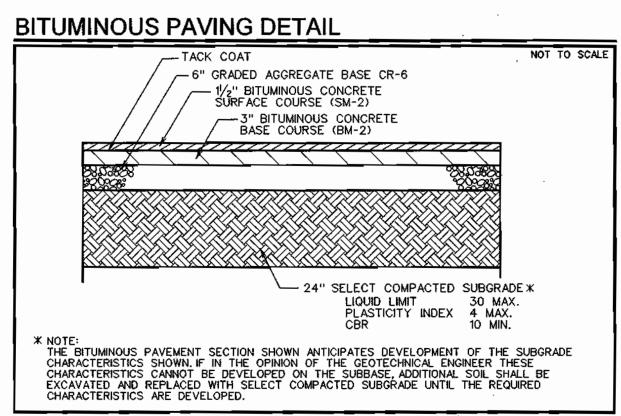
STORM DRAIN NOTES:

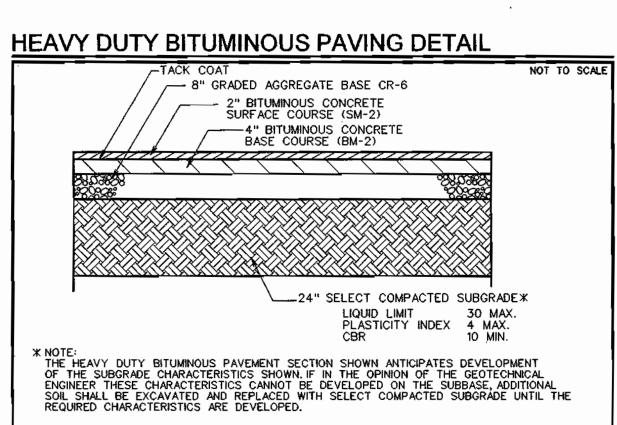
- SD-1 INSTALL STORM DRAIN. REFER TO DRAWING C-6.2 FOR PROFILES, SCHEDULES AND DETAILS.
- SD-2 INSTALL 6" ROOF DRAIN AT 1.00% MINIMUM AND OUTLET AS SHOWN ON PLAN. CONTRACTOR SHALL COORDINATE LOCATIONS OF BUILDING CONNECTIONS WITH ARCHITECTURE DRAWINGS.
- SD-3 INSTALL 8" ROOF COLLECTOR DRAIN AT 1.00% MINIMUM AND OUTLET INTO STORM DRAIN AS SHOWN.
- SD-4 INSTALL 10" ROOF COLLECTOR DRAIN AT 1.00% MINIMUM AND OUTLET INTO STORM DRAIN AS SHOWN.
- SD-5 CONSTRUCT NEW PRIVATE SANDFILTER SEE SHT C-6.5 & C-6.6 FOR DETAILS.
- SD-6 EXTEND MANHOLE STACK, OFFSET STACK FOR FRAME AND COVER TO CLEAR PROPOSED CURB AND GUTTER.
- SD-7 INSTALL 10'LONG 18" RCCP STUB @ 8.0% PROVIDE TEMPORARY CAP.

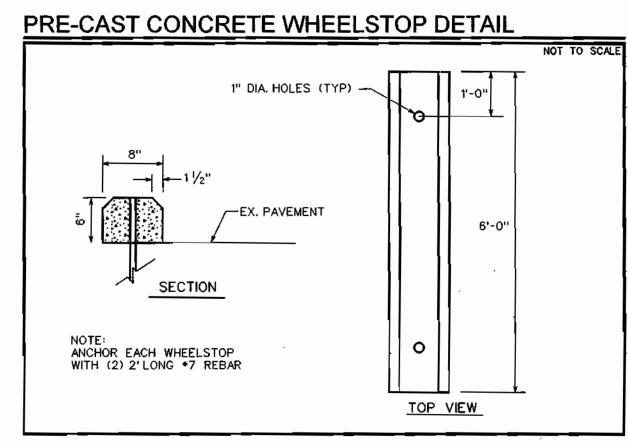
ELECTRIC NOTES:

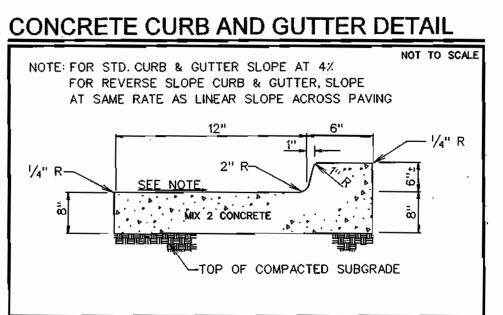
- BGE POWER SHALL INSTALL PRIMARY SERVICE FROM MAIN TO TRANSFORMER. CONTRACTOR SHALL COORDINATE INSTALLATION AND LOCATION WITH BGE POWER.
- INSTALL TRANSFORMER AND CONCRETE PAD. CONTRACTOR SHALL COORDINATE THE INSTALLATION WITH BGE. CONCRETE PAD FOR TRANSFORMER SHALL COMPLY WITH UTILITY COMPANY SPECIFICATIONS.
- E-3 INSTALL ELECTRIC BETWEEN BUILDING AND TRANSFORMER. REFER TO ELECTRICAL DRAWINGS FOR INFORMATION.
- E-4 INSTALL SITE LIGHTING. REFER TO ELECTRICAL DRAWINGS FOR CONDUIT LOCATION, LIGHT BASE DETAIL AND LIGHTING
- E-5 INSTALL CONDENSER UNIT AND CONCRETE PADS. REFER TO MECHANICAL DRAWINGS FOR DETAILS.

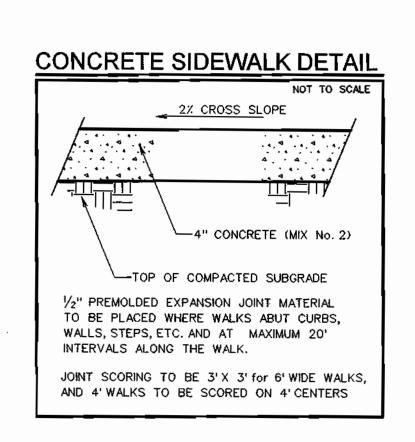


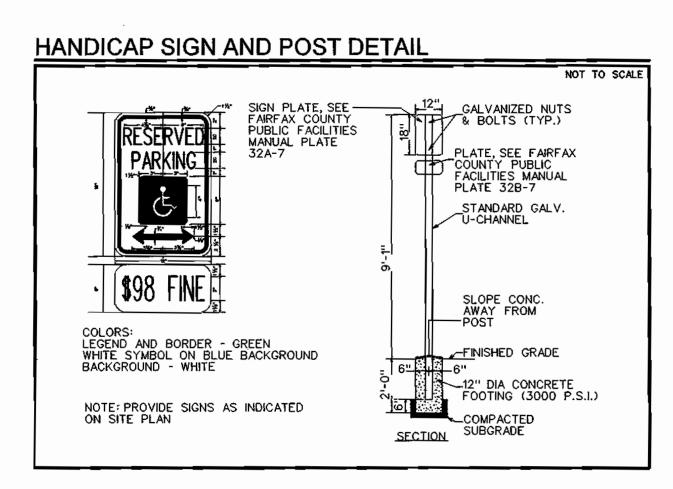


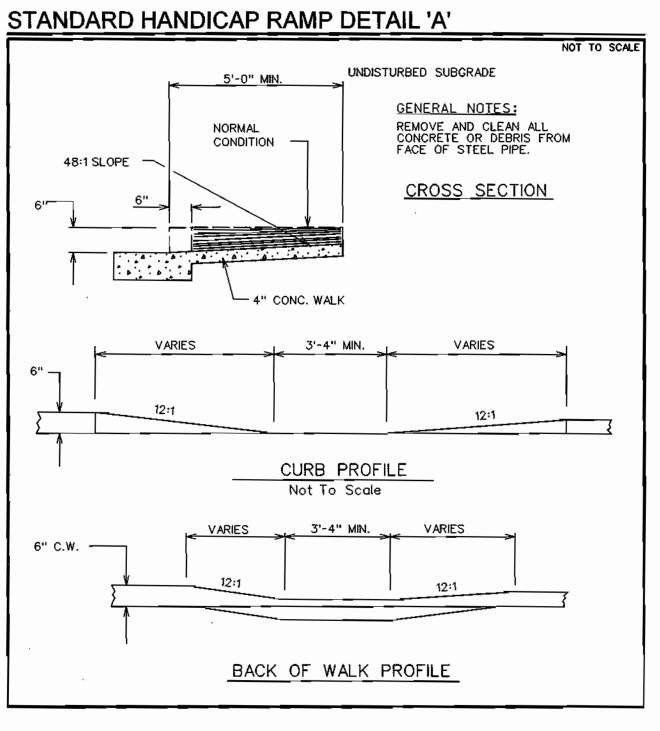


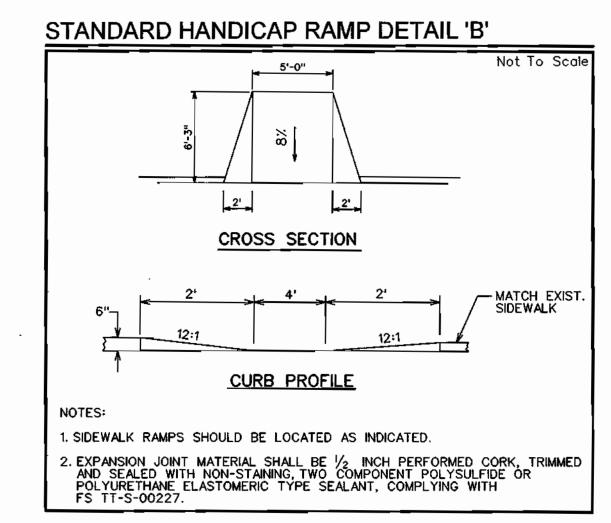


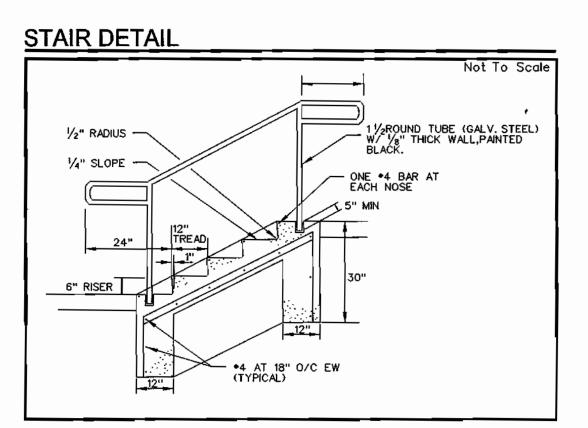


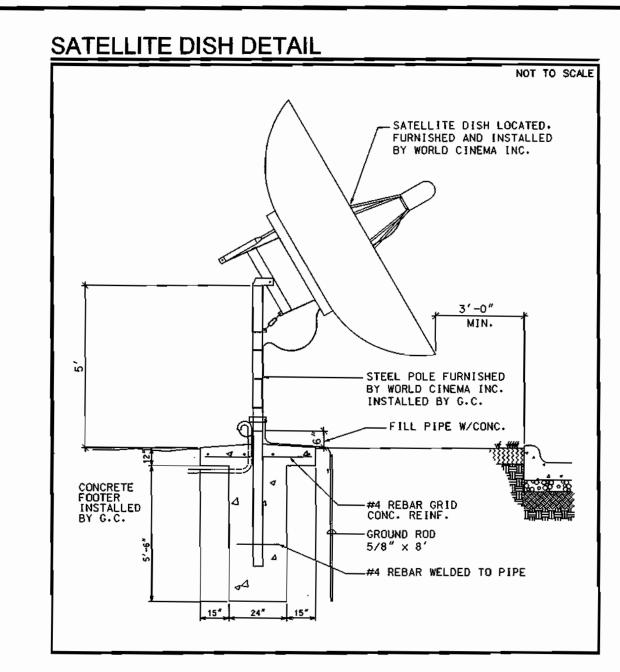


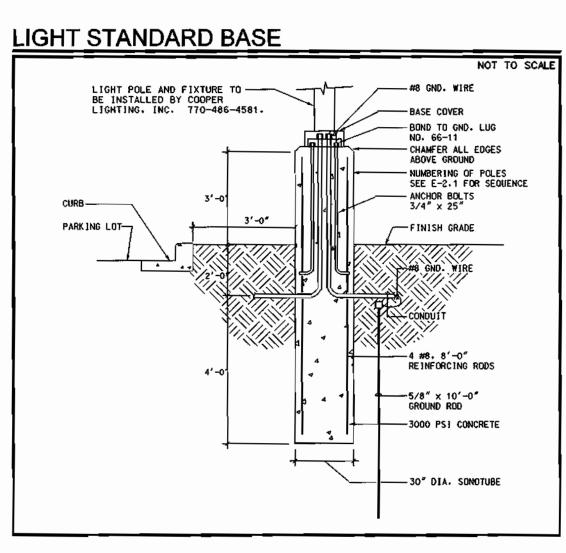


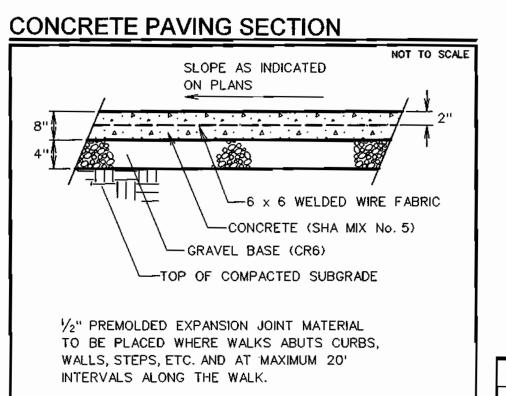


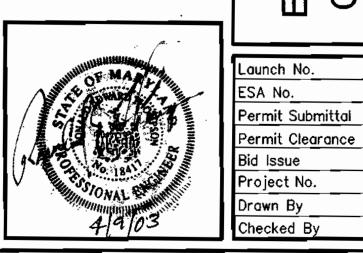












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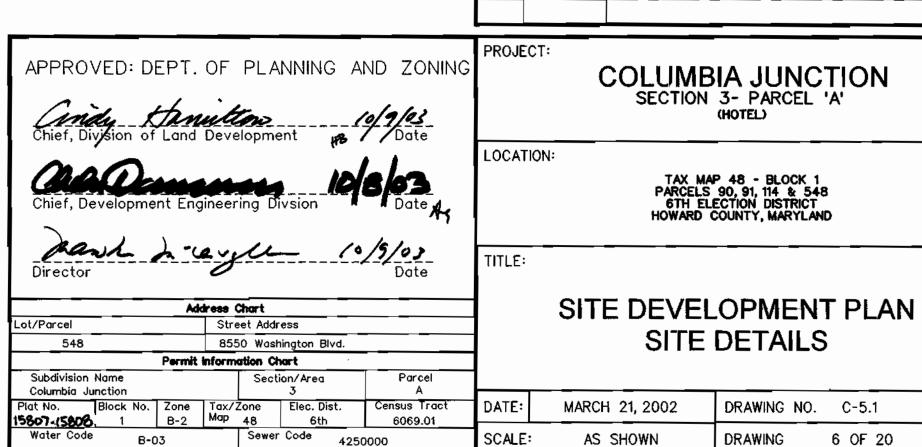
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2787

