SITE DEVELOPMENT PLAN

HOWARD SQUARE

PHASE 8 & 9, PARCEL B, APARTMENT & RETAIL BUILDINGS

GENERAL NOTES:

1. THIS PLAN IS SUBJECT TO COUNTY COUNCIL BILL 45–2003, THE AMENDED 5th EDITION SUBDIVISION REGULATIONS, EFFECTIVE OCTOBER 2, 2003.
2. THE SUBJECT PROPERTY IS ZONED CAC–CLI PER THE 2/2/04 COMPREHENSIVE ZONING PLAN & "COMP LITE" ZONING AMENDMENTS EFFECTIVE 7/28/06.
3. STORM DRAIN REPORT AND STORMWATER MANAGEMENT REPORTS PROVIDED BY MILDENBERG, BOENDER & ASSOC., INC. APPROVED AS PART OF THIS PLAN SUBMISSION AND F–08–013 (12/22/2008) RESPECTIVELY. A SUPPLEMENTAL SWM WQ#2 REPORT WAS SUBMITTED AND APPROVED UNDER A REDLINE REVISION TO F–08–013. THE UGSWMF#2 WILL BE BUILT UNDER F–08–013.
4. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAM(S) OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.
5. TOPOGRAPHIC INFORMATION IS BASED ON AERIAL RUN TOPOGRAPHY PERFORMED BY WINGS TOPOGRAPHY INC. ON OR ABOUT APRIL 2005, COMPLIMENTED WITH FIELD RUN TOPOGRAPHY PERFORMED BY MILDENBERG, BOENDER & ASSOC. ON OR ABOUT JUNE 2007, AND BENCHMARK ENGINEERING, INC. ON OR ABOUT FEBRUARY 2015, SHOWN AT 2' CONTOUR INTERVALS
6. COORDINATES BASED ON NAD'83 MARYLAND COORDINATES SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 37GD, 43A1, AND 43BC:
   STA. 37GD N 553,237.2140 E 1,372,353.6000 EL.290.95
   STA. 43BC N 549,592.0910 E 1,375,466.6200 EL.214.87
7. BOUNDARY INFORMATION IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT MARCH, 2005 BY MILDENBERG, BOENDER AND ASSOCIATES, INC. AND SHOWN ON PLATS #24081–24082 (F–15–081).
8. THE NOISE STUDY WAS PREPARED BY MILDENBERG, BOENDER AND ASSOCIATES ON OR ABOUT FEBRUARY 2008.
9. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.
10. POSTING OF SURETY FOR THE REQUIRED LANDSCAPING IN ACCORDANCE WITH SECTION 16.124 OF THE LANDSCAPE MANUAL IN THE AMOUNT OF: $60,810 FOR 167 SHADE TREES, 37 EVERGREEN TREES, 172 SHRUBS AND 0 LINEAR FEET OF FENCING. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE GRADING PERMIT. SURETY IN THE AMOUNT OF $17,100 FOR THE PUBLIC STREET TREES SHALL BE INCLUDED IN DED'S COST ESTIMATE.
11. BASED ON AVAILABLE COUNTY DATA, NO HISTORIC STRUCTURES OR BURIAL GROUNDS EXIST ON SITE.
12. SOILS DATA BASED ON HOWARD COUNTY SOIL SURVEY DATED 1968, SHEET 20.
13. PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. PUBLIC WATER & SEWER WILL BE UTILIZED, CONNECTING TO EXISTING CONTRACT #14–4554–D.
14. THERE ARE NO EXISTING STRUCTURES LOCATED WITHIN THE LOD OF PARCEL B.
15. NO STEEP SLOPES EXIST ON SITE.
16. THE FOREST CONSERVATION REQUIREMENTS WERE SATISFIED UNDER SDP–08–046 AND F–09–007.
17. TRAFFIC DEVICES, MARKING AND SIGNING SHALL BE IN ACCORDANCE WITH LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ASPHALT.
18. TRAFFIC CONTROL DEVICES:
    a) THE R1–1 ("STOP") SIGN AND THE STREET NAME SIGN(SNS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED.
    b) THE TRAFFIC CONTROL DEVICES LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410–313–2430) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
    c) ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES"(MdMUTCD).
    d) ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT–OF–WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED (QUICK PUNCH), SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2–1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) –3' LONG. THE ANCHOR SHALL NOT EXTEND MORE THAT TWO "QUICK PUNCH" HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLL CAP SHALL BE MOUNTED ON TOP OF EACH POST.
19. STORMWATER MANAGEMENT QUANTITY REQUIREMENTS WERE SATISFIED UNDER F–08–013, IN ACCORDANCE WITH THE 2000 MARYLAND SWM DESIGN MANUAL. SWM QUALITY IS BEING PROVIDED VIA PRIVATELY OWNED & MAINTAINED UNDERGROUND STORMWATER MANAGEMENT FACILITY #2 (F–08–013) TO BE INSTALLED DURING PHASE 7 (SDP–15–036) CONSTRUCTION.
20. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS & SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS & SPECIFICATIONS AS APPLICABLE.
21. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313–1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
22. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1–800–257–7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
23. ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
24. MIHUs WILL BE PROVIDED IN ACCORDANCE WITH THE ZONING REGULATIONS PER APPROVED S–08–046. MIHUs REQUIRED 23.6% x 344 UNITS = 81 MIHUs. THIS IS REDUCED TO 78 MIHUs AS A RESULT OF A PORTION OF THE PROPERTY WAS INITIALLY ZONED COMMERCIAL AND TOTAL PROJECT MIHUs PREVIOUSLY PROVIDED. SEE ALLOCATION CHART & MIHU CHART ON THIS SHEET.
25. TRASH REMOVAL WILL BE PRIVATE.
26. THE 65dBA NOISE CONTOUR LINE DRAWN ON THIS DEVELOPMENT PLAN IS ADVISORY AS REQUIRED BY THE HOWARD COUNTY DESIGN MANUAL, CHAPTER 5, REVISED FEBRUARY 1992, AND CANNOT BE CONSIDERED TO EXACTLY LOCATE THE 65dBA NOISE EXPOSURE. THE 65dBA NOISE LINE WAS ESTABLISHED BY HOWARD COUNTY TO ALERT DEVELOPERS, BUILDERS AND FUTURE RESIDENTS THAT AREAS BEYOND THIS THRESHOLD MAY EXCEED GENERALLY ACCEPTED NOISE LEVELS ESTABLISHED BY THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.
27. LIGHT TRESPASS ONTO ANY PROPERTY ZONED OR USED FOR RESIDENTIAL PURPOSES SHALL NOT EXCEED 0.5 FOOT CANDLES
28. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)". A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
29. THERE IS NO FLOOD PLAIN WITHIN THE LOD OF THIS PLAN.
30. THE ORIGINAL WETLAND DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY ECO–SCIENCE PROFESSIONALS, INC. DATED MAY 15, 2007, AND APPROVED UNDER F–08–013; THESE FINDINGS WERE VERIFIED BY HILLIS–CARNES ENGINEERING ASSOCIATES, INC. IN A LETTER DATED SEPTEMBER 3, 2015, THERE ARE NO WETLANDS WITHIN THE LOD OF THIS PLAN.
31. THE APFO STUDY FOR THIS PROJECT WAS PREPARED BY THE TRAFFIC GROUP DATED NOVEMBER, 2006 AND APPROVED UNDER S–06–010 ON JUNE, 2007. NO NEW APFO STUDY IS REQUIRED FOR THIS PROJECT.
32. PER SECTION 127.5.D.4. OF THE 2006 ZONING REGULATIONS THE FOLLOWING SETBACKS ARE REQUIRED AND ABIDED BY:
    A. MINIMUM SETBACKS FROM THE PUBLIC STREET RIGHT–OF–WAY
       1. PRINCIPAL STRUCTURES AND AMENITY AREAS 0 FEET
       2. ALL OTHER STRUCTURES AND USES 0 FEET
       FROM ROUTE 1 (INTERMEDIATE ARTERIAL)
       1. PRINCIPAL STRUCTURES 10 FEET
       2. ALL OTHER STRUCTURE AND USES (EXCEPT SURF. PARK.) 0 FEET
       3. SURFACE PARKING 10 FEET
    B. MINIMUM SETBACKS FROM VICINAL PROPERTIES
       1. FROM RESIDENTIAL DISTRICTS:
          A. NON RESIDENTIAL STRUCTURES AND ASSOCIATED USES 30 FEET
          B. STRUCTURES CONTAINING RESIDENCES AND ASSOCIATED USES 20 FEET
       2. FROM ALL OTHER ZONING DISTRICT:
          ALL STRUCTURES AND USES 0 FEET
       3. IF A RESIDENTIAL DISTRICT IS SEPARATED FROM THE CAC DISTRICT BY A PUBLIC STREET RIGHT OF WAY, ONLY THE SETBACKS FROM A PUBLIC STREET RIGHT OF WAY SHALL APPLY.
    C. MAXIMUM STRUCTURE SETBACK FROM PUBLIC STREET RIGHT OF WAY
       1. AS PROVIDED IN THE ROUTE 1 MANUAL, THE BUILDING FACADE CLOSEST TO A PUBLIC STREET SHOULD BE LOCATED NO MORE THAN 10 FEET FROM THE EDGE OF THE PUBLIC STREET RIGHT OF WAY UNLESS TOPOGRAPHY, UTILITIES OR OTHER PHYSICAL CONSTRAINTS MAKE A GREATER SETBACK NECESSARY. THIS 10–FOOT SETBACK MAY BE INCREASED WITHOUT A VARIANCE IN ACCORDANCE WITH THE ROUTE 1 MANUAL.
33. PARKING IS BEING PROVIDED WITHIN THE INTERNAL PARKING GARAGE OF BUILDING A AND THE PARKING GARAGE FOR BUILDING B AT 1.8 SPACES/UNIT PER THE PARKING DEMAND REPORT, WHICH INCLUDES OVERFLOW CALCULATIONS, PREPARED BY THE TRAFFIC GROUP AND APPROVED BY THE PLANNING DIRECTOR ON OCTOBER 27, 2015. ON JULY 7, 2016 THE PLANNING DIRECTOR APPROVED THE REVISED "PARKING DEMAND ANALYSIS" DATED JUNE 10, 2016.
34. KNOX BOX SHALL BE PLACED ON THE FRONT OF ALL BUILDINGS NO MORE THAN 6' TO THE RIGHT OF THE MAIN ENTRANCE AT A HEIGHT OF 4–5'. IT SHALL BE ELECTRONICALLY SUPERVISED TO NOTIFY THE OWNER THAT IT IS BEING ACCESSED (INTEGRATED WITH THE FIRE ALARM SYSTEM).

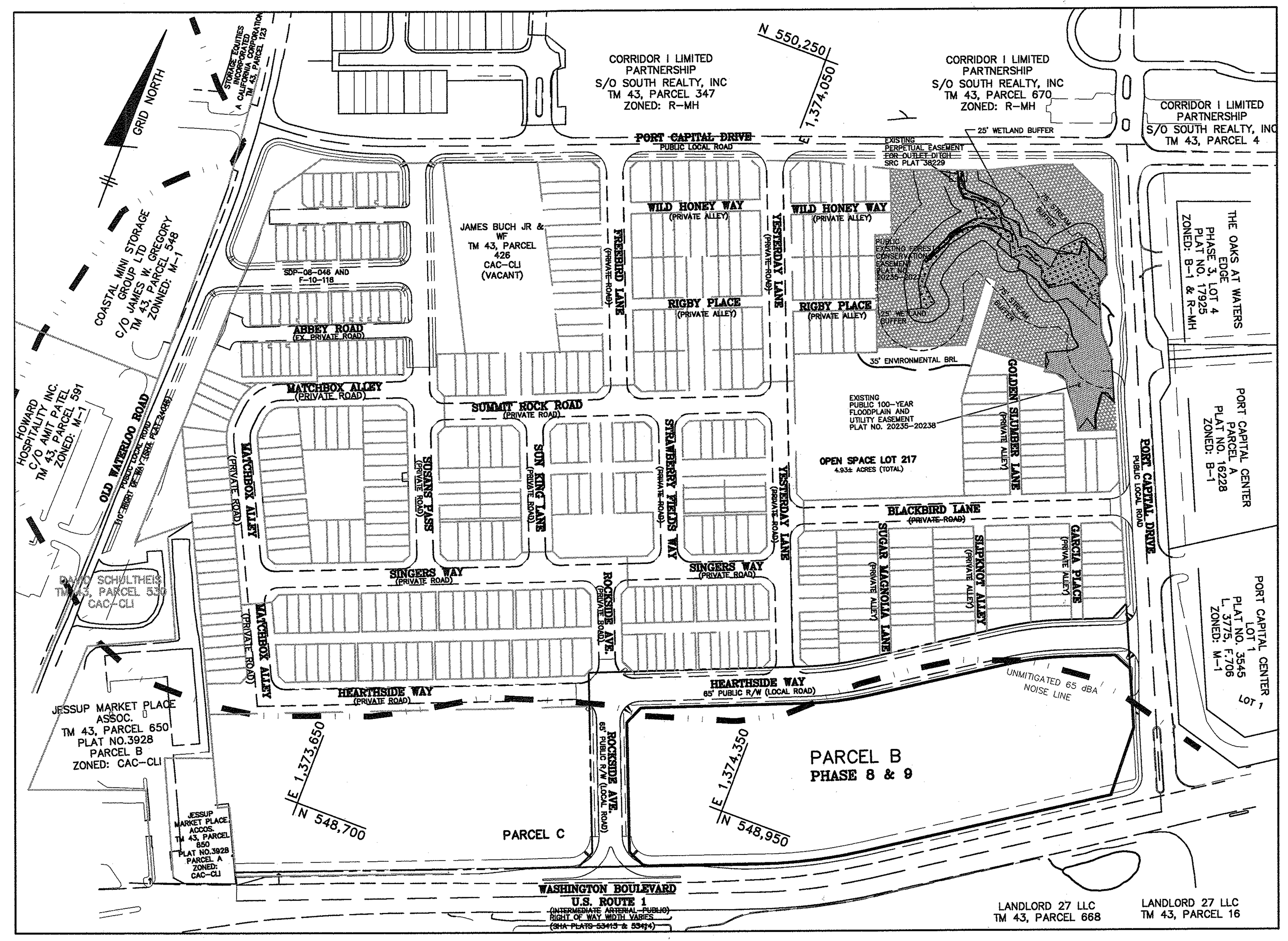
GENERAL NOTES (CONTINUED):

35. ALL ROOF DRAINS AND LANDSCAPE DRAINS SHALL MAINTAIN A MINIMUM 0.5% SLOPE AND BE SIZED APPROPRIATELY.
36. TO THE BEST OF OUR KNOWLEDGE, AND PER THE HOWARD COUNTY CEMETERY SITES MAP, NO GRAVE SITES OR CEMETERIES EXIST ON–SITE.
37. THE PROPOSED APARTMENT/RETAIL BUILDINGS WILL BE UTILIZING AN AUTOMATED SPRINKLER SYSTEM FOR FIRE PROTECTION..
38. THE USE OF ALL PARKING (RESIDENTS, GUEST, EMPLOYEES AND CUSTOMERS) SHALL BE CONTROLLED BY GATED ENTRY MANAGED BY THE PROPERTY MANAGEMENT COMPANY AND THEY (AND NOT THE COUNTY) SHALL RESPOND TO AND RESOLVE ANY PARKING INADEQUACIES SHOULD THEY ARISE.
39. THE PROVIDED PARKING, PARKING LAYOUT, AND ADA ACCESS WILL BE PROVIDED IN DETAIL AND IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN THESE PLANS AS PART OF THE BUILDING PERMIT PLANS.
40. THE BUILDING SITS BACK 10' FROM THE BUILDING RESTRICTION LINE AND THEREFORE, IN ACCORDANCE WITH SECT. 127.5(D)(2)(a)(1) THE PERMITTED HEIGHT IS 65'(MAX HEIGHT) SINCE IT HAS AN INTEGRATED GARAGE. THE ACTUAL HEIGHT OF THE BUILDING OF 64'–5" BASED ON THE AVERAGE ELEVATION OF 228.1 AROUND THE BUILDING PER GRADE CALCULATIONS BY HENNEMEN & ASSOCIATES DATED 10/08/2015
41. BASED ON AVAILABLE COUNTY DATA THIS SITE IS NOT ON A SCENIC ROAD.
42. BASED ON SECTION 127.5.E.3.d OF THE HOWARD COUNTY ZONING REGULATIONS, A HARDSHIP REQUEST WAS APPROVED BY THE DIRECTOR OF THE HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING BY LETTER DATED NOVEMEBR 23, 2015, SUPPORTING A REDUCTION OF 300 S.F. COMMERCIAL SPACE PER RESIDENTIAL UNIT TO 70 S.F. (1006 UNITS x 70 SF = 70,420 SF). SEE GENERAL NOTE #46 FOR MORE INFORMATION.
43. HEALTH DEPARTMENT APPROVAL OF THIS SITE DEVELOPMENT PLAN DOES NOT ENSURE APPROVAL OF BUILDING PERMIT APPLICATIONS ASSOCIATED WITH THIS PLAN. PLANS FOR CERTAIN FACILITIES TO BE CONSTRUCTED WITHIN THE LIMITS DESCRIBED BY THIS PLAN WILL REQUIRE REVIEW AND APPROVAL BY THE HEALTH DEPARTMENT. SUCH FACILITIES MAY INCLUDE, BUT ARE NOT LIMITED TO, THOSE WHICH HAVE SWIMMING POOLS, OR THAT SELL PREPARED OR PACKAGED FOODS, OR THAT MAY HAVE EQUIPMENT THAT EMITS RADIATION.
44. ANY DAMAGE TO THE COUNTY'S RIGHT–OF–WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
45. PUBLIC WATER & SEWER UTILITY CONNECTIONS FOR THE PROPOSED BUILDINGS SHALL BE INSTALLED USING THE ADVANCED DEPOSIT ORDER (ADO) PROCESS.
46. IN ACCORDANCE WITH COUNCIL BILL #2–2016 (ZRA–156) EFFECTIVE JULY 2, 2016:
    COMMERCIAL REQUIREMENT: .... PER CB #2–2016 (ZRA–156) 70 SF COMMERCIAL/PER RESIDENTIAL UNIT PRIOR TO REDUCTIONS:
    1067 UNITS x 70 SF = 74,690 SF

    COMMERCIAL REDUCTIONS BASED ON CB #2–2016 (ZRA–156): ....
    1) PARCELS THAT PROVIDE MIHUs SHALL PROVIDE 75% OF RESIDENTIAL UNITS DEVELOPED: 1067 UNITS x 75% = 801 UNITS
    2) PARCELS THAT HAVE 800 RESIDENTIAL UNITS OR MORE CAN REDUCE COMMERCIAL SPACE REQUIREMENTS TO A MINIMUM OF 20 SF COMMERCIAL/PER RESIDENTIAL UNIT WITH A $50 PER UNIT BUY DOWN.
    3) THE BUY FEE FOR ADDITIONAL AMENITY AREA PROVIDED IS $1.00 FOR EVERY PERCENTAGE POINT IN EXCESS OF THAT REQUIRED, NOT TO EXCEED A MAXIMUM OF 5%:
       6.16 AC. AMENITY SPACE PROVIDED – 4.30 AC. REQUIRED = 1.86 AC. / 4.30 AC. = 43%
       5% MAX. OF ADDITIONAL AMENITY AREA x $1 PER PERCENTAGE POINT = $5 REDUCTION
    4) IF 25% OF THE RESIDENTIAL UNITS ARE LEED PLATINUM, AN $8 PER SF REDUCTION IS ALLOWED. PARCEL C (SDP–12–018) WAS MORE THAN 25%, THEREFORE THIS REDUCTION IS APPLICABLE:

    COMMERCIAL PROVIDED: .... 22,304 SF
    COMMERCIAL BUYDOWN: .... 801 UNITS x 70 SF/UNIT = 56,070 SF COMMERCIAL
    22,304 SF PROVIDED IN PHASE B
    BUYDOWN: 56,070 SF – 22,304 SF = 33,766 SF x ($50–$5–$8=$37) = $1,249,342

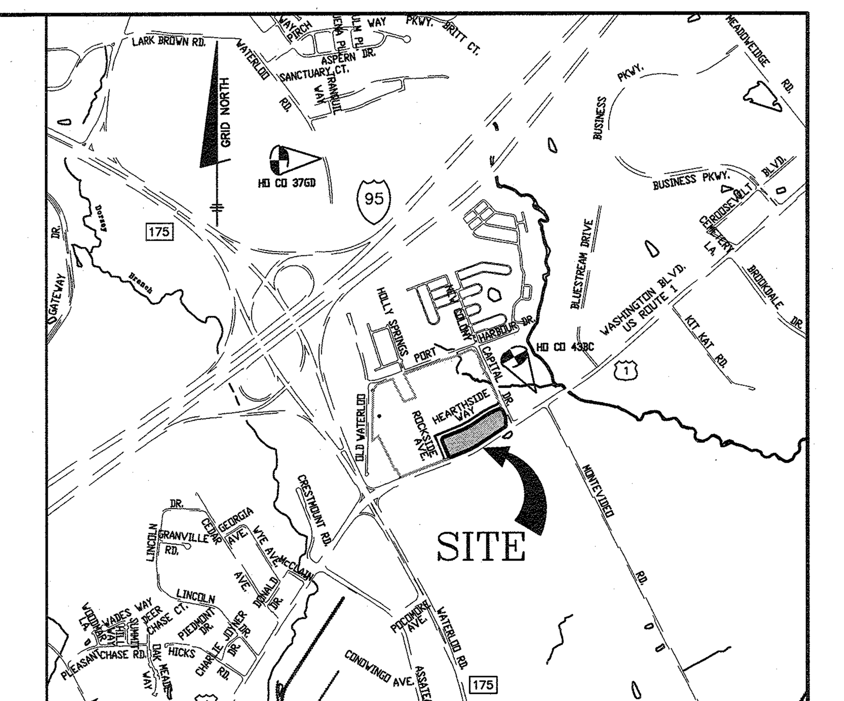
    BUYDOWN AMOUNT OF $1,249,342 SHALL BE PAID UPON SUBMISSION OF SDP PLAN ORIGINALS FOR SIGNATURE APPROVAL
47. THE FIRST APARTMENT BUILDING CONSTRUCTED UNDER SDP–12–018 "HOWARD SQUARE PHASE 3 & 4 PARCEL–C" WAS CERTIFIED BY USGBC AS LEED PLATINUM. SDP–12–018 CONTAINS 299 APARTMENTS EQUATING TO 28% OF THE TOTAL HOWARD SQUARE RESIDENTIAL ALLOCATIONS. SDP–16–017 WILL BE CONSTRUCTED TO A MINIMUM OF LEED CERTIFIED, OR ITS EQUIVALENT UNDER HOWARD COUNTY CODE. THE PROJECT IS INTENDING TO PARTICIPATE IN THE HIGH PERFORMANCE BUILDING TAX CREDIT WITH A TARGET OF LEED GOLD
48. AN ALTERNATIVE COMPLIANCE WAS APPROVED BY HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES, AND PERMITS PER LETTER DATED MARCH 13, 2018, TO THE THE 2015 MARYLAND ACCESSIBILITY CODE, SECTION 502.5, VERTICAL CLEARANCE TO A MINIMUM OF NINETY–SIX (96) INCHES FOR THE PARKING GARAGE TO BE LOCATED AT 7720 HEARTHSIDE WAY; ELKRIDGE, MARYLAND 21075, AS LONG AS THE FOLLOWING CONDITIONS ARE MET:
    1. FINANCIAL HARDSHIP HAS BEEN EXPRESSED BY THE OWNER, IN THE ATTACHED LETTER, AND THE COUNTY IS ACCEPTING THE EXPLANATION OF HARDSHIP.
    2. AT THE ENTRANCE TO THE RAMP, TO THE LOWER LEVEL SIGNAGE, ALONG WITH CLEARANCE BARS WILL NEED TO BE PROVIDED INDICATING THE LOWER HEIGHT OF NINETY– SIX (96) INCHES.
    3. HANDICAP SPACES, ALONG WITH THE VAN ACCESSIBLE AISLE, STILL NEED TO BE PROVIDED IN THE WEATHER PROTECTED LOWER LEVEL OF THE GARAGE FOR BOTH THE PUBLIC AND SECURED RESIDENTIAL SECTIONS OF THE GARAGE.
    4. VERBIAGE WITHIN THE LEASING AGREEMENT FOR THE VERDE II AT HOWARD SQUARE MUST CLEARLY INDICATE THE LOWERED VERTICAL CLEARANCE OF NINETY–SIX (96) INCHES FOR THE PARKING GARAGE.



LOCATION PLAN

200 0 100 200 400 800

(IN FEET)
1 inch = 200 ft.



ADC MAP 34 GRID D7

VICINITY MAP

SCALE : 1'=2000'

SHEET INDEX

NO.	DESCRIPTION
1	TITLE SHEET, NOTES AND DETAILS
2	BUILDING ELEVATIONS, NOTES AND DETAILS
3	EXISTING CONDITIONS PLAN & SOILS MAP
4	STORM DRAIN, UTILITY CONNECTIONS, ROOF MANIFOLD AND BUILDING DIMENSIONS PLAN
5	LEVEL 1 SITE PLAN
6	LEVEL 2 SITE PLAN
7	LEVEL 3 SITE PLAN
8	SEDIMENT & EROSION CONTROL AND GRADING PLAN
9	SEDIMENT & EROSION CONTROL NOTES AND DETAILS
10	PRIVATE UTILITY PROFILES, PARKING PLAN, AND DETAILS
11	PARKING PLAN, NOTES, AND DETAILS
12	SOILS AND STORM DRAINAGE AREA MAP
13	STORM DRAIN PROFILES, NOTES AND DETAILS
14	3–TIER RETAINING WALLS PROFILES, NOTES, AND DETAILS
15	OVERALL LANDSCAPE PLAN (BOHLER)
16	OVERALL LANDSCAPE PLAN KEY (BOHLER)
17	LANDSCAPE PLAN WEST (BOHLER)
18	LANDSCAPE PLAN EAST (BOHLER)
19	LANDSCAPE PLAN DETAILS (BOHLER)
20	HARDSCAPE PLAN DETAILS (BOHLER)
21	LANDSCAPE NOTES AND DETAILS (BOHLER)
22	LANDSCAPE NOTES AND DETAILS (BOHLER)
23	SITE RETAINING WALL PLANS/ELEVATIONS (CATES)
24	SITE RETAINING WALL PLANS/ELEVATIONS (CATES)
25	SITE RETAINING WALL PLANS/ELEVATIONS (CATES)
26	SITE RETAINING WALL DETAILS (CATES)
27	SITE LIGHTING PLAN (JENNERIK)

SITE ANALYSIS DATA CHART

A.) TOTAL PROJECT AREA ____ 5.46± AC.
B.) AREA OF THIS PLAN SUBMISSION ____ 5.46± AC.
C.) APPROXIMATE LIMIT OF DISTURBANCE ____ 5.46± AC.
D.) PRESENT ZONING: ____ CAC–CLI
E.) PROPOSED USE OF SITE: ____ RESIDENTIAL & COMMERCIAL (APARTMENTS & RETAIL)
F.) TOTAL NUMBER OF UNITS ALLOWED AS SHOWN ON FINAL PLAT(S) ____ N/A
G.) TOTAL NUMBER OF UNITS PROPOSED ____ (SEE ALLOCATION SCHEDULE)
H.) AMENTIY AREA REQUIRED (10%) ____ 0.55 AC. (10% OF 5.46 AC. OR AREA OF SUBDIVISION)
AMENITY AREA PROVIDED WITH THIS PLAN ____ 0.00 AC. (AMENITY PROVIDE IN PREVIOUS SECTIONS SEE TABLE THIS SHEET.
I.) OPEN SPACE PROVIDED WITH THIS PHASE ____ 0.00 AC.
J.) PROPOSED WATER AND SEWER SYSTEMS: X PUBLIC ___ PRIVATE
K.) APPLICABLE DPZ FILE REFERENCES: ____ SDP–92–079, WP–92–165 WP–93–044, WP–93–094, WP–94–047 WP–06–114, WP–07–052, S–06–010, WP–07–129, F–09–007, F–08–013 SDP–08–046, SDP–08–078, F–09–053, WP–10–140, F–10–118, WP–11–017, WP–11–067, F–11–009, F–11–077, WP–11–165, F–11–076, F–11–084, SDP–11–043, SPD–11–054, F–13–023, F–13–118, WP–12–142, F–14–077, SDP–14–043, F–15–062, F–16–129, SDP–15–036, F–15–081,

Howard Square Mix-Use (Parcel B) Parking Calculations

Parking Requirement Per Howard County Zoning Code - Section 133.D
(Without Approved Residential Parking Reduction or Shared Parking) *SEE GENERAL NOTE #33

Residential	Units	Parking Ratio	Total Spaces Required
Apartment	344	2.0	688
Apartment Visitors	344	0.3	104
Apartment Subtotal			792
Commercial	**SF**	**Parking Ratio**	**Total Spaces Required**
Apartment Retail*	22,304	0.006	134
Office	-	0.0033	-
Commercial Subtotal			**134**
Total Spaces Required (Unshared)			**926**

Parking Requirement Per Howard County Zoning Code -Section 133.D
With Approved Residential Parking Reduction

Residential	Units	Parking Ratio	Total Spaces Required
Apartment	344	1.8	620
Commercial	**SF**	**Parking Ratio**	**Total Spaces Required**
Apartment Retail*	22,304	0.006	134
Office	-	0.0033	-
Commercial Subtotal			134
Total Spaces Required (Unshared)			**754**

* Based on shopping center parking calculations (6 spaces/ 1000) to determine the retail parking needs.

NOTE: SURFACE PARKING SPACES LOCATED IN THE PLAZA BETWEEN THE TWO BUILDINGS. HC ACCESSIBLE PARKING SPACES FOR GARAGE B SURFACE DECK HAVE BEEN PROVIDED IN THIS AREA FOR CLOSER PROXIMITY TO THE RETAIL.

Total Parking Provided

	Residential	Commercial	Total
Garage A	550	0	550
Garage B - Lower	70	37	107
Garage B - Upper	-	113	113
Surface Parking*	-	10	10
Total Provided	620	160	780
Total Required	620	134	754
Net Difference	0	26	26

* Spaces located in PLAZA between the two buildings.

RESIDENTIAL UNIT COUNT PER LEVEL

	Terrace	Level 1	Level 2	Level 3	Level 4	Level 5	Roof	Total
BUILDING A	9	51	55	55	55	55	0	280
BUILDING B	0	16	16	16	16	0	0	64
Total Residential Units =								**344**

Retail Space Calculation

	Location	Area	GSF
Retail #1	Building A	10,183	GSF
Retail #2	Building B	1,590	GSF
Retail #3	Building B	1,590	GSF
Retail #4	Building B	2,655	GSF
Retail #5	Building B	3,143	GSF
Retail #6	Building B	3,143	GSF
Total		**22,304**	**GSF**

PARKING COUNT PER LEVEL

LEVEL	GARAGE A	GARAGE B	SURFACE	HANDICAP	VAN	TOTAL
Lower Level	-	102	-	3	2	107
Terrace/ Retail Level	-	111	-	-	2	113
Plaza	-	-	5	3	2	10
Level 1 / Level 0	80	-	-	1	2	83
Level 2	94	-	-	2	-	96
Level 3	94	-	-	2	-	96
Level 4	94	-	-	2	-	96
Level 5	94	-	-	2	-	96
Level 6	94	-	-	2	-	96
Total	**550**	**213**	**5**	**17**	**8**	**793**

ADDRESS CHART

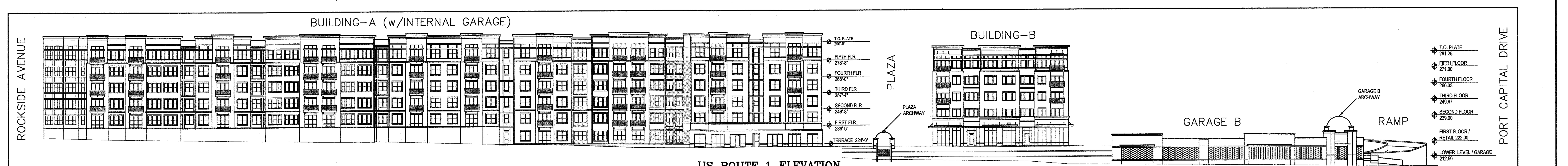
BLDG.	LEVEL	LOT NO.	STREET ADDRESS
A	TERRACE	PARCEL B	7600 HEARTHSIDE WAY
A	1 – 5	PARCEL B	7604 HEARTHSIDE WAY
A	1 – 5	PARCEL B	7608 HEARTHSIDE WAY
A	1 – 5	PARCEL B	7616 HEARTHSIDE WAY
GARAGE–A	ALL	PARCEL B	7612 HEARTHSIDE WAY
B	TERRACE	PARCEL B	7700 HEARTHSIDE WAY
B	1–4	PARCEL B	7710 HEARTHSIDE WAY
GARAGE–B	ALL	PARCEL B	7720 HEARTHSIDE WAY
POOL SHED	TERRACE	PARCEL B	7620 HEARTHSIDE WAY

NOTE: SEE SHEET 3 FOR PLAN VIEW LOCATIONS

AMENITY TABLE

Sections	Parcel (Area)	Total Area (AC)	Amenity Area Reqired (AC)	Amenity Area Provided (AC)	Proposed Amenity
Phase 1 Section 1 (SDP-08-046)	A 31.46AC	2.91	0.29	0.33	Tot Lots and Benches
Phase 1 Section 3A (SDP-08-078)		4.28	0.43	0.55	Tot Lots , Benches and Picnic Area
Phase 2 Section A (SDP-11-043)		3.80	0.38	0.00	N/A*
Phase 2 Section B (SDP-11-054)		10.53	1.05	5.28	Park with Benches, Playfield, Environmental Area Path and Picnic Area
Phase 6 (SDP-14-043)		5.47	0.55	0.00	N/A*
Phase 7 (SDP-15-036)		4.47	0.45	0.00	N/A*
Phase 3, 4 & 5 (SDP-12-018)	C - 4.18AC	4.18	0.42	0.00	0.41 AC of Amenity Exclusively for Apartment
Phase 8 & 9 (SDP-16-017)	B - 5.46 AC	5.46	0.54	0.00	±0.25 AC of Amenity Exclusively for Apartments (Courtyards)
Public Street Right-of-Way		2.08	0.21	N/A*	N/A*
Total	41.11	43.2	4.3	6.16	

* INDICATES THAT AMENITY REQUIREMENT IS BEING MET BY THE COLLECTIVE AREA PROVIDED THROUGHOUT THE DEVELOPMENT.



US ROUTE 1 ELEVATION

BUILDING ELEVATIONS

30 0 15 30

(IN FEET)
1 inch = 30 ft.

NOTE: SEE SHEET 2 FOR ADDITIONAL ELEVATIONS

BUILDINGS SHALL BE CONSTRUCTED TO MEET H.U.D. NOISE REQUIREMENTS FOR ALLOWABLE NOISE LEVELS. MATERIALS SHALL BE USED TO REDUCE THE INTERIOR SOUND TO 45 DBA

THIS REVISION REPLACES THE PREVIOUS SHEET DATED APRIL, 2017

COMMERCIAL REQUIREMENT

THE OVERALL PHASE 8 & 9 (PARCEL B SDP–16–017) WILL BE SUBMITTED WITH APPROXIMATELY 21,860 S.F. OF COMMERCIAL SPACE. THERE WILL BE A BUY–DOWN FOR THE REMAINING COMMERCIAL REQUIRED AND SHALL BE PROVIDED UNDER SDP–16–017. SEE GENERAL NOTE #46.

RESIDENTIAL ALLOCATION CHART

RESIDENTIAL		Allocations		
Phase	Filing Deadline	Allocations & Credits Granted	Allocations & Credits Used	Cumulative Allocations to be used
Phase 1 - 6	-	672	640	640
Phase 7 (SDP-15-036)	12/31/2014	95	83	83
Phase 8/9 (Parcel 'B') SDP-16-017	3/31/2016	300	344	344
Total		1,067	1,067	1,067

Notes:

1) Of the 672 allocations granted, 206 were credits from the existing Mobile Home subdivsion. Only 640 allocations were used in Phases 1-6 and therefore there are 32 remaining to carry forward.

2) 83 of the 95 allocations granted were used in Phase 7. Therefore, 12 have been carried forward to Phase 8/9 (Parcel 'B') which gives a cummulative amount of 44 units to be used in Phase 8/9 (Parcel 'B').

3) Phase 8 and 9 have been combined into SDP-16-017 to create what is known as parcel 'B'. Filing deadline dates for Phase 8 and 9 are 3/31/16 and 3/31/17 respectively. Since both phases are combined, phase 9 filing date has already been complied with.

MIHU CHART

Phase	MIHU's required	MIHU's provided under alternative compliance
Phase 1-6	151	154
Phase 7 (SDP-15-036)	20	20
Phase 8/9 (Parcel 'B') SDP-16-017	81	78
	252	252

Notes:

1) The MIHU requirement for this project is calculated using 23.6% per the approved SDP-08-046

2) Of the 672 allocations granted, 206 were credits from the existing Mobile Home subdivsion. Only 640 allocations were used in Phases 1-6 and therefore there are 32 remaining to carry forward.

3) 83 of the 95 allocations granted were used in Phase 7 (SDP-15-036). Therefore, 12 have been carried forward to Phase 8/9 (Parcel 'B') which gives a cummulative amount of 44 units to be used in Phase 8/9 (Parcel 'B')

4) Phase 8 and 9 have been combined into SDP-16-017 to create what is known as Parcel 'B'. Filing deadline dates for Phase 8 and 9 are 3/31/16 and 3/31/17 respectively.

PERMIT INFORMATION CHART

SUBDIVISION NAME:			SECTION/AREA:		PARCEL:
HOWARD SQUARE			PHASE 8 & 9		PARCEL 'B'
DEED:	BLOCK No.	ZONE:	TAX MAP:	ELECTION DISTRICT	CENSUS TRACT
L.12638 F.00179	3&9	CAC–CLI	43	1	6069.01

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT

[signature] for Maura Rossman 7/31/2018
HOWARD COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[signature] 8/8/18
CHIEF, DEVELOPMENT ENGINEERING DIVISION JP DATE

[signature] 8/9/18
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[signature] 8-9-18
DIRECTOR DATE

NO.	DATE	REVISION
		UPDATE PARKING CALCS PER REVISED GARAGE-B FOOTPRINT
1	06/2018	ADD GENERAL NOTE #48 & POOL SHED ADDRESS

BENCHMARK
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE
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(P) 410–465–6105 (F) 410–465–6644
WWW.BEI–CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 22390, Expiration Date: 6-30-2017.

[seal: STATE OF MARYLAND CHRISTOPHER ALAN MALAGARI No. 22390 PROFESSIONAL ENGINEER]
C. Malagari 6/28/18

DEVELOPER/OWNER:

ATAPCO HOWARD SQUARE I BUSINESS TRUST
One South Street
Suite 2800
Baltimore, MD 21202
(410) 347-7189

HOWARD SQUARE

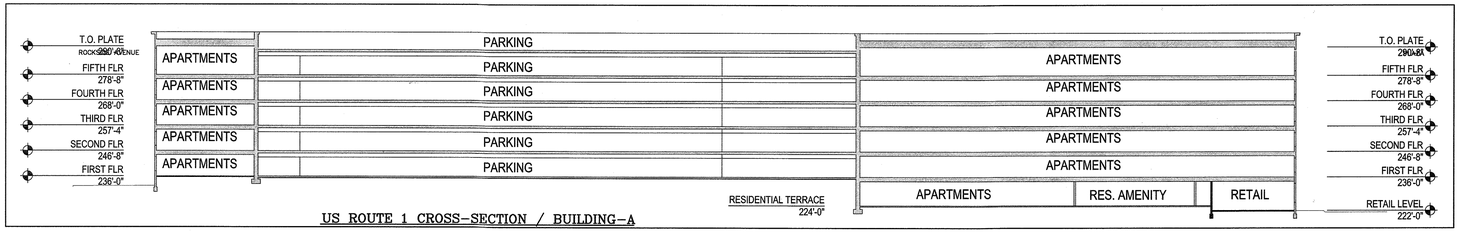
PHASE 8 & 9, PARCEL B
APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 – PARCEL: B
ZONED: CAC–CLI
ELECTION DISTRICT NO. 1 – HOWARD COUNTY, MARYLAND

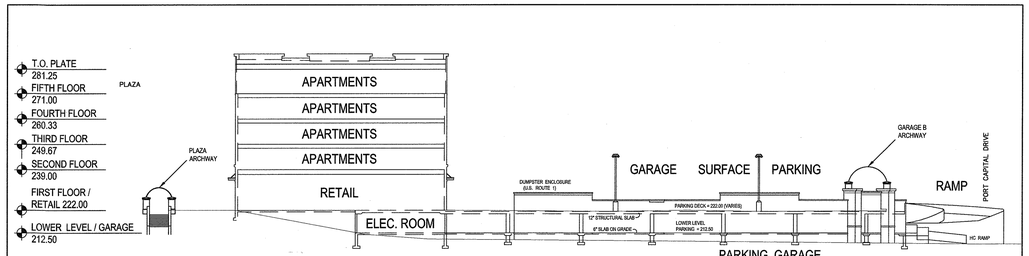
TITLE SHEET, NOTES AND DETAILS

DATE: OCTOBER, 2015 REVISED: JUNE, 2018		BEI PROJECT NO.	2541
DRAFT: MCR	CHECK: CAM	SCALE: AS SHOWN	SHEET 1 OF 27

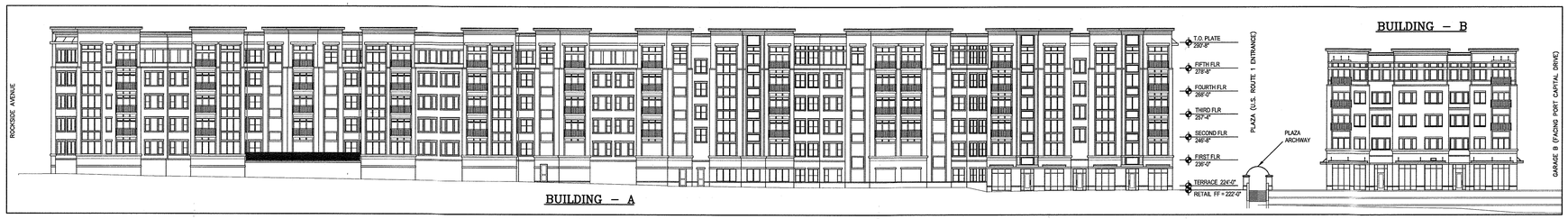
SDP–16–017



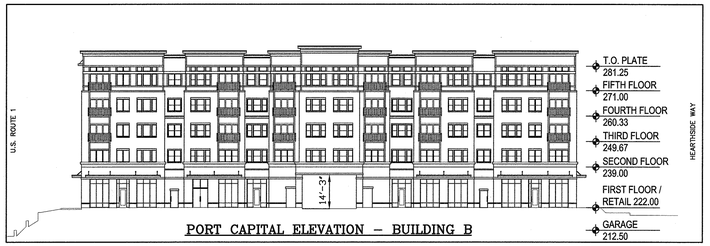
US ROUTE 1 CROSS-SECTION / BUILDING-A



US ROUTE 1 CROSS-SECTION / BUILDING-B & GARAGE-B



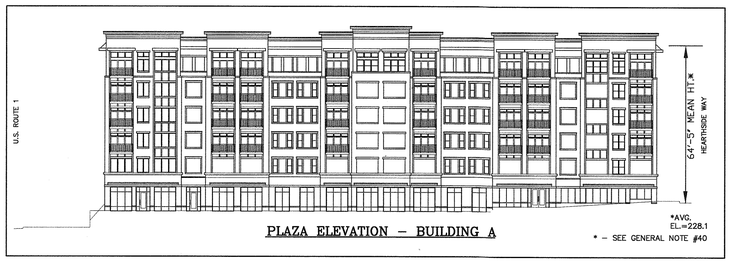
US ROUTE 1 ELEVATION



PORT CAPITAL ELEVATION - BUILDING B

HEARTHSIDE WAY ELEVATION

ROCKSIDE AVENUE ELEVATION - BUILDING A



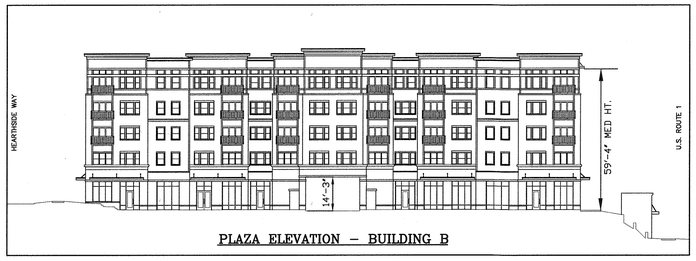
PLAZA ELEVATION - BUILDING A

BUILDINGS SHALL BE CONSTRUCTED TO MEET H.U.D. NOISE REQUIREMENTS FOR ALLOWABLE NOISE LEVELS. MATERIALS SHALL BE USED TO REDUCE THE INTERIOR SOUND TO 45 DBA

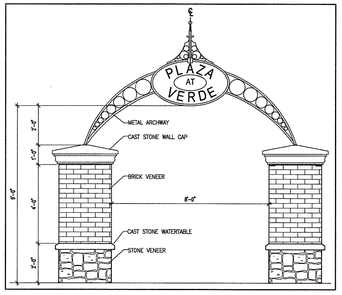
BUILDING ELEVATIONS

30 0 15 30

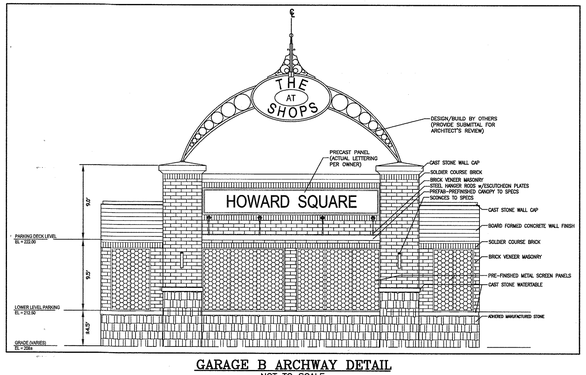
(IN FEET)
1 inch = 30 ft.



PLAZA ELEVATION - BUILDING B



PLAZA ARCHWAY DETAIL
NOT TO SCALE



GARAGE B ARCHWAY DETAIL
NOT TO SCALE

THIS REVISION REPLACES THE PREVIOUS SHEET DATED APRIL, 2017

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 8/8/18
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 8/8/18
DIRECTOR	DATE 8-9-18

NO.	DATE	REVISION
		UPDATE ELEVATIONS PER REVISED BUILDING B & GARAGE B FOOTPRINTS
1	06/2018	& UPDATE GARAGE B ARCHWAY DETAIL

BENCHMARK
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WWW.BEI-CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 17193, Exp. Date: 6-30-2017.

STATE OF MARYLAND CHRISTOPHER ALAN MARTIN No. 17193 PROFESSIONAL ENGINEER

6/28/18

DEVELOPER/OWNER:

ATAPCO HOWARD SQUARE I BUSINESS TRUST
One South Street
Suite 2800
Baltimore, MD 21202
(410) 347-7189

HOWARD SQUARE

PHASE 8 & 9, PARCEL B

APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 - PARCEL: B
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

BUILDING ELEVATIONS, NOTES AND DETAILS

DRAFT: MCR	CHECK: CAM	DATE: OCTOBER, 2015 REVISED: JUNE, 2018	BEI PROJECT NO. 2541
		SCALE: AS SHOWN	SHEET 2 OF 27

SDP-16-017

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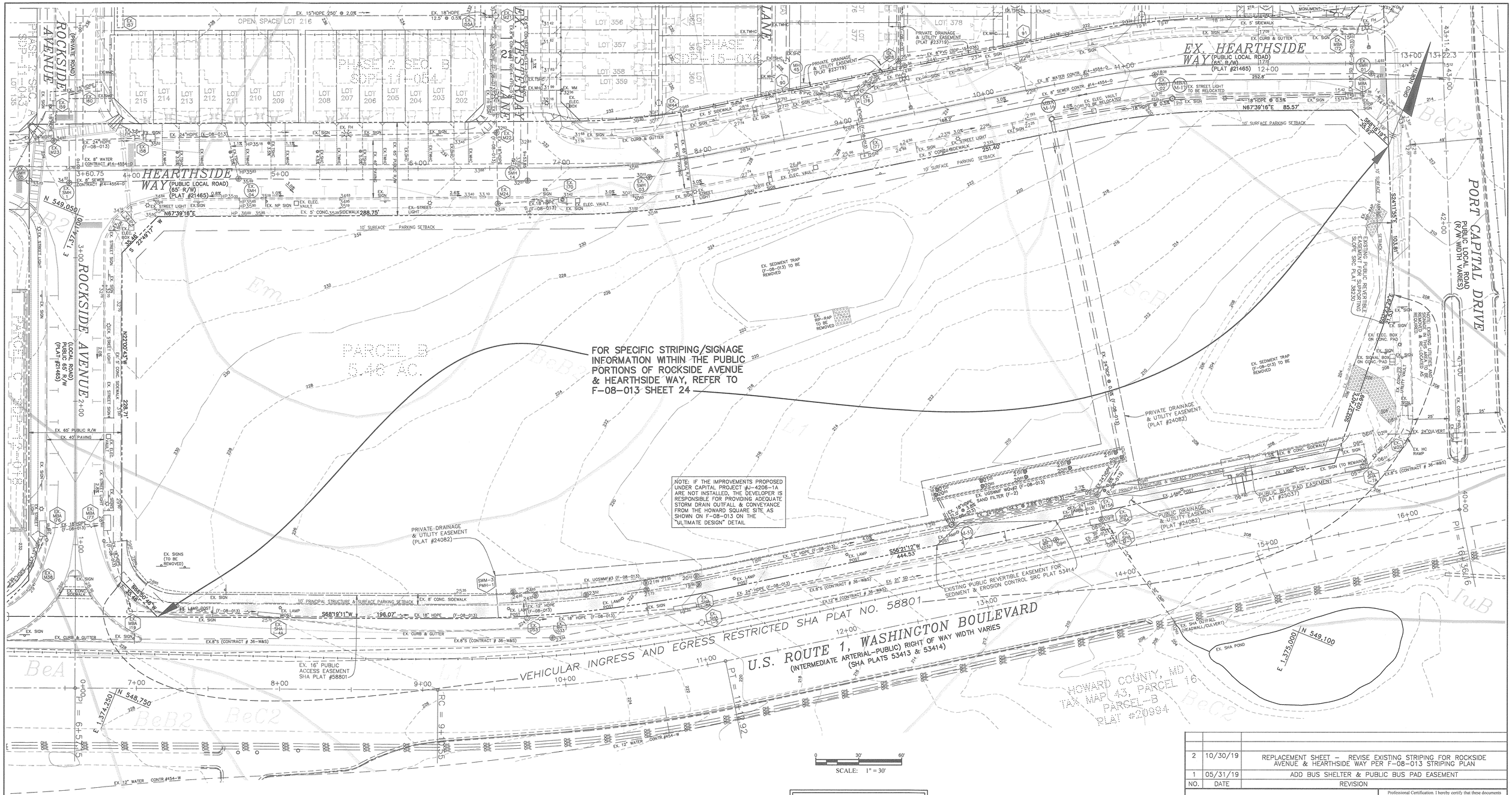

THIS REVISION REPLACES THE PREVIOUS SHEET DATED APRIL, 2017

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- OHL — EXISTING OVERHEAD POWER LINES
- E — EXISTING UNDERGROUND ELEC. LINES
- G — EXISTING GAS LINES
- EXISTING SEWER LINES
- EXISTING WATER LINES
- FIRE HYDRANT
- STORM DRAIN PIPES
- EX. SIDEWALK
- EXISTING CURB & GUTTER
- UN-MITIGATED 65dBA NOISE LINE
- EX. LIGHTS
- EX. STREET TREES (F-08-013)
- UNDERGROUND STORMWATER MANAGEMENT FACILITY
- PUBLIC WATER, SEWER, AND UTILITY EASEMENT
- PRIVATE DRAINAGE AND UTILITY EASEMENT
- POINT OF ENTRY/ACCESS

SOILS LEGEND

MAP SYMBOL	SOIL TYPE	MAPPING UNIT
BeA	C	BELTSVILLE SILT LOAM – 0 TO 1 PERCENT SLOPES
BeB2	C	BELTSVILLE SILT LOAM – 1 TO 5 PERCENT SLOPES – MODERATELY ERODED
BeC2	C	BELTSVILLE SILT LOAM – 5 TO 10 PERCENT SLOPES – MODERATELY ERODED
Em	D	ELKTON SILT LOAM
EvC	A	EVESBORO LOAMY SAND – 5 TO 10 PERCENT SLOPES
IuB	D	LUKA LOAM, LOCAL ALLUVIUM – 1 TO 5 PERCENT SLOPES – MODERATELY ERODED
Ll	D	LEONARDTOWN SILT LOAM
ScB	C	SANDY AND CLAYEY LAND – GENTLY SLOPING

NO.	DATE	REVISION
2	10/30/19	REPLACEMENT SHEET – REVISE EXISTING STRIPING FOR ROCKSIDE AVENUE & HEARTHSIDE WAY PER F-08-013 STRIPING PLAN
1	05/31/19	ADD BUS SHELTER & PUBLIC BUS PAD EASEMENT

BENCHMARK
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SUITE 315
ELLICOTT CITY, MARYLAND 21043
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WWW.BEI-CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 37317, Expiration Date: 6-30-2021.

10-31-19

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 11/5/19
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 11-18-19
DIRECTOR	DATE 11-21-19

DEVELOPER/OWNER:

ATAPCO HOWARD SQUARE I BUSINESS TRUST
One South Street
Suite 2800
Baltimore, MD 21202
(410) 347-7189

HOWARD SQUARE

PHASE 8 & 9, PARCEL B

APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 – PARCEL: B
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 – HOWARD COUNTY, MARYLAND

EXISTING CONDITIONS PLAN & SOILS MAP

DRAFT: MCR	CHECK: CAM	DATE: APRIL, 2017 REVISED: OCTOBER, 2019	BEI PROJECT NO. 2541
		SCALE: AS SHOWN	SHEET 3 OF 27

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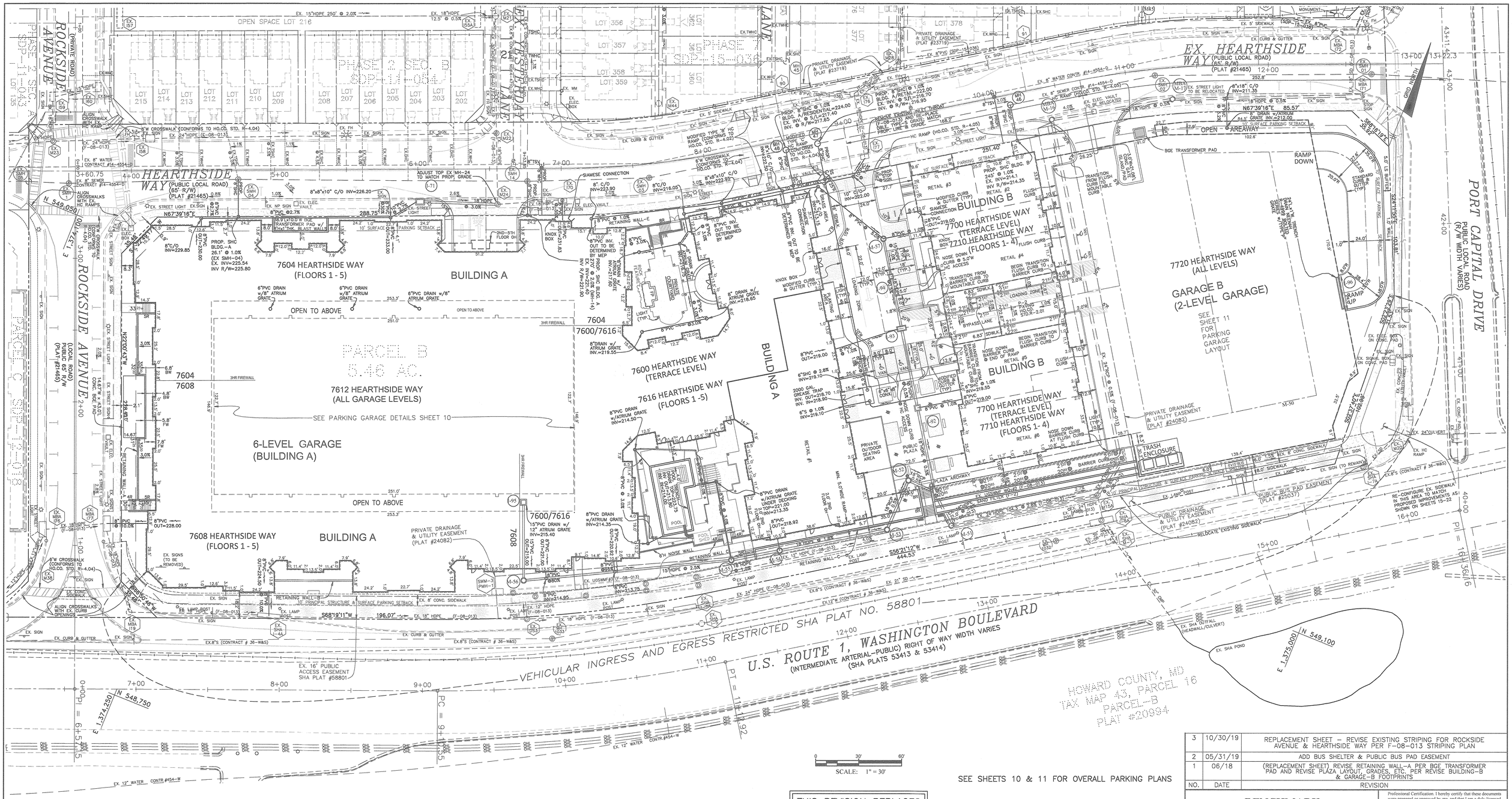
SDP-16-017