10725 AJC III

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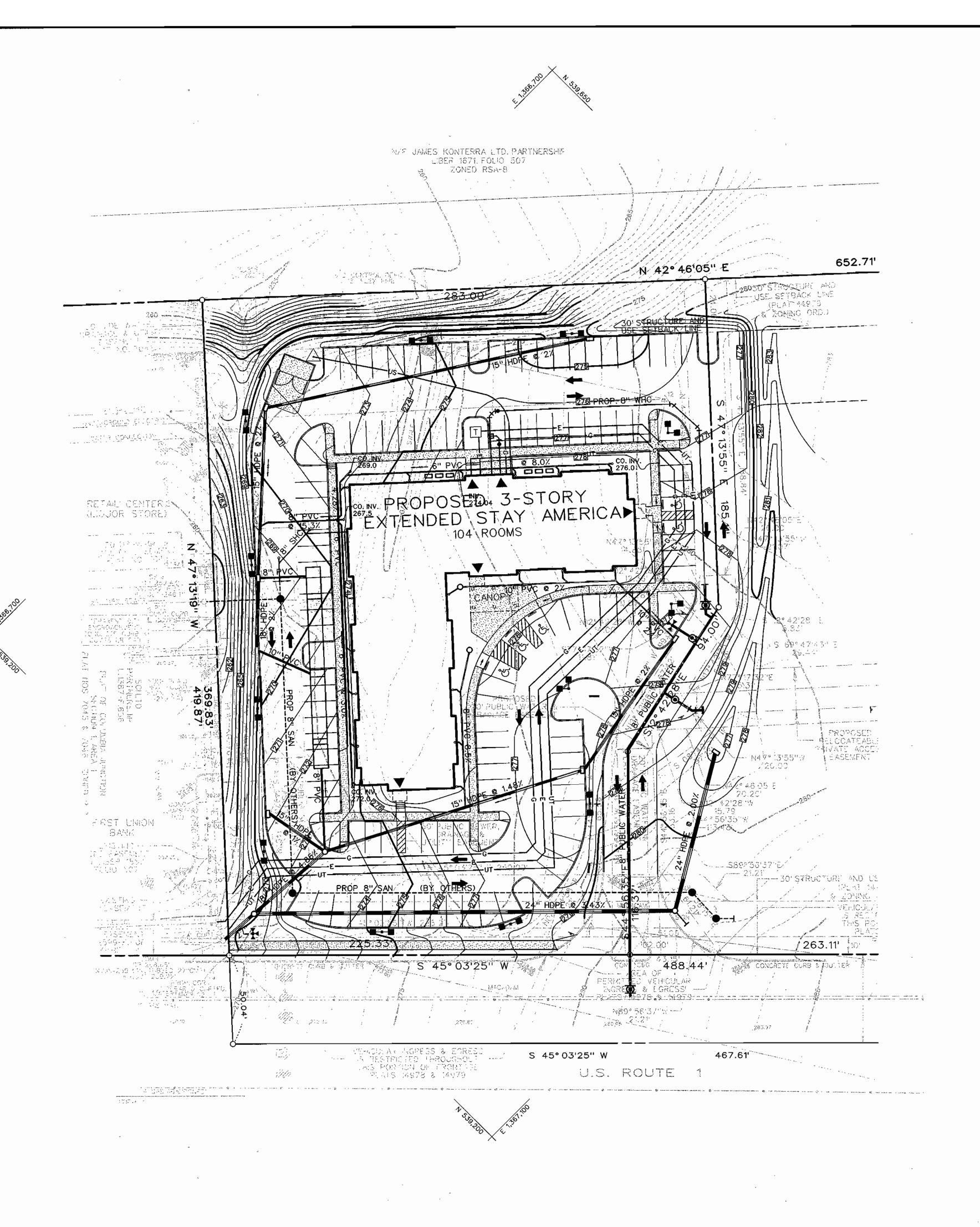


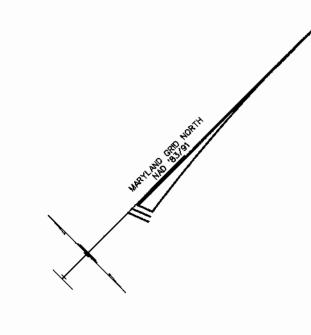
1. PAINT IS TO BE WHITE TRAFFIC PAINT APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. (TWO (2) COATS REQUIRED)
2. STRIPING WIDTH TO BE 8'-0" MIN. FOR VAN ACCESSABLE SPACES AND 5'-0" MIN. FOR REGULAR AUTOMOBILE ACCESSABLE SPACES.

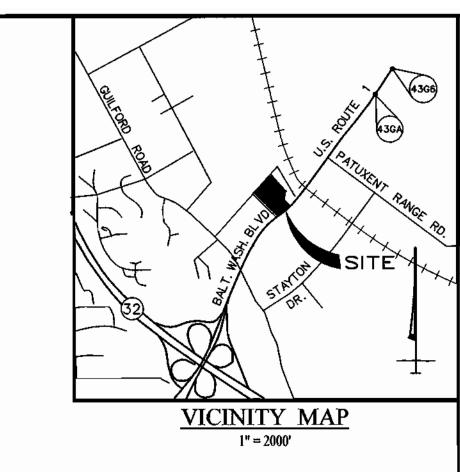
FACE OF WALL OR CURB-

_CONCRETE WHEELSTOP WHERE INDICATED ON PLAN

HANDICAP PARKING



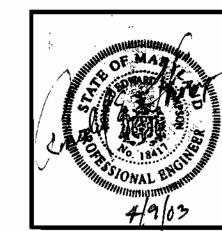




BENCHMARK - NAD '83

BENCHMARK *43GA: STAMPED DISC SET ON 3'CYLINDRICAL CONC. BASE 1"-2" BELOW SURFACE, 72.5'SW OF C&P POLE *178, 4.8'FROM EOP NORTHBOUND LANE OF U.S. ROUTE 1. ELEVATION * 241.665'

BENCHMARK *43G6: STAMPED DISC SET ON 3'CYLINDRICAL CONC. BASE 1"-2" BELOW SURFACE, 68.8'SW OF F.H. AT CORNER OF MOTEL, 3.5'SE OF EOP NORTHBOUND LANE OF U.S. ROUTE 1. ELEVATION = 220.142'



William.	Permit Clearance		
tites.	Bid Issue		
	Project No.	10725	
	Drawn By	AJC III	
	Checked By	KTL	
	BEL WOLON		i
REVISION			

Permit Submittal 3/21/02

2787

Launch No.

ESA No.

NO.	DATE	REVISION

APPROVED: DEPT. OF PLANNING AND ZONING

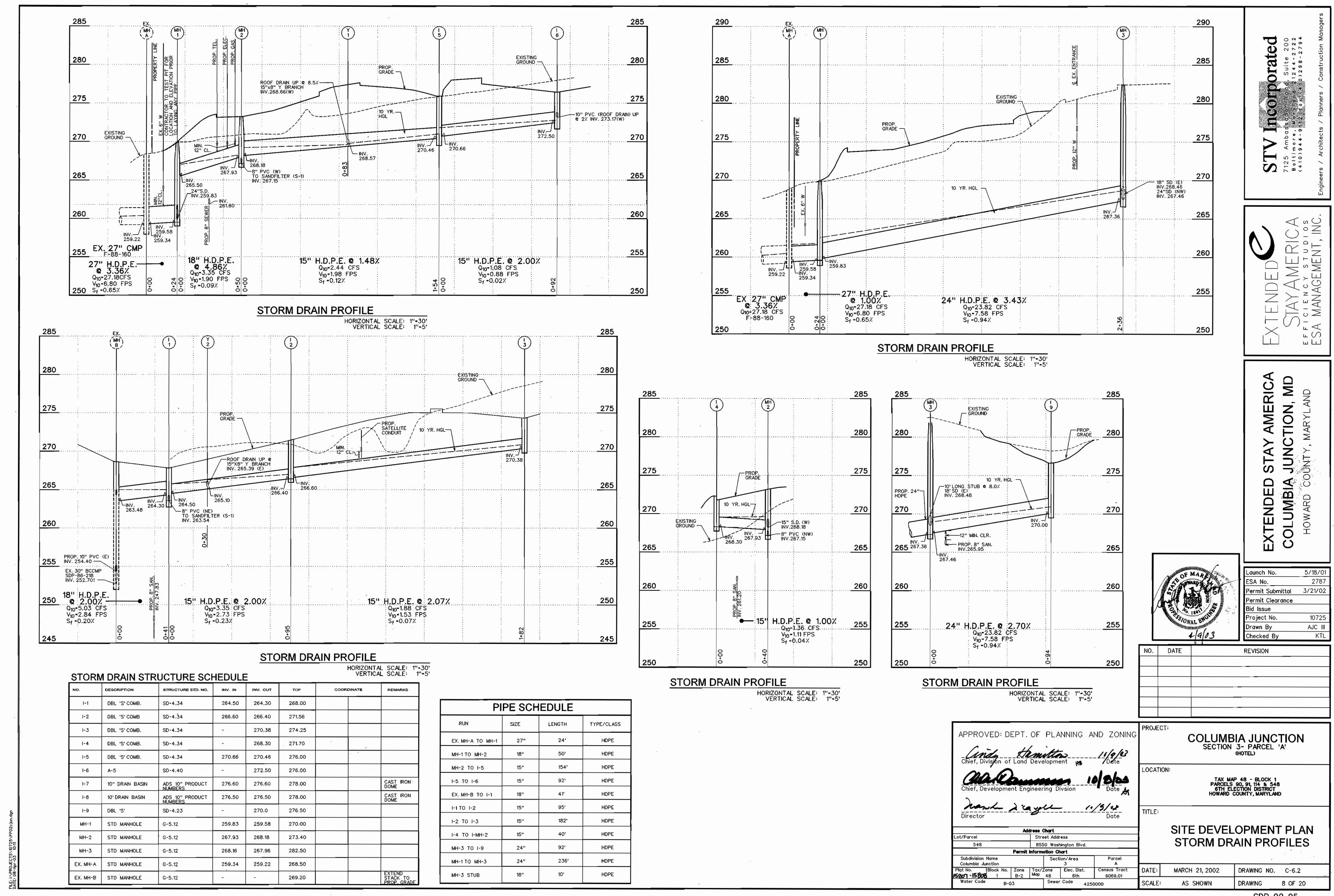
Address Chart Street Address Lot/Parcel 8550 Washington Blvd.

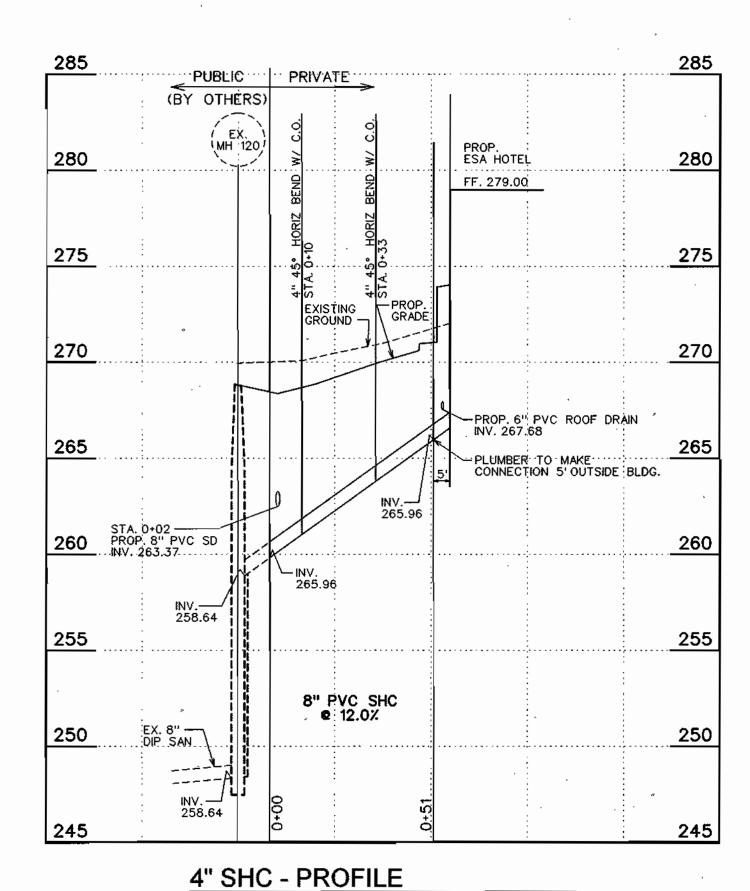
Census Tract 6069.01

COLUMBIA JUNCTION
SECTION 3- PARCEL 'A'
(HOTEL)

SITE DEVELOPMENT PLAN STORM DRAIN -DRAINAGE AREA MAP

MARCH 21, 2002 DRAWING NO. C-6.1 DRAWING 7 OF 20 1" - 40'





HORIZONTAL SCALE: 1"-30' VERTICAL SCALE: 1"-5'

295 290 290 PUBLIC | PRIVATE (BY OTHERS) EX. GROUND @ @ WATER 285 285 PROPOSED ESA HOTEL PROP GRADE Q Q WATER 280 280 8" DIP CL 52 WATER — 275 275 8" DIP CL52 WATER MY STA. 2+28 8"X8" TEE (WHC) WITH PLUG INV. 272.30 270 -STA, 2+48 8" PLUG STA: 0+89 -8" -1/8H.B. INV. 272.20 INV. 272.60 265 265 260 260 STA. 2+48 STA. 0+00 255 WATER LINE PROFILE

HORIZONTAL SCALE: 1"=50' VERTICAL SCALE: 1"=5'