SCALE: 1" = 30'

SEE SHEETS 10 & 11 FOR OVERALL PARKING PLANS

THIS REVISION REPLACES THE PREVIOUS SHEET DATED JUNE, 2018

BUILDINGS SHALL BE CONSTRUCTED TO MEET H.U.D. NOISE REQUIREMENTS FOR ALLOWABLE NOISE LEVELS. MATERIALS SHALL BE USED TO REDUCE THE INTERIOR SOUND TO 45 DBA

PUBLIC WATER AND SEWER UTILITY CONNECTIONS FOR THE PROPOSED BUILDINGS SHALL BE INSTALLED USING THE ADVANCED DEPOSIT ORDER (ADO) PROCESS

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- OHL — EXISTING OVERHEAD POWER LINES
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- PUBLIC WATER, SEWER, AND UTILITY EASEMENT
- PRIVATE DRAINAGE AND UTILITY EASEMENT
- POINT OF ENTRY/ACCESS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 11/27/19

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 11-18-19

DIRECTOR — DATE 11-21-19

NO.	DATE	REVISION
3	10/30/19	REPLACEMENT SHEET – REVISE EXISTING STRIPING FOR ROCKSIDE AVENUE & HEARTHSIDE WAY PER F-08-013 STRIPING PLAN
2	05/31/19	ADD BUS SHELTER & PUBLIC BUS PAD EASEMENT
1	06/18	(REPLACEMENT SHEET) REVISE RETAINING WALL-A PER BGE TRANSFORMER PAD AND REVISE PLAZA LAYOUT, GRADES, ETC. PER REVISE BUILDING-B & GARAGE-B FOOTPRINTS

BENCHMARK
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ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE
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(P) 410-465-6105 (F) 410-465-6644
E-MAIL: bei@bei-civilengineering.com
WWW.BEI-CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 23301, Expiration Date: 6-30-2021

STATE OF MARYLAND — CHRISTOPHER A. MILLER — 23301 — PROFESSIONAL ENGINEER — 10-31-19

DEVELOPER/OWNER:

ATAPCO HOWARD SQUARE I BUSINESS TRUST
One South Street
Suite 2800
Baltimore, MD 21202
(410) 347-7189

HOWARD SQUARE

PHASE 8 & 9, PARCEL B

APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 – PARCEL: B
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 – HOWARD COUNTY, MARYLAND

STORM DRAIN, UTILITY CONNECTIONS, ROOF MANIFOLD, AND BUILDING DIMENSIONS PLAN

DATE: APRIL, 2017
REVISED: OCTOBER, 2019
BEI PROJECT NO. 2541

DRAFT: MCR | CHECK: CAM | SCALE: AS SHOWN | SHEET 4 OF 27

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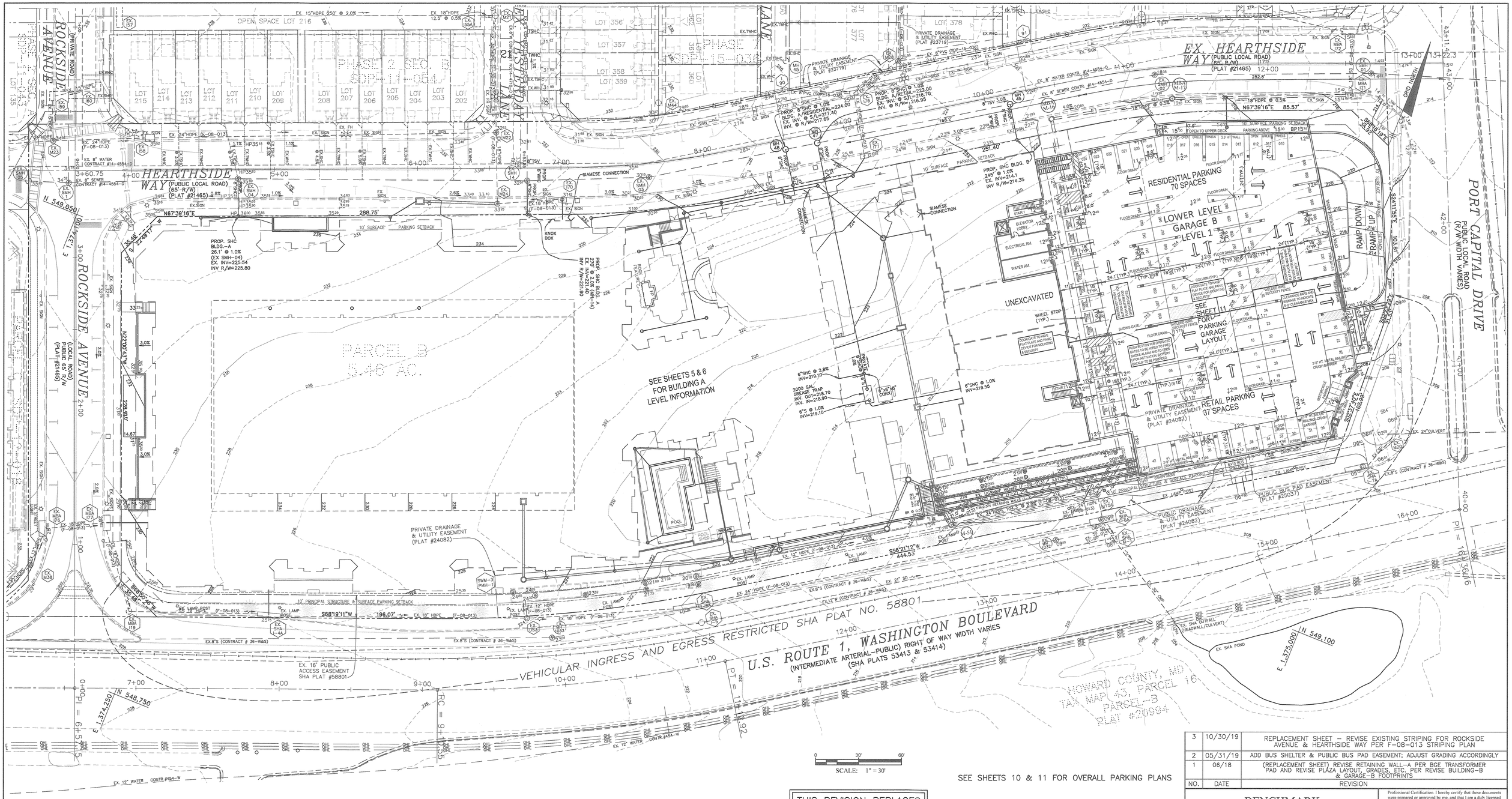
SDP-16-017



SEE SHEETS 10 & 11 FOR OVERALL PARKING PLANS

THIS REVISION REPLACES THE PREVIOUS SHEET DATED JUNE, 2018

BUILDINGS SHALL BE CONSTRUCTED TO MEET H.U.D. NOISE REQUIREMENTS FOR ALLOWABLE NOISE LEVELS. MATERIALS SHALL BE USED TO REDUCE THE INTERIOR SOUND TO 45 DBA

PUBLIC WATER AND SEWER UTILITY CONNECTIONS FOR THE PROPOSED BUILDINGS SHALL BE INSTALLED USING THE ADVANCED DEPOSIT ORDER (ADO) PROCESS

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NO.	DATE	REVISION
3	10/30/19	REPLACEMENT SHEET – REVISE EXISTING STRIPING FOR ROCKSIDE AVENUE & HEARTHSIDE WAY PER F-08-013 STRIPING PLAN
2	05/31/19	ADD BUS SHELTER & PUBLIC BUS PAD EASEMENT; ADJUST GRADING ACCORDINGLY
1	06/18	(REPLACEMENT SHEET) REVISE RETAINING WALL-A PER BGE TRANSFORMER PAD AND REVISE PLAZA LAYOUT, GRADES, ETC. PER REVISE BUILDING-B & GARAGE-B FOOTPRINTS

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE
SUITE 315
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(P) 410-465-6105 (F) 410-465-6644
E-MAIL: bei@bei-civilengineering.com
WWW.BEI-CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 44858, Expiration Date: 6-30-2021

STATE OF MARYLAND — CHRISTOPHER ALAN HARD — PROFESSIONAL ENGINEER — 10-31-19

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	JR	11/8/19 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT		11-18-19 DATE
DIRECTOR		11-21-19 DATE

DEVELOPER/OWNER:

ATAPCO HOWARD SQUARE I
BUSINESS TRUST
One South Street
Suite 2800
Baltimore, MD 21202
(410) 347-7189

HOWARD SQUARE

PHASE 8 & 9, PARCEL B

APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 – PARCEL: B
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 – HOWARD COUNTY, MARYLAND

LEVEL 1 SITE PLAN

DATE: APRIL, 2017		BEI PROJECT NO.	2541
REVISED: OCTOBER, 2019			
DRAFT: MCR	CHECK: CAM	SCALE: AS SHOWN	SHEET 5 OF 27

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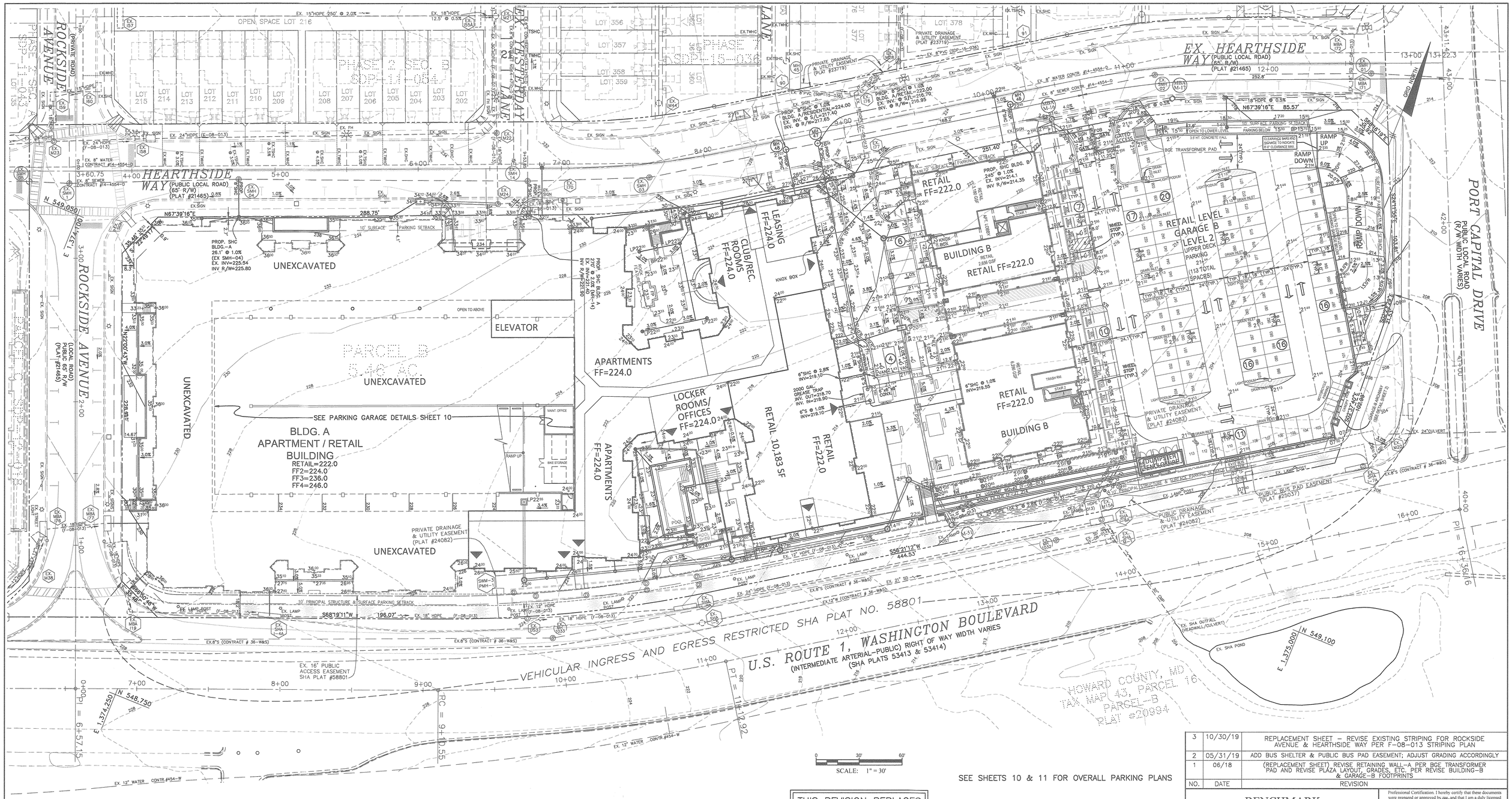
SDP-16-017



SCALE: 1" = 30'

SEE SHEETS 10 & 11 FOR OVERALL PARKING PLANS

THIS REVISION REPLACES THE PREVIOUS SHEET DATED JUNE, 2018

BUILDINGS SHALL BE CONSTRUCTED TO MEET H.U.D. NOISE REQUIREMENTS FOR ALLOWABLE NOISE LEVELS. MATERIALS SHALL BE USED TO REDUCE THE INTERIOR SOUND TO 45 DBA

PUBLIC WATER AND SEWER UTILITY CONNECTIONS FOR THE PROPOSED BUILDINGS SHALL BE INSTALLED USING THE ADVANCED DEPOSIT ORDER (ADO) PROCESS

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BENCHMARK
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E-MAIL: bei@bei-civilengineering.com
WWW.BEI-CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 22339, Expiration Date: 6-30-2021

STATE OF MARYLAND CHRISTOPHER ALAN CAMPBELL No. 22339 PROFESSIONAL ENGINEER
10-31-19

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 11/8/19 JP

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 11-18-19

DIRECTOR — DATE 11-21-19

DEVELOPER/OWNER:
ATAPCO HOWARD SQUARE I BUSINESS TRUST
One South Street
Suite 2800
Baltimore, MD 21202
(410) 347-7189

HOWARD SQUARE
PHASE 8 & 9, PARCEL B
APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 – PARCEL: B
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 – HOWARD COUNTY, MARYLAND

LEVEL 2 SITE PLAN

DATE: APRIL, 2017
REVISED: OCTOBER, 2019
BEI PROJECT NO. 2541

DRAFT: MCR | CHECK: CAM | SCALE: AS SHOWN | SHEET 6 OF 27

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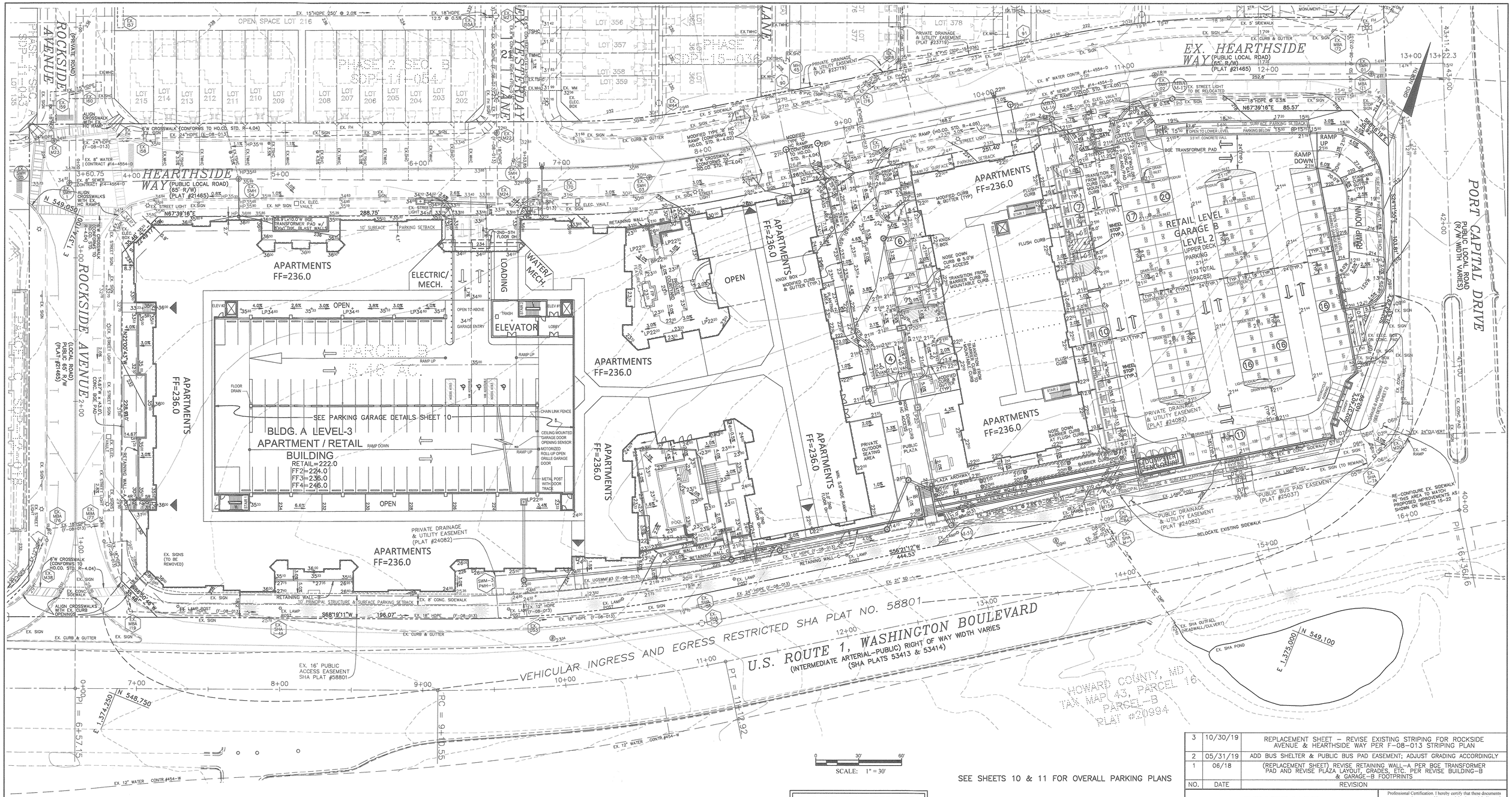
SDP-16-017



LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- OHL — EXISTING OVERHEAD POWER LINES
- E — EXISTING UNDERGROUND ELEC. LINES
- G — EXISTING GAS LINES
- EXISTING SEWER LINES
- EXISTING WATER LINES
- FIRE HYDRANT
- STORM DRAIN PIPES
- EX. SIDEWALK
- EXISTING CURB & GUTTER
- UN-MITIGATED 65dBA NOISE LINE
- EX. LIGHTS
- EX. STREET TREES (F-08-013)
- UNDERGROUND STORMWATER MANAGEMENT FACILITY
- PUBLIC WATER, SEWER, AND UTILITY EASEMENT
- PRIVATE DRAINAGE AND UTILITY EASEMENT
- POINT OF ENTRY/ACCESS

SEE SHEETS 10 & 11 FOR OVERALL PARKING PLANS

THIS REVISION REPLACES THE PREVIOUS SHEET DATED JUNE, 2018

BUILDINGS SHALL BE CONSTRUCTED TO MEET H.U.D. NOISE REQUIREMENTS FOR ALLOWABLE NOISE LEVELS. MATERIALS SHALL BE USED TO REDUCE THE INTERIOR SOUND TO 45 DBA

PUBLIC WATER AND SEWER UTILITY CONNECTIONS FOR THE PROPOSED BUILDINGS SHALL BE INSTALLED USING THE ADVANCED DEPOSIT ORDER (ADO) PROCESS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 11/7/19
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 11-8-19
DIRECTOR	DATE 11-21-19

NO.	DATE	REVISION
3	10/30/19	REPLACEMENT SHEET – REVISE EXISTING STRIPING FOR ROCKSIDE AVENUE & HEARTHSIDE WAY PER F-08-013 STRIPING PLAN
2	05/31/19	ADD BUS SHELTER & PUBLIC BUS PAD EASEMENT; ADJUST GRADING ACCORDINGLY
1	06/18	(REPLACEMENT SHEET) REVISE RETAINING WALL-A PER BGE TRANSFORMER PAD AND REVISE PLAZA LAYOUT, GRADES, ETC. PER REVISE BUILDING-B & GARAGE-B FOOTPRINTS

BENCHMARK
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE
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WWW.BEI-CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 22041, Expiration Date: 6-30-2021

STATE OF MARYLAND — CHRISTOPHER ALAN CAMPBELL — No. 22041 — PROFESSIONAL ENGINEER

10-31-19

DEVELOPER/OWNER:

ATAPCO HOWARD SQUARE I BUSINESS TRUST
One South Street
Suite 2800
Baltimore, MD 21202
(410) 347-7189

HOWARD SQUARE

PHASE 8 & 9, PARCEL B

APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 – PARCEL: B
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 – HOWARD COUNTY, MARYLAND

LEVEL 3 SITE PLAN

DRAFT: MCR	CHECK: CAM	DATE: APRIL, 2017 / REVISED: OCTOBER, 2019 / SCALE: AS SHOWN
BEI PROJECT NO. 2541	SHEET 7 OF 27	

SDP-16-017

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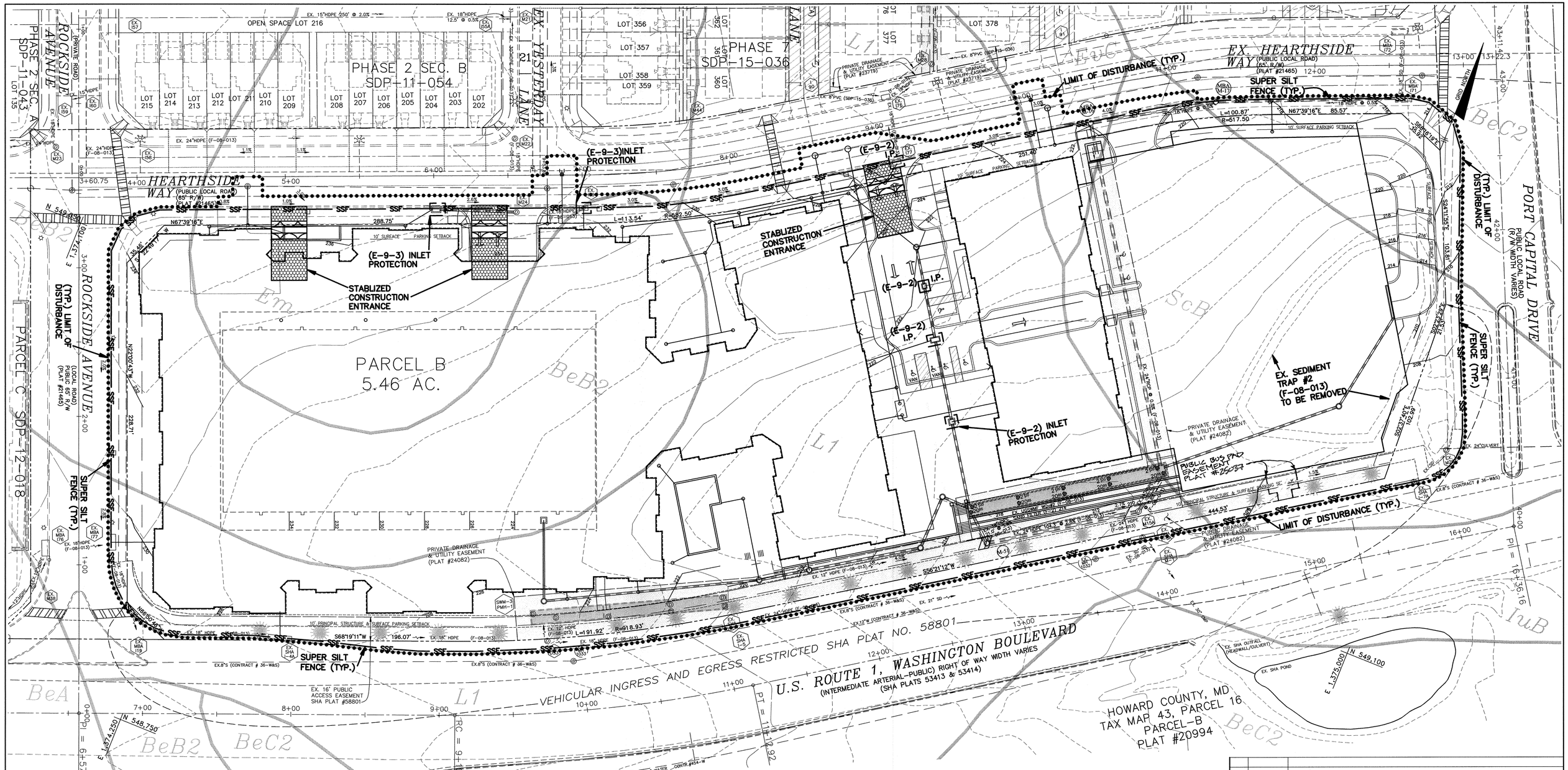

SCALE: 1" = 30'

SEC PLAN NOTES:

1. FOR DIMENSION AND ELEVATIONS NOT SHOWN SEE SHEETS 2 & 3.

2. SSF IMBRICATIONS SHALL BE PROVIDED WHERE NECESSARY IN CONFORMANCE WITH REQUIREMENTS.

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- OHL — EXISTING OVERHEAD POWER LINES
- E — EXISTING UNDERGROUND ELEC. LINES
- G — EXISTING GAS LINES
- EXISTING SEWER LINES
- EXISTING WATER LINES
- FIRE HYDRANT
- STORM DRAIN PIPES
- EX. SIDEWALK
- EXISTING CURB & GUTTER
- UN-MITIGATED 65dBA NOISE LINE
- EX. LIGHTS
- UNDERGROUND STORMWATER MANAGEMENT FACILITY
- PUBLIC WATER, SEWER, AND UTILITY EASEMENT
- PUBLIC DRAINAGE AND UTILITY EASEMENT
- POINT OF ENTRY/ACCESS
- STABILIZED CONSTRUCTION ENTRANCE
- LIMIT OF DISTURBANCE
- SSF — SUPER SILT FENCE
- INLET PROTECTION

ENGINEER'S CERTIFICATE

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

ENGINEER – CHRISTOPHER A. MALAGARI — DATE: 4-20-17

OWNER'S CERTIFICATE

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

ATAPCO HOWARD SQUARE I STATUTORY TRUST — DATE: 4-18-17

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

HOWARD SCD — DATE: 5/10/17

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE: 5.18.17

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE: 6-8-17

DIRECTOR — DATE: 6-8-17

NO.	DATE	REVISION
1	5/31/17	ADD PUBLIC BUS PAD EASEMENT; ADJUST GRADING

BENCHMARK
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE
SUITE 315
ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
E-MAIL: bei@bei-civilengineering.com
WWW.BEI-CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 19044, Expiration Date: 6-30-2017.

STATE OF MARYLAND — CHRISTOPHER A. MALAGARI — No. 19044 — PROFESSIONAL ENGINEER — 4-20-17

DEVELOPER/OWNER:

ATAPCO HOWARD SQUARE I
BUSINESS TRUST
One South Street
Suite 2800
Baltimore, MD 21202
(410) 347-7189

HOWARD SQUARE

PHASE 8 & 9, PARCEL B

APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 – PARCEL: B
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 – HOWARD COUNTY, MARYLAND

SEDIMENT & EROSION CONTROL AND GRADING PLAN

DATE: OCTOBER, 2015
REVISED: APRIL, 2017
BEI PROJECT NO. 2541

DRAFT: MCR | CHECK: CAM | SCALE: AS SHOWN | SHEET 8 OF 27

SDP-16-017

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B-4 STANDARDS AND SPECIFICATIONS
FOR
VEGETATIVE STABILIZATION
Definition

Using vegetation as cover to protect exposed soil from erosion.

Purpose

To promote the establishment of vegetation on exposed soil.

Conditions Where Practice Applies

On all disturbed areas not stabilized by other methods. This specification is divided into sections on incremental stabilization; soil preparation, soil amendments and topsoiling; seeding and mulching; temporary stabilization; and permanent stabilization.

Effects on Water Quality and Quantity

Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas.
Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.
Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.
Sediment control practices must remain in place during grading, seedbed preparation, seeding, mulching, and vegetative establishment.

Adequate Vegetative Establishment

Inspect seeded areas for vegetative establishment and make necessary repairs, replacements, and reseedings within the planting season.
1. Adequate vegetative stabilization requires 95 percent groundcover.
2. If an area has less than 40 percent groundcover, restabilize following the original recommendations for lime, fertilizer, seedbed preparation, and seeding.
3. If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates originally specified.
4. Maintenance fertilizer rates for permanent seeding are shown in Table B.6.

B-4-1 STANDARDS AND SPECIFICATIONS
FOR
INCREMENTAL STABILIZATION
Definition

Establishment of vegetative cover on cut and fill slopes.

Purpose

To provide timely vegetative cover on cut and fill slopes as work progresses.

Conditions Where Practice Applies

Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles.

Criteria

A. Incremental Stabilization - Cut Slopes
1. Excavate and stabilize cut slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all cut slopes as the work progresses.
2. Construction sequence example (Refer to Figure B.1):
a. Construct and stabilize all temporary swales or dikes that will be used to convey runoff around the excavation.
b. Perform Phase 1 excavation, prepare seedbed, and stabilize.
c. Perform Phase 2 excavation, prepare seedbed, and stabilize. Overseed Phase 1 areas as necessary.
d. Perform final phase excavation, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.

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.

B. Incremental Stabilization - Fill Slopes
1. Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all slopes as the work progresses.
2. Stabilize slopes immediately when the vertical height of a lift reaches 15 feet, or when the grading operation ceases as prescribed in the plans.
3. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
4. Construction sequence example (Refer to Figure B.2):
a. Construct and stabilize all temporary swales or dikes that will be used to divert runoff around the fill. Construct silt fence on low side of fill unless other methods shown on the plans address this area.
b. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
c. Place Phase 1 fill, prepare seedbed, and stabilize.
d. Place Phase 2 fill, prepare seedbed, and stabilize.
e. Place final phase fill, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.

Note: Once the placement of fill 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 B.

B-4-2 STANDARDS AND SPECIFICATIONS
FOR
SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS
Definition

The process of preparing the soils to sustain adequate vegetative stabilization.

Purpose

To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies

Where vegetative stabilization is to be established.

Criteria

A. Soil Preparation
1. Temporary Stabilization
a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.
b. Apply fertilizer and lime as prescribed on the plans.
c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
2. Permanent Stabilization
a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
i. Soil pH between 6.0 and 7.0.
ii. Soluble salts less than 500 parts per million (ppm).
iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
iv. Soil contains 1.5 percent minimum organic matter by weight.
v. Soil contains sufficient pore space to permit adequate root penetration.
b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.
d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

B. Topsoiling
1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is 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.
2. Topsoil salvaged from an existing site may be used provided 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-NRCS.
3. Topsoiling 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.
4. Areas having slopes steeper than 2:1 require special consideration and design.
5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½ inches in diameter.
b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
6. Topsoil Application
a. Erosion and sediment control practices must be maintained when applying topsoil.
b. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to 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 must be corrected in order to prevent the formation of depressions or water pockets.
c. Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

C. Soil Amendments (Fertilizer and Lime Specifications)
1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve.
4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

B-4-3 STANDARDS AND SPECIFICATIONS
FOR
SEEDING AND MULCHING
Definition

The application of seed and mulch to establish vegetative cover.

Purpose

To protect disturbed soils from erosion during and at the end of construction.

Conditions Where Practice Applies

To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

Criteria

A. Seeding
1. Specifications
a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.
b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
d. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.
2. Application
a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact.
b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
i. 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.
ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
i. If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P2O5 (phosphorous), 200 pounds per acre; K2O (potassium), 200 pounds per acre.
ii. 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.
iii. Mix seed and fertilizer on site and seed immediately and without interruption.
iv. When hydroseeding do not incorporate seed into the soil.

B. Mulching
1. Mulch Materials (in order of preference)
a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of grass is desired.
b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
i. WCFM is to 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.
ii. WCFM, including dye, must contain no germination or growth inhibiting factors.
iii. WCFM materials are to 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 must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
iv. WCFM material must not contain elements or compounds at concentration levels that will be phyto-toxic.
v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.
2. Application
a. Apply mulch to all seeded areas immediately after seeding.
b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
3. Anchoring
a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:
i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 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 follow the contour.
ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited.
iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

B-4-8 STANDARDS AND SPECIFICATIONS
FOR
STOCKPILE AREA
Definition

A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

Purpose

To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

Conditions Where Practice Applies

Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

Criteria

1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.
3. Runoff from the stockpile area must drain to a suitable sediment control practice.
4. Access the stockpile area from the upgrade side.
5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

Maintenance

The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.

Table B.1: Temporary Seeding for Site Stabilization

Plant Species	Seeding Rate 1/ lb/ac	Seeding Rate 1/ lb/1000 ft2	Seeding Depth 2/ (inches)	Recommended Seeding Dates by Plant Hardiness Zone 3/ 5b and 6a	6b	7a and 7b
Cool-Season Grasses						
Annual Ryegrass (Lolium perenne ssp. Multiflorum)	40	1.0	0.5	Mar 15 to May 31; Aug 1 to Sep 30	**Mar 1 to May 15; Aug 1 to Oct 31**	Feb 15 to Apr 30; Aug 15 to Nov 30
Barley (Hordeum vulgare)	96	2.2	1.0	Mar 15 to May 31; Aug 1 to Sep 30	**Mar 1 to May 15; Aug 1 to Oct 31**	Feb 15 to Apr 30; Aug 15 to Nov 30
Oats (Avena sativa)	72	1.7	1.0	Mar 15 to May 31; Aug 1 to Sep 30	**Mar 1 to May 15; Aug 1 to Oct 31**	Feb 15 to Apr 30; Aug 15 to Nov 30
Wheat (Triticum aestivum)	120	2.8	1.0	Mar 15 to May 31; Aug 1 to Sep 30	**Mar 1 to May 15; Aug 1 to Oct 31**	Feb 15 to Apr 30; Aug 15 to Nov 30
Cereal Rye (Secale cereale)	112	2.8	1.0	Mar 15 to May 31; Aug 1 to Oct 31	**Mar 1 to May 15; Aug 1 to Nov 15**	Feb 15 to Apr 30; Aug 15 to Dec 15
Warm-Season Grasses						
Foxtail Millet (Seratania italica)	30	0.7	0.5	Jun 1 to Jul 31	**May 16 to Jul 31**	May 1 to Aug 14
Pearl Millet (Pennisetum glaucum)	20	0.5	0.5	Jun 1 to Jul 31	**May 16 to Jul 31**	May 1 to Aug 14

Notes:
1/ Seeding rates for the warm season grasses are in pounds of Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity, as tested. Adjustments are usually not needed for the cool-season grasses.

Seeding rates listed above are for temporary seedings, when planted alone. When planted as a nurse crop with permanent seed mixes, use 1/3 of the seeding rate listed above for barley, oats, and wheat. For smaller-seeded grasses (annual ryegrass, pearl millet, foxtail millet), do not exceed more than 5% (by weight) of the overall permanent seeding mix. Cereal rye generally should not be used as a nurse crop, unless planting will occur very late fall beyond the seeding dates for other temporary seedings. Cereal rye has allelopathic properties that inhibit the germination and growth of other plants. If it must be used as a nurse crop, seed at 1/3 of the rate listed above.

Oats are the recommended nurse crop for warm-season grasses.

2/ For sandy soils, plant seeds at twice the depth listed above.
3/ The planting dates listed are averages for each Zone and may require adjustment to reflect local conditions, especially near the boundaries of the zone.

B-4-4 STANDARDS AND SPECIFICATIONS
FOR
TEMPORARY STABILIZATION
Definition

To stabilize disturbed soils with vegetation for up to 6 months.

Purpose

To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies

Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria

1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.

B-4-5 STANDARDS AND SPECIFICATIONS
FOR
PERMANENT STABILIZATION
Definition

To stabilize disturbed soils with permanent vegetation.

Purpose

To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

Conditions Where Practice Applies

Exposed soils where ground cover is needed for 6 months or more.

Criteria

A. Seed Mixtures
1. General Use
a Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
b Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guild, Section 342 - Critical Area Planting.
c For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency.
d For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 ½ pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.
2. Turfgrass Mixtures
a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.
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 per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas 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 per 1000 square feet. Choose a minimum of three Kentucky Bluegrass Cultivars with each ranging from 10 to 35 percent of the total 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 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
iv. Kentucky Bluegrass/Fine Fescue: Shade 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 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 ½ to 3 pounds per 1000 square feet.
Notes: Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland" 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, provides a reliable means of consumer protection and assures a pure genetic line.
c. Ideal Times of Seeding for Turf Grass Mixtures
Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a)
Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b)
Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)
d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1 ½ inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.
e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (½ to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is not especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

B. Sod: to provide quick cover on disturbed areas (2:1 grade or flatter).
1. General Specifications
a. Class of turfgrass must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
b. Sod must be machine cut at a uniform soil thickness of ¾ inch, plus or minus ¼ inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.
c. Standard size sections of sod must 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 section.
d. Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its installation.
2. Sod Installation
a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints 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.
c. Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.
d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping and irrigating for any piece of sod within eight hours.
3. Sod Maintenance
a. In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting.
b. After the first week, sod watering is required as necessary to maintain adequate moisture content.
c. Do not mow until the sod is firmly rooted. No more than 1/3 of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

H-5 STANDARDS AND SPECIFICATIONS
FOR
DUST CONTROL
Definition

Controlling the suspension of dust particles from construction activities.

Purpose

To prevent blowing and movement of dust from exposed soil surfaces to reduce on and off-site damage including health and traffic hazards.

Conditions Where Practice Applies

Areas subject to dust blowing and movement where on and off-site damage is likely without treatment.

Specifications

1. Mulches: See Section B-4-2 Soil Preparation, Topsoiling, and Soil Amendments, Section B-4-3 Seeding and Mulching, and Section B-4-4 Temporary Stabilization. Mulch must be anchored to prevent blowing.
2. Vegetative Cover: See Section B-4-4 Temporary Stabilization.
3. Tillage: Till to roughen surface and bring clods to the surface. Begin plowing on windward side of site. Chisel-type plows spaced about 12 inches apart, spring-toothed harrows, and similar plows are examples of equipment that may produce the desired effect.
4. Irrigation: Sprinkle site with water until the surface is moist. Repeat as needed. The site must not be irrigated to the point that runoff occurs.
5. Barriers: Solid board fences, silt fences, snow fences, burlap fences, straw bales, and similar material can be used to control air currents and soil blowing.
6. Chemical Treatment: Use of chemical treatment requires approval by the appropriate plan review authority.

Permanent Seeding Summary

No.	Species	Application Rate (lb/ac.)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-20-20) N	P2O5	K2O	Lime Rate
	Hardiness Zone (from Figure B.3): 6b; Seed Misture (from Table B.3): Tall Fescue/Kentucky Bluegrass							
9	Fescue, Tall	60	Mar 1 to May 15 Aug 1 to Oct 15	1/4 - 1/2 in	45 pounds per acre (1.0 lb/ 100 sf)	90 lb/ac (2 lb/ 1000 sf)	90 lb/ac 2 lb/ 1000 sf)	2 tons/ac (90lb/ 1000 sf)
	Bluegrass, Kentucky	40	Mar 1 to May 15 Aug 1 to Oct 15	1/4 - 1/2 in				
				1/4 - 1/2 in				

STANDARD SEDIMENT CONTROL NOTES

1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:
A. PRIOR TO THE START OF EARTH DISTURBANCE,
B. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING,
C. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT,
D. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.
OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.
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 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.
4. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15' OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6).
5. 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 CID.
6. SITE ANALYSIS:

TOTAL AREA OF SITE:	5.46	ACRES
AREA DISTURBED:	6.2	ACRES
AREA TO BE ROOFED OR PAVED:	4.2	ACRES
AREA TO BE VEGETATIVELY STABILIZED:	2.0	ACRES
TOTAL CUT:	---	CU. YDS.
TOTAL FILL:	41,000	CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION:	*	

(EARTHWORK NUMBERS ARE APPROXIMATE AND SHALL BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION)

* IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY THE SPOIL/BORROW SITE AND NOTIFY AND GAIN APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR OF THE SITE AND ITS GRADING PERMIT NUMBER AT THE TIME OF CONSTRUCTION.
7. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY; AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:
- INSPECTION DATE
- INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
- NAME AND TITLE OF INSPECTOR
- WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION)
- BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES
- EVIDENCE OF SEDIMENT DISCHARGES
- IDENTIFICATION OF PLAN DEFICIENCIES
- IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE
- IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS
- COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS
- PHOTOGRAPHS
- MONITORING/SAMPLING
- MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED
- OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE).
9. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.
10. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES.
11. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE CID. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE CID, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
12. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.
13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE.
14. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBRICATED AT 25' MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION.
15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUSIVE):
- USE I AND IP MARCH 1 - JUNE 15
- USE III AND IIIP OCTOBER 1 - APRIL 30
- USE IV MARCH 1 - MAY 31
16. A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

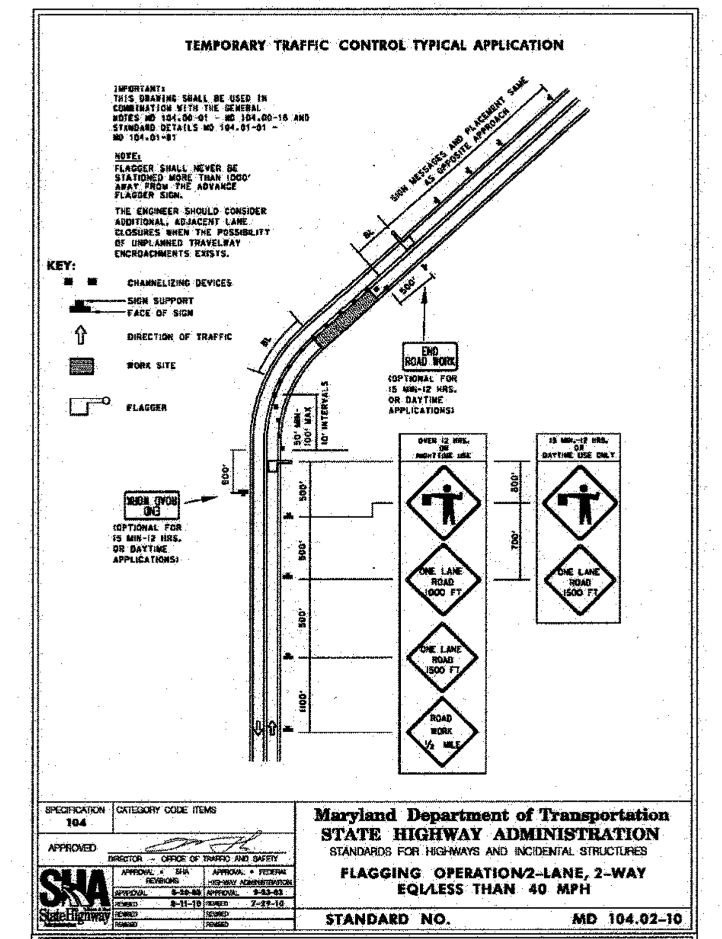
SEQUENCE OF CONSTRUCTION

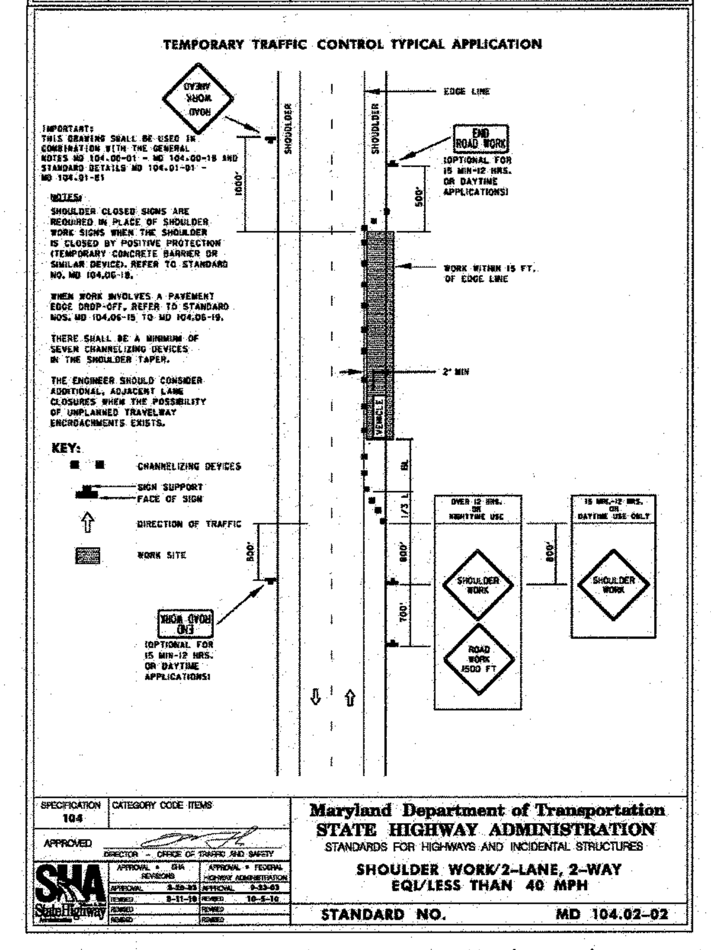
1. OBTAIN GRADING PERMIT. (1 DAY)
2. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCES AT LOCATIONS SHOWN. (3 DAYS)
3. PROVIDE SSF ALONG THE LOD AS SHOWN. INSTALL INLET PROTECTION UPON APPROVAL BY THE S&E CONTROL INSPECTOR BEGIN SITE GRADING & BUILDING CONSTRUCTION. (700 DAYS)
4. CONCURRENT WITH BUILDING CONSTRUCTION, CONSTRUCT ALL STORM DRAINS AND UTILITIES. INSTALL PROTECTION ON ALL INLETS AS SHOWN. (90 DAYS)
5. INSTALL BASE PAVING. (15 DAYS)
6. SEED AND MULCH ALL REMAINING DISTURBED AREAS. (10 DAYS)
7. UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES, FINALIZE GRADING AND STABILIZE REMAINING DISTURBED AREAS. (5 DAYS)

NOTE: UTILITY WORK WITHIN EXISTING ROADWAYS SHALL BE LIMITED TO THAT WHICH CAN BE BACKFILLED AND/OR STABILZED BY THE END OF THE DAY'S CONSTRUCTION ACTIVITIES

NOTE: ALL SUPER SILT FENCES TO BE CHECKED DAILY TO ENSURE COMPLIANCE AND REPAIRED IMMEDIATELY AS REQUIRED

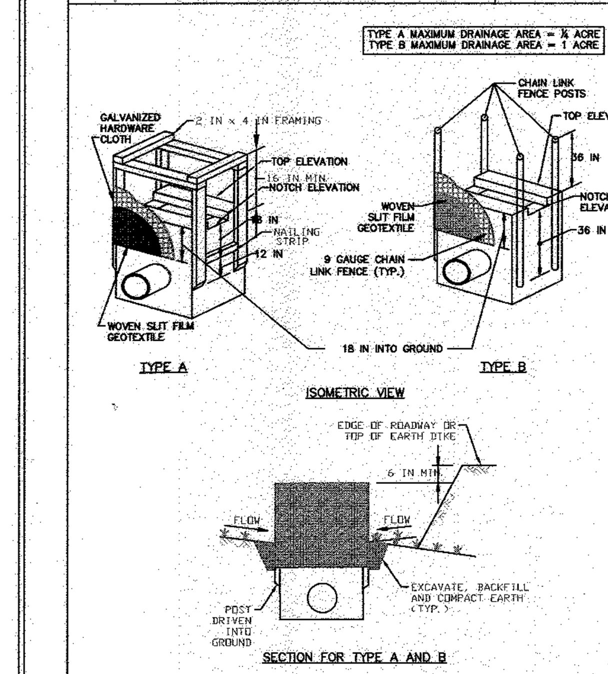
NOTE: NO CHANGES ARE ALLOWED TO THE SEQUENCE OF CONSTRUCTION WITHOUT PRIOR HOWARD SCD APPROVAL





MAINTENANCE OF TRAFFIC (MOT) PLAN

DETAIL E-9-1 STANDARD INLET PROTECTION (STANDARD SYMBOL: SIP)



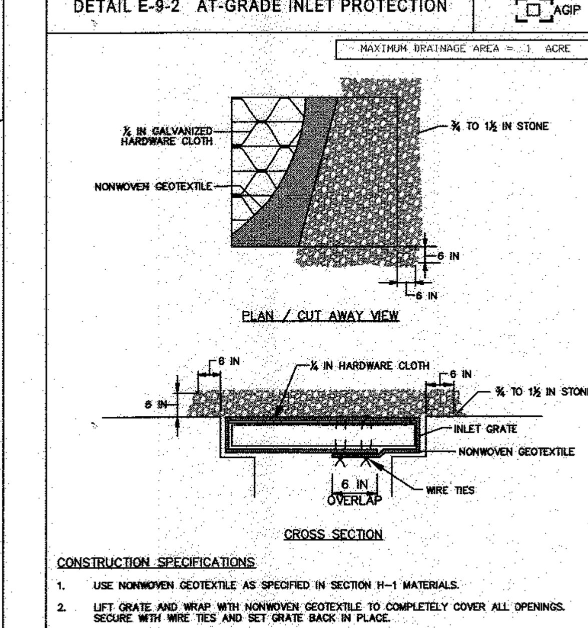
1 OF 2

DETAIL E-9-1 STANDARD INLET PROTECTION (STANDARD SYMBOL: SIP)

CONSTRUCTION SPECIFICATIONS
1. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
2. EXCAVATE COMPLETELY AROUND THE INLET TO A DEPTH OF 18 INCHES BELOW THE NOTCH ELEVATION.
3. FOR TYPE A, USE NOMINAL 2 INCH X 4 INCH CONSTRUCTION GRADE LUMBER POSTS, DRIVEN 1 FOOT INTO THE GROUND AT EACH CORNER OF THE INLET. PLACE NAIL STRIPS BETWEEN THE POSTS ON THE ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE 2X4 FRAME AS SHOWN. STRETCH ½ INCH GALVANIZED HARDWARE CLOTH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY. FASTEN GEOTEXTILE SECURELY TO THE HARDWARE CLOTH WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND HARDWARE CLOTH A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. THE ENDS OF THE GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED TO THE POST.
FOR TYPE B, USE 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND 6 FOOT LENGTH, DRIVEN A MINIMUM OF 36 INCHES BELOW THE WEIR CREST AT EACH CORNER OF THE STRUCTURE. FASTEN 9 GAUGE OR HEAVIER CHAIN LINK FENCE, 42 INCHES IN HEIGHT, SECURELY TO THE FENCE POSTS WITH WIRE TIES. FASTEN GEOTEXTILE SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 18 INCHES BELOW THE WEIR CREST.
4. BACKFILL AROUND THE INLET IN LOOSE 4 INCH LIFTS AND COMPACT UNTIL SOIL IS LEVEL WITH THE NOTCH ELEVATION ON THE ENDS AND TOP ELEVATION ON THE SIDES.
5. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

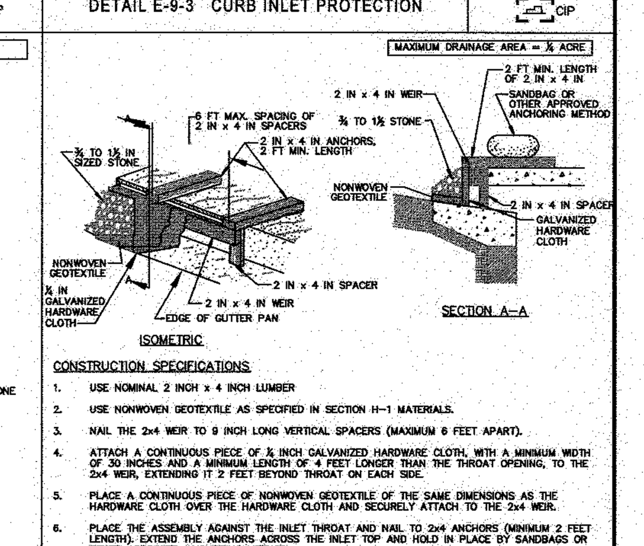
2 OF 2

DETAIL E-9-2 AT-GRADE INLET PROTECTION (STANDARD SYMBOL: AGIP)



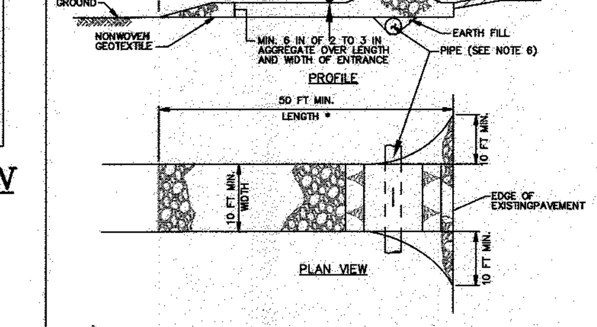
CONSTRUCTION SPECIFICATIONS
1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
2. LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE.
3. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE GRATE.
4. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

DETAIL E-9-3 CURB INLET PROTECTION (STANDARD SYMBOL: CIP)



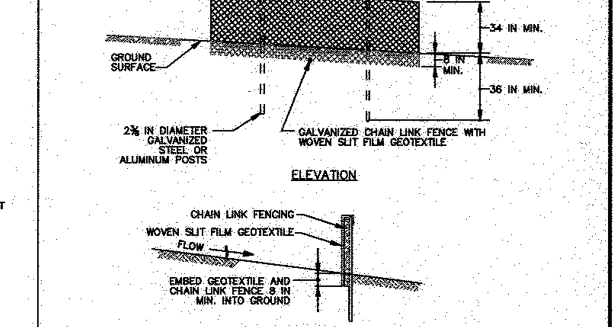
CONSTRUCTION SPECIFICATIONS
1. USE NOMINAL 2 INCH x 4 INCH LUMBER
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
3. NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).
4. ATTACH A CONTINUOUS PIECE OF ½ INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE.
5. PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.
6. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
7. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
8. FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
9. AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
10. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE (STANDARD SYMBOL: SCE)



CONSTRUCTION SPECIFICATIONS
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

DETAIL E-3 SUPER SILT FENCE (STANDARD SYMBOL: SSF)



CONSTRUCTION SPECIFICATIONS
1. INSTALL 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2⅜ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE | 2011 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

ENGINEER'S CERTIFICATE

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

ENGINEER - CHRISTOPHER A. MALAGARI — DATE 4-20-17

OWNER'S CERTIFICATE

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

ATAPCO HOWARD SQUARE I STATUTORY TRUST — DATE 4-18-17

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

HOWARD SCD — DATE 5/10/17

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-18-17

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6-8-17

DIRECTOR — DATE 6-8-17

NO.	DATE	REVISION

BENCHMARK
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE
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ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
E-MAIL: bei@bei-civilengineering.com
WWW.BEI-CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 22390, Expiration Date: 6-30-2017.