AMERICA UNCTION, MD S COLUMBIA EXTENDED

bassador Road, Suite 200

. Maryland 21244-2722

- 91112 (axi(410)298-2794

Launch No. 5/18/01 Permit Submittal 3/21/02 AJC III Checked By

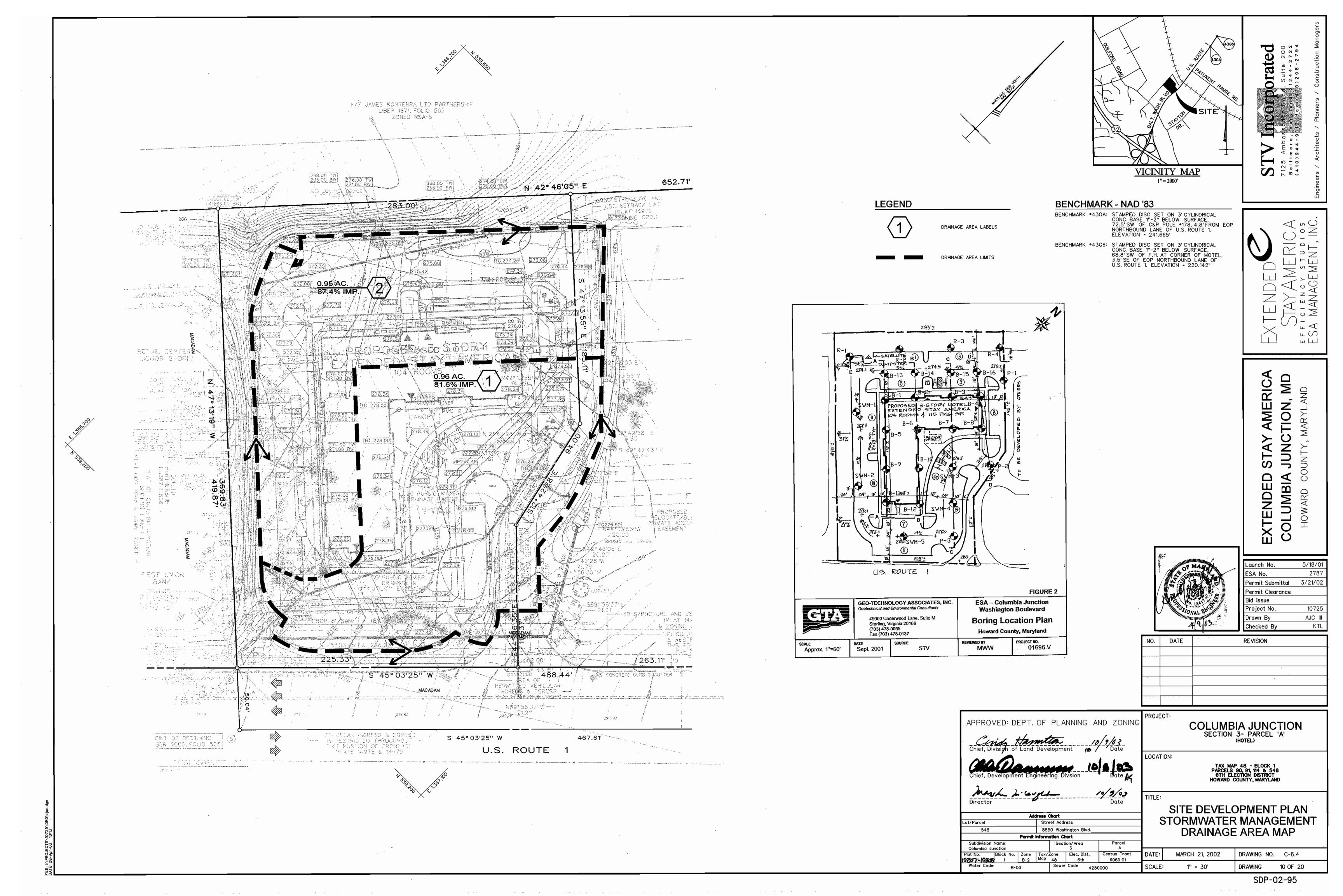
REVISION

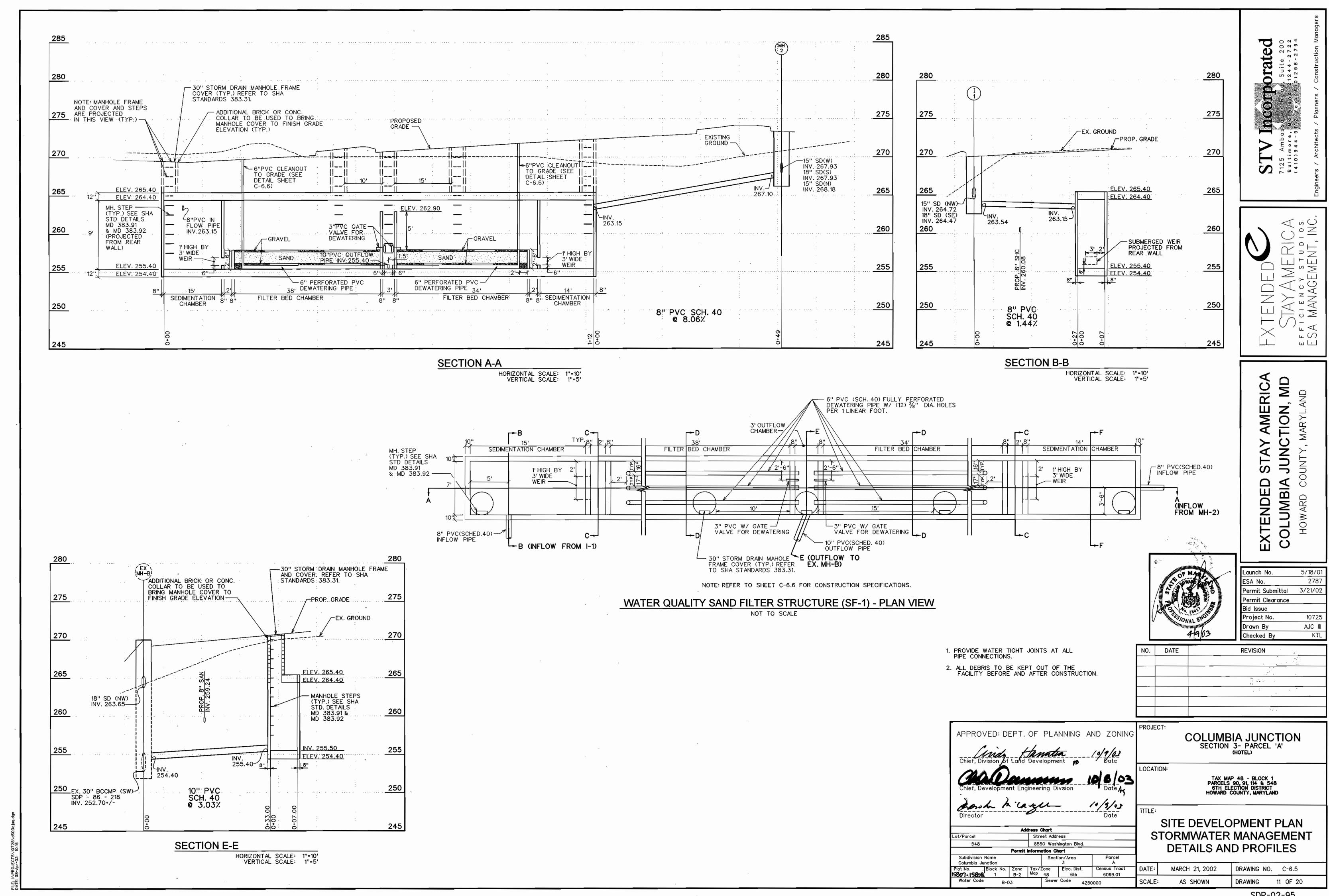
Address Chart Street Address .ot/Parcel SCALE:

COLUMBIA JUNCTION SECTION 3- PARCEL 'A'

SITE DEVELOPMENT PLAN SANITARY SEWER & WATER PROFILES

MARCH 21, 2002 DRAWING NO. C-6.3 DRAWING 9 OF 20 AS SHOWN





SAND FILTER LAYER AND SPECIFICATIONS:

Upper Filter Layer: The washed gravelor aggregate layer at the top of the filter may be 1 to 3 inches thick meeting ASTM standard specifications for one (1) inch maximum diameter or SHA *57 aravel.

Geotextile Fabric: Refer to table B.3.1 Material Specifications for Sand Filters for specifications.

The fabric roll shall be cut with sufficient dimensions to cover the entire wetted perimeter of the filter area with a six-inch minimum overlap.

Sand Filter Layer: The sand filter layer shall be 18-24 inches deep. Clean AASHTO M-6/ASTM C-33 concrete sand is recommended, but sand with similar specifications may be used.

Top/Bottom Gravel Layer: The top/bottom gravel layer above the sand layer and surrounding the collector (perforated) pipes shall be AASHTO M-43 and ½ to 2 inch in diameter gravel and provide at least 3 inches cover of over the tops of the drainage pipes. No gravelis required under the pipes. The graveland the sand layer above must be separated by a layer of geotextile fabric that meets the specification listed above.

Underdrain Piping: The underdrain piping consists of three 6-inch perforated pipes and shall be reinforced to withstand the load of the overburden. Perforations shall be 3/8 inch max.. All piping shall be to Schedule 40 polyvinyl chloride or greater strength.

The minimum grade of piping shall be slope. Access should be provided for cleaning all underdrain piping. Clean-outs for each pipe shall extend to the invert of overflow weir or to the maximum surface elevation of the structure.

Refer to table B.3.1 Material Specifications for Sand Filters for more detail.

CONSTRUCTION SPECIFICATIONS AND MAINTENANCE REQUIREMENTS OF SAND FILTER SYSTEMS

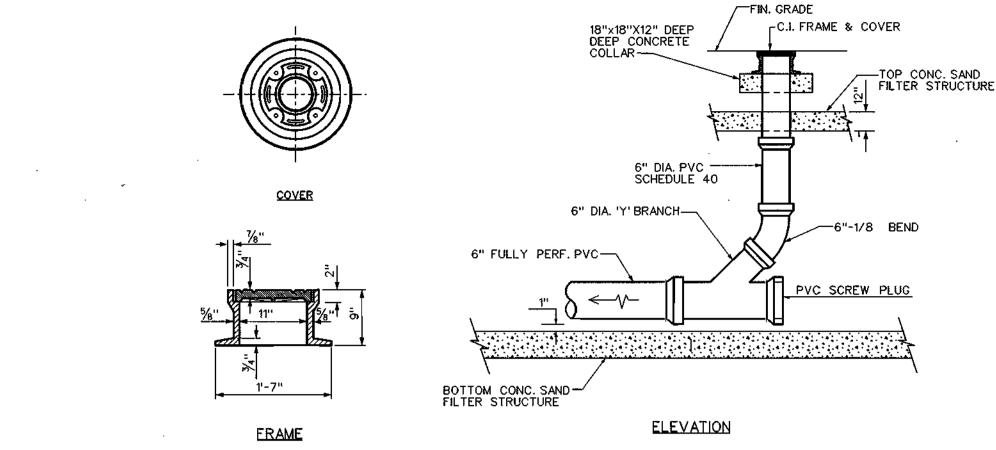
1) Construction Specifications

The SFWQ structure may be either cast-in-place or precast. Precast structures require advance approval by the Department of Planning and Zoning, Development and Engineering Division (410-313-2420) and Engineer in charge. Cast-in-place shall be designed to meet the requirements of the "Standards Specifications for Highway Bridges"- American Association of State Highway Officals (Reference 17).

- * Access manholes and steps to the filtration system shall conform to Standard details referenced on sheets C-6.5
- * After completion of the SFWQ structure shell, a leak test shall be performed to verify watertightness before the filter
- layers are installed. The approved erosion and sediment control plans shall include specific measures to provide for the protection of the filter system before the final stabilization of the site.
- Excavation for the SFWQ structure and connecting pipes shall include removal of all materials and objects encountered in the excavation; disposal of excavated material as specified in the approved erosion and sediment control plans, maintenance and subsequent removal of any sheeting, shoring and bracing; dewatering and precautions and work necessary to prevent damage to adjacent properties resulting from this excavation.
- All filter materials in the second chamber shall be placed according to construction and materials standards and
- No runoff shall be allowed to enter the sand filter system. prior to completion of all construction activities, including revegetation and final site stabilization. Construction runoff shall be treated in separate sedimentation basins and routed to bypass the filter system. Should construction runoff enter the filter system prior to final site stabilization, all contaminated materials must be removed and replaced with new clean filter materials before a regulatory inspector approved its completion.
- * The water level in the filter chamber shall be monitored by the design engineer after the first storm event, before the project is certified as having been completed. If the dewatering time of the filter chamber takes longer than 24 hours, the top gravellayer and filter fabric underneath must be replaced with a more rapid draining fabric and clean gravel. The structure shall then be checked again to ensure a detention time that is less than 24 hours.

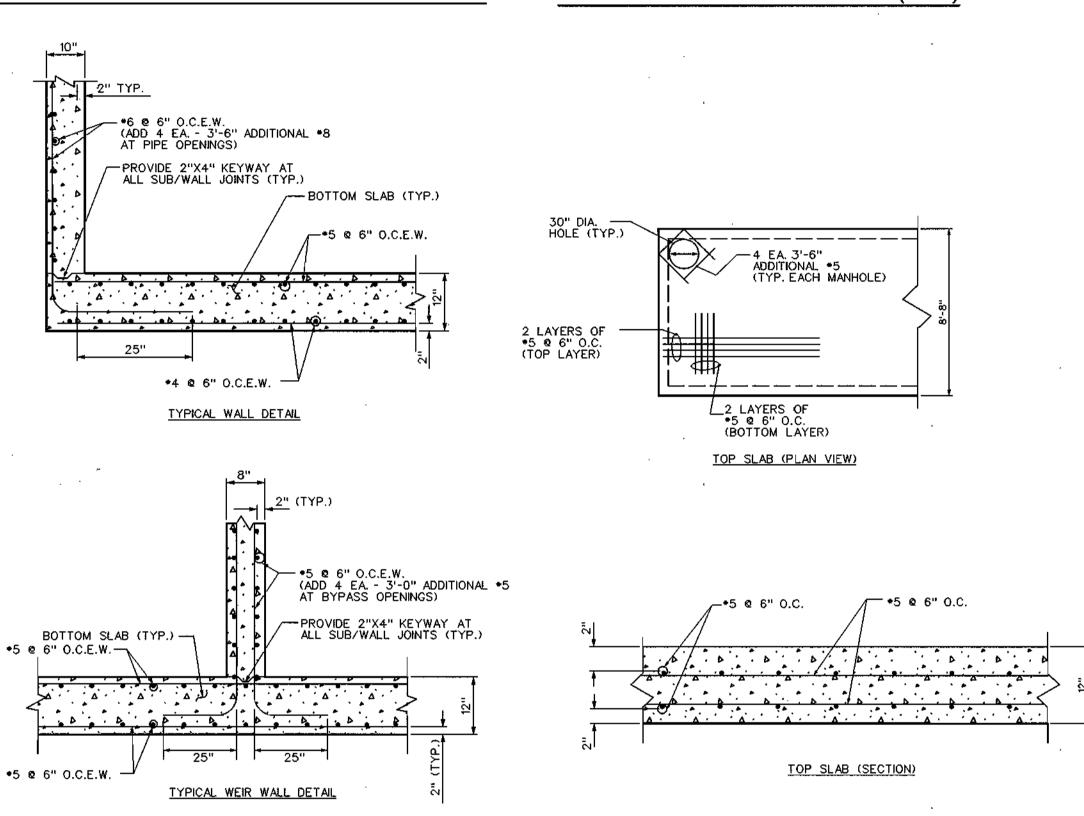
The maintenance of the systems includes:

- * The water level in the filter chamber shall be monitored by the owner on a quarterly basis and after every large storm for the first year after completion of construction. A log of the results shall be maintained, indicating the rate of dewatering after each storm and the water depth for each observation. Once the regulatory stormwater inspector indicates that satisfactory performance of the structure has been demonstrated, the monitoring schedule may be reduced to a semi-annually basis.
- The sedimentation chamber must be pumped out when the sediment depth reaches 12". If the chamber contains an oil skim, it should be removed by a firm specializing in oil recovery and recycling. The remaining material may then be removed by a vacuum pump truck and disposed of in an approved landfill. Áfter each cleaning, refill the first chamber to a depth of three feet with clean water to reestablish the water seal.
- Removal of silt should be conducted when accumulation exceeds approximately one-half (1/2) inch. When the filter layer will no longer draw down within the design period, the top layer of sand or organic media, sacrificial failure zone, or ballast gravel must be removed and replaced with new materials conforming to the original specifications. Any discolored or contaminated material, below the surface shall also be removed and replaced.
- Each sand or organic media filter should be inspected in accordance with the guidance in Table 5.6 (this sheet). Materials deposited on the surface of the filter chamber (e.g., trash and litter) should be removed manually. When the capacity of the filter bed begins to diminish due to surface clogging, manual removal of the top few inches of discolored material should be done. In some cases, manual manipulation or roto-tilling of the surface may restore filtration capacity. Removed materials hould be replaced with fresh sand or organic media meeting the original design specifications. The contaminated material should be dewatered and disposed of at a pre-approved and permitted location.



CAST IRON LAMPHOLE FRAME AND COVER

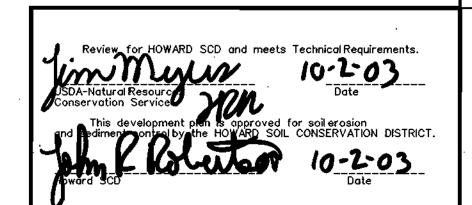
TYPICAL CLEANOUT DETAILS (C.O.)

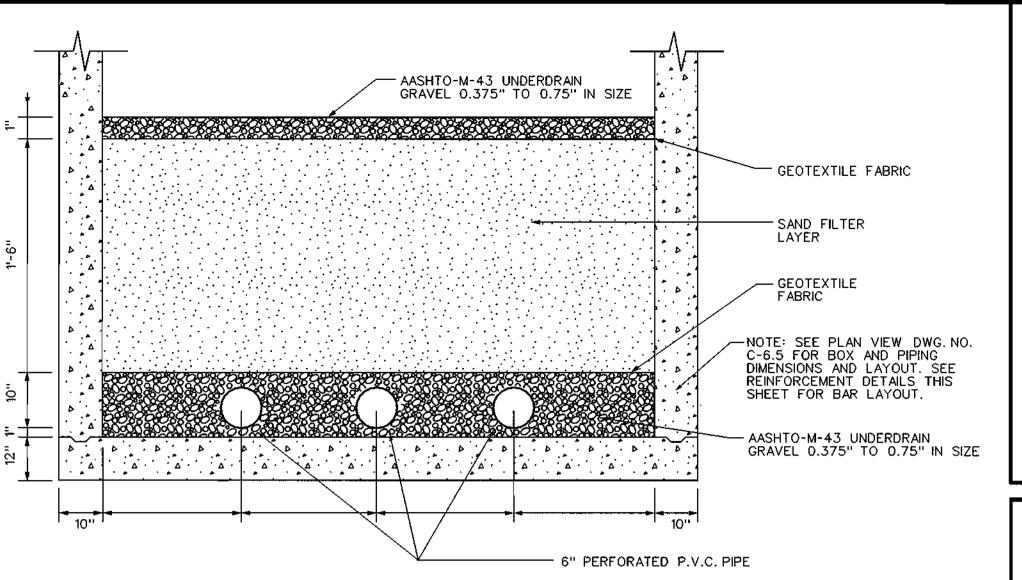


SAND FILTER REINFORCEMENT DETAIL NOT TO SCALE

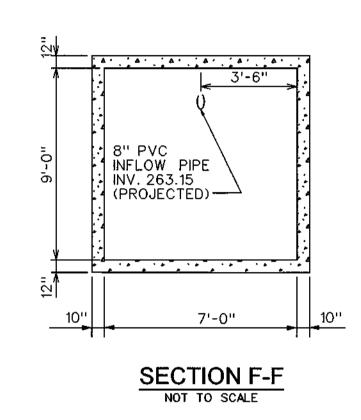
TABLE B.3.1 MATERIAL SPECIFICATIONS FOR SAND FILTERS

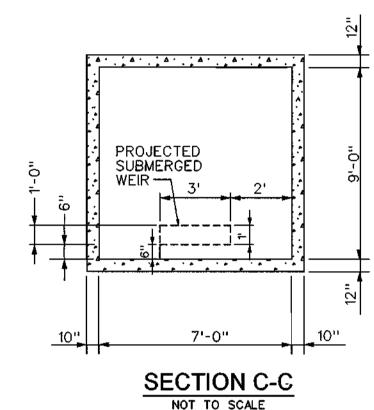
MATERIAL	SPECIFICATIONS/TEST METHOD	SIZE	NOTES
SAND	CLEAN AASHTO-M-6 OR ASTM-C-33 CONCRETE SAND	0.02" TO 0.04"	SAND SUBSTITUTIONS SUCH AS DIABASE AND GRAYSTONE *10 ARE NOT ACCEPTABLE. NO CALCIUM CARBONATED OR DOLOMITIC SAND SUBSTITUTIONS ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND.
PEAT	ASH CONTENT: < 15% ph Range: 5.2 to 4.9 LOOSE BULK DENSITY 0.12 to 0.15 g/cc	N/A	THE MATERIAL MUST BE REED-SEDGE HEMIC PEAT, SHREDDED, UNCOMPACTED, UNIFORM, AND CLEAN.
LEAF COMPOST		N/A	
UNDERDRAIN GRAVEL	AASHTO-M-43	0.375" TO 0.75"	
GEOTEXTILE FABRIC (#F REQUIRED)	ASTM-D-4833 (PUNCTURE STENGTH - 125 LB.) ASTM-D-4632 (TENSILE STRENGTH - 300 LB.)	0.08" THICK EQUIVALENT OPENING SIZE OF *80 SIEVE	MUST MAINTAIN 125 GPM PER SQ.FT.FLOW RATE. NOTE: A 4" PEA GRAVEL LAYER MAY BE SUBSTITUTED FOR GEOTEXTILES MEANT TO "SEPARATE" SAND FILTER LAYERS.
IMPERMEABLE LINER (IF REQUIRED)	ASTM-D-4833 (THICKNESS) ASTM-D-412 (TENSILE STRENGTH 1,100 LB., ELONGATION 200%) ASTM-D-624 (TEAR RESISTANCE - 150 LB./IN) ASTM-D-471 (WATER ABSORPTION: +8 TO -2% MASS)	30 MIL THICKNESS	LINER TO BE ULTRAVIOLET RESISTANT. A GEOTEXTILE FABRIC SHOULD BE USED TO PROTECT THE LINER FROM PUNCTURE.
UNDERDRAIN PIPING	F 758, TYPE PS 28 OR AASHTO-M-278	6" RIGID SCHEDULE 40 PVC OR SDR35	3/8" PERF. @ 6" ON CENTER, 4 HOLES PER ROW; MINIMUM OF 3" OF GRAVEL OVER PIPES; NOT NECESSARY UNDERNEATH PIPES.
CONCRETE (CAST-IN-PLACE)	MSHA STANDARDS AND SPECS. SECTION 902, MIX NO. 3, fc' - 3500 PSI, NORMAL WEIGHT, AIR-ENTRAINED; REINFORCING TO MEET ASTM-615-60	N/A	ON-SITE TESTING OF POURED-IN-PLACE CONCRETE REQUIRED: 28 DAY STRENGTH AND SLUMP TEST; ALL CONCRETE DESIGN (CAST-IN-PLACE OR PRE-CAST) NOT USING PREVIOUSLY APPROVED STATE OR LOCAL STANDARDS REQUIRES DESIGN DRAWINGS SEALED AND APPROVED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF MARYLAND.
CONCRETE (PRE-CAST)	PER PRE-CAST MANUFACTURER	N/A	SEE ABOVE NOTE
NON-REBAR STEEL	ASTM A-36	N/A	STRUCTURAL STEEL TO BE HOT-DIPPED GALVANIZED ASTM-A-123

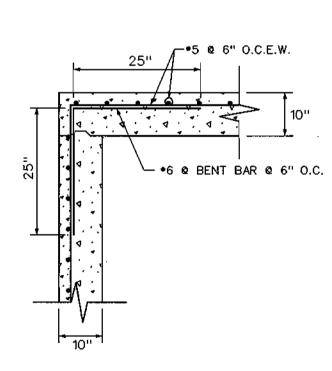




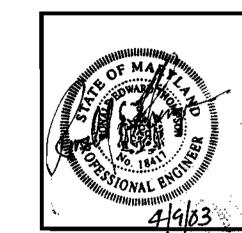
SECTION D-D TYPICAL SECTION THROUGH FILTER BED CHAMBER NOT TO SCALE







TYPICAL CORNER DETAIL



Launch No.	5/18/01
ESA No.	2787
Permit Submittal	3/21/02
Permit Clearance	
Bid Issue	
Project No.	10725
Drawn By	AJC III
Checked By	KTL
	ESA No. Permit Submittal Permit Clearance Bid Issue Project No. Drawn By

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ENGINEER'S CERTIFICATE:	AP
"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."	Сĥ
Signature of Engineer Print name below signature	Ch
DEVELOPER'S CERTIFICATE:	<u>/</u> Dir

DEVELOPER'S CERTIFICATE:	
de certify that all development and construction will be done ording to this plan, and that any responsible personnel involved he construction project will have a Certificate of Attendance of Department of the Environment Approved Training Program for Control of Sediment and Erosion before beginning the project. I authorize periodic on-site inspection by the Howard Soil approved to the servation District." 9/26/03	L
ature of Developer Date t nake below signature BRYAN S. HALL	15
DILYAN S. HALL	

APPROVED: DEPT.	OF PLANNING	AND	ZONING	
Chief, Division of Land Chief, Development Eng	um.	10/1	9/03 Vate Blos Date	L
Mash & ce Director	yll	10/	Date	T
Ad	dress Chart			
Lot/Parcel	Street Address			
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Section/Area

Sewer Code

6th

4250000

Subdivision Name

Columbia Junction

5**807 -15808 1** B-2 Map 48

B-03

Land Development 48 / Date	
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nt Engineering Divsion Date	
10/5/13 Date	TITLE:
Address Chart	
Street Address	l S
8550 Washington Blvd.	
Permit information Chart	

Parcel

Census Tract

6069.01

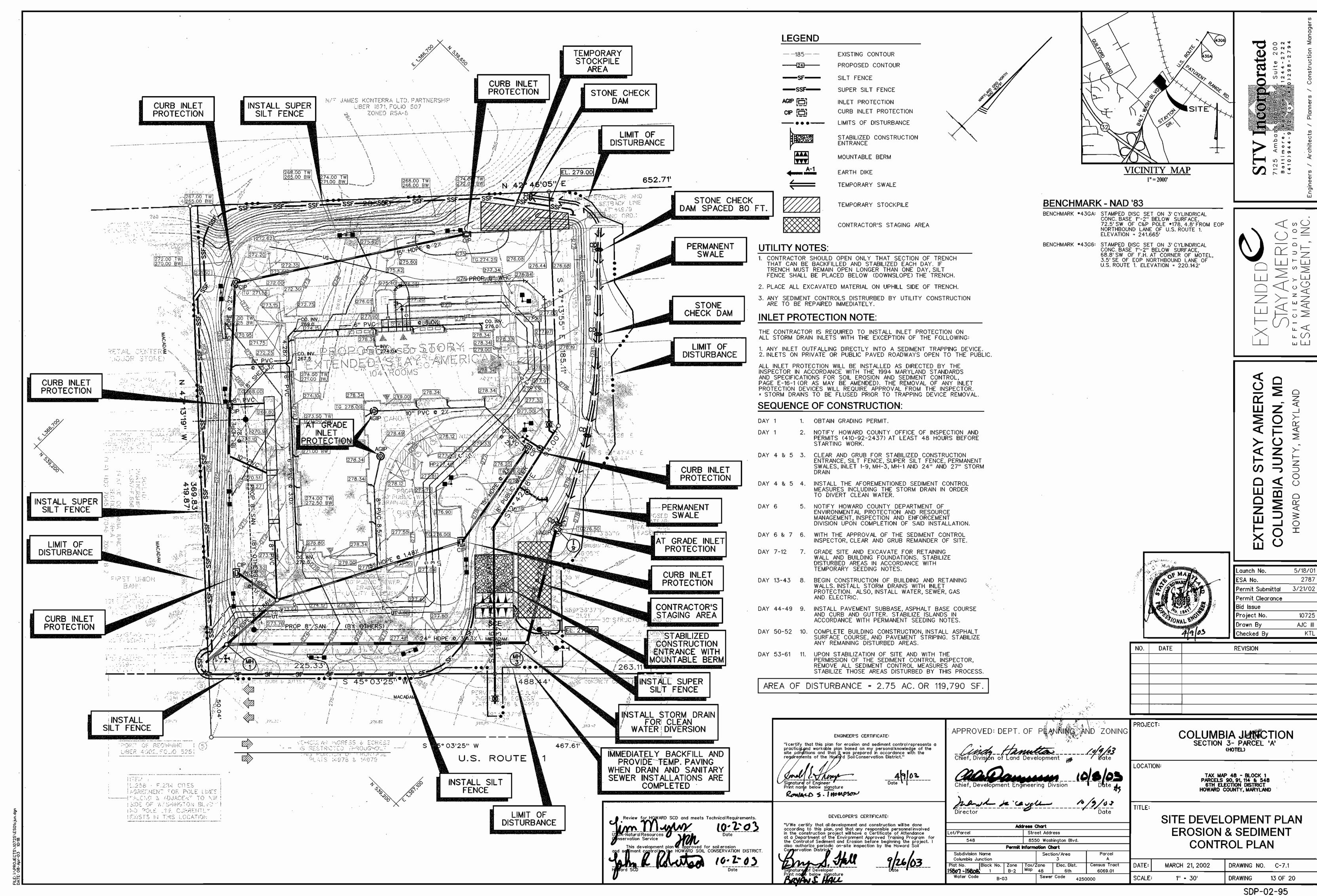
COLUMBIA JUNCTION SECTION 3- PARCEL 'A'

TAX MAP 48 - BLOCK 1 PARCELS 90, 91, 114 & 548 6TH ELECTION DISTRICT

DATE:

SITE DEVELOPMENT PLAN TORMWATER MANAGEMENT **DETAILS AND NOTES**

> MARCH 21, 2002 DRAWING NO. C-6.6 AS SHOWN DRAWING 12 OF 20



A. Site Preparation

 Installerosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins. ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.

iii. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.

B. Soil Amendments (Fertilizer and Lime Specifications)

i. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for

ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable State fertilizer laws and shall bear the name, trade name or trademark and

iii. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a *100 mesh sieve and 98-100% will pass through a *20 mesh sieve.

iv. Incorporate lime and fertilizer into the top 3 - 5" of soil by disking or other suitable means.

C. Seedbed Preparation i. Temporary Seeding

a. Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disk harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth but left in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.

b. Apply fertilizer and time as prescribed on the plans.

c. Incorporate lime and fertilizer into the top 3 - 5" of soil by disking or other suitable means.

ii. Permanent Seeding a. Minimum soil conditions required for permanent vegetative establishment:

 Soil pH shall be between 6.0 and 7.0.
 Soluble salts shall be less than 500 parts per million (ppm).
 The soil shall contain less than 40% clay but enough fine grained material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or serecia lespedeza is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable. 4. Soil shall contain 1.5% minimum organic matter by weight. 5. Soil must contain sufficient pore space to permit adequate root penetration.

. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with section 21 Standard and Specification for Topsoil

b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3 - 5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from

c. Apply soil amendments as per soil test or as included on the plans.

d. Mix soil amendments into the top 3 - 5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1 - 3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.

i. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job.

Note: Seed tags shall be made available to the inspector to verify type and rate of seed used. ii. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used alter than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible this used. Temperatures above 75-80° F can weaken bacteria and make the

E. Methods of Seeding

i. <u>Hydroseeding:</u> Apply seed uniformly with hydroseeder (sturry includes seed and fertilizer), broadcast or drop seeder or a cultipacker condex. drop seeder, or a cultipacker seeder

a. if fertilizer is being applied at the time of seeding, the application rate amounts will not exceed the following: nitrogen: maximum of 100 lbs. per acre total of soluble nitrogen: P205 (phosphorous): 200/lbs/ac.; K20 (potassium): 200 lbs/ac.

b. Lime - Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.

c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without

ii. <u>Dry Seeding:</u> This includes use of conventional drop or broadcast spreaders. a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 25 or 26. The seeded area shall then be rolled with a

weighted roller to provide good seed to soil contact.

b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

iii. <u>Drill or Cultipacker Seeding:</u> Mechanized seeders that apply and cover seed with soil. a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.

b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

F. Mulch Specifications (In order of preference)

i. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonably bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.

ii. Wood Cellulose Fiber Mulch (WCFM)

a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous

b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.

c. WCFM, including dye, shall contain no germination or growth inhibiting factors. d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation

growth of the grass seedlings. e. WCFM material shall contain no elements or compounds at concentration levels that will be

properties and shall cover and hold grass seed in contact with the soil without inhibiting the

f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.

Note: Only sterile straw mulch should be used in areas where one species of grass is desired. G. Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.

i. If grading is completed outside for the seeding season, mulch along should be applied as prescribed in this section and maintained until the seeding season returns and seeding can be ii. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre.

Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre

iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gailons of water. H. Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard:

i. A mulch anchoring tools is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.

ii. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber-shall be mixed with water, and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. The remainder of area should appear uniform after binder application. Synthetic binders--such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR, or other approved equal may be used at rates recommended by the

iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer s recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet

Incremental Stabilization - Cut Slopes

 All cut slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'. ii. Construction sequence (Refer to Figure 3 below):

a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey

b. Perform phase 1 excavation, dress, and stabilize.

c. Perform phase 2 excavation, dress, and stabilize. Overseed phase 1 areas as necessary. d. Perform final phase excavation, dress, and stabilize. Overseed previously seeded areas as

Note: Once excavation has begun, the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

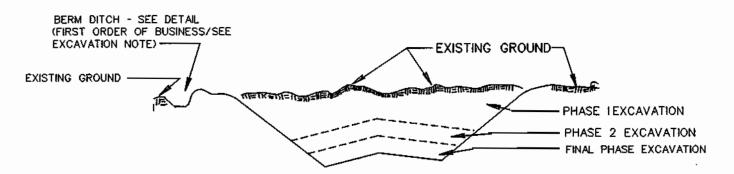


Figure 4 Incremental Stabilization - Cut

J. Incremental Stabilization of Embankments - Fill Slopes

i. Embankments shall be constructed in lifts as prescribed on the plans.

ii. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15' or when the grading operation ceases as prescribed in the plans.

iii. At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trapping device. iv. Construction Sequence: Refer to Figure 4 (below).

a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct Slope Silt Fence on low side of ill as shown in Figure 5, unless other methods shown on the plans address this area.

b. Place phase 1 embankment, dress, and stabilize.

c. Place phase 2 embankment, dress, and stabilize.

d. Place final phase embankment, dress, and stabilize. Overseed previously seeded areas as

Note: Once excavation has begun, the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

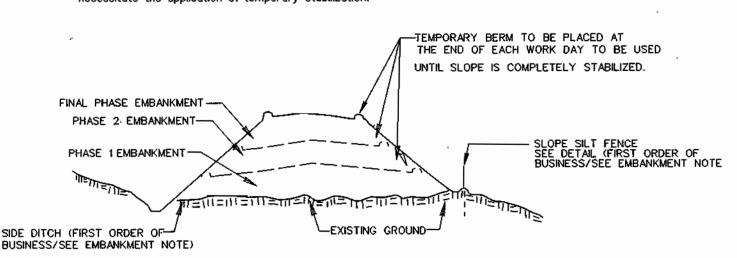


Figure 5 Incremental Stabilization - Fill

SECTION II - TEMPORARY SEEDING

Vegetation – annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

SECTION III - PERMANENT SEEDING

Seeding grass and legumes to establish ground cover for a minimum period of one year on disturbed areas generally receiving low maintenance.