DEVELOPER/OWNER:
ATAPCO HOWARD SQUARE I
BUSINESS TRUST
One South Street
Suite 2800
Baltimore, MD 21202
(410) 347-7189

HOWARD SQUARE
PHASE 8 & 9, PARCEL B
APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 - PARCEL: B
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

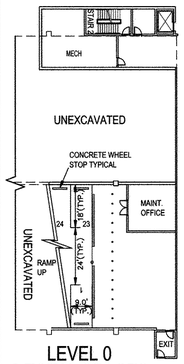
SEDIMENT & EROSION CONTROL
PLAN, NOTES AND DETAILS

DATE: OCTOBER, 2015	REVISED: APRIL, 2017	BEI PROJECT NO.	2541
DRAFT: MCR	CHECK: CAM	SCALE: AS SHOWN	SHEET 9 OF 27

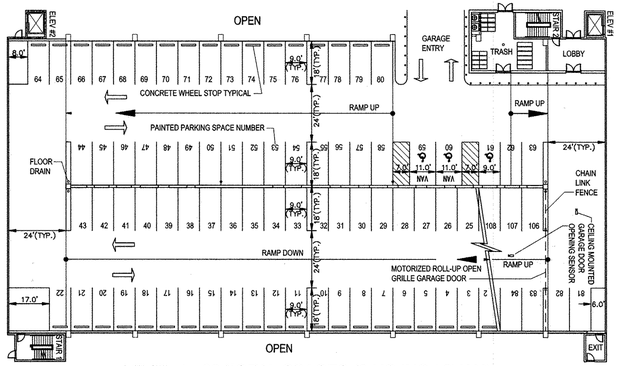
SDP-16-017

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

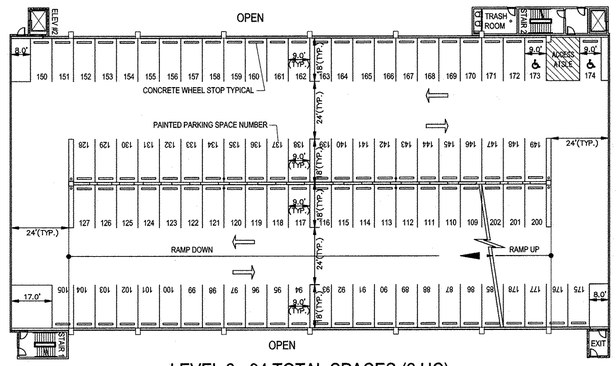
CHIEF, DEVELOPMENT ENGINEERING DIVISION JR	DATE 5.18.17
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 6-5-17
DIRECTOR	DATE 6-8-17



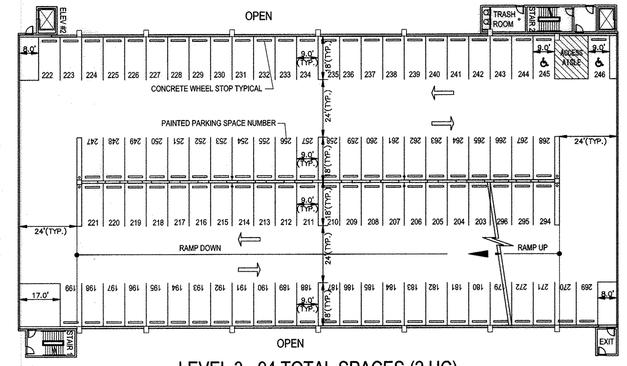
LEVEL 0
0 TOTAL SPACES
(0 HC)



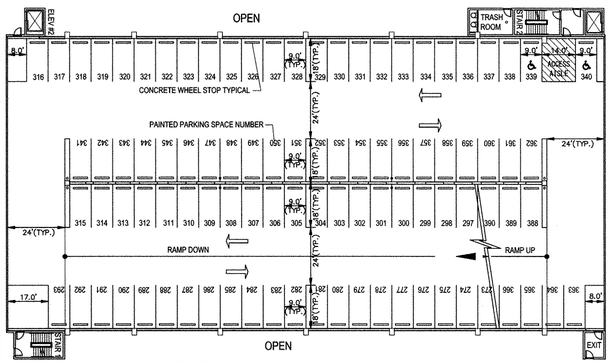
LEVEL 1 - 80 TOTAL SPACES (3 HC INC./ 2VAN)



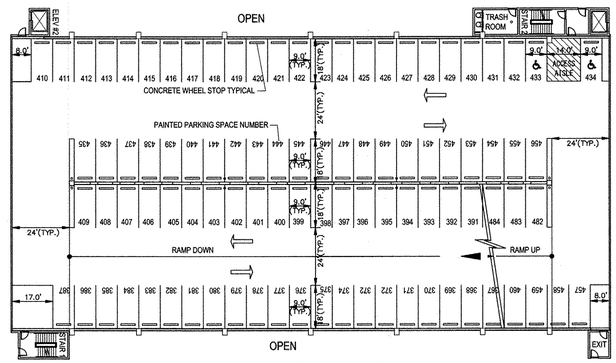
LEVEL 2 - 94 TOTAL SPACES (2 HC)



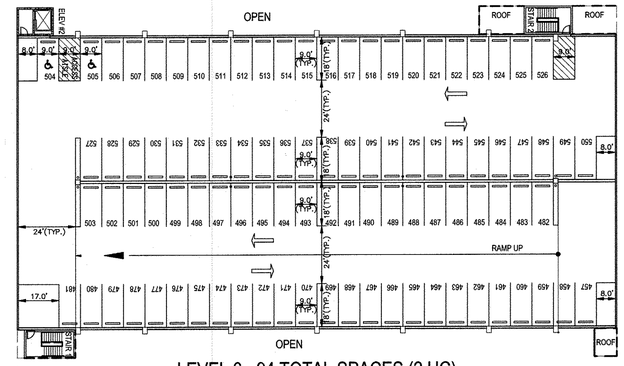
LEVEL 3 - 94 TOTAL SPACES (2 HC)



LEVEL 4 - 94 TOTAL SPACES (2 HC)



LEVEL 5 - 94 TOTAL SPACES (2 HC)

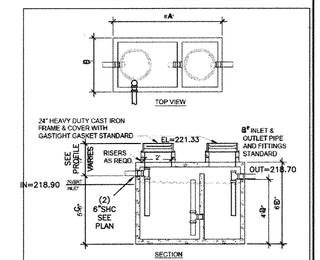


LEVEL 6 - 94 TOTAL SPACES (2 HC)

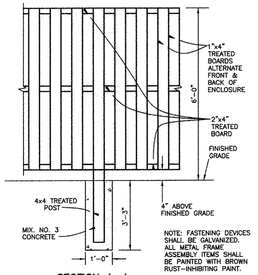
PARKING EXHIBITS (BUILDING–A)

0 30' 60'
SCALE: 1" = 30'

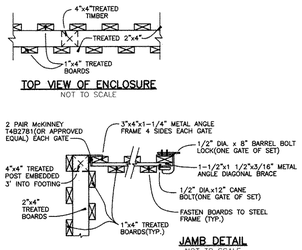
GREASE TRAP TABLE		
SIZE	DIMENSION A	DIMENSION B
2000 GALLON	*12.00'	*6.00'
* – VERIFY DIMENSIONS PER LOCAL CODE & MANUFACTURERS SPECIFICATIONS		



EXTERIOR GREASE TRAP
NTS

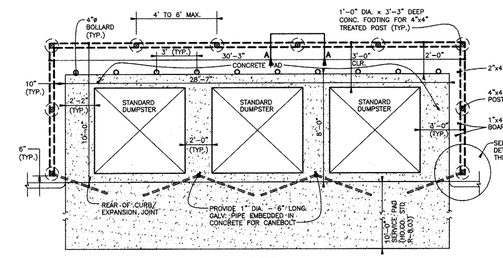


SECTION A–A
WOOD SCREEN FENCE
FOR DUMPSTER PAD AREA
NOT TO SCALE



TOP VIEW OF ENCLOSURE
NOT TO SCALE

JAMB DETAIL
NOT TO SCALE

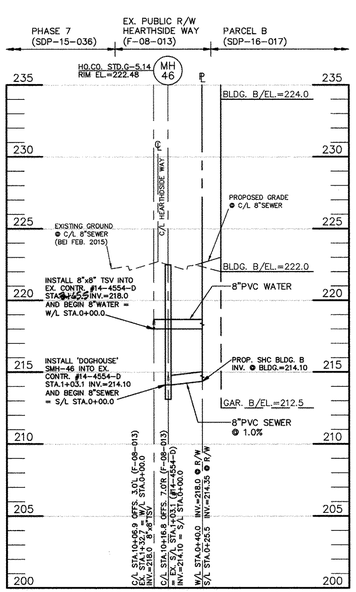


PLAN
DUMPSTER ENCLOSURE
NOT TO SCALE

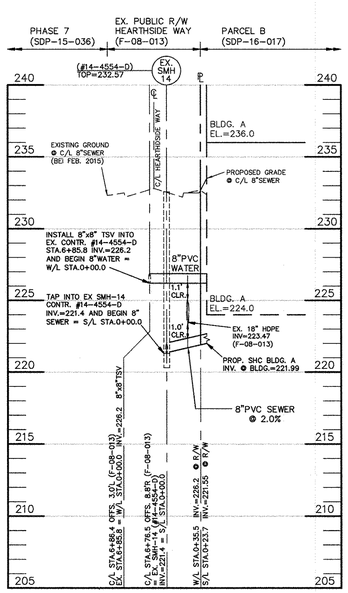
NOTE: BASED ON HO. CO. STD. R-8.06

3–DUMPSTER ENCLOSURE DETAILS

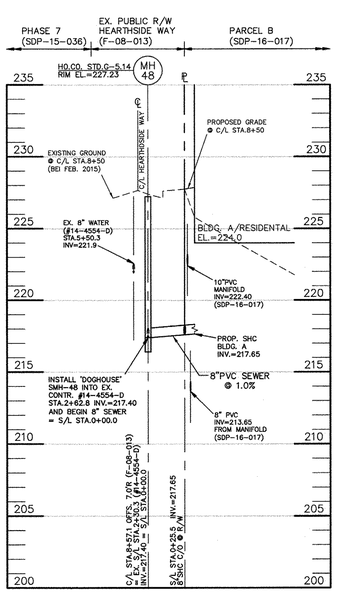
SEWER MANHOLE – STRUCTURE SCHEDULE									
NO.	TYPE	LOCATION	INVERT IN	SHC INV.	INVERT OUT	TOP ELEV.	HO.CO. STD.	SERVICE	REMARKS
MH–46	STD. 4.0'ø PRE-CAST	HEARTHSIDE WAY STA.10+16.8 OFFS. 7.0'RT	214.10	–	214.10	222.48	G–5.14	BLDG. B	EX. CONTR. #14–4554–D
MH–47	STD. 4.0'ø PRE-CAST	HEARTHSIDE WAY STA. 8+79.7 OFFS. 7.2'RT	216.95	–	216.95	226.58	G–5.14	BLDG. A	EX. CONTR. #14–4554–D
MH–48	STD. 4.0'ø PRE-CAST	HEARTHSIDE WAY STA. 8+57.1 OFFS. 7.0'RT	217.40	–	217.40	227.23	G–5.14	BLDG. A	EX. CONTR. #14–4554–D
EX. SMH–04	–	HEARTHSIDE WAY STA. 4+74.5 OFFS. 6.4'RT	225.54	–	225.44	235.69	–	BLDG. A	EX. CONTR. #14–4554–D
EX. SMH–14	STD. 4.0'ø PRE-CAST	HEARTHSIDE WAY STA. 6+76.5 OFFS. 8.8'RT	221.4	–	221.3	232.57	G–5.14	BLDG. A	EX. CONTR. #14–4554–D



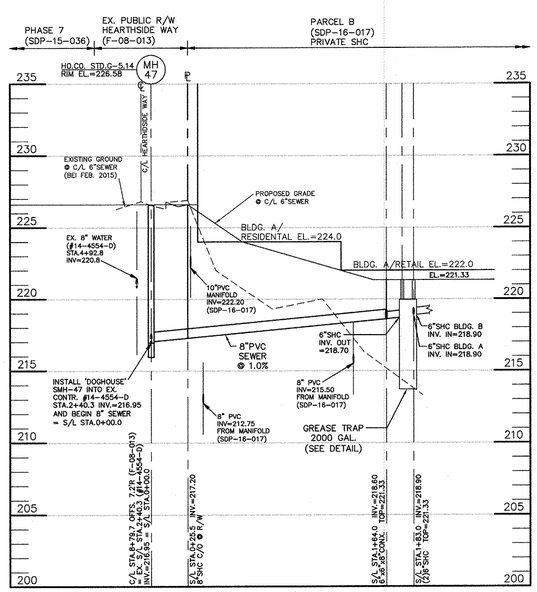
WATER/SEWER PROFILE
HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=5'



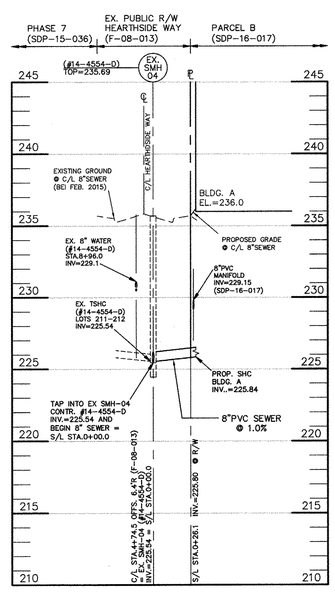
WATER/SEWER PROFILE
HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=5'



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



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



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

NO.	DATE	REVISION
1	06/2018	CORRECT EX. W/L STA. FOR WM TO BLDG. A

BENCHMARK
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E–MAIL: bei@bei–civilengineering.com
WWW.BEI–CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 22212, Expiration Date: 6-30-2017.

STATE OF MARYLAND CHRISTOPHER ALAN MICHAEL 22212 PROFESSIONAL ENGINEER
6-1-2017

DEVELOPER/OWNER:
ATAPCO HOWARD SQUARE I BUSINESS TRUST
One South Street
Suite 2800
Baltimore, MD 21202
(410) 347-7189

HOWARD SQUARE
PHASE 8 & 9, PARCEL B
APARTMENT AND RETAIL BUILDINGS

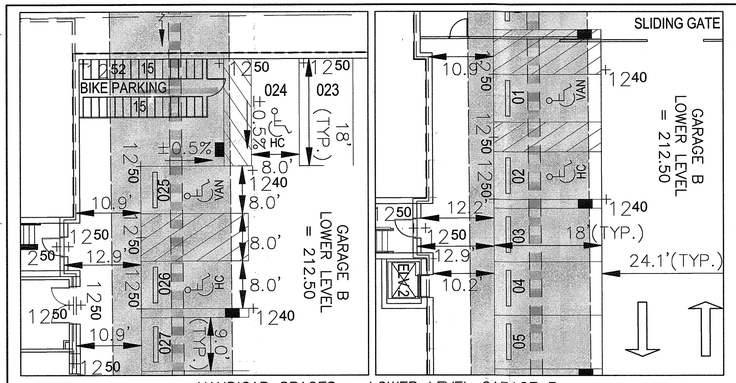
TAX MAP: 43 GRID 3 & 9 – PARCEL: B
ZONED: CAC–CLI
ELECTION DISTRICT NO. 1 – HOWARD COUNTY, MARYLAND

PRIVATE UTILITY PROFILES, PARKING PLAN, NOTES AND DETAILS

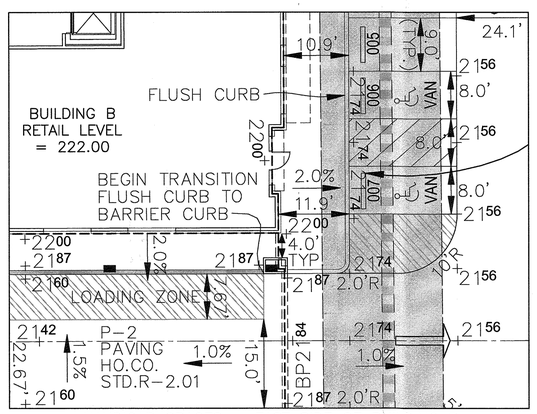
DRAFT: MCR	CHECK: CAM	DATE: OCTOBER, 2015 REVISED: APRIL, 2017 SCALE: AS SHOWN	BEI PROJECT NO. 2541 SHEET 10 OF 27

SDP–16–017

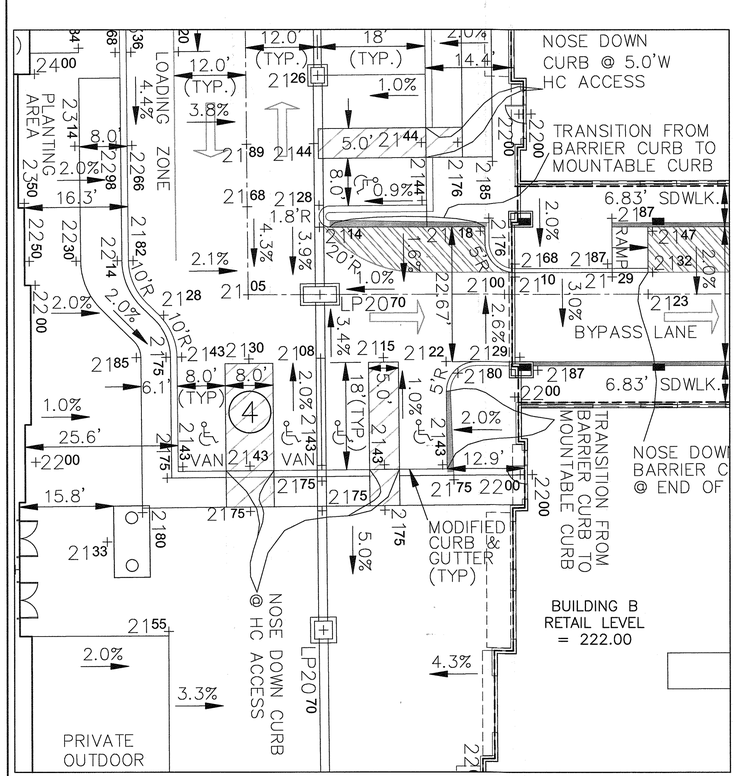
J:\2541 Howard Square Parcel B\dwg\8000PB-V6_FINAL S.dwg, DETAILS, 4/20/2017 3:29:40 PM, mriedel, Oce PlotWave 360 - WPD2



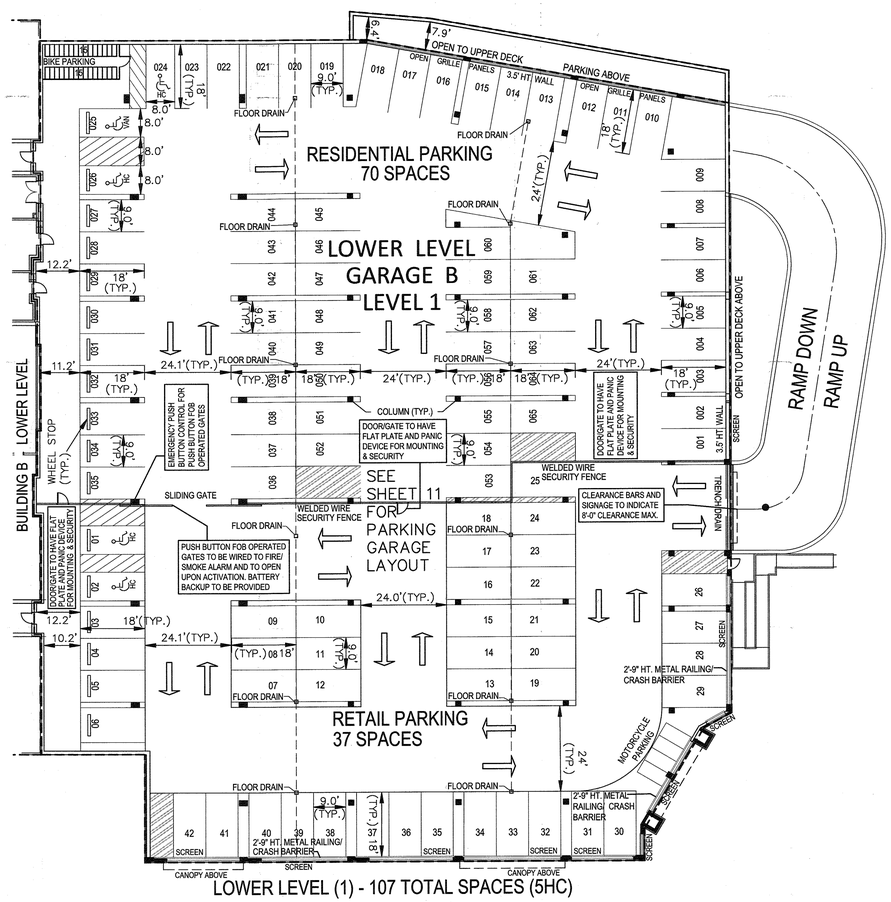
HANDICAP SPACES – LOWER LEVEL GARAGE B



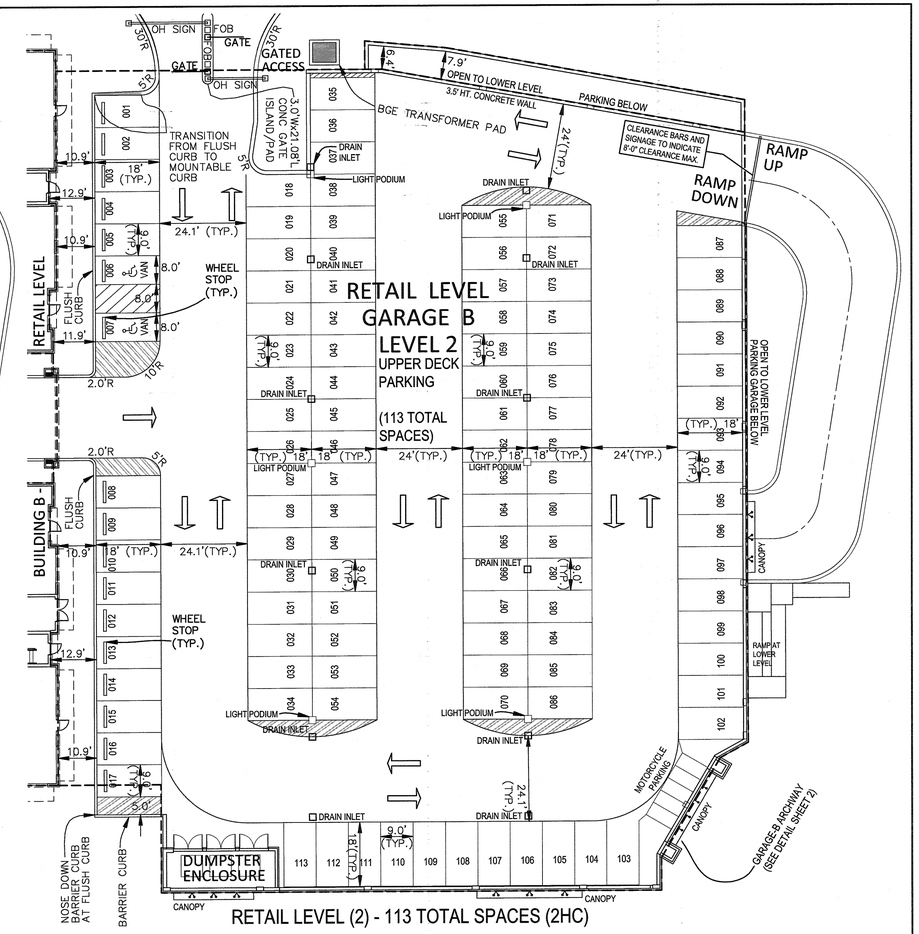
HANDICAP SPACES – EAST SIDE OF BUILDING B



ADA/HANDICAP ELEMENTS – PLAZA BETWEEN BUILDINGS A & B



LOWER LEVEL (1) - 107 TOTAL SPACES (5HC)



RETAIL LEVEL (2) - 113 TOTAL SPACES (2HC)

PARKING EXHIBIT BUILDING–B GARAGE

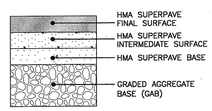
SCALE: 1" = 30'

HC PARKING SPACE DETAILS

SCALE: 1" = 12'

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING OVERHEAD POWER LINES
- EXISTING UNDERGROUND ELEC. LINES
- EXISTING GAS LINES
- EXISTING SEWER LINES
- EXISTING WATER LINES
- FIRE HYDRANT
- STORM DRAIN PIPES
- EX. SIDEWALK
- EXISTING CURB & GUTTER
- UN-MITIGATED 65dBA NOISE LINE
- EX. LIGHTS
- EX. STREET TREES (F-08-013)
- UNDERGROUND STORMWATER MANAGEMENT FACILITY
- PUBLIC WATER, SEWER, AND UTILITY EASEMENT
- PRIVATE DRAINAGE AND UTILITY EASEMENT
- POINT OF ENTRY/ACCESS



SCHEMATIC PAVING DETAIL

NOT TO SCALE

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)	3 to <5	5 to <7	≥7	3 to <5	5 to <7	≥7
		PAVEMENT MATERIAL (INCHES)	MIN. HMA WITH GAB			HMA WITH CONSTANT GAB		
P-2	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY LOCAL ROADS: ACCESS PLACE, ACCESS STREET CUL-DE-SAC: RESIDENTIAL	HMA SUPERPAVE FINAL SURFACE 9.5 MM PG 64-22, LEVEL 1 (LOW ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM PG 64-22, LEVEL 1 (LOW ESAL)	1.0	1.0	1.0	1.0	1.0	1.0
		HMA SUPERPAVE BASE 9.0 MM PG 64-22, LEVEL 1 (LOW ESAL)	2.0	2.0	2.0	3.5	2.0	2.0
		GRADED AGGREGATE BASE (GAB)	8.0	4.0	3.0	4.0	4.0	4.0

PAVING SPECIFICATIONS (HO.CO. STD R-2.01)

(TO BE DETERMINED BY GEOTECHNICAL ENGINEER)

THIS REVISION REPLACES THE PREVIOUS SHEET DATED APRIL, 2017

NO.	DATE	REVISION
		UPDATE HC PARKING DETAILS PER REVISED BUILDING B & GARAGE B
1	06/2018	FOOTPRINTS, UPDATE GARAGE B EXHIBITS PER REVISED FOOTPRINT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 8/6/18

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/9/18

DIRECTOR — DATE 8-9-18

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E-MAIL: bei@bei-civilengineering.com
WWW.BEI-CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 22390, Expiration Date: 6-30-2017.

STATE OF MARYLAND — CHRISTOPHER ALAN MALONEY — No. 22390 — PROFESSIONAL ENGINEER — 6/28/18

DEVELOPER/OWNER:

ATAPCO HOWARD SQUARE I BUSINESS TRUST
One South Street
Suite 2800
Baltimore, MD 21202
(410) 347-7189

HOWARD SQUARE

PHASE 8 & 9, PARCEL B

APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 – PARCEL: B
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 – HOWARD COUNTY, MARYLAND

PARKING PLAN, NOTES, AND DETAILS

DRAFT: MCR	CHECK: CAM	DATE: APRIL, 2017 / REVISED: JUNE, 2018	BEI PROJECT NO. 2541
		SCALE: AS SHOWN	SHEET 11 OF 27

SDP–16–017

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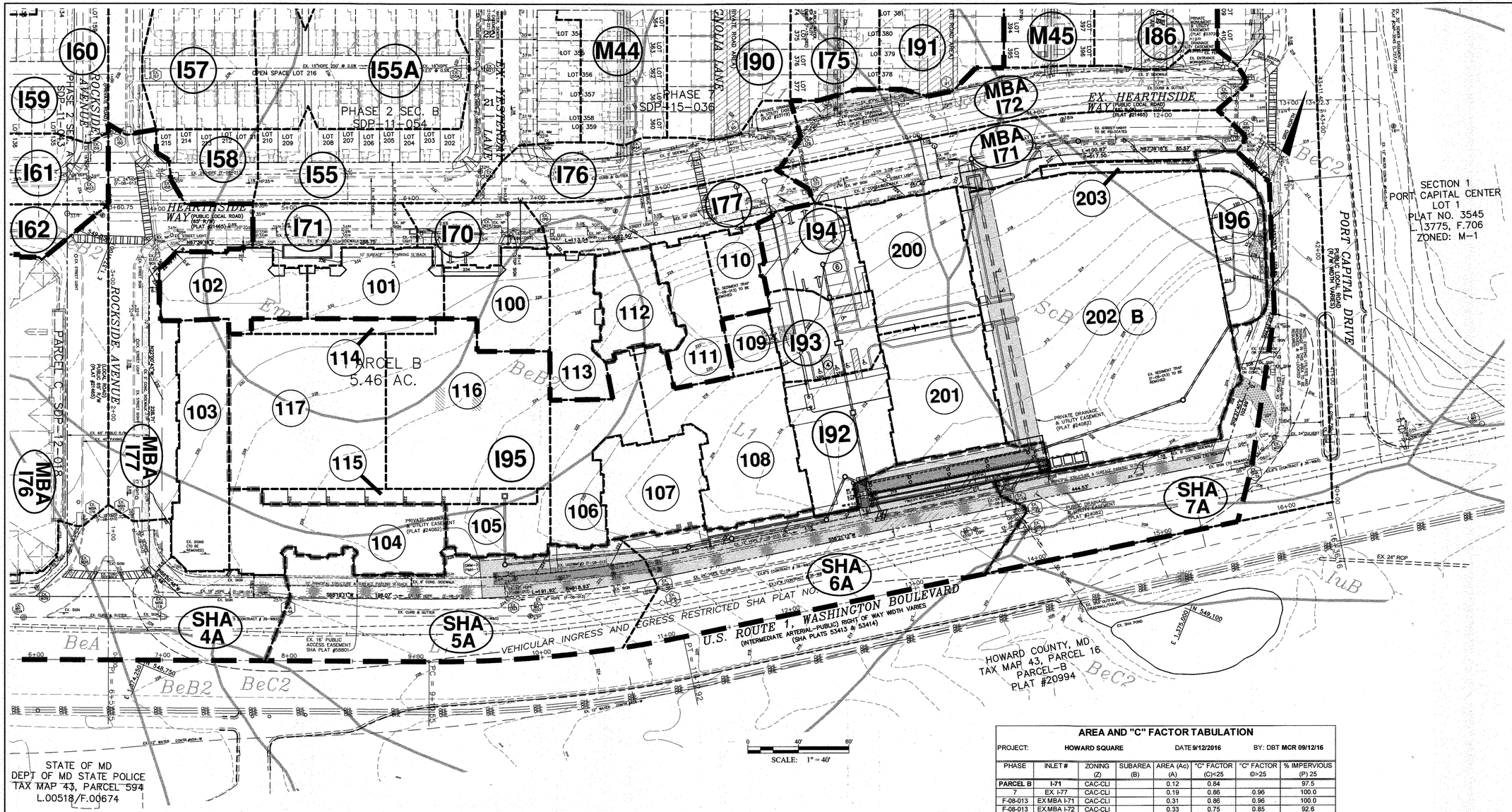


AREA AND "C" FACTOR TABULATION

PROJECT: **HOWARD SQUARE** DATE **9/12/2016** BY: DBT **MCR 09/12/16**

PHASE	INLET #	ZONING (Z)	SUBAREA (B)	AREA (Ac) (A)	"C" FACTOR (C)<25	"C" FACTOR (C)>25	% IMPERVIOUS (P) 25
PARCEL B	**I-71**	CAC-CLI		0.12	0.84		97.5
7	EX I-77	CAC-CLI		0.19	0.86	0.96	100.0
F-08-013	EX MBA I-71	CAC-CLI		0.31	0.86	0.96	100.0
F-08-013	EX MBA I-72	CAC-CLI		0.33	0.75	0.85	92.6
PARCEL B	**EX. MH-24**	CAC-CLI		0.04	0.72	0.90	85.0
PARCEL B	**I-92**	CAC-CLI		0.17	0.72		85.0
PARCEL B	**I-93**	CAC-CLI		0.12	0.72		85.0
PARCEL B	**I-94**	CAC-CLI		0.12	0.72		85.0
PARCEL B	**I-95**	CAC-CLI		0.77	0.72		85.0
PARCEL B	**I-96**	CAC-CLI		0.10	0.72		85.0
PARCEL B	**M-50**	CAC-CLI		0.97	0.86	0.00	100.0
PARCEL B	**M-54**	CAC-CLI		0.26	0.72		85.0
PARCEL B	**M-55**	CAC-CLI		0.38	0.72		85.0
PARCEL B	**M-56**	CAC-CLI		0.06	0.72		85.0
PARCEL B	**M-57**	CAC-CLI		0.10	0.72		85.0
F-08-013	MBA I-76	CAC-CLI		1.07	0.86	0.90	100.0
F-08-013	MBA I-77	CAC-CLI		0.58	0.84	0.92	97.4
F-08-013	EX SHA I-4A	CAC-CLI		0.60	0.83	0.94	96.8
F-08-013	EX SHA I-5A	CAC-CLI		0.53	0.81	0.94	94.3
F-08-013	EX SHA I-8A	CAC-CLI		0.60	0.80	0.93	93.5
F-08-013	EX WQ#3	CAC-CLI		2.48	0.78	0.91	91.2
F-08-013	DA-7,8,9	CAC-CLI		1.66	0.77	0.91	90.0
PARCEL B	**D-100**	CAC-CLI		0.13	0.72		85.0
PARCEL B	**D-101**	CAC-CLI		0.13	0.72		85.0
PARCEL B	**D-102**	CAC-CLI		0.14	0.72		85.0
PARCEL B	**D-103**	CAC-CLI		0.19	0.72		85.0
PARCEL B	**D-104**	CAC-CLI		0.20	0.72		85.0
PARCEL B	**D-105**	CAC-CLI		0.08	0.72		85.0
PARCEL B	**D-106**	CAC-CLI		0.16	0.72		85.0
PARCEL B	**D-107**	CAC-CLI		0.14	0.72		85.0
PARCEL B	**D-108**	CAC-CLI		0.26	0.72		85.0
PARCEL B	**D-109**	CAC-CLI		0.04	0.72		85.0
PARCEL B	**D-110**	CAC-CLI		0.06	0.72		85.0
PARCEL B	**D-111**	CAC-CLI		0.11	0.72		85.0
PARCEL B	**D-112**	CAC-CLI		0.10	0.72		85.0
PARCEL B	**D-113**	CAC-CLI		0.11	0.72		85.0
PARCEL B	**D-114**	CAC-CLI		0.04	0.72		85.0
PARCEL B	**D-115**	CAC-CLI		0.06	0.72		85.0
PARCEL B	**D-116**	CAC-CLI		0.36	0.72		85.0
PARCEL B	**D-117**	CAC-CLI		0.35	0.72		85.0
PARCEL B	**D-200**	CAC-CLI		0.20	0.72		85.0
PARCEL B	**D-201**	CAC-CLI		0.20	0.72		85.0
PARCEL B	**D-202**	CAC-CLI		0.97	0.72		85.0
PARCEL B	**D-203**	CAC-CLI		0.03	0.72		85.0

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	JR	5-18-17 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT		6-8-17 DATE
DIRECTOR		6-8-17 DATE

SOILS LEGEND

MAP SYMBOL	SOIL TYPE	MAPPING UNIT
BeA	C	BELTSVILLE SILT LOAM – 0 TO 1 PERCENT SLOPES
BeB2	C	BELTSVILLE SILT LOAM – 1 TO 5 PERCENT SLOPES – MODERATELY ERODED
BeC2	C	BELTSVILLE SILT LOAM – 5 TO 10 PERCENT SLOPES – MODERATELY ERODED
Em	D	ELKTON SILT LOAM
EvC	A	EVESBORO LOAMY SAND – 5 TO 10 PERCENT SLOPES
IuB	D	LUKA LOAM, LOCAL ALLUVIUM – 1 TO 5 PERCENT SLOPES – MODERATELY ERODED
ScB	C	SANDY AND CLAYEY LAND – GENTLY SLOPING

NO.	DATE	REVISION

BENCHMARK
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE
SUITE 315
ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
E-MAIL: bei@bei-civilengineering.com
WWW.BEI-CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. [illegible] Expiration Date: 6-30-2017.