SECTION IV - SOD

Sod - to provide quick cover on disturbed areas (2:1 grade or flatter)

A. General Specification:

Class of turfgrass sod shall be Maryland or Virginia State Certified or Approved. Sod labels

ii. Sod shall be machine cut at a uniform soil thickness of 3/4", plus or minus 1/4", at the time of cutting. Measurement for thickness shall exclude top growth and thatch. Individual pieces of sod shall be cut to the suppliers width and length. Maximum allowable deviation from standard widths and lengths shall be 5 percent. Broken pads and torn or uneven ends will not be

iii. Standard size sections of sod shall be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the

iv. Sod shall not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect it survival. v. Sod shallbe harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period shall be approved by an agronomist or soil scientist prior to its installation.

B. Sod Installation

 During periods of excessively high temperature or in areas having dry subsoil, the subsoil shall be lightly irrigated immediately prior to laying the sod. ii. The first row of sod shall be laid in a straight line with subsequent rows placed parallel to and tightly wedged against each other. Lateral joints shall be staggered to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.

iii. Wherever possible, sod shall be laid with the long edges parallel to the contour and with staggering joints. Sod shall be rolled and tamped, pegged or otherwise secured to prevent slippage on slopes and to ensure solid contact between sod roots and the underlying soil surface. iv. Sod shall be watered immediately following rolling or tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. The operations of laying, tamping and irrigating for any piece of sod shall be completed within eight hours.

i. In the absence of adequate rainfall, watering shall be performed daily or as often as necessary during the first week and in sufficient quantities to maintain moist soil to a depth of 4". Watering should be done during the heat of the day to prevent wilting. ii. After the first week, sod watering is required as necessary to maintain adequate moisture

iii. The first mowing of sod should not be attempted until the sod is firmly rooted. No more than 1/3 of the grass leaf shall be removed by the initial cutting or subsequent cuttings. Grass height shall be maintained between 2" and 3" unless otherwise specified.

<u>SECTION IV - TURFGRASS ESTABLISHMENT</u>

Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance. Areas to receive seed shall be tilled b disking or other approved methods to a depth of 2 to 4 inches, leveled and raked to prepare a proper seedbed. Stones and debris over 1-1/2 inches in diameter shall be removed. The resulting seedbed shall be in such condition that future moving of grasses will pose no difficulty. Note: Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provide a reliable means of consumer protection and assure a pure genetic line.

A. Turfgrass Mixtures

i. Kentucky Bluegrass - Full sun mixture - For use in areas that receive intensive management. Irrigation required in the areas of Central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds/1000 square feet. A minimum of three bluegrass cultivars should be chosen ranging from a minimum of 10% to a maximum of 35% of the minimum by majors.

ii. Kentucky Bluegrass/Perennial Rye - Full sun mixture - For sue in full sun greas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture/1000 square feet. A minimum of three Kentucky Bluegrass Cultivars must be chosen, with each cultivar ranging from 10% to 35% of the mixture by weight.

iii. Tall Fescue/Kentucky Bluegrass - Full sun mixture - For use in drought-prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes: certified Tall Fescue Cultivars 95 - 100%; certified Kentucky Bluegrass Cultivars 0 - 5%. Seeding rate: 5 to 8 pounds/1000 square feet. One or more cultivars may be blended.

iv. Kentucky Bluegrass/Fine Fescue - Seed Mixture - For use in areas with shade in bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes: certified Kentucky Bluegrass Cultivars 30 - 40% and certified Fine Fescue 60 - 70%. Seeding rate: 1.5 to 3.0 pounds/1000 square feet. A minimum of three Kentucky Bluegrass Cultivars must be chosen, with each cultivar ranging from a minimum of 10% to a maximum of 35% of the mixture by weight

Note Turfgrass varieties should be selected from those listed in the most current University of Maryland Publication, Agronomy Mimeo *77, Turfgrass Cultivar Recommendations for

B. Ideal Times for Seeding

D. Repairs and Maintenance

Western Maryland: March 15 to June 1 and August 1 to October 1 (Hardiness Zones - 5b, 6a) Central Maryland: March 1 to May 15 and August 15 to October 15 ((Hardiness Zones - 6b) Southern Maryland and Eastern Shore: March 1 to May 15 and August 15 to October 15 ((Hardiness Zones - 7a, 7b)

If soil moisture is deficient, supply new seedings with adequate water for plant growth (1/2" - 1" every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season in abnormally dry or hot seasons or on

Inspect all seeded areas for failures and make necessary repairs, replacements, and reseedings within the planting season.

i. Once the vegetation is established, the site shall have 95% groundcover to be considered adequately stabilized. ii. If the stand provides less than 40% ground coverage, re-establish following original lime,

iii. If the stand provides between 40% and 94% ground coverage, overseeding and fertilizing using half of the rates original applied may be necessary. iv. Maintenance fertilizer rates for permanent seedings are shown in Table 24. For lawns and other medium to high maintenance turfgrass areas, refer to the University of Maryland publication, Lawn Care in Maryland, Bulletin No. 171.

21.0 STANDARD AND SPECIFICATIONS <u>FOR</u> **TOPSOIL**

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation. Conditions Where Practice Applies

1. This practice is limited to areas having 2:1 or flatter slopes where:

a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.

c. The original soil to be vegetated contains material toxic to plant growth.

d. The soil is so acidic that treatment with limestone is not feasible. II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications Topsoil salvaged from the existing site may be provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:

i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of il. Topsoli must be tree of plants of plant parts such as beginning grass, quackgrass, Johnsongrass,

nutsedge, poison ivy, thistle, or others as specified. iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be topsoil. Lime shall be distributed uniformly over the designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

II. For sites having disturbed areas under 5 acres: i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.

III. For sites having disturbed areas over 5 acres: i. On soil meeting Topsoil specifications, obtain test results dictating fertilized and lime amendments required to bring the soil into compliance with the following:

a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.

b. Organic content of topsoil shall be not less than 1.5 percent by weight. c. Topsoil having soluble salt content greater than 500 parts per million shall not be used. d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of dissipation of phyto-toxic materials.

CONSERVATION DISTRICT.

Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate authority, may be used in lieu of natural topsoil. ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.

ENGINEER'S CERTIFICATE:

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."

DEVELOPER'S CERTIFICATE

1/We certify that all development and construction will be done

also authorize periodic on-site inspection by the Howard Soil Conservation District."

according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance

at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I

Lorall & Thing

ROUND E. I HOMPEON

Signature of Engineer Print name below signature

V. Topsoil Application

i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins. ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained,

iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of

iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall

VI. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 conform to the following requirements:

a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.

b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a Ph of 7.0 to 8.0. If compost does not meet these requirements, the

c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet. iv. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Sodding. MD-VA, Pub. *1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.

24.0 MATERIALS SPECIFICATIONS

Table 27 Geotextile Fabrics

	APPARENT	GRAB TENSILE	BURST STRENGTH
CLASS	OPENING SIZE MM. MAX.	STRENGTH LB. MIN.	PSI, MIN.
A	0.30 **	250	500
В	0.60	200	320
C	0.30	200	320
D	0.60	90	145
E	0.30	90	145
F (SILT FENCE)	0.40-0.80*	90	190

** 0.50 mm max. for super silt fence

The properties shall be determined in accordance with the following procedures:

-Apparent opening size -Grab tensile strength

ASTM D 1682: 4x8" specimen, 1x2" clamps, 12"/min. Strain rate in both principal directions of geotextile fabric.

MSMT 323

ASTM D 3786 The fabric shall be inert to commonly encountered chemicals and hydrocarbons, and will be not and mildew resistant. It shall be manufactured from fibers consisting of long chain synthetic polymers, and composed of a minimum of 85% by weight of polyolephins, polyesters,

ultraviolet exposure. In addition, Classes A through E shall have a 0.01 cm./sec. Minimum permeability when tested in accordance with MSMT 507, and an apparent minimum elongation of 20 percent (20%) when tested in accordance with the grab tensile strength requirements listed above.

or polyamides. The geotextile fabric shall resist deterioration from

Silt Fence Class F geotextile fabrics for silt fence shall have a 50 lb./in. Minimum tensile strength and a 20 lb./in. Minimum tensile modules when tested in accordance with MSMT 509. The material shall also have a 0.3 gal./ft.2/min. Flow rate and seventy-five percent (75%) minimum

filtering efficiency when tested in accordance with MSMT 322. Geotextile fabrics used in the construction of silt fence shall resist deterioration from ultraviolet exposure. The fabric shall contain sufficient amounts of ultraviolet ray inhibitors and stabilizers to provide a minimum of 12 months of expected usable construction life at a temperature range of 0 to 120 degrees F.

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$\widehat{\Box}$ 5/18/01 2787 ESA No. Permit Submittal 3/21/02 <u>Permit Clearance</u> Bid Issue 10725 Project No. AJC III Drawn By Checked By

NO. DATE REVISION

COLUMBIA JUNCTION

SECTION 3- PARCEL 'A'

TAX MAP 48 - BLOCK 1 PARCELS 90, 91, 114 & 548 6TH ELECTION DISTRICT

APPROVED: DEPT. OF PLANNING AND ZONINO

Address Chart

Permit Information Chart

ot/Parcel

548

Subdivision Name

Columbia Junction

Street Address

8550 Washington Blvd.

Tax/Zone Elec. Dist. Map 48 6th

Section/Area

LOCATION:

Parcel

4250000

DATE:

SCALE:

PROJECT:

SITE DEVELOPMENT PLAN **EROSION & SEDIMENT CONTROL NOTES**

> DRAWING NO. C-7.2 MARCH 21, 2002 DRAWING 14 OF 20 NONE

TABLE 23 GRASS AND LEGUME PLANT CHARACTERISTICS

Common N	lame	Redtop	Rye	Ryegrass Italian	Sweet Clover	Sudangrass	Crown Vetch	Lespedeza Korean	Lespedeza Sericea	Ryegrass Perennial	Birdsfoot Trefoil
Botanical N	ame	Argostis Alba	Secale Cereals	Lolium Multiflorum	Lolium Perenne	Melilotus Alba Officinalis	Sorghum Sudanese	Coronilla Varia	Lespedeza Etipulacea	Lolium Perenne	Lotus Corniculatis
Germinatio (Day		5 - 10	4 - 7	5 - 14	10	4 - 10	14 - 21	5 - 14	7 - 28	5 - 14	10
Growth Ha	bitat	P, SL, B	A	A	B, 1	A	P, L, Ř	A	P, L, R	P, S, B	P, L
Seasons	Cool	Х	Х	Х	Х		Х			Х	Х
Seasons	Warm				Х	X	Х	Х	X		Х
	Dry, Not Droughty	Х	Х		х	×	X	Х	X		χ̈́
	Well Drained	х	Х	х	х	×	х	Х	Х	х	X
Drainage Class	Moderately Well Drained	х	X	×	х	×	×	x	х	х	х
	Somewhat Poorly Drained	х		x		x		х	x	x	х
	Poorly Drained	х			•						
Annual	Winter		Х	X	X					Х	Х
Cover	Summer				X	X		X			
pH Range		4.0-7.5	5.5 - 7.5	5.5 - 7.5	6.5 - 7.5	4.5 - 7.5	5.5 - 7.5	5.5 - 7.5	5.5 - 7.5	5.5 - 7.5	5.0 - 7.5
Flooding T	olerance	Х		Х						Х	Х
Erodable A	veas	- X	X	X	Χ	Х	X	Χ	Х	Х	Х
Waterways Channels	and .	x		K		ş					
Shade Tole	erance			Х			Х			Х	
Foot Traff	ic	Х									
Playground Fields, Law	is, Athletic ns	х									a
Beautify							Х			Χ.	
Levels of	High				X						
Mainten- ance	Medium	X	X	Х	X		X		X	Х	Х
	Low					×	Х	X	x	Х	Х

TABLE 25 PERMANENT SEEDING FOR LOW MAINTENANCE AREAS

MIX	SEED MIX	PLA	NTING	SITE	USDA		RE	COMME	NDED PL	ANTING	DATES			FER	MLIZER R/	ATE)	Lave
	(USE CERTIFIED MATERIAL IF AVAILABLE)	LBS/AC.	LBS/1000 SQ.FT.	CONDITIONS	HARDI- NESS ZONES	3/1 - 5/15	3/15- 6/1	5/16- 8/14	6/2- 7/31	8/1 - 10/1	8/15- 10/15	8/15- 11/15		N	P205	K20	L8ME RAT
1	TALL FESCUE (75%),	150	3.4	MOIST TO DRY	5b		х			×			A				
	CANADA BLUEGRASS (10%), KENTUCKY BLUEGRASS (10%), REDTOP (5%)	4		*	60		х			х					\		
	REDTOP (SX)				6ь	х					х			ļ			
					7a	х						×					
					7b	х						×					
2	KENTUCKY BLUEGRASS (50%),	150	3.4	MOIST TO	5b		х			х			Β [*]	1		\ 	
	CREEPING RED FESCUE OR A HARD FESCUE (40%),			MODERATELY DRY TO DRY	6 a		×	<u> </u>		х							l
	REDTOP (10%)				бb	x					×			1			
3	TALL FESCUE (85%).	125	2.9	MOIST TO DRY	5b		х			х			С	1			
	PERENHAL RYEGRASS (102), KENTUCKY BLUEGRASS (5%)	125 15 10	2.9 .34 .23		60		X			x				15 % C	. / ACRE 1000 SF.)	. / ACRE 1000 SF.)	
					6ь	×					х			/ ACRE 1000 SF.	, §	000 04 0	TONS / ACRE
					7a	х					-	х		90 LBS. /	175 LBS. /	175 LBS. / 1	8
					7b	×			-			x		8 2 EB	175 4 LB	\$t	~
4	RED FESCUE OR	60	.92	MOIST TO DRY	5b		×		<u> </u>	×			D D	1 ~			
*	CHEWINGS FESCUE (80%) PERENNIAL RYEGRASS (20%)	60 15	.92 .34	MOIST TO DRI	60		×	 		×					,		l
		"			66	x	<u> </u>			<u> </u>	×						l
					5b	<u> </u>	×	-		х	<u> </u>		E	ł			\
5	TALL FESCUE (85%) OR PERENNIAL RYEGRASS (50%) PLUS CROWNVETCH OR	110 20 20	2.5 .46 .45	MOIST TO DRY	6 ₀		×	 -	 	×	 		_		l		
	FLATPEA	20	.46		6ь	×	<u> </u>			<u> </u>	X					1	l
		9				 	 -	-		 -		u					l
				*	7 a	X		-		<u> </u>		х		1			l
					7b	×						X	F	-			l
6	WEEPING LOVEGRASS (17%) SERECIA LESPEDEZA (83%	20		DRY TO VERY DRY	64	X		×					١.			 	l
					70	X		X	<u></u>		 				ì		l
	_				75	X		×						Į.			1
7	TALL FESCUE (83%) OR WEEPING LOVEGRASS (2%) PLUS	110 3	2.5 .07	DRY TO VERY DRY	5b		X		X	X			G			1	l
	SERECIA LESPEDEZA (15%)	20	.46		60	l	×	<u></u>	×	×							l
					6ь	×		X			X				1		ļ
					7a	×		×		<u> </u>		X					l
					7ь	×		X				×		ļ		1	l
8	REED CANARYGRASS (75%) REDTOP (6%) PLUS	40 3	.92 .07	WET TO MODERATELY	5b		×	<u> </u>		X			н				
	BIRDSFOOT TREEFOIL (19%)	10	.23	DRY	60		×			×	<u> </u>						
					6b	×					×						
					70	×	<u> </u>					X				\ 	
					7b	×				<u> </u>		×					
•	TALL FESCUE (85%) OR POA TRIVIALIS (7%)	125 10	2.9 229	WET TO MODERATELY	5b		×			×			ŝ		1		
	BIRDSFOOT TREEFOIL (7%)	iõ	.23	DRY	60		×			×	<u> </u>						
					6b	x	<u> </u>				×						
ю .	TALL FESCUE (80%)	120	3.4	WET TO DRY	5b		×			×			J				
	HARD FESCUE (20%)	30	.69		6a		×			х							
					6Ь	×					х						
					70	х						×	κ				
13	HARD FESCUE (900%)	75	1.7	WET TO DRY	5b		×			×			2				
					6 a		×			×							
					6b	×					х						
					70	×						×					
					7Ъ	x						х		,			

A - USED BY SHA ON SLOPED AREAS. ADD A LEGUME FOR SLOPES > 3:1.

USDA HARDINESS ZONE:

ZONE: 7A

B - USED IN MEDIAN AREAS BY SHA. SHADE TOLERANT.
C - POPULAR MIX - PRODUCES PERMANENT GROUNDCOVER QUICKLY. BLUEGRASS THICKENS STAND.

D - BEST USE ON SHADY SLOPES NOT ON POORLY DRAINED CLAYS.
E - USE ON LOW MAINTENANCE, STEEP SLOPES. USE TALL FESCUE IN DRAUGHTY COND. CROWN VETCH BEST FOR 5b, 6a, 6b. F - SUITABLE FOR SEEDING IN MID-SUMMER,

G - WEEPING LOVEGRASS MAY BE SEEDED WITH TALL FESCUE IN MID-SUMMER. SERECIA LESPEDEZA IS BEST SUITED FOR ZONES 70 AND 76. H - USE ON POORLY DRAINED SOILS, DITCHES OR WATERWAYS. BIRDSFOOT TREEFOILIS BEST FOR ZONES 56, 60 ABOVE 2,000 FT.

J - TALL FESCUE MAY BE SEEDED ALONG. THE HARD FESCUE PROVIDES BETTER SHADE TOLERANCE AND PRODUCES A BETTER STAND. K - LOW FERTILITY GRASS. REQUIRES INFREQUENT MOWING. GOOD COMPANION FOR WILD FLOWERS.

and the control of the

I- USE IN AREAS OF MOIST SHADE. POA TRIVIALIS THRIVES IN WET SHADY AREAS.

TABLE 26- TEMPORARY SEEDING RATES, DEPTHS, AND DATES (Hardiness Zone 7a)

	MINIMUM SEEDIN	G RATES 36	PLANTING		ŀ	IARDINES	s zon	NES 37	AND SE	EDING	DATES	58
SPECIES			DEPTH	7	a and	7b	N^-	6ь		$\sqrt{}$	Sa and	5b /
	PER ACRE	LBS/1000 SQ.FT.	INCHES	2/1- 4/30		8/15- 11/30	3X1- 4/3(0	5/1- 8/14		3 15· 5/§1	6/1- 7/31	8/1- 10//31
CHOOSE ONE: BARLEY OATS RYE ³⁹	2.5 BU.(122lbs) 3 BU.(96 lbs) 2.5 BU. (140lbs)	2.80 2.21 3.22	1-2 1-2 1-2	X X X	-	BY 10/15 - X	×××	\ - -	/BY /0/15 X	X X X	\ <u>-</u>	10/1 X
BARLEY OR RYE PLUS FOXTAIL MILLET ⁴⁰	150 lbs	3.45	1	X	X	10/15 X	X	X	10/ 1 5 X	X	X	10/1 X
WEEPING LOVEGRASS 41	4 lbs	09	1/4-1/2	-	Х	-	-/	×	\-		×	\-
ANNUAL RYEGRASS	50 lbs	1.15	1/4-1/2	×	-	11/1	1	_	11)	1	-	8/16
MILLET 42	50 lbs	1.15	1/2	-	Х	-	/-	Х	- \	/ -	х	- \

1. FERTILIZER RATE (10-10-10) SHALL BE 600 LB/AC (15 lb/1000 SF).
2. LIME RATE SHALL BE 2 TONS/Ac. (100 lb/1000 SF).

SEDIMENT CONTROL NOTES

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION.
- 2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL CONTROL AND REVISIONS THERETO.
- 3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDER DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B). 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- 4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- 5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND
- 6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

7. SITE ANALYSIS: TOTAL AREA OF SITE
TOTAL AREA OF SITE
TOTAL AREA DISTURBED
AREA TO BE ROOFED OR PAVED
AREA TO BE VEGETATIVELY STABILIZED
TOTAL CUT
TOTAL FILL

OFFSITE BORROW

5.53 ACRES 2.75 ACRES 1.60 ACRES 1.15 ACRES 2,000 CU.YDS. 14,000 CU.YDS.

meets Technical Requirements.

- 8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- 9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING, OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- 11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES ARE LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.



	MINIMUM SEED	MINIMUM SEEDING RATES 36			HARDINESS ZONES 37 AND SEEDING DATES 38								
SPECIES			DEPTH	7a and 7b		6b			6a and 5b /		5b /		
	PER ACRE	LBS/1000 SQ.FT.	INCHES	2/1- 4/30	5/1- 8/14	8/15- 11/30	3X1- 4/3(0	5/1- 8/14	8/18- 11/15	3 15· 5/ \$1	6/1- 7/31	8/1 / 10/31	
CHOOSE ONE: BARLEY OATS RYE ³⁹	2.5 BU.(122lbs) 3 BU.(96 lbs) 2.5 BU. (140lbs)	2.80 2.21 3.22	1-2 1-2 1-2	X X X	-	BY 10/15 - X	X X X	(-	/8Y /0/15 X	X X X	\ <u>-</u>	BY 10/1 X	
BARLEY OR RYE PLUS FOXTAIL MILLET*	150 lbs	3.45	1	X	X	10/15 X	X	X	10/ 1 5 X	X	X	10/1 X	
WEEPING LOVEGRASS 41	4 lbs	09	1/4-1/2		Х	-	-/	×	\-		×	\ <u>-</u>	
ANNUAL RYEGRASS	50 lbs	1.15	1/4-1/2	×	-	11/1	1	-	11)	1	-	8/16	
MILLET 42	50 lbs	1.15	1/2	-	х	-	/-	Х	- \	V-	Х	- \	

APPLICABLE ON SLOPES OF 3:1 OR FLATTER
REFER TO FIGURE A - ADOPTED FROM USDA, ARS MISCELLANEOUS PUBLICATION *1475, JANUARY 1990
BETWEEN FALL AND SPRING SEEDING DATES, USE MULCH ONLY IF GROUND IS FROZED AND RESEED WHEN THAWED
MAY BE USED AS A NURSE CROP FOR LATE FALL / EARLY WINTER PERMANENT SEEDINGS, ADD 56 LBS./AC.
TO THE PERMANENT SEEDING MIXTURE

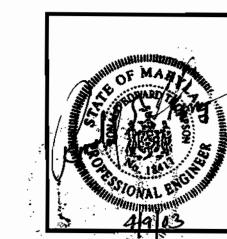
MARYLAND STATE HIGHWAY ADMINISTRATION TEMPORARY SEED MIX
MAY BE USED AS A NURSE CROP FOR MID-SUMMER PERMANENT SEEDINGS. ADD 2 LBS./AC. TO PERMANENT SEED MIX
MAY BE USED AS A NURSE CROP FOR MID-SUMMER PERMANENT SEEDINGS. ADD 10 LBS./AC.
TO THE PERMANENT SEEDING MIX. TO THE PERMANENT SEEDING MIX.

orated

ERIC \exists **UMBIA** EXTENDE

5/18/01

2787



3/21/02 Permit Submittal <u>Permit Clearance</u> Bid Issue Project No. AJC III Drawn By Checked By KTL REVISION

_aunch No. SA No.

NO. DATE

APPROVED: DEPT. OF PLANNING AND ZONING ENGINEER'S CERTIFICATE: "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." Signature of Engineer
Print name below signature RONALD 2. THOMPSON

DEVELOPER'S CERTIFICATE:

according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance

at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil

"I/We certify that all development and construction will be done

Address Chart Street Address 8550 Washington Blvd.

548 Permit Information Chart Subdivision Name Section/Area Parcel Α Columbia Junction Plat No. Block No. Zone Tax/Zone Elec. Dist. 15801-15808 1 B-2 Map 48 6th DATE:

Sewer Code

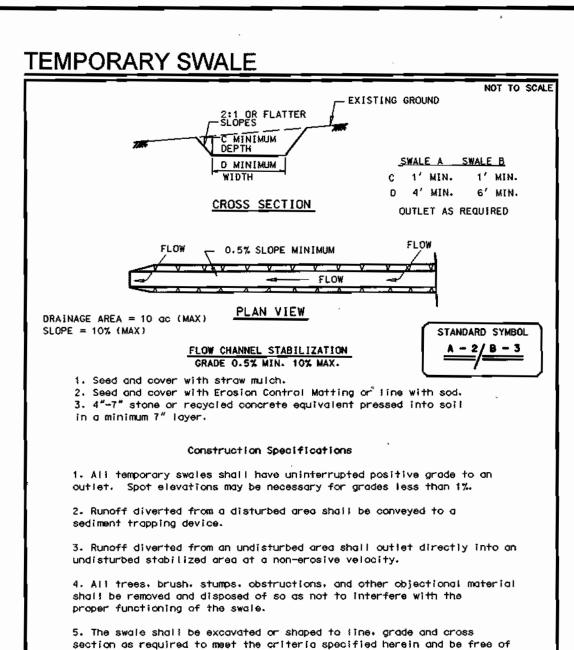
4250000

COLUMBIA JUNCTION SECTION 3- PARCEL 'A' (HOTEL) TAX MAP 48 - BLOCK 1
PARCELS 90, 91, 114 & 548
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

PROJECT:

SITE DEVELOPMENT PLAN **EROSION & SEDIMENT CONTROL**

NOTES MARCH 21, 2002 DRAWING NO. C-7.3 SCALE: DRAWING 15 OF 20



bank projections or other irregularities which will impede normal flow.

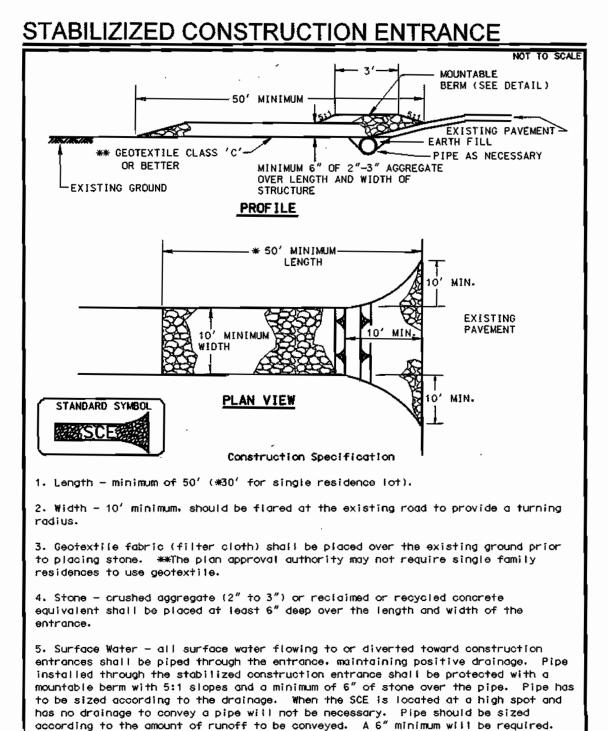
7. All earth removed and not needed for construction shall be placed so

8. Inspection and maintenance must be provided periodically and after

MARYLAND DEPARTMENT OF ENVIRONMEN WATER MANAGEMENT ADMINISTRATION

6. Fill, if necessary, shall be compacted by earth moving equipment

that it will not interfere with the functioning of the swale.



6. Location – A stabilized construction entrance shall be located at every point

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

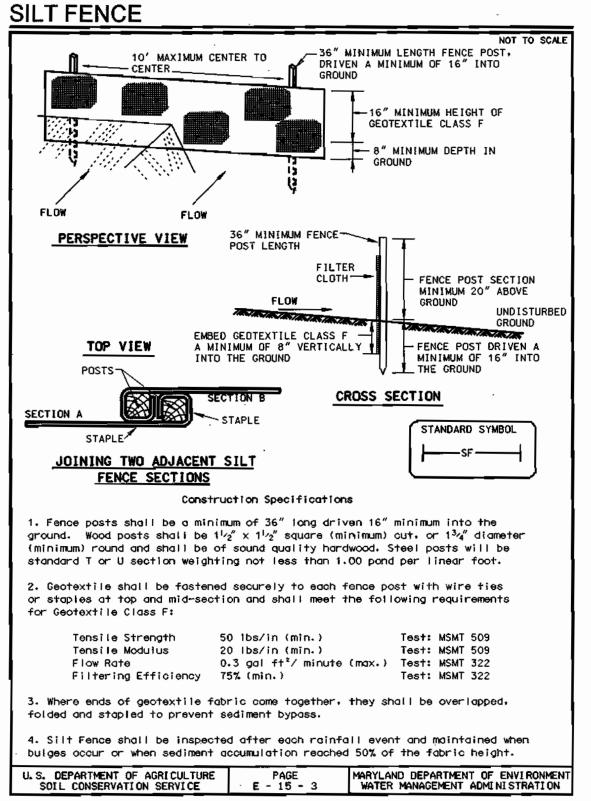
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

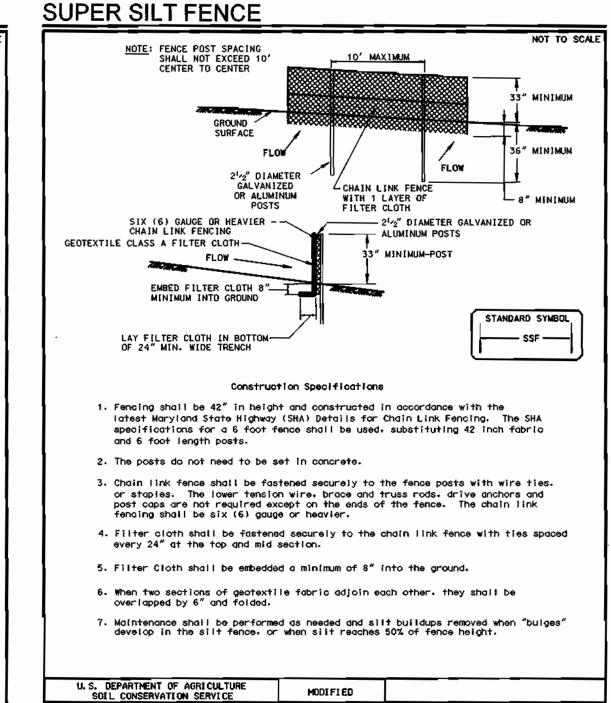
where construction traffic enters or leaves a construction site. Vehicles leaving

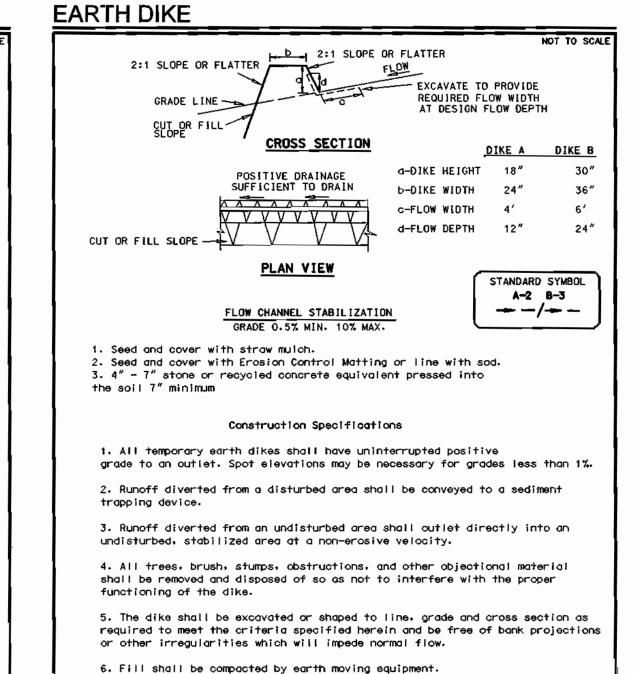
the site must travel over the entire length of the stabilized construction entrance.

PAGE MARYLAND DEPARTMENT OF ENVIRONMEN
F - 17 - 3 WATER MANAGEMENT ADMINISTRATION

MARYLAND DEPARTMENT OF ENVIRONMEN WATER MANAGEMENT ADMINISTRATION







7. All earth removed and not needed for construction shall be placed so that

8. Inspection and maintenance must be provided periodically and after

it will not interfere with the functioning of the dike.

each rain event.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

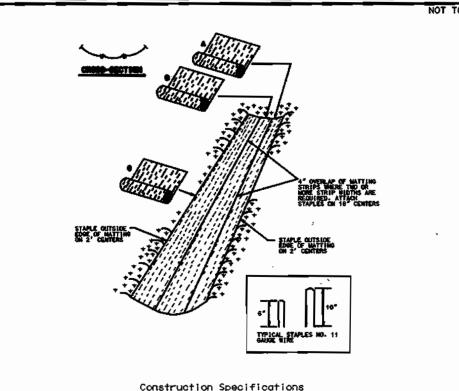


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each rain event.