STATE OF MARYLAND — CHRISTOPHER ALAN REICHELT — No. [illegible] — PROFESSIONAL ENGINEER — 4-20-17

DEVELOPER/OWNER:

ATAPCO HOWARD SQUARE I
BUSINESS TRUST
One South Street
Suite 2800
Baltimore, MD 21202
(410) 347-7189

HOWARD SQUARE

PHASE 8 & 9, PARCEL B

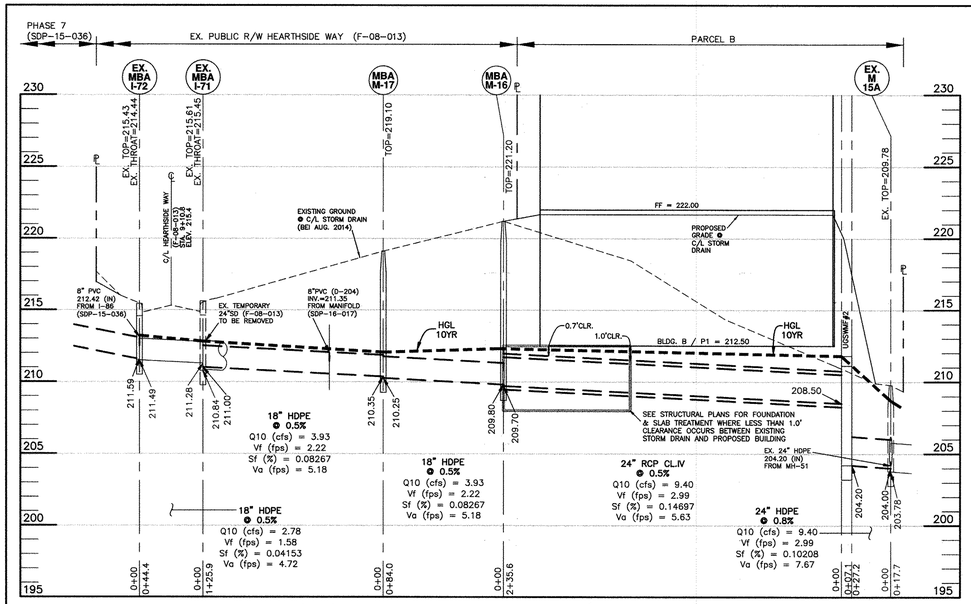
APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 – PARCEL: B
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 – HOWARD COUNTY, MARYLAND

SOIL AND STORM DRAINAGE AREA MAP

DRAFT: MCR	CHECK: CAM	DATE: OCTOBER, 2015 REVISED: APRIL, 2017	BEI PROJECT NO. 2541
		SCALE: AS SHOWN	SHEET 12 OF 27

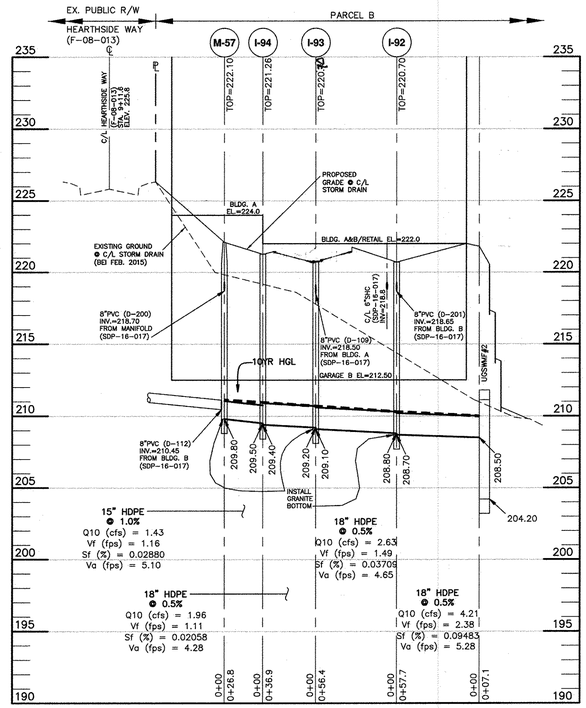
J:\2541 Howard Square Parcel B\dwg\8000PB-V8_FINALS.dwg, SD MAP, 4/20/2017 3:33:12 PM, mriedel, Oce PlotWave 360 - WPD2



EX. MBA I-72 TO UGSWMF#2 (F-08-013)

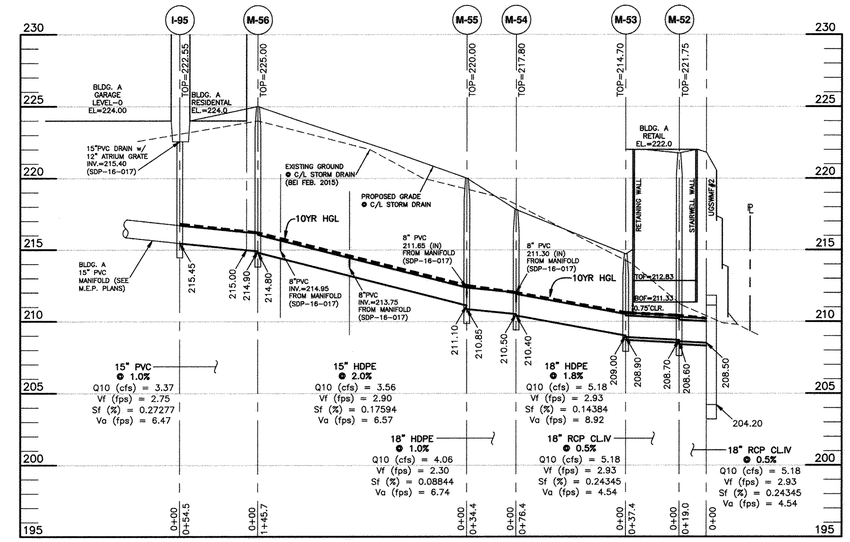
HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=5'

(SHOWN FOR REFERENCE/INFORMATION PURPOSES ONLY)



M-57 TO UGSWMF#2

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



I-97 TO UGSWMF#2

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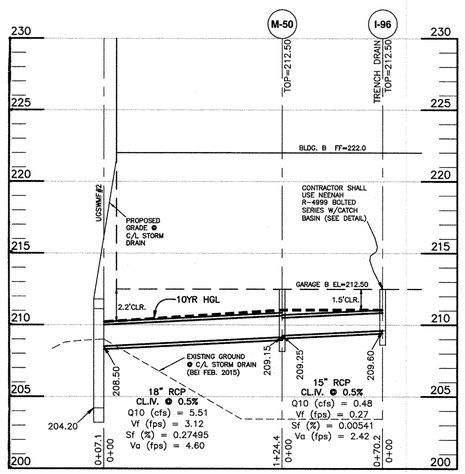
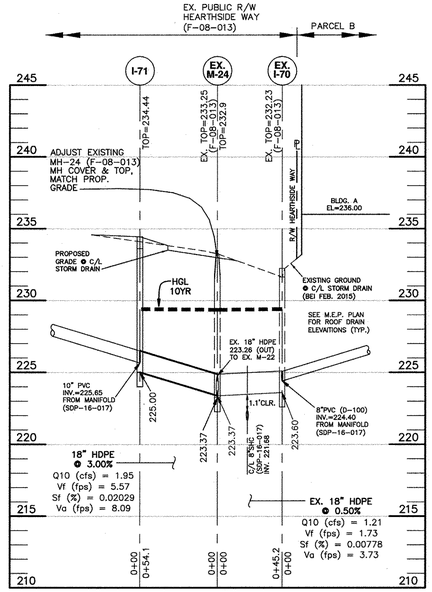
VERTICAL SCALE: 1"=5'



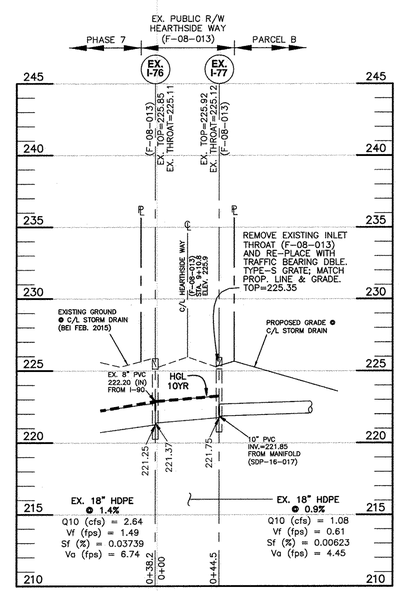
BLDG.-B GARAGE TO UGSWMF#2

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



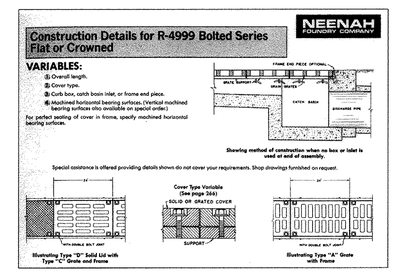
I-71 @ EX. M-24

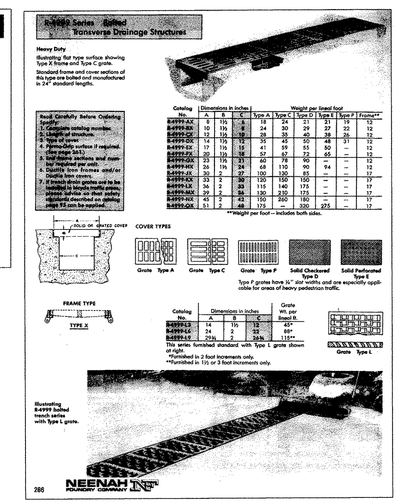
HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=5'



I-92(EX.I-77) TO EX. I-76

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





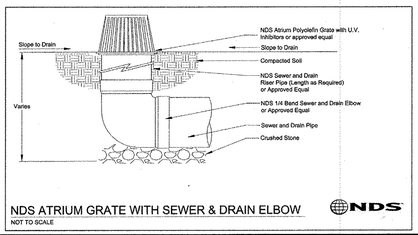
STRUCTURE TABLE

NUMBER	TYPE	LOCATION	INVERT IN		INVERT OUT	TOP ELEV.	HO. CO. STD. DETAIL	MAINTENANCE	NOTES
INLETS									
I-71	A-5	6+02.53 Hearthside Way: offset 22.60' right	225.65(10"PVC)	-	225.00	234.44	D-4.01 or D-4.02	PRIVATE	PARCEL B
EX. I-77	S	9+10.07 Hearthside Way: offset 22.43' right	-	221.85 (8"PVC)	EX. 221.75	225.35	D-4.22	PRIVATE	PARCEL B
I-92	S	N 549,145.6621 E 1,374,694.4648	208.80	218.65 (8"PVC)	208.70	220.70	D-4.22	PRIVATE	PARCEL B
I-93	DBLE-S	N 549,192.6505 E 1,374,663.3665	209.20	218.50 (8"PVC)	209.10	220.70	D-4.23	PRIVATE	PARCEL B
I-94	S	N 549,223.3939 E 1,374,642.9890	209.50	-	209.40	221.26	D-4.22	PRIVATE	PARCEL B
I-95	S	N 549,981.4519 E 1,374,464.2587	215.55	-	215.45	222.55	D-4.22	PRIVATE	PARCEL B
I-96	TRENCH	N 549,330.9892 E 1,374,938.8339	-	-	209.60	212.50	N/A - SEE SPECS	PRIVATE	PARCEL B
MANHOLES									
EX. M-24	4' DIA	9+68.59 Hearthside Way: offset 23.10' right	223.37	223.37	223.26	ADJUST	G-5.12	PRIVATE	F-08-013
M-50	4' DIA	N 549,252.42 E 1,374,932.34	209.25 (I-95)	-	209.15	212.50	G-5.12 (SHALLOW)	PRIVATE	PARCEL B
M-52	4' DIA	12+63.4 U.S. Route 1: offset 98.2' left	208.70 (M-53)	-	208.60	221.75	G-5.12	PRIVATE	PARCEL B
M-53	4' DIA	12+42.0 U.S. Route 1: offset 67.6' left	209.00 (M-54)	-	208.90	214.70	G-5.12	PRIVATE	PARCEL B
M-54	4' DIA	11+65.6 U.S. Route 1: offset 68.2' left	210.50 (M-55)	211.00 (PVC)	210.40	217.80	G-5.12	PRIVATE	PARCEL B
M-55	4' DIA	11+31.2 U.S. Route 1: offset 68.7' left	211.10(M-56)	211.50 (PVC)	210.85	220.00	G-5.12	PRIVATE	PARCEL B
M-56	4' DIA	9+75.3 U.S. Route 1: offset 75.2' left	214.90	-	214.80	225.00	G-5.12	PRIVATE	PARCEL B
M-57	4' DIA	9+12.57 Hearthside Way: offset 78.8' right	210.45 (PVC)	218.70 (PVC)	209.80	222.10	G-5.12	PRIVATE	PARCEL B

STRUCTURE LOCATION FOR MANHOLES IS AT THE CENTER OF THE MANHOLE RIM.
STRUCTURE LOCATION FOR INLETS IS AT THE CENTER OF THE INLET FACE.
STRUCTURE LOCATION FOR THE END-SECTIONS IS AT THE MIDPOINT OF THE END OF THE STRUCTURE.
PRECAST STRUCTURES MEETING HS-20 LOADING MAY BE USED.

PIPE SCHEDULE

SIZE	TYPE	LENGTH (lf)	MAINTENANCE
15"	HDPEP (SMOOTH LINED)	180.9	PRIVATE
18"	HDPEP (SMOOTH LINED)	315.9	PRIVATE
8"	PVC	577.4	PRIVATE
10"	PVC	136.7	PRIVATE
15"	RCCP Class IV	69.5	PRIVATE
18"	RCCP Class IV	180.8	PRIVATE



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5-18-17
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 6-8-17
DIRECTOR	DATE 6-8-17

NO.	DATE	REVISION
1	06/2018	REVISE TOP EL. OF I-73

BENCHMARK
ENGINEERS • LAND SURVEYORS • PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE
SUITE 315
ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
E-MAIL: bei@bei-civilengineering.com
WWW.BEI-CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 19044, Expiration Date: 6-30-2017.

STATE OF MARYLAND — REGISTERED PROFESSIONAL ENGINEER — 6-20-17

DEVELOPER/OWNER:

ATAPCO HOWARD SQUARE I
BUSINESS TRUST
One South Street
Suite 2800
Baltimore, MD 21202
(410) 347-7189

HOWARD SQUARE

PHASE 8 & 9, PARCEL B

APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 – PARCEL: B
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 – HOWARD COUNTY, MARYLAND

STORM DRAIN PROFILES, NOTES AND DETAILS

DATE: OCTOBER, 2015		BEI PROJECT NO.	2541
REVISED: APRIL, 2017			
DRAFT:–	CHECK:–	SCALE: AS SHOWN	SHEET 13 OF 27

SDP-16-017

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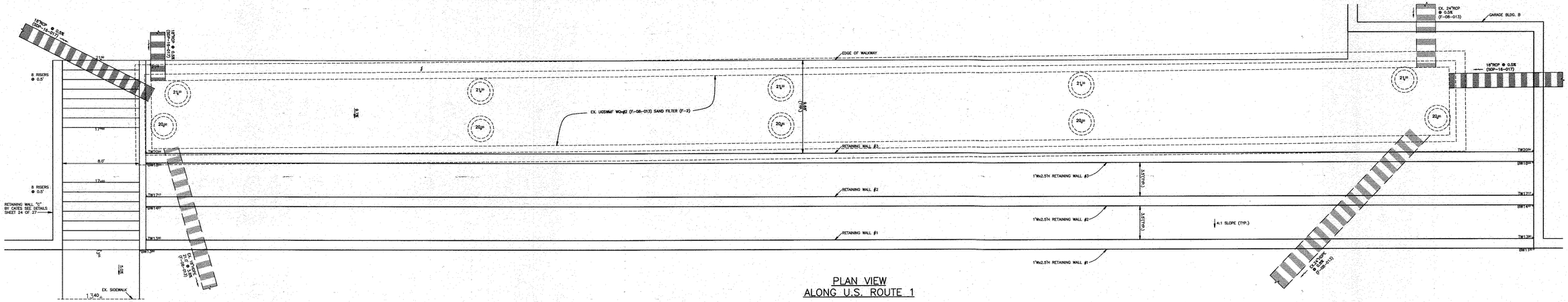
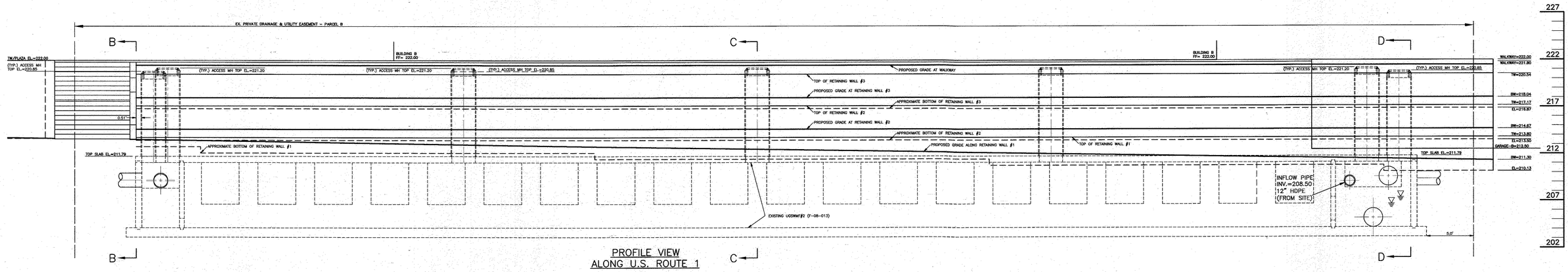


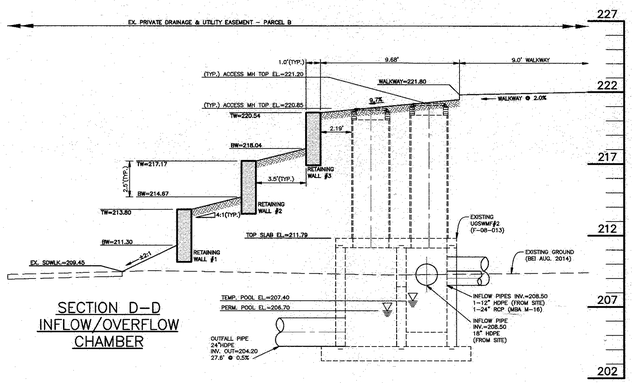
PLAN VIEW
ALONG U.S. ROUTE 1



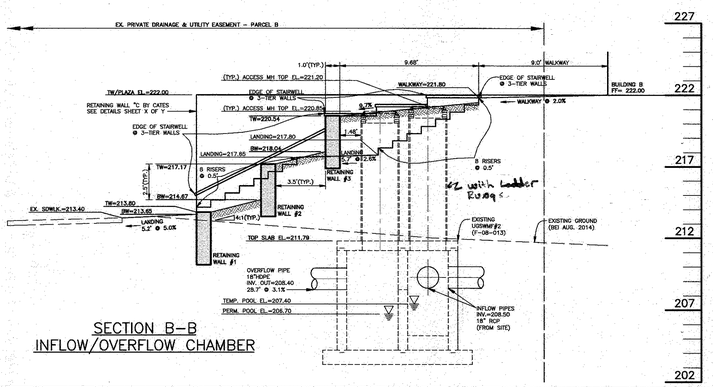
PROFILE VIEW
ALONG U.S. ROUTE 1

3-TIER RETAINING WALL
@ EX. UGSWMF#2 (F-08-013)

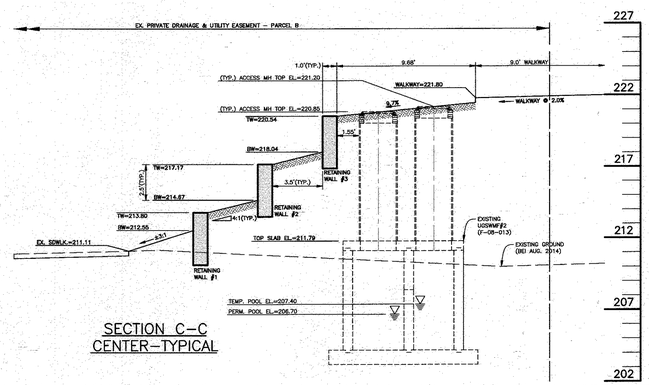
0 30' 60'
SCALE: 1" = 30'



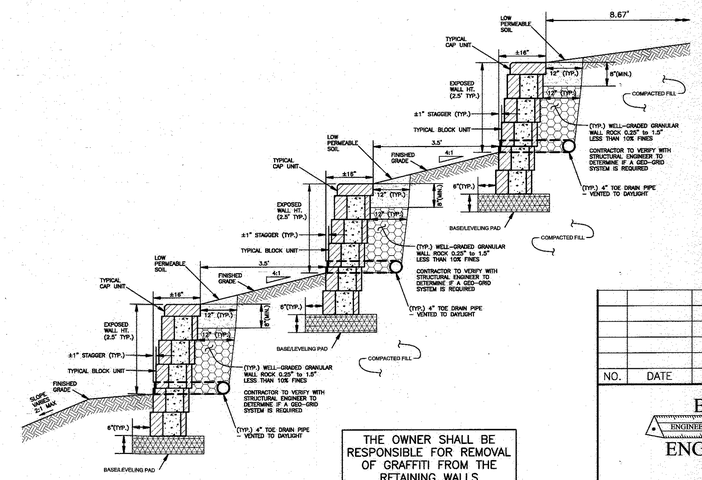
SECTION D–D
INFLOW/OVERFLOW CHAMBER



SECTION B–B
INFLOW/OVERFLOW CHAMBER



SECTION C–C
CENTER–TYPICAL



THE OWNER SHALL BE RESPONSIBLE FOR REMOVAL OF GRAFFITI FROM THE RETAINING WALLS

(FOR WALL LESS THAN 3' HIGH)

TYPICAL BLOCK RETAINING WALL
NOT TO SCALE

NO.	DATE	REVISION

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION JP	DATE 5-18-17
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 6-8-17
DIRECTOR	DATE 6-8-17

BENCHMARK
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
ENGINEERING, INC.
8480 BALTIMORE NATIONAL PIKE
SUITE 315
ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
E-MAIL: be@bel-civilengineering.com
WWW.BEI-CIVILENGINEERING.COM

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 22048, Expiration Date: 6-30-2017.

STATE OF MARYLAND — BRIAN E. ALLEN — No. 22048 — PROFESSIONAL ENGINEER — 4-28-17

DEVELOPER/OWNER:

ATAPCO HOWARD SQUARE I BUSINESS TRUST
One South Street
Suite 2800
Baltimore, MD 21202
(410) 347-7189

HOWARD SQUARE

PHASE 8 & 9, PARCEL B

APARTMENT AND RETAIL BUILDINGS

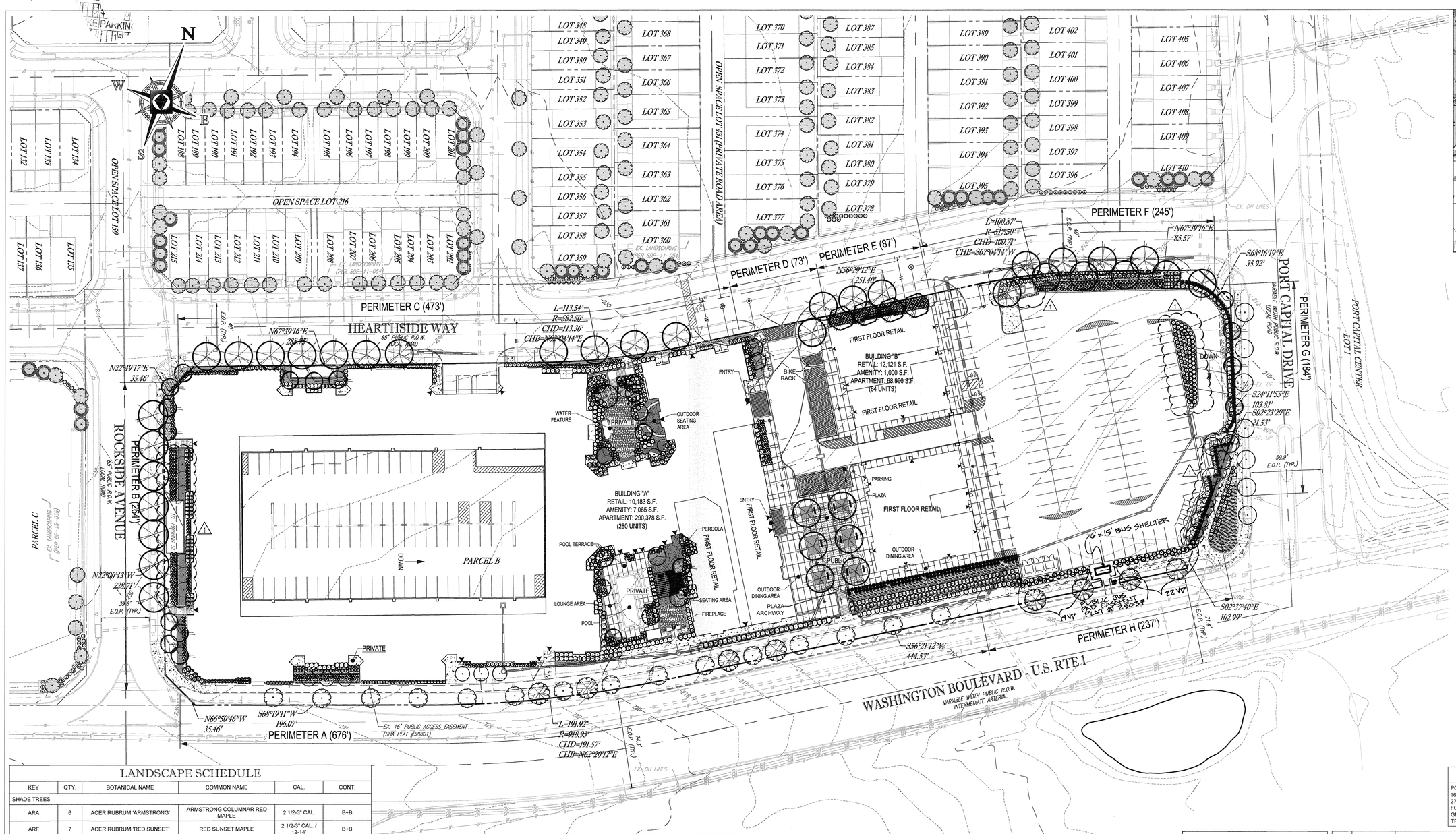
TAX MAP: 43 GRID 3 & 9 – PARCEL: B
ZONED: CAC–CLI
ELECTION DISTRICT NO. 1 – HOWARD COUNTY, MARYLAND

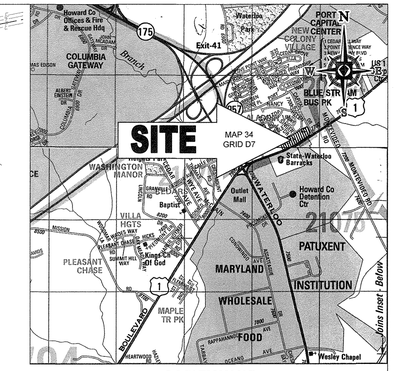
3-TIER RETAINING WALLS (1-3) PROFILES, NOTES, AND DETAILS

DATE: OCTOBER, 2015		BEI PROJECT NO. 2541	
REVISED: APRIL, 2017			
DRAFT: MCR	CHECK: CAM	SCALE: AS SHOWN	SHEET 14 OF 27

SDP–16–017

J:\2541 Howard Square Parcel B\dwg\8000PB-V8_FINAL9.dwg, 3-WALL, 4/20/2017 3:34:45 PM, mriedel, Oce PlotWave 360 - WPD2





LOCATION MAP

COPYRIGHT ADC THE MAP PEOPLE
PERMIT USE NO. 20602153-5
SCALE: 1"=2000'

EXISTING LANDSCAPE LEGEND

(PROVIDED UNDER PREVIOUS SDP)

- EXISTING SHADE TREE
- EXISTING EVERGREEN TREE
- EXISTING SHRUB

LANDSCAPE SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	CAL.	CONT.
SHADE TREES					
ARA	6	ACER RUBRUM 'ARMSTRONG'	ARMSTRONG COLUMNAR RED MAPLE	2 1/2-3" CAL.	B+B
ARF	7	ACER RUBRUM 'RED SUNSET'	RED SUNSET MAPLE	2 1/2-3" CAL. / 12-14'	B+B
AROG	7	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	2 1/2-3" CAL.	B+B
BN	1	BETULA NIGRA	MULTI STEM RIVER BIRCH	12-14'	B+B
PXAB	24	PLATANUS X ACERIFOLIA 'BLOODGOOD'	BLOODGOOD LONDON PLANETREE	2 1/2-3" CAL. / 12-14'	B+B
UAP	8	ULMUS AMERICANA 'PRINCETON'	PRINCETON AMERICAN ELM	2 1/2-3" CAL. / 12-14'	B+B
SUBTOTAL:	53				
ORNAMENTAL TREES					
AC	12	AMELANCHIER CANADENSIS	MULTI STEM SHADBLOW SERVICEBERRY	1-1 1/2" CAL. / 8-10'	B+B
CC	22	CERCIS CANADENSIS	EASTERN REDBUD	2-2 1/2" CAL. / 8-10'	B+B
CCVI	7	CRATAEGUS CRUS-GALLI VAR. INERMIS	THORNLESS COCKSPUR HAWTHORN	1-1 1/2" CAL. / 8-10'	B+B
CVWK 1	18	CRATAEGUS VIRIDIS 'WINTER KING'	WINTER KING HAWTHORN	1-1 1/2" CAL. / 8-10'	B+B
HVCW	6	HAMAMELIS VIRGINIANA	COMMON WITCHHAZEL	6-8'	B+B
LI	2	LAGERSTROEMIA INDICA	COMMON CRAPEMYRTLE	1-1 1/2" CAL. / 8-10'	B+B
SUBTOTAL:	67				
PERENNIALS					
DRM	195	DRYOPTERIS MARGINALIS	EASTERN WOOD FERN	1 GAL.	CONTAINER
HVR	748	HEMEROCALLIS VARIETIES	PEACH-RED-YELLOW DAYLILY	1 GAL.	CONTAINER
LM	1635	LIRIOPE MUSCARI 'BIG BLUE'	BIG BLUE LILYTURF	1 PT.	CONTAINER
NFD	2072	NEPETA X FAASSENII 'DROPMORE'	DROPMORE CAT MINT	2 GAL.	CONTAINER
RFG	132 1	RUDBECKIA FULGIDA 'GOLDSTURM'	GOLDSTURM/BLACK-EYED SUSAN	2 GAL.	CONTAINER
SSAJ	71	SEDUM SPECTABILE 'AUTUMN JOY'	AUTUMN JOY SEDUM	2 GAL.	CONTAINER
SUBTOTAL:	4853 1				

LANDSCAPE SCHEDULE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	CAL.	CONT.
DECIDUOUS SHRUBS					
CCBM	218	CARYOPTERIS X CLANDONENSIS 'BLUE MIST'	BLUE MIST SPIREA	18-24"	#3 CAN
CS	135	CORNUS SERICEA	REDOSIER DOGWOOD	2-3'	B+B
HAA	58	HYDRANGEA ARBORESCENS 'ANNABELLE'	ANNABELLE HYDRANGEA	18-24"	#3 CAN
IV	62	ITEA VIRGINICA 'HENRY'S GARNET'	GARNET SWEETSPIRE	24-30"	#5 CAN
RAGL	382	RHUS AROMATICA "GRO-LOW'	GRO-LOW SUMAC	12-18"	CONTAINER
RK 1	195	ROSA 'KNOCKOUT'	KNOCKOUT ROSE	18-24"	#3 CAN
SBAW	298	SPIRAEA X BUMALDA 'ANTHONY WATERER'	ANTHONY WATERER SPIREA	18-24"	#3 CAN
VCAC	226	VIBURNUM CARLESII 'COMPACTUM'	COMPACT KOREANSPICE VIBURNUM	24-30"	B+B
VD	69	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	3-4'	B+B
SUBTOTAL:	1643 1				
EVERGREEN SHRUBS					
ICGL	43	ILEX CRENATA 'GREEN LUSTER'	GREEN LUSTER HOLLY	24-30"	#3 CAN
ICHG	19	ILEX CRENATA 'HOOGENDORN'	HOOGENDORN JAPANESE HOLLY	15-18"	#3 CAN
JDP	246	JUNIPERUS DAVURICA 'PARSONI'	PARSON JUNIPER	15-18" SPRD.	#3 CAN
KL	11	KALMIA LATIFOLIA	MOUNTAIN LAUREL	30-36"	B+B
PXOL	118	PRUNUS LAUROCERASUS 'OTTO LUYKEN'	OTTO LUYKEN CHERRY LAUREL	24-30"	#3 CAN
RPJM	32	RHODODENDRON CAROLINIANA X PJM	PJM RHODODENDRON	24-30"	B+B
TMD	103	TAXUS X MEDIA 'DENSIFORMIS'	DENSIFORMIS YEW	24-30"	B+B
SUBTOTAL:	572				

LANDSCAPE SURETY

POSTING OF SURETY FOR REQUIRED LANDSCAPING IN ACCORDANCE WITH SECTION 16.124 OF THE LANDSCAPE MANUAL IN THE AMOUNT OF $60,810 FOR 167 SHADE TREES, 37 EVERGREENS, 172 SHRUBS, AND 0 LINEAR FEET OF FENCING. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MATERIAL MUST BE POSTED AS PART OF THE GRADING PERMIT. SURETY IN THE AMOUNT OF $17,100 FOR THE 57 PUBLIC STREET TREES SHALL BE INCLUDED IN DED'S COST ESTIMATE.

THIS REVISION REPLACES THE PREVIOUS SHEET DATED APRIL, 2017

NO.	DATE	REVISION
2	5/31/19	ADD BUS SHELTER & PUBLIC BUS PAD ESMT.; ADJUST LS PLANTINGS
		UPDATE L.S. PLANS PER REVISED RETAINING WALL A AND BUILDING B, 3
1	06/2018	GARAGE FOOTPRINTS

NOTE: SEE SHEET 22 FOR AMENITY DETAILS

OWNER'S CERTIFICATE

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

ATAPCO HOWARD SQUARE I STATUTORY TRUST — DATE 6/28/18

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 8/8/18

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/9/18

DIRECTOR — DATE 8-9-18

40 20 10 0 40
1"= 40'

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
Phone: (410) 821-7900
Fax: (410) 821-7987
MD@BohlerEng.com

E.R. McWILLIAMS
REGISTERED LANDSCAPE ARCHITECT
PROFESSIONAL CERTIFICATION
I, ERIC R. McWILLIAMS, CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 3697, EXPIRATION DATE: 9/20/18

DEVELOPER/OWNER:

ATAPCO HOWARD SQUARE I BUSINESS TRUST
1 SOUTH STREET, SUITE 2800
BALTIMORE, MD 21202
(410) 347-7189

HOWARD SQUARE

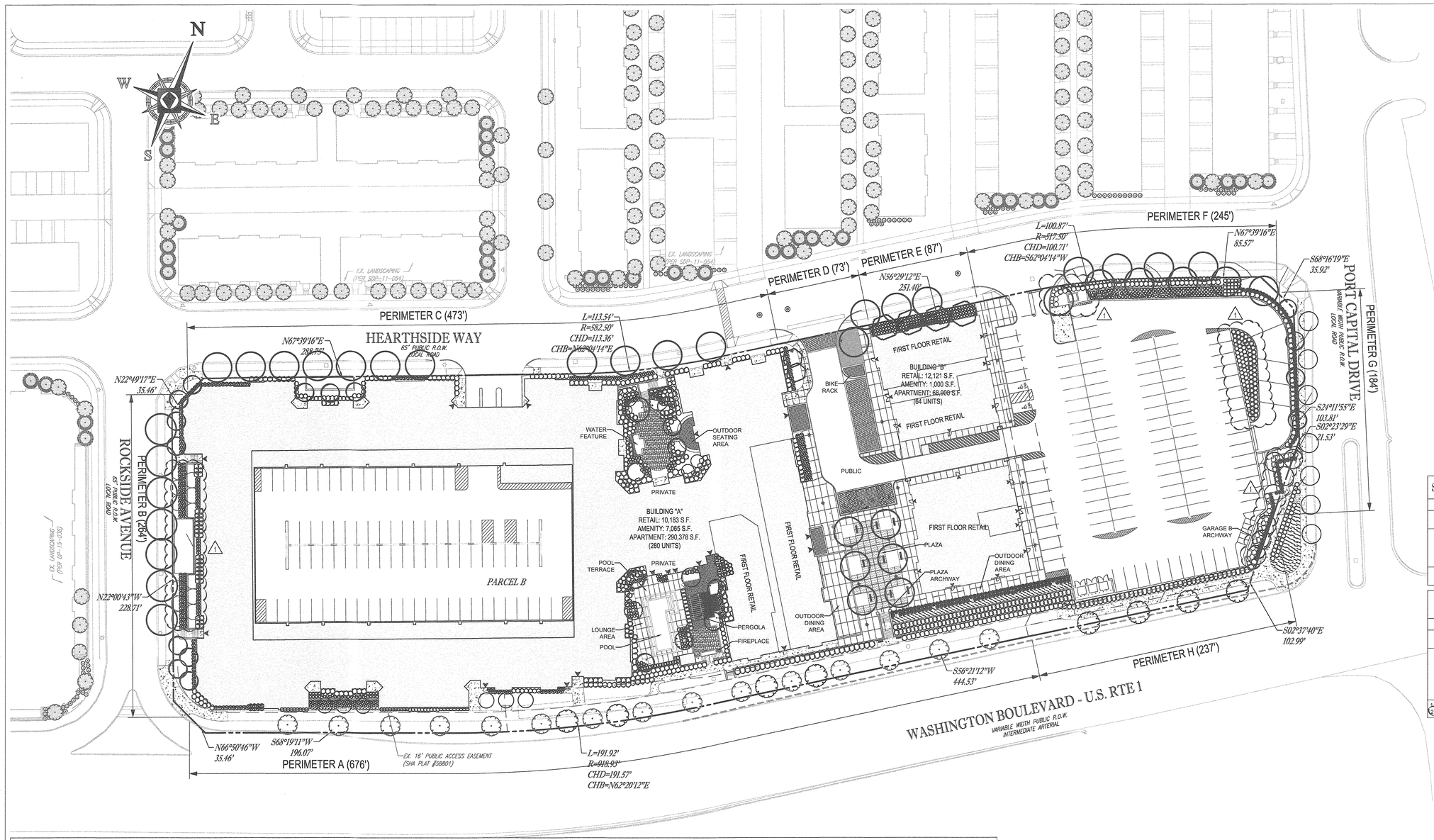
PHASE 8 & 9, PARCEL B
APARTMENT AND RETAIL BUILDINGS

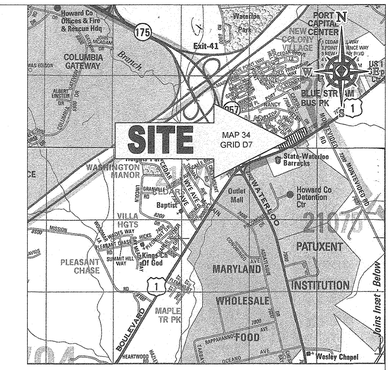
TAX MAP: 43 GRID 3 & 9 - PARCEL: C
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

OVERALL LANDSCAPE PLAN

DRAFT:RJM	CHECK:HMA	DATE: APRIL, 2017 / REVISED: JUNE, 2018	SCALE: 1"=40'	BEI PROJECT NO. 2541	SHEET 15 OF 27

SDP-16-017





LOCATION MAP

COPYRIGHT ADC THE MAP PEOPLE
PERMIT USE NO. 20602153-5
SCALE: 1"=2000'

LANDSCAPE ISLAND LEGEND

AREA OF LANDSCAPE ISLANDS (200 S.F. MINIMUM EACH)

SCHEDULE B - PARKING LOT INTERNAL LANDSCAPING

NUMBER OF PARKING SPACES	10 (INCLUDING ? ADA SPACES)
NUMBER OF TREES REQUIRED: (1 / 10 SPACES)	NUMBER OF TREES REQUIRED: 1
NUMBER OF PLANTS PROVIDED: SHADE TREES	NUMBER OF PLANTS PROVIDED: 1 "$" INDICATES MATERIAL USED TO MEET THIS REQUIREMENT
NUMBER OF LANDSCAPE ISLANDS REQUIRED: (1 / 10 SPACES)	1 REQUIRED 1 PROVIDED

SCHEDULE C - RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING

NUMBER OF DWELLING UNITS:	353 DWELLING UNITS
NUMBER OF TREES REQUIRED: (1 / 3 DWELLING UNITS (APARTMENTS)) 118	NUMBER OF TREES REQUIRED: 1
NUMBER OF PLANTS PROVIDED: SHADE TREES OTHER TREES (2:1 SUBSTITUTION)	NUMBER OF PLANTS PROVIDED: 7 SHADE TREES 20 OTHER TREES[1] 1,145 SHRUBS[2] "%" INDICATES MATERIAL USED TO MEET THIS REQUIREMENT

1. 20 OTHER TREES SUBSTITUTED FOR 5 SHADE TREES
2. 1,145 SHRUBS SUBSTITUTED FOR 102 SHADE TREES

STREET TREE REQUIREMENTS

STREET	LINEAR FEET	SPACING	TREES REQUIRED	TREES PROVIDED
WASHINGTON BOULEVARD	913'	40 L.F.	23 TREES	23 TREES "^" INDICATES MATERIAL USED TO MEET THIS REQUIREMENT
ROCKSIDE AVENUE	264'	40 L.F.	7 TREES	7 TREES "&" INDICATES MATERIAL USED TO MEET THIS REQUIREMENT
HEARTHSIDE WAY	876' - 92' (ENTRANCES) = 784'	40 L.F.	20 TREES	20 TREES "*" INDICATES MATERIAL USED TO MEET THIS REQUIREMENT
PORT CAPITAL DRIVE	184'	30 L.F.	7 TREES	7 TREES "?" INDICATES MATERIAL USED TO MEET THIS REQUIREMENT

SCHEDULE A - PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAY (SOUTH - ROUTE 1)	ADJACENT TO ROADWAY (WEST - ROCKSIDE AVENUE)	ADJACENT TO ROADWAY (NORTH - HEARTHSIDE WAY)	ADJACENT TO ROADWAY (NORTH - HEARTHSIDE WAY)	ADJACENT TO ROADWAY (NORTH - HEARTHSIDE WAY)	ADJACENT TO ROADWAY (NORTH - HEARTHSIDE WAY)	ADJACENT TO ROADWAY (EAST - PORT CAPITAL DRIVE)	ADJACENT TO ROADWAY (SOUTH - ROUTE 1)
PERIMETER	PERIMETER A	PERIMETER B	PERIMETER C	PERIMETER D	PERIMETER E	PERIMETER F	PERIMETER G	PERIMETER H
LANDSCAPE TYPE	B	B	B	E	B	E	E	E
LINEAR FEET OF ROADWAY FRONTAGE / PERIMETER	676'	264'	473' - 43' (ENTRANCES) = 430'	73' - 24' (ENTRANCES) = 49'	87'	245' - 24' (ENTRANCES) = 221'	184'	237'
CREDIT FOR EXISTING VEGETATION (YES/NO/LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CREDIT FOR WALL, FENCE, OR BERM (YES/NO/LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NUMBER OF PLANTS REQUIRED: SHADE TREES OTHER TREES EVERGREEN TREES SHRUBS	NUMBER OF PLANTS REQUIRED: 14 0 17 0	NUMBER OF PLANTS REQUIRED: 5 0 7 0	NUMBER OF PLANTS REQUIRED: 9 0 11 0	NUMBER OF PLANTS REQUIRED: 1 0 0 12	NUMBER OF PLANTS REQUIRED: 2 0 2 0	NUMBER OF PLANTS REQUIRED: 6 0 0 55	NUMBER OF PLANTS REQUIRED: 5 0 0 46	NUMBER OF PLANTS REQUIRED: 6 0 0 59
NUMBER OF PLANTS PROVIDED: SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION) SHRUBS (10:1 SUBSTITUTION) (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	NUMBER OF PLANTS PROVIDED: 0 0 8[1] 289[2] "-" INDICATES MATERIAL USED TO MEET THIS REQUIREMENT	NUMBER OF PLANTS PROVIDED: 0 0 20[3] 20[4] "!" INDICATES MATERIAL USED TO MEET THIS REQUIREMENT	NUMBER OF PLANTS PROVIDED: 0 0 4[5] 180[6] "@" INDICATES MATERIAL USED TO MEET THIS REQUIREMENT	NUMBER OF PLANTS PROVIDED: 1 0 0 12 "<" INDICATES MATERIAL USED TO MEET THIS REQUIREMENT	NUMBER OF PLANTS PROVIDED: 4[7] 0 0 91[8] "+" INDICATES MATERIAL USED TO MEET THIS REQUIREMENT	NUMBER OF PLANTS PROVIDED: 4 0 0 8[9] ">" INDICATES MATERIAL USED TO MEET THIS REQUIREMENT	NUMBER OF PLANTS PROVIDED: 0 0 0 286[10] "#" INDICATES MATERIAL USED TO MEET THIS REQUIREMENT	NUMBER OF PLANTS PROVIDED: 0 0 3[11] 106[12] "." INDICATES MATERIAL USED TO MEET THIS REQUIREMENT

1. 6 OTHER TREES SUBSTITUTED FOR 3 SHADE TREES
2. 289 SHRUBS SUBSTITUTED FOR 11 SHADE TREES AND 17 EVERGREEN TREES
3. 19 OTHER TREES SUBSTITUTED FOR 5 SHADE TREES AND 4 EVERGREEN TREES
4. 34 SHRUBS SUBSTITUTED FOR 3 EVERGREEN TREES
5. 2 OTHER TREES SUBSTITUTED FOR 1 SHADE TREE
6. 180 SHRUBS SUBSTITUTED FOR 7 SHADE TREES AND 11 EVERGREEN TREES
7. 2 SHADE TREES SUBSTITUTED FOR 2 EVERGREEN TREES
8. 46 SHRUBS SUBSTITUTED FOR 2 SHADE TREES
9. 8 OTHER TREES SUBSTITUTED FOR 4 SHADE TREES
10. 286 SHRUBS SUBSTITUTED FOR 1 SHADE TREE
11. 3 OTHER TREES SUBSTITUTED FOR 1-1/2 SHADE TREES
12. 47 SHRUBS SUBSTITUTED FOR 4-1/2 SHADE TREES

40 20 10 0 40
1"= 40'

THIS REVISION REPLACES THE PREVIOUS SHEET DATED APRIL, 2017

NOTE: SEE SHEET 22 FOR AMENITY DETAILS

OWNER'S CERTIFICATE

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

ATAPCO HOWARD SQUARE I STATUTORY TRUST — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 8/6/18

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/9/18

DIRECTOR — DATE 8-9-18

NO.	DATE	REVISION
		UPDATE L.S. PLAN PER REVISED WALL A, BUILDING B, & GARAGE B
1	06/2018	REVISED FOOTPRINTS

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
Phone: (410) 821-7900
Fax: (410) 821-7987
MD@BohlerEng.com

E.R. McWILLIAMS
REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT

CERTIFICATION
I, ERIC R. McWILLIAMS, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 3815, EXPIRATION DATE: 9/30/18

DEVELOPER/OWNER:
ATAPCO HOWARD SQUARE I BUSINESS TRUST
1 SOUTH STREET, SUITE 2800
BALTIMORE, MD 21202
(410) 347-7189

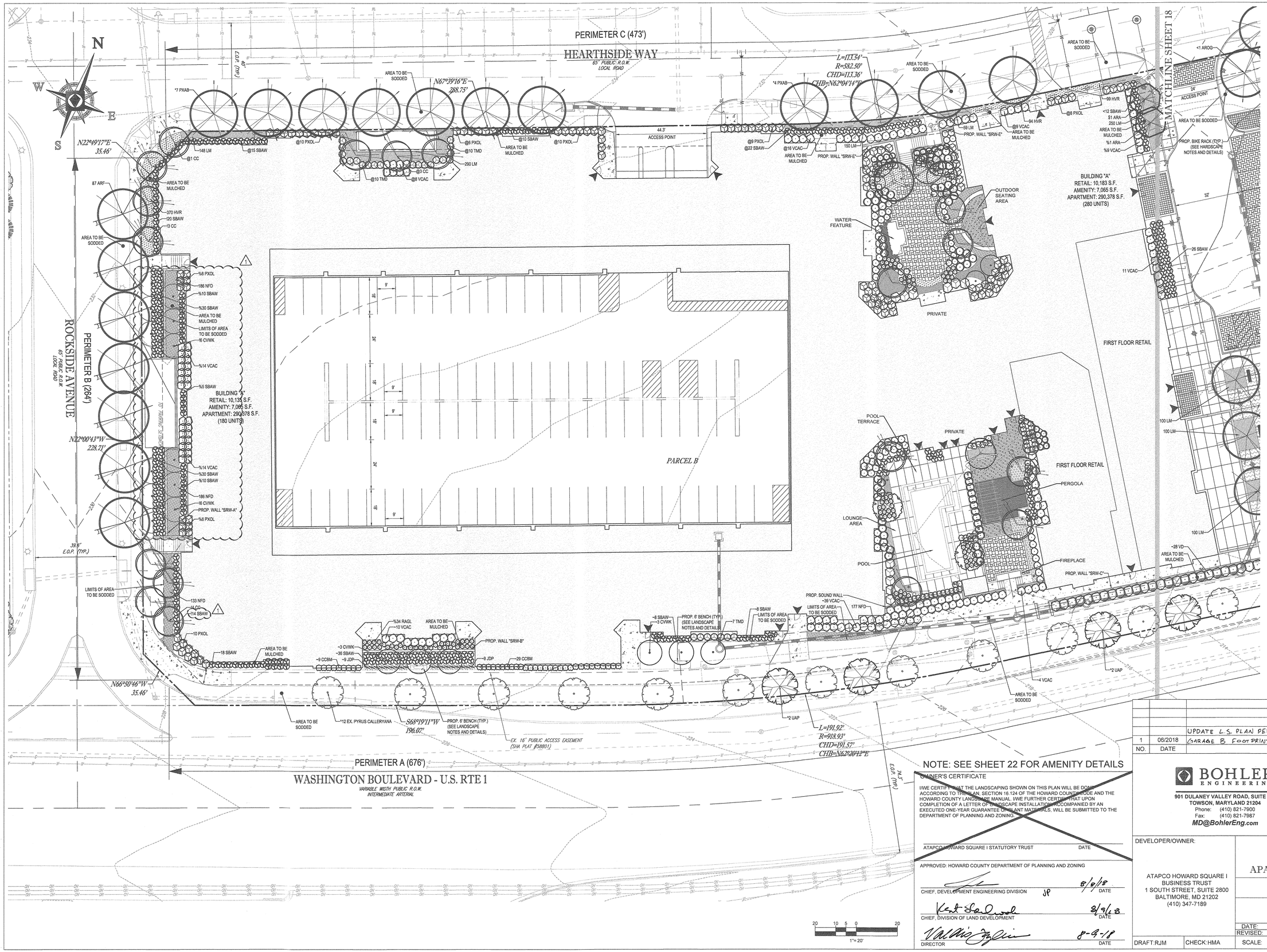
HOWARD SQUARE
PHASE 8 & 9, PARCEL B
APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 - PARCEL: C
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

OVERALL LANDSCAPE PLAN KEY

DATE: APRIL, 2017		BEI PROJECT NO.	2541
REVISED: JUNE, 2018			
DRAFT:RJM	CHECK:HMA	SCALE: 1"=40'	SHEET 16 OF 27

SDP-16-017



THIS REVISION REPLACES THE PREVIOUS SHEET DATED APRIL, 2017

NOTE: SEE SHEET 22 FOR AMENITY DETAILS

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ATAPCO HOWARD SQUARE I STATUTORY TRUST — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — JP — 8/9/18 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 8/9/18 DATE

DIRECTOR — 8-9-18 DATE

NO.	DATE	REVISION
		UPDATE L.S. PLAN PER REVISED RETAINING WALL A, BUILDING B, B
1	06/2018	GARAGE B FOOTPRINTS

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
Phone: (410) 821-7900
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MD@BohlerEng.com

E.R. McWILLIAMS
REGISTERED LANDSCAPE ARCHITECT
PROFESSIONAL CERTIFICATION
I, ERIC R. McWILLIAMS, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 3991, EXPIRATION DATE: 9/20/18

DEVELOPER/OWNER:

ATAPCO HOWARD SQUARE I BUSINESS TRUST
1 SOUTH STREET, SUITE 2800
BALTIMORE, MD 21202
(410) 347-7189

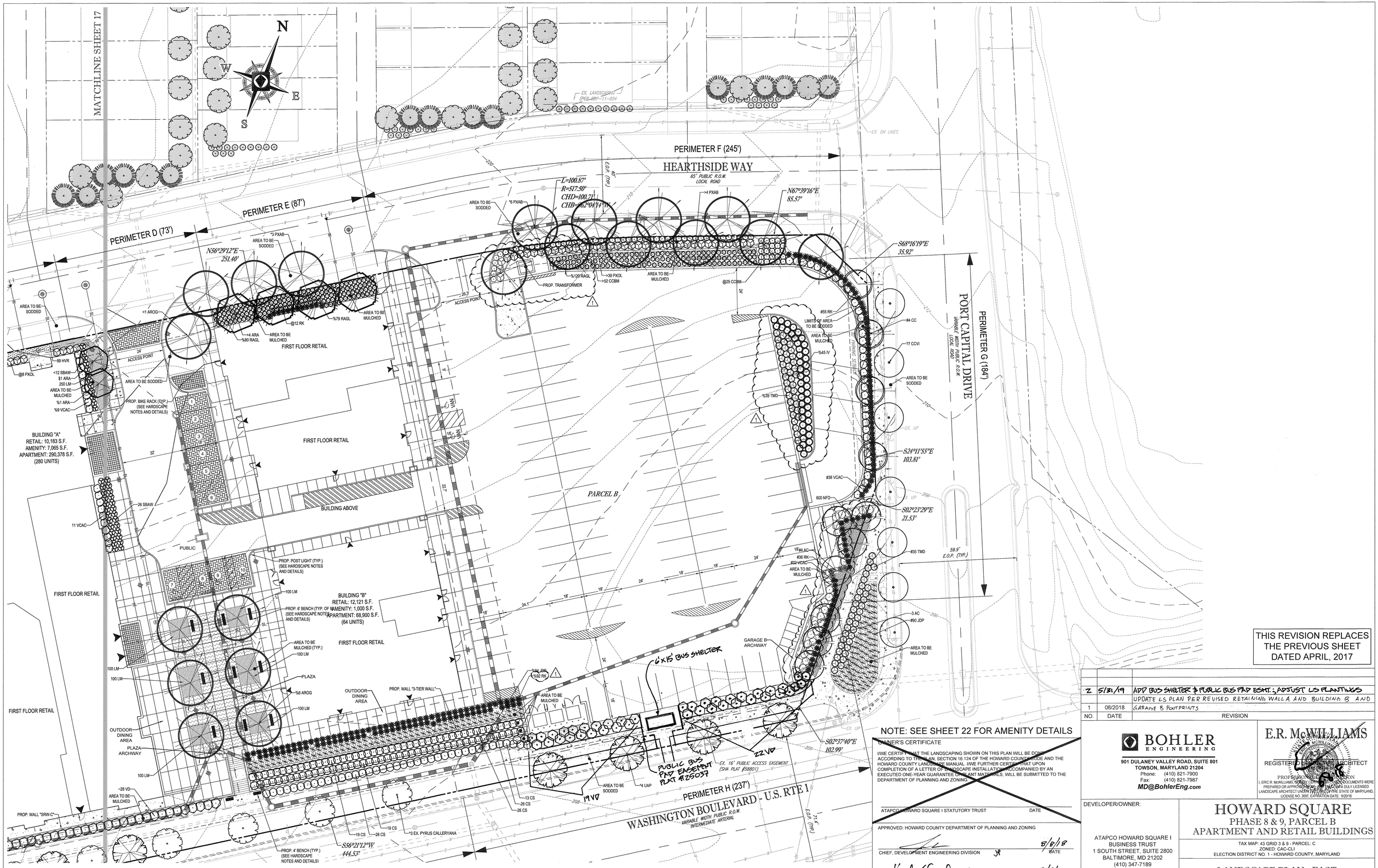
HOWARD SQUARE
PHASE 8 & 9, PARCEL B
APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 - PARCEL: C
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

LANDSCAPE PLAN - WEST

DRAFT:RJM	CHECK:HMA	DATE: APRIL, 2017 / REVISED: JUNE, 2018	BEI PROJECT NO. 2541
		SCALE: 1"=20'	SHEET 17 OF 27

SDP-16-017



NOTE: CONTRACTOR TO PROVIDE DRIP IRRIGATION FOR TREE PLANTERS AND PLANTING BEDS AS SHOWN.