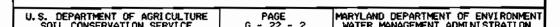
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

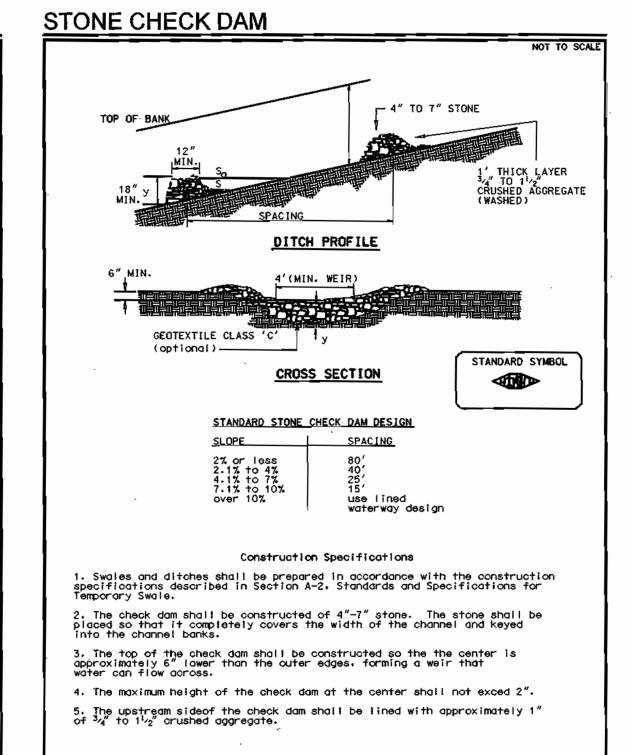


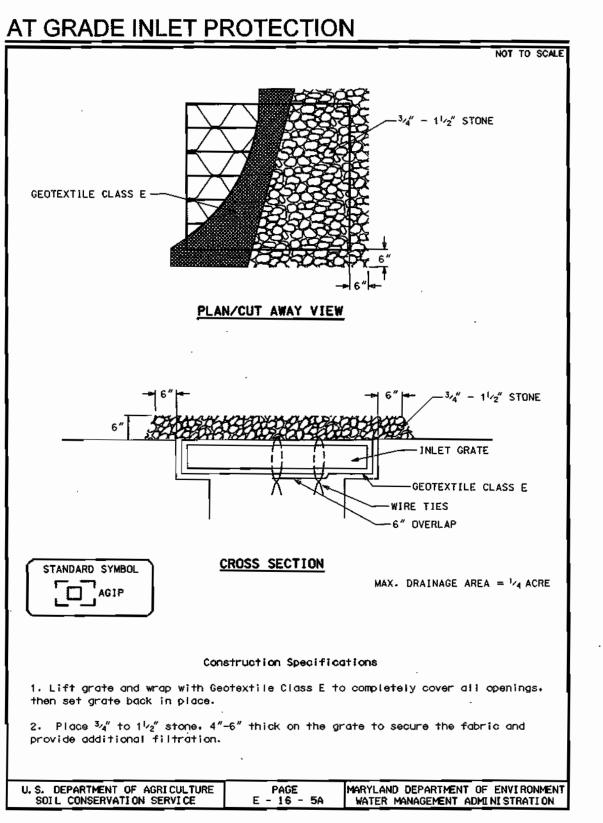
- 1. Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6". 2. Staple the 4" overlap in the channel center using an 18" spacing
- between staples. 3. Before stapling the outer edges of the matting, make sure the

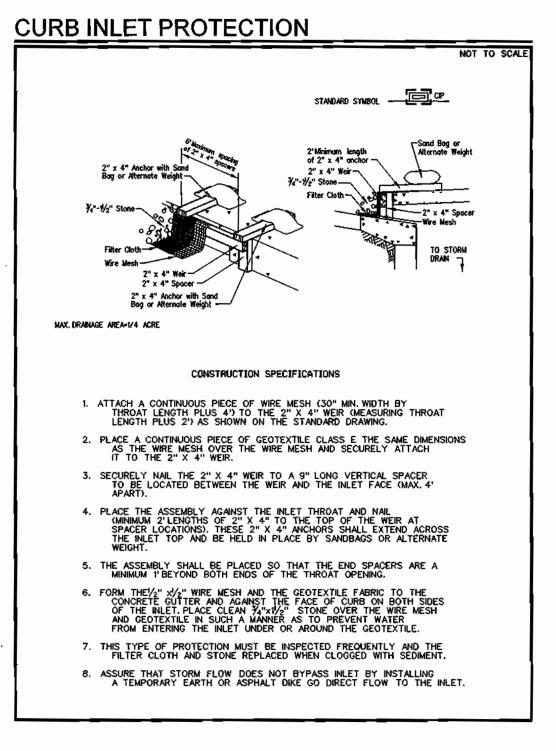
matting is smooth and in firm contact with the soil.

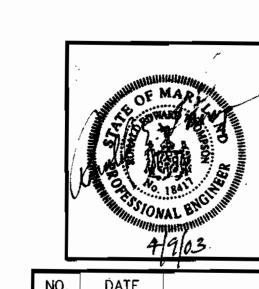
- 4. Staples shall be placed 2' apart with 4 rows for each strip. 2 outer rows, and 2 atternating rows down the center.
- 5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4". shiplap fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.
- 6. The discharge end of the matting liner should be similarly secured with 2 double rows of staples.
- Note: If flow will enter from the edge of the matting then the area





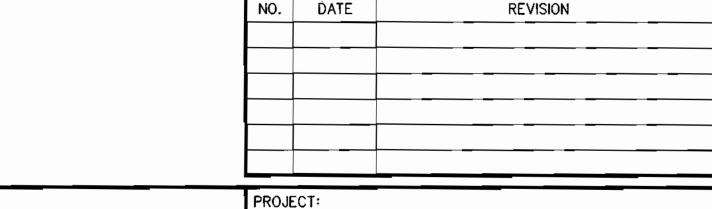


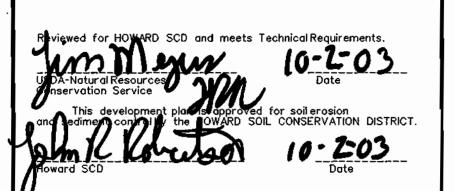


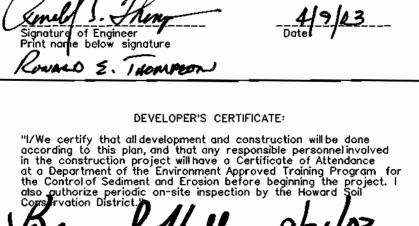


MARYLAND DEPARTMENT OF ENVIRONMEN
WATER MANAGEMENT ADMINISTRATION

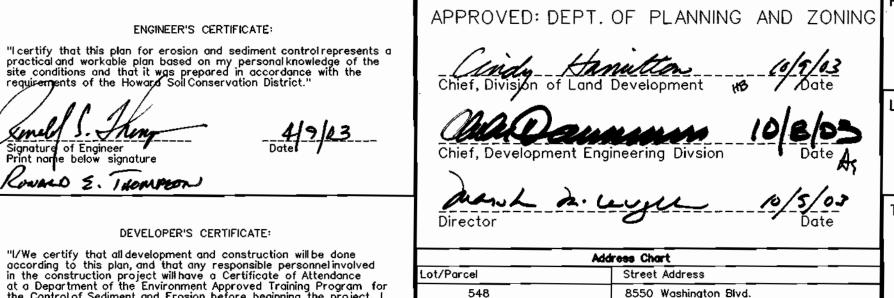
ESA No.	2787
Permit Submittal	3/21/02
Permit Clearance	
Bid Issue	
Project No.	10725
Drawn By	AJC III
Checked By	KTL
REVISION	
10101	







ENGINEER'S CERTIFICATE:



Chief, Development E			Date A		
Director	aga	==	/ o/5/03 Date	TITLE	(
	Address Chart			1	_
Lot/Parcel		1 ER	C		
548	8550 Wash	hington Blvd.			
Peri	nit Information Cl	hert			
Subdivision Name Columbia Junction	Sect	ion/Area 3	Parcel A		_
Plat No. Block No. Zon 15807 - 15808 1 B-2	11	Elec. Dist. 6th	Census Tract 6069.01	DATE:	
Water Code B-03	+0	Code	60000	SCALE	:

TAX MAP 48 - BLOCK 1 PARCELS 90, 91, 114 & 548 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SITE DEVELOPMENT PLAN ROSION & SEDIMENT CONTROL **DETAILS**

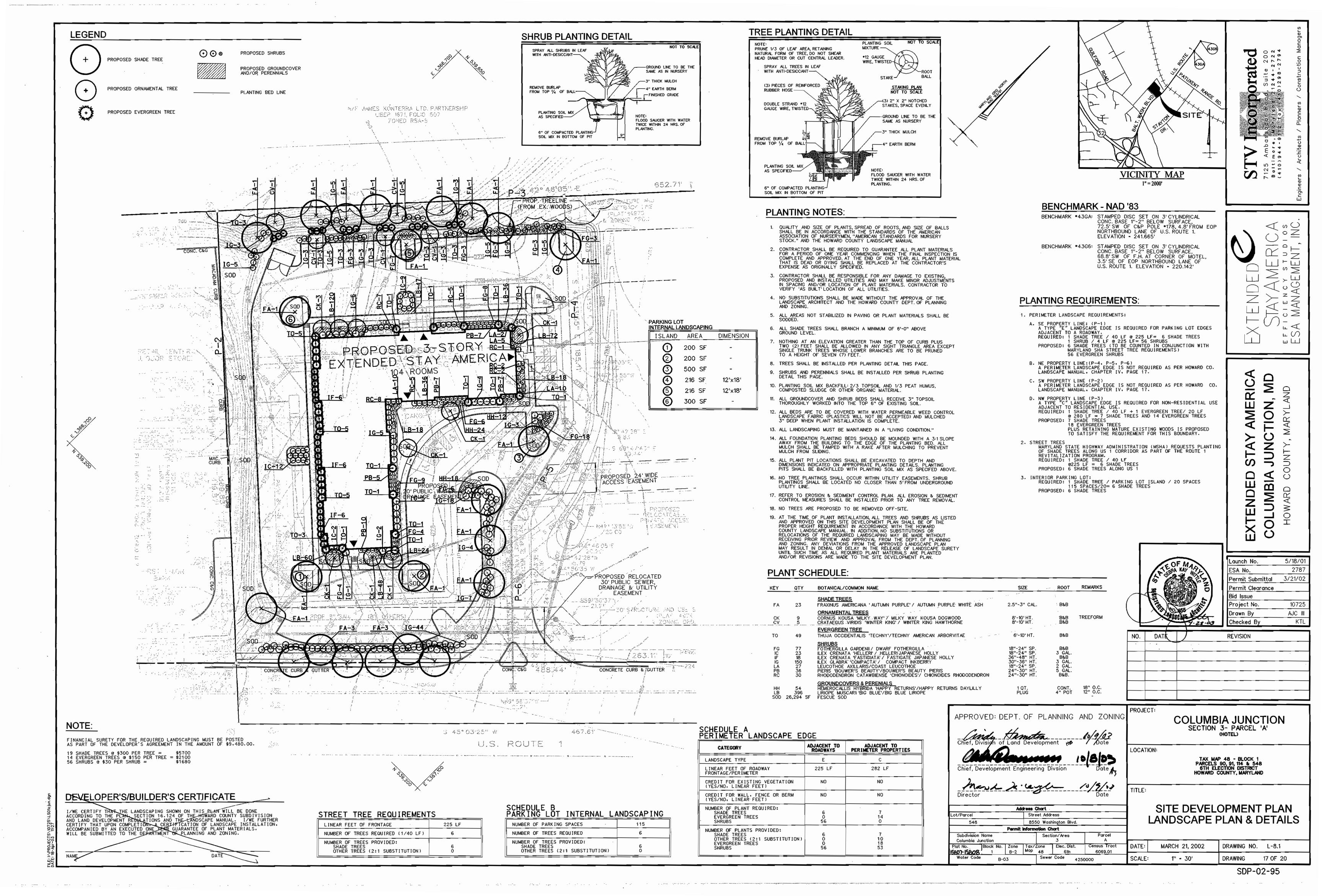
MARCH 21, 2002 DRAWING NO. C-7.4 DRAWING 16 OF 20 AS SHOWN

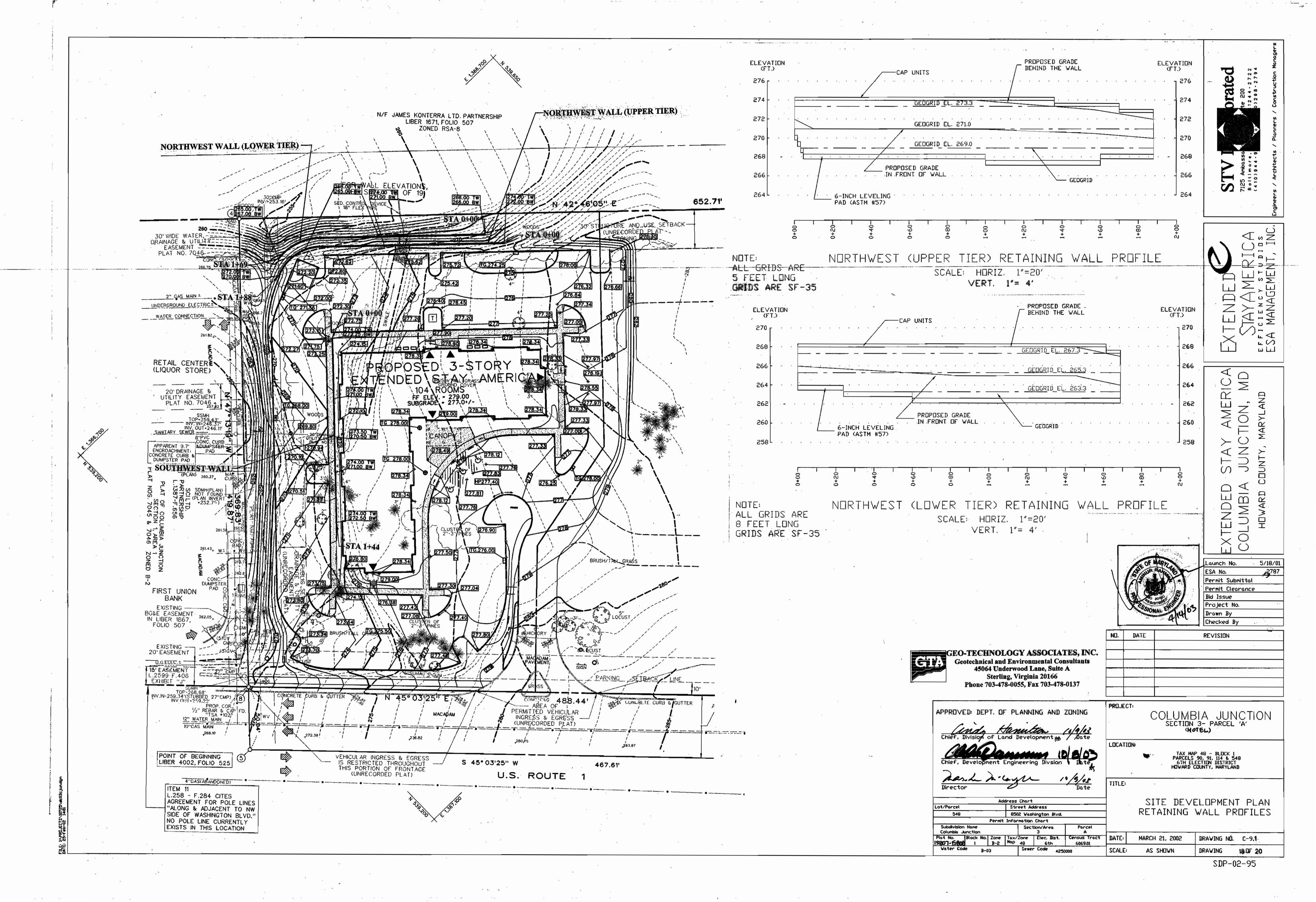
COLUMBIA JUNCTION

SECTION 3- PARCEL 'A'

SDP-02-95

X Launch No.





-6" X 36" LEVELING PAD (ASTM #57) ILTER FABRIC (MIRAFI 140N □R

-SEE PROFILE FOR

GEOGRID LENGTH

— 12" DRAINAGE FILL (ASTM #57) -APPROXIMATE EXCAVATION LINE

& LOCATION

"DAYLIGHT" TO GRADE AT END OF WALL — EXISTING AND -6" X 36" LEVELING PAD (ASTM #57) PROPOSED GRADE IN FRONT OF WALL

TYPICAL REINFORCED SECTION FOR TIERED RETAINING WALL

4-INCH DIAM, PERFORATED PVC PIPE

NOTE: FOR GRID TYPE AND LENGTH REFER TO WALL PROFILE.

KEYSTONE -

STANDARD

UNIT

EQUIVALENT) —

ESA COLUMBIA JUNCTION SEGMENTAL RETAINING WALL SPECIFICATIONS

1.1 Work includes furnishing and installing Modular block retaining wall units to the lines and grades designated on the construction drawings and as specified herein.

REFERENCE STANDARDS

- ASTM C90-75 (1981 rev) Hollow Load Bearing Masonry Units ASTM C140-75 (1981 rev) - Sampling and Testing Concrete
- ASTM C145-75 (1981 rev) Solid Load Bearing Concrete Masonry Units

DELIVERY, STORAGE AND HANDLING

- Contractor should check the materials upon delivery to assure that proper material has been received. Contractor should prevent excessive mud, wet cement, epoxy, and like materials which may affix themselves,
- from coming in contact with the materials. Contractor should protect the materials from damage. Damaged material should not be incorporated into the

PART 2 RETAINING WALL

- Masonry units should be Keystone Retaining Wall Standard Units as indicated on the drawings. Concrete wall units should have a minimum 28 day compressive strength of 3,000 psi, in accordance with ASTM C-90. The concrete should have adequate freeze/thaw protection with a maximum
- moisture absorption of 6 to 8 percent. Exterior dimensions may vary. Units are required to have a minimum of one square foot of face area
- Units should have angled sides and capable of attaining concave and convex alignment curves in accordance with manufacturer's recommendations
- Units should be interlocked with non-corrosive reinforced fiberglass pins Units should be interlocked as to provide a maximum of 1-inch of setback per course of wall height.

Thermoset isopthalic polyester resin pultruded fiberglass reinforcements rods (1/2" dia.). Pins should have a minimum flexural strength of 128,000 psi and short beam shear of 6,400 psi.

Material for footing should consist of compacted free-draining coarse aggregates meeting the requirements of ASTM #57 Crushed Stone aggregate (see 2.2, C.2 below). A minimum of 6 inches deep and 36 inches wide compacted base is required. The base materials should be approved by a Maryland Registered Professional Engineer.

D. Reinforced Backfill

Reinferced backfill soils behind the wall must be "select fill" meeting the requirements of AASHTO A-2-4 or more granular and have a friction angle of at least 30 degrees. The materials should be compacted and be approved by a Maryland Registered Professional Engineer.

2.2 RETAINING WALL INSTALLATION

The owner's contractor should excavate to the lines and grades shown on the construction drawings. Under no circumstances should the excavation lines and grades be exceeded, except with owner's approval. The contractor should protect the excavation from sloughing by placing a membrane over the face of the excavation.

- Foundation soil should be excavated as required for footing dimensions shown on the construction drawings, or as directed by the Engineer.
- Foundation soil should be examined by the Engineer to assure that the actual foundation soil strength meets or exceeds assumed design strength. Soils not meeting required strength should be removed and replaced with controlled, compacted material.
- Foundation soil should be examined by the Engineer to assure that it consists of natural material, or controlled, compacted fill. Existing fill is not considered adequate for direct foundation support.

 Over-excavated areas should be filled with select material and compacted to 95 percent of maximum dry density in accordance with the Modified Proctor, ASTM D-1557.
- Bearing capacity for natural and controlled, compacted fill soils should be at least 2,500 psf for the

- The leveling pad footing should be placed as shown on the construction drawings with a minimum thickness of 6 inches. The leveling pad material should consist of crushed stone meeting the gradation requirements for ASTM #57 crushed stone or as approved by a registered professional geotechnical
- Leveling pad footing materials should be installed upon undisturbed in-situ soils or controlled,
- Material should be compacted so as to provide a level hard surface on which to place the first course of units. Compaction should be with mechanical plate compactors to 95 percent of ASTM D-1557
- Footing should be prepared to insure complete contact of retaining wall unit with base. Gaps should

EXISTING GRADE

- First course of concrete wall units should be placed on the footing. The units should be checked for level and alignment. The first course is the most important to insure accurate and acceptable fesults. Insure that units are in full contact with base.
- Units are placed side by side for full length of wall alignment. Alignment may be done by means of a string line or offset from base line. Install fiberglass connector.
- Lay up each course insuring that the connector pins are inserted through front slot of the unit, and into the receiving slot in the course beneath. Repeat procedure to the extent of wall height. At the end of each course where the wall changes elevation, units should be turned into the backfill.

 Units should be laid as to create the minimum radius possible. A minimum of 2 feet or as shown on the drawings should be installed into the grade. Only the front face of the units should be visible from
- the side of the well. Keystone Standard Units should be used to make convex and concave curves in accordance with
- Cap units should be installed and bonded with construction adhesive or epoxy coment as required by
- Contractor should provide positive drainage for the back of the retaining wall during construction.

GEOGRID WALL REINFORCEMENT

PART I GENERAL

Work includes furnishing and installing geogrid reinforcement, wall fill, and backfill to the lines and grades designated on the construction drawings. Also included is the furnishings and installing all appurtenant materials required for construction of the geogrid reinforced soil retaining wall as shown on the construction drawings.

1.2 REFERENCE STANDARDS

- ASTM D 638 Test Method for Tensile Properties of Plastic
 ASTM D 1248 Specification of Polyethylene Plastics Molding and Extrusion Materials
 ASTM D 4218 Test Method for Carbon Black Content in Polyethylene Compounds by the Muffle Furnace
- ASTM D 1785 Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 20, 40, 80 and 120

DELIVERY STORAGE AND HANDLING

GEOGRID

- Contractor should check the geogrid upon delivery to assure that the proper material has been received. Geogrids should be stored above -20 degrees F.
- Contractor should prevent excessive mud, wet cement, epoxy and like materials which may affix themselves to the grid-work, from coming in contact with the geogrid.
- Maximum geogrid spacing should be 1.33 feet or as shown on the drawings.

PART 2 MATERIALS

2.1 DEFINITIONS

- Geogrid is a soil reinforcement grid, used in reinforced zone. Concrete retaining wall units are as detailed on the drawings and are specified under PART 2-2.1-A Concrete
- Backfill is the soil which is used as fill for the reinforced soil mass. Foundation soil is the in-situ soil or compacted fill at foundation level.

2.2 PRODUCTS

3.1 FOUNDATION SOIL PREPARATION

A. Geogrid should be Synteen SF35 or equivalent as approved by GTA.

PART 3 EXECUTION

- The wall excavation should be performed as shown on the drawings.

 Foundation soil should be proof-rolled prior to fill and geogrid placement.
- Foundation soil should be excavated to the lines and grades as shown or as directed by the Engineer.
- Foundation soil must be examined by the Engineer to assure that the actual foundation soil strength meets or exceeds assumed design strength.
- Over-excavated areas should be filled with compacted granular material.

3.2 GEOGRID INSTALLATION FOR RETAINING WALLS

- The geogrid soil reinforcement should be laid horizontally on compacted backfill, connected to the concrete wall units. Hook grid over the fiberglass connector, pull taut, and anchor before backfill is placed on the geogrid.
- Slack in the geogrid at the wall unit connections should be removed in a manner, and to such a degree, as approved by the Engineer. Geogrid should be laid at the proper elevation and orientation as shown on the construction drawings or as
- directed by the Engineer.
- Correct orientation (roll direction) of the geogrid should be verified by the Contractor. Geogrid should be secured in-place with staples, pins, sand bags, or backfill as required by fill properties, fill
- placement procedures, or weather conditions, or as directed by the Engineer.
- Uniaxial geogrid does not need to be overlapped in the across the roll direction, except to contain the fill at the slope face when wrap-around facing is used. Uniaxial grid should be overlapped a minimum of 48 inches in the roll direction, or as directed by the engineer.
 - A layer of soil a minimum of 4 inches in thickness should be spread between uniaxial geogrid layers in the area to be overlapped, or as directed.

FILL PLACEMENT

- Wall backfill material should be placed in 6-inch lifts and compacted to 95 percent of ASTM D-1557 (Modified
- Backfill should be placed, spread, and compacted in such a manner that minimizes the development of wrinkles
- in and/or movement of the geogrid. Only hand-operated compaction equipment should be allowed within 4 feet of the wall face.
- Backfill should be placed from the wall outward to insure that the geogrid remains taut.
- Tracked construction equipment should not be operated behind or above the wall. Rubber-tired equipment may pass over the geogrid reinforcement at slow speeds, less than 10 MPH. Sudden braking and sharp turning should be avoided.

DRAINAGE

- Drainage fill should be placed behind the wall to the limits shown. The drainage fill should be a minimum of 12 inches. The drainage fill should be ASTM #57 stone. The drainage fill should be wrapped in filter fabric (Mirafi 140N or equal) as shown on the drawings.
- Positive drainage should be maintained during and after construction. Soils within the reinforced zone that become wet during construction should be dried to optimum moisture or removed.

GENERAL NOTES

- The required leveling pad subgrade bearing capacity should be certified by a Maryland Registered Professional
- Geotechnical Engineer prior to footing placement. Construction of retaining wall should be performed under the observations of a Maryland Registered Professional Engineer. Conformance testing should be performed to verify material engineering properties. Upon completion of the work, the engineer should submit a signed and sealed report stating that the retaining wall was constructed in accordance with the plans, specifications, and accepted modifications (if applicable).

PART II DESIGN CRITERIA

GTA

- Required bearing capacity is 2,500 psf, minimum Design $\Phi = 30$ degrees
- Design unit weight = 125 pcf.

PART I CONSTRUCTION CERTIFICATION

Soils utilized for fill material behind the wall meeting AASHTO A-2-4 or more granular. Retaining wall was not designed to resist hydrostatic pressure.

GEO-TECHNOLOGY ASSOCIATES, INC.

Geotechnical and Environmental Consultants

45064 Underwood Lane, Suite A

Sterling, Virginia 20166

Phone 703-478-0055, Fax 703-478-0137

Construction will be monitored by a professional engineer.



5/18/01 Launch No. 2787 ESA No. Permit Submittal Permit Clearance Bid-Issue Project No. Brawn By

		Checked By
ND.	DATE	REVISION
-		

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APPROVED: DEPT. OF Chief, Division of Land	ent ia	ZONING ///9/03 // Date	PREJECT	COLUME SECTION	BIA JUNCTION 3- PARCEL 'A'
Chief, Development En	ngineering Divsion	10 8 03 10/5/02	LOCATION	TAX MAI PARCELS 6TH ELI	P 48 - BLECK 1 90, 91, 114 & 548 ECTIEN DISTRICT CHUNTY, MARYLAND
Director		Date	TITLE		
	ess Chart			SITE DEVE	ELOPMENT PLAN
.ot/Parcel	Street Address				• • • • • • • • • • • • • • • • • • • •
548	8502 Washington Blvd.			RETAINING	WALL DETAILS
Permit Ir	oformation Chart				
Subdivision Name Columbia Junction	Section/Area 3	Parcel A			<u> </u>
	ax/Zone Elec. Dist. ap 48 6th	Census Tract 6069.01	DATE:	MARCH 21, 2002	DRAVING NO. C-9.2
Water Code B-03	Sewer Code 4250	0000	SCALE:	NVDH2 2A	DRAWING 19 DF 20

SDP-02-95

19 OF **20**

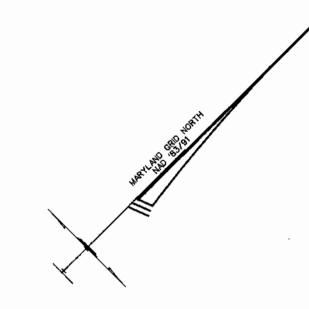
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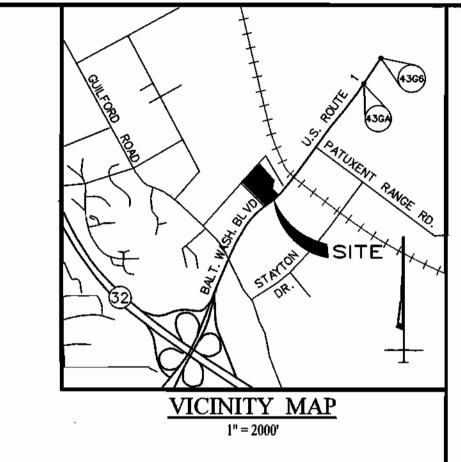
SC. D HeH

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BENCHMARK - NAD '83

BENCHMARK *43GA: STAMPED DISC SET ON 3' CYLINDRICAL CONC. BASE 1"-2" BELOW SURFACE, 72.5' SW OF C&P POLE *178, 4.8' FROM EOP NORTHBOUND LANE OF U.S. ROUTE 1. ELEVATION - 241.665'

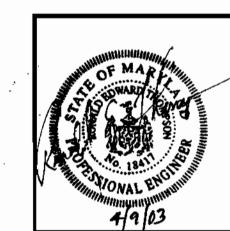
BENCHMARK *43G6: STAMPED DISC SET ON 3'CYLINDRICAL CONC. BASE 1"-2" BELOW SURFACE, 68.8'SW OF F.H. AT CORNER OF MOTEL, 3.5'SE OF EOP NORTHBOUND LANE OF U.S. ROUTE 1. ELEVATION = 220.142'

TRAFFIC NOTES:

- T-1 INSTALL "NO LEFT TURN" (R3-2) GRAPHIC TRAFFIC SIGN PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND HOWARD COUNTY DESIGN MANUAL VOL. 3.
- T-2 INSTALL STANDARD STOP SIGN (R1-1) WITH "RIGHT TURN ONLY" SIGN (R3-3(4)) MOUNTED BELOW STOP SIGN PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND HOWARD COUNTY DESIGN MANUAL VOL. 3.
- T-3 INSTALL TRAFFIC DIRECTIONAL SIGNAGE (M4-5, M3-1 or M3-3, M1-4 AND M6-1 or M6-3) PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND HOWARD COUNTY DESIGN MAUNAL VOL. 3.
- T-4 INSTALL TRAFFIC DIRECTIONAL SIGNAGE (M4-3, M 1-4 AND M 6-1) APPROX. 100 FT. FROM INTERSECTION OF ACCESS EASEMENT AND ROAD ALIGNMENT OF JUNCTION DR. PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND HOWARD COUNTY DESIGN MAUNAL VOL. 3.

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MD **AMERIC** EXTENDED COLUMBIA

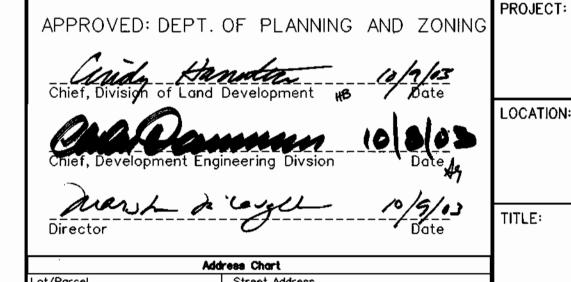


Permit Clearance								
	Bid Issue							
	Project No. 10725							
	Drawn By	AJC III						
	Checked By KTL							
	551491911							
	REVISION							
	REVISION							
	REVISION							

Permit Submittal 3/21/02

Launch No.

NO.	DATE	REVISION
		<u> </u>
		_



ot/Parcel Street Address 8550 Washington Blvd. **Permit Information Chart** Subdivision Name Columbia Junction
 Plat No.
 Block No.
 Zone
 Tax/Zone
 Elec. Dist.

 15807 - 15908
 1
 B-2
 Map 48
 6th
 Census Tract 6069.01

COLUMBIA JUNCTION
SECTION 3- PARCEL 'A'
(HOTEL)

TAX MAP 48 - BLOCK 1
PARCELS 90, 91, 114 & 548
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SITE DEVELOPMENT PLAN TRAFFIC PLAN

DATE: MARCH 21, 2002 DRAWING NO. C-2.1 DRAWING 20 OF 20 SCALE: 1" - 30'