THIS REVISION REPLACES THE PREVIOUS SHEET DATED APRIL, 2017

NOTE: SEE SHEET 22 FOR AMENITY DETAILS

OWNER'S CERTIFICATE

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ATAPCO HOWARD SQUARE I STATUTORY TRUST — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 8/8/18

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/9/18

DIRECTOR — DATE 8-9-18

NO.	DATE	REVISION
2	5/31/19	ADD BUS SHELTER & PUBLIC BUS PAD ESMT.; ADJUST LS PLANTINGS
		UPDATE LS PLAN PER REVISED RETAINING WALL A AND BUILDING B AND
1	06/2018	GARAGE B FOOTPRINTS

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
Phone: (410) 821-7900
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E.R. McWILLIAMS
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PROFESSIONAL CERTIFICATION
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DEVELOPER/OWNER:
ATAPCO HOWARD SQUARE I BUSINESS TRUST
1 SOUTH STREET, SUITE 2800
BALTIMORE, MD 21202
(410) 347-7189

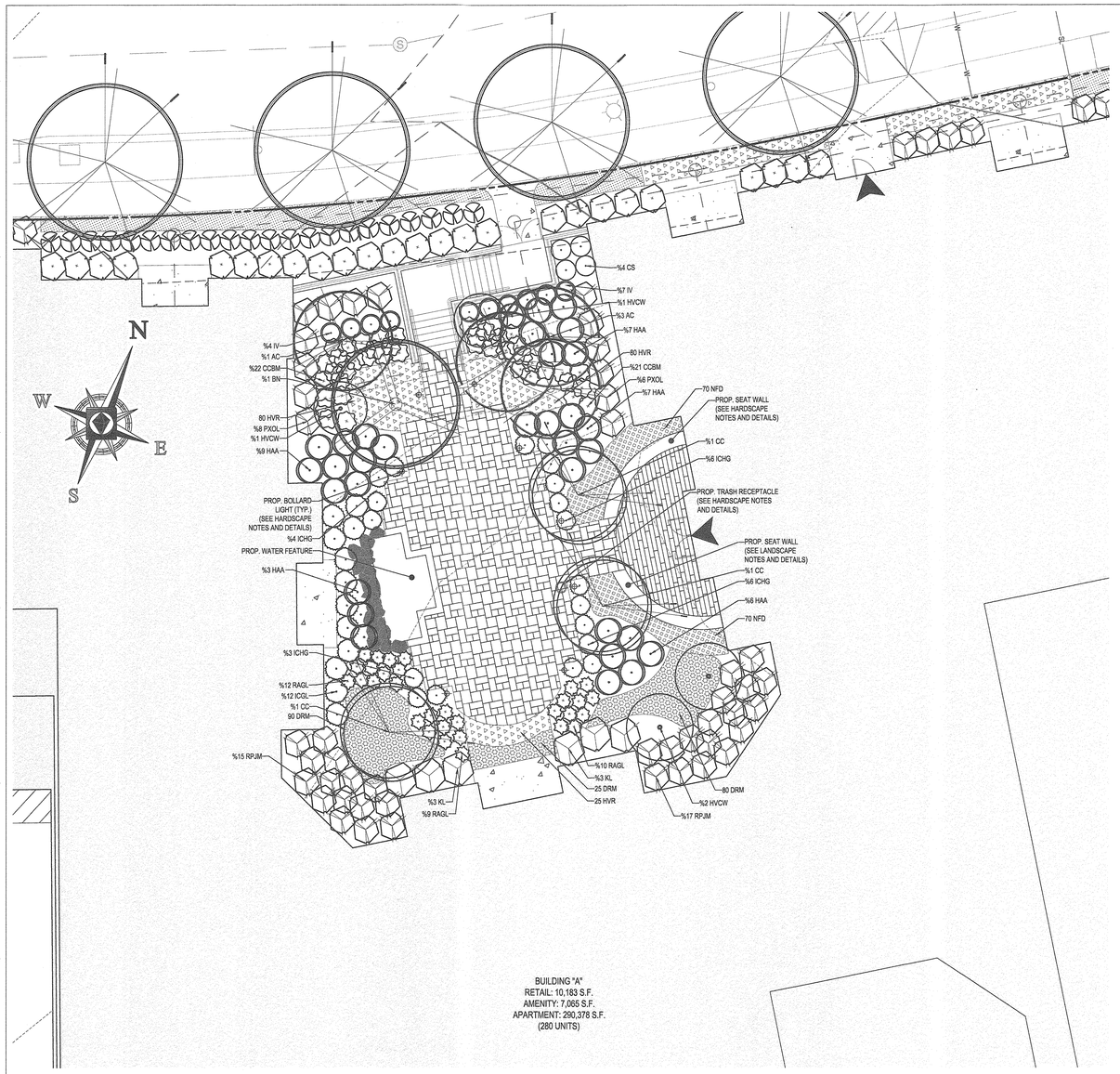
HOWARD SQUARE
PHASE 8 & 9, PARCEL B
APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 - PARCEL: C
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

LANDSCAPE PLAN - EAST

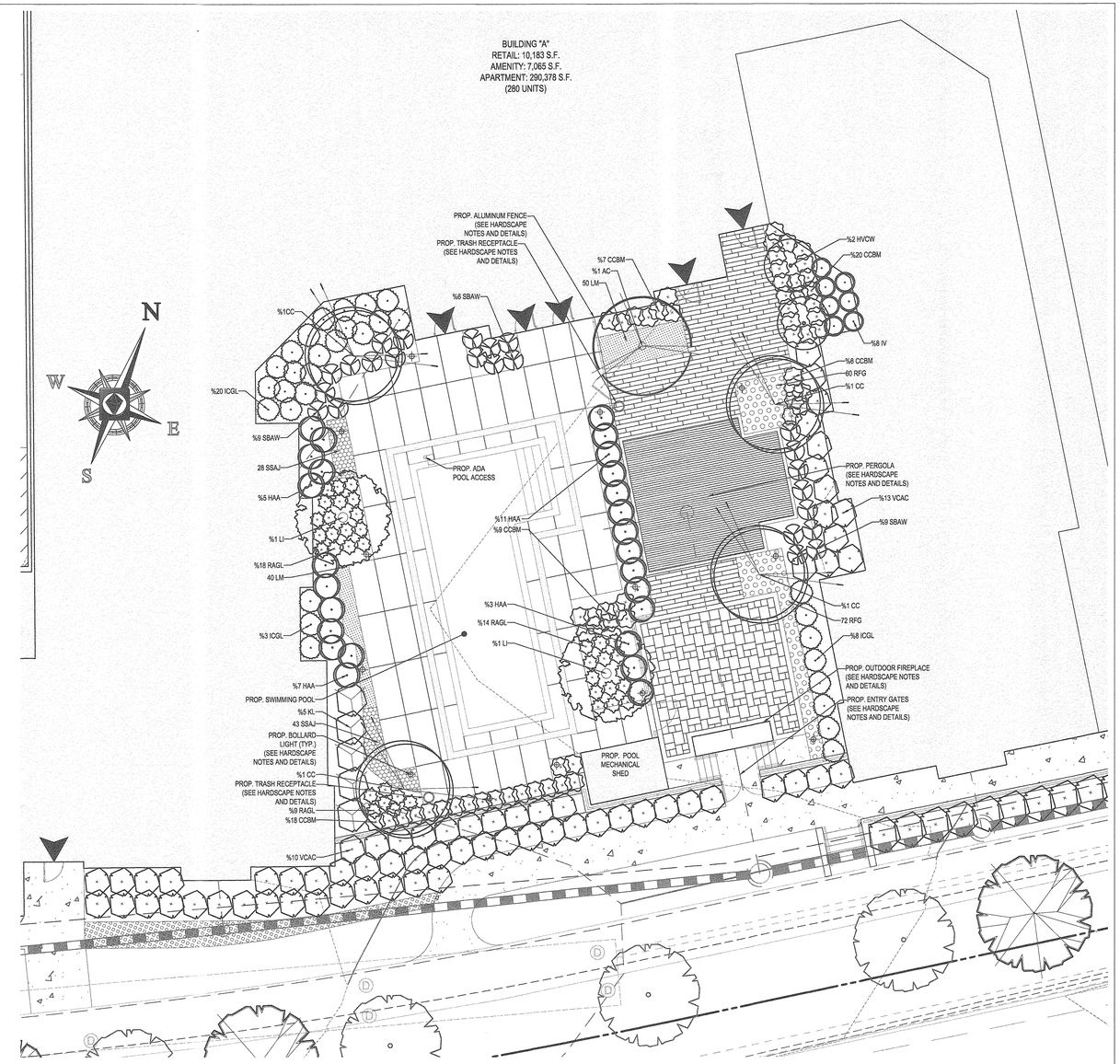
DRAFT:RJM	CHECK:HMA	SCALE: 1"=20'	DATE: APRIL, 2017 / REVISED: JUNE, 2018	BEI PROJECT NO. 2541	SHEET 18 OF 27

SDP-16-017



NORTH COURTYARD (PRIVATE) DETAIL

SCALE: 1"=10'



SOUTH COURTYARD (PRIVATE) DETAIL

SCALE: 1"=10'

THIS REVISION REPLACES THE PREVIOUS SHEET DATED APRIL, 2017

NOTE: SEE SHEET 22 FOR AMENITY DETAILS

OWNER'S CERTIFICATE

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ATAPCO HOWARD SQUARE I STATUTORY TRUST — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — JP — 8/8/18 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 8/9/18 DATE

DIRECTOR — 8-9-18 DATE

10 5 2.5 0 10

1"= 10'

NO.	DATE	REVISION
		UPDATE LS PLAN PER REVISED RETAINING WALL A, BUILDING B, AND
1	06/2018	GARAGE B FOOT PRINTS

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
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E.R. McWILLIAMS

REGISTERED LANDSCAPE ARCHITECT

PROFESSIONAL CERTIFICATION

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DEVELOPER/OWNER:

ATAPCO HOWARD SQUARE I BUSINESS TRUST
1 SOUTH STREET, SUITE 2800
BALTIMORE, MD 21202
(410) 347-7189

HOWARD SQUARE

PHASE 8 & 9, PARCEL B APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 - PARCEL: C
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

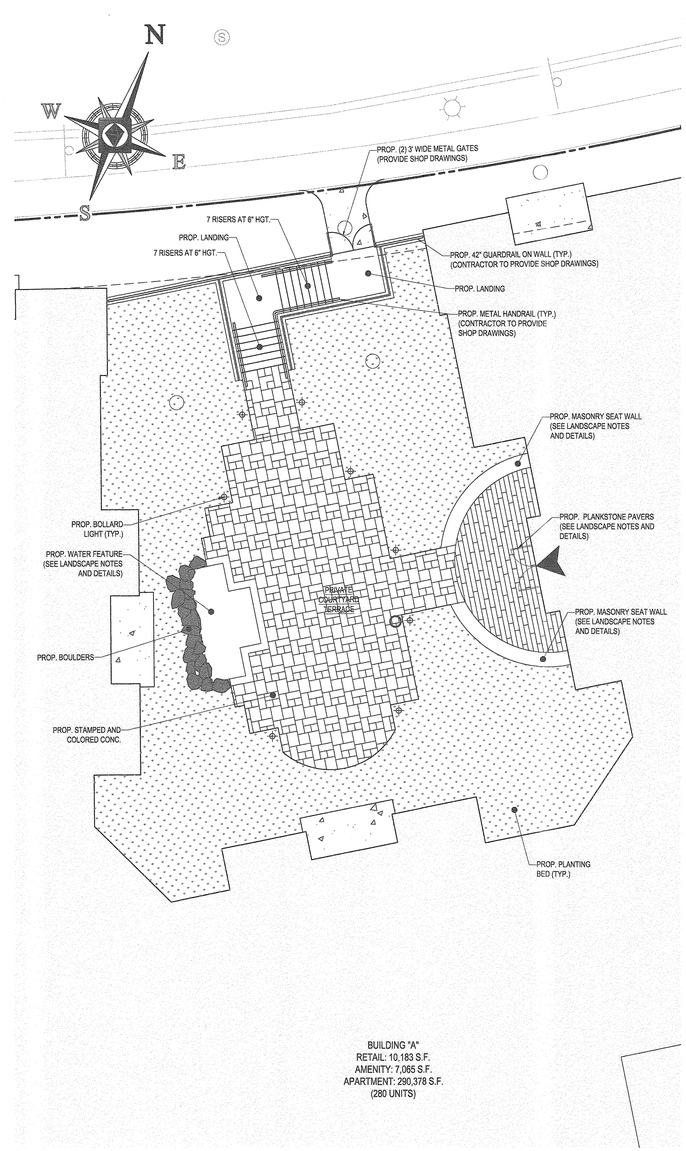
LANDSCAPE PLAN DETAILS

DATE: APRIL, 2017		BEI PROJECT NO.	2541
REVISED: JUNE, 2018			
DRAFT:RJM	CHECK:HMA	SCALE: 1"=10'	SHEET 19 OF 27

SDP-16-017

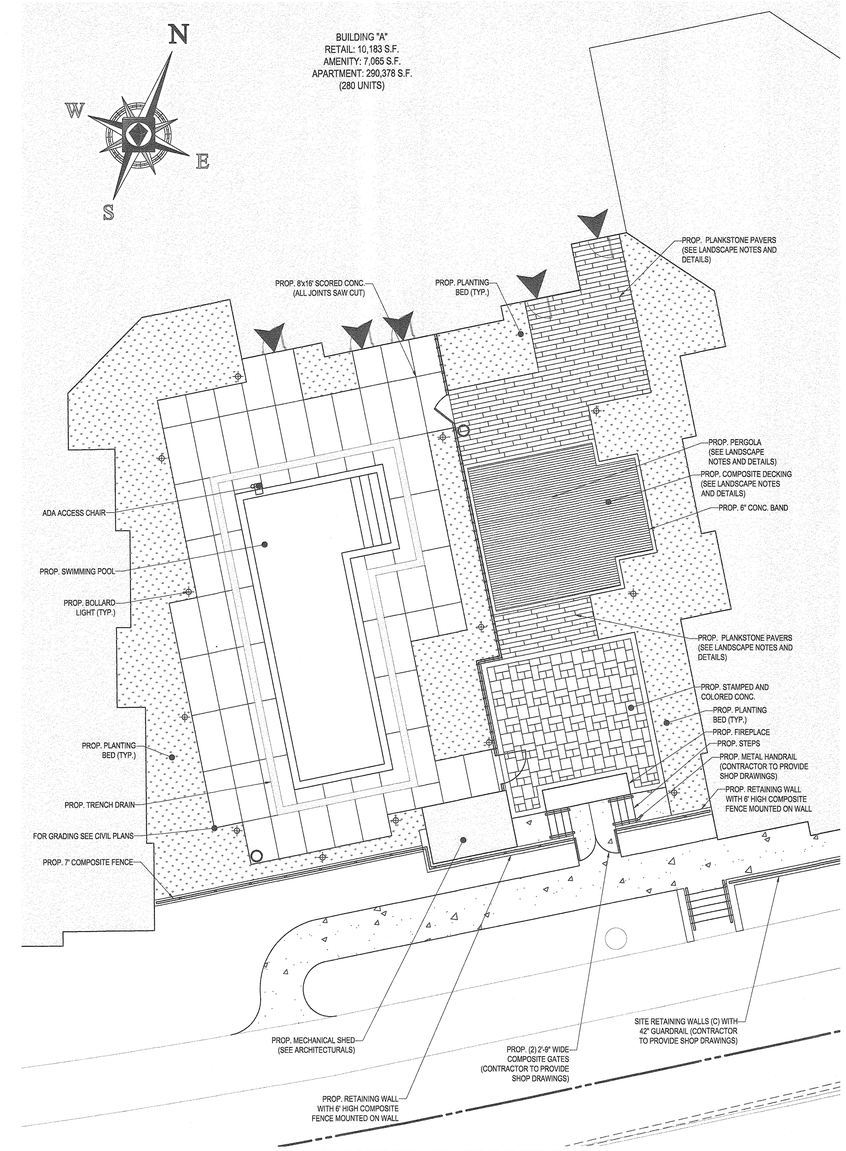
RETAIL COURTYARD (PUBLIC) DETAIL

SCALE: 1"=20'



NORTH COURTYARD (PRIVATE) DETAIL

SCALE: 1"=10'



SOUTH COURTYARD (PRIVATE) DETAIL

SCALE: 1"=10'

10 5 2.5 0 10

1"= 10'

THIS REVISION REPLACES THE PREVIOUS SHEET DATED APRIL, 2017

NOTE: SEE SHEET 22 FOR AMENITY DETAILS

OWNER'S CERTIFICATE

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

ATAPCO HOWARD SQUARE I STATUTORY TRUST DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 8/8/18

CHIEF, DIVISION OF LAND DEVELOPMENT DATE 8/9/18

DIRECTOR DATE 8-9-18

NO.	DATE	REVISION
		UPDATE LS PLAN PER REVISED RETAINING WALL A, BUILDING B, AND
1	06/2018	GARAGE B FOOTPRINTS

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
Phone: (410) 821-7900
Fax: (410) 821-7987
MD@BohlerEng.com

E.R. McWILLIAMS
REGISTERED LANDSCAPE ARCHITECT
PROFESSIONAL CERTIFICATION
I, ERIC R. McWILLIAMS, CERTIFY THAT THE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 3911, EXPIRATION DATE: 9/20/18

DEVELOPER/OWNER:

ATAPCO HOWARD SQUARE I BUSINESS TRUST
1 SOUTH STREET, SUITE 2800
BALTIMORE, MD 21202
(410) 347-7189

HOWARD SQUARE

PHASE 8 & 9, PARCEL B
APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 - PARCEL: C
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

HARDSCAPE PLAN DETAILS

DATE: APRIL, 2017
REVISED: JUNE, 2018
BEI PROJECT NO. 2541

DRAFT:RJM | CHECK:HMA | SCALE: 1"=10' | SHEET 20 OF 27

SDP-16-017

LANDSCAPE SPECIFICATIONS

1. SCOPE OF WORK:
THE LANDSCAPE CONTRACTOR SHALL BE REQUIRED TO PERFORM ALL CLEARING, FINISHED GRADING, SOIL PREPARATION, PERMANENT SEEDING OR SODDING, PLANTING AND MULCHING INCLUDING ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT NECESSARY FOR THE COMPLETION OF THIS PROJECT, UNLESS OTHERWISE CONTRACTED BY THE GENERAL CONTRACTOR.

2. MATERIALS
A. GENERAL - ALL HARDSCAPE MATERIALS SHALL MEET OR EXCEED SPECIFICATIONS AS OUTLINED IN THE STATE DEPARTMENT OF TRANSPORTATION'S SPECIFICATIONS.

B. TOPSOIL - NATURAL, FRIABLE, LOAMY SILT SOIL HAVING AN ORGANIC CONTENT NOT LESS THAN 5%, A PH RANGE BETWEEN 4.5-7.0. IT SHALL BE FREE OF DEBRIS, ROCKS LARGER THAN ONE INCH (1"), WOOD, ROOTS, VEGETABLE MATTER AND CLAY CLODS.

C. LAWN - ALL DISTURBED AREAS ARE TO BE TREATED WITH A MINIMUM SIX INCH (6") THICK LAYER OF TOPSOIL, OR AS DIRECTED BY THE LOCAL ORDINANCE OR CLIENT, AND SEEDED OR SODDED IN ACCORDANCE WITH THE PERMANENT STABILIZATION METHODS INDICATED WITHIN THE SOIL EROSION AND SEDIMENT CONTROL NOTES.
1.1. LAWN SEED MIXTURE SHALL BE FRESH, CLEAN NEW CROP SEED.
1.2. SOD SHALL BE STRONGLY ROOTED, WEED AND DISEASE/PEST FREE WITH A UNIFORM THICKNESS.
1.3. SOD INSTALLED ON SLOPES GREATER THAN 4:1 SHALL BE PEGGED TO HOLD SOD IN PLACE.

D. MULCH - THE MULCH AROUND THE PERIMETER OF THE BUILDING SHALL BE A 3" LAYER OF DOUBLE SHREDDED BLACK CEDAR MULCH ONLY. ALL OTHER AREAS SHALL BE MULCHED WITH A 3" LAYER OF DOUBLE SHREDDED DARK BROWN HARDWOOD BARK MULCH, UNLESS OTHERWISE STATED ON THE LANDSCAPE PLAN.

E. FERTILIZER
1.1. FERTILIZER SHALL BE DELIVERED TO THE SITE MIXED AS SPECIFIED IN THE ORIGINAL UNOPENED STANDARD BAGS SHOWING WEIGHT, ANALYSIS AND NAME OF MANUFACTURER. FERTILIZER SHALL BE STORED IN A WEATHERPROOF PLACE SO THAT IT CAN BE KEPT DRY PRIOR TO USE.
1.2. FOR THE PURPOSE OF BIDDING, ASSUME THAT FERTILIZER SHALL BE 10% NITROGEN, 6% PHOSPHORUS AND 4% POTASSIUM BY WEIGHT. A FERTILIZER SHOULD NOT BE SELECTED WITHOUT A SOIL TEST PERFORMED BY A CERTIFIED SOIL LABORATORY.

F. PLANT MATERIAL
1.1. ALL PLANTS SHALL IN ALL CASES CONFORM TO THE REQUIREMENTS OF THE "AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1), LATEST EDITION, AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION.
1.2. IN ALL CASES, BOTANICAL NAMES SHALL TAKE PRECEDENCE OVER COMMON NAMES FOR ANY AND ALL PLANT MATERIAL.
1.3. PLANTS SHALL BE LEGIBLY TAGGED WITH THE PROPER NAME AND SIZE. TAGS ARE TO REMAIN ON AT LEAST ONE PLANT OF EACH SPECIES FOR VERIFICATION PURPOSES DURING THE FINAL INSPECTION.
1.4. TREES WITH ABRASION OF THE BARK, SUN SCALDS, DISFIGURATION OR FRESH CUTS OF LIMBS OVER 1¼", WHICH HAVE NOT BEEN COMPLETELY CALLUSED, SHALL BE REJECTED.PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME SO AS TO DAMAGE THE BARK OR BREAK BRANCHES.
1.5. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OF GROWTH: WELL DEVELOPED BRANCHES, DENSELY FOLIATED, VIGOROUS ROOT SYSTEMS AND BE FREE OF DISEASE, INSECTS, PESTS, EGGS OR LARVAE.
1.6. CALIPER MEASUREMENTS OF NURSERY GROWN TREES SHALL BE TAKEN AT A POINT ON THE TRUNK SIX INCHES (6") ABOVE THE NATURAL GRADE FOR TREES UP TO AND INCLUDING A FOUR INCH (4") CALIPER SIZE. IF THE CALIPER AT SIX INCHES (6") ABOVE THE GROUND EXCEEDS FOUR INCHES (4") IN CALIPER, THE CALIPER SHOULD BE MEASURED AT A POINT 12" ABOVE THE NATURAL GRADE.
1.7. SHRUBS SHALL BE MEASURED TO THE AVERAGE HEIGHT OR SPREAD OF THE SHRUB, AND NOT TO THE LONGEST BRANCH.
1.8. TREES AND SHRUBS SHALL BE HANDLED WITH CARE BY THE ROOT BALL.

3. GENERAL WORK PROCEDURES
A. CONTRACTOR TO UTILIZE WORKMANLIKE INDUSTRY STANDARDS IN PERFORMING ALL LANDSCAPE CONSTRUCTION. THE SITE IS TO BE LEFT IN A CLEAN STATE AT THE END OF EACH WORKDAY. ALL DEBRIS, MATERIALS AND TOOLS SHALL BE PROPERLY STORED, STOCKPILED OR DISPOSED OF.

B. WASTE MATERIALS AND DEBRIS SHALL BE COMPLETELY DISPOSED OF AT THE CONTRACTOR'S EXPENSE. DEBRIS SHALL NOT BE BURIED, INCLUDING ORGANIC MATERIALS, BUT SHALL BE REMOVED COMPLETELY FROM THE SITE.

4. SITE PREPARATIONS
A. BEFORE AND DURING PRELIMINARY GRADING AND FINISHED GRADING, ALL WEEDS AND GRASSES SHALL BE DUG OUT BY THE ROOTS AND DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES OUTLINED HEREIN.

B. ALL EXISTING TREES TO REMAIN SHALL BE PRUNED TO REMOVE ANY DAMAGED BRANCHES. THE ENTIRE LIMB OF ANY DAMAGED BRANCH SHALL BE CUT OFF AT THE TRUNK. CONTRACTOR SHALL ENSURE THAT CUTS ARE SMOOTH AND STRAIGHT. ANY EXPOSED ROOTS SHALL BE CUT BACK WITH CLEAN, SHARP TOOLS AND TOPSOIL SHALL BE PLACED AROUND THE REMAINDER OF THE ROOTS. EXISTING TREES SHALL BE MONITORED ON A REGULAR BASIS FOR ADDITIONAL ROOT OR BRANCH DAMAGE AS A RESULT OF CONSTRUCTION. ROOTS SHALL NOT BE LEFT EXPOSED FOR MORE THAN ONE (1) DAY. CONTRACTOR SHALL WATER EXISTING TREES AS NEEDED TO PREVENT SHOCK OR DECLINE.

C. CONTRACTOR SHALL ARRANGE TO HAVE A UTILITY STAKE-OUT TO LOCATE ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF ANY LANDSCAPE MATERIAL. UTILITY COMPANIES SHALL BE CONTACTED THREE (3) DAYS PRIOR TO THE BEGINNING OF WORK.

5. TREE PROTECTION
A. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES TO REMAIN. A TREE PROTECTION ZONE SHALL BE ESTABLISHED AT THE DRIP LINE OR 15 FEET FROM THE TRUNK OR AT THE LIMIT OF CONSTRUCTION DISTURBANCE, WHICHEVER IS GREATER. LOCAL STANDARDS THAT MAY REQUIRE A MORE STRICT TREE PROTECTION ZONE SHALL BE HONORED.

B. A FORTY-EIGHT INCH (48") HIGH WOODEN SNOW FENCE OR ORANGE COLORED HIGH-DENSITY 'VISI-FENCE', OR APPROVED EQUAL, MOUNTED ON STEEL POSTS SHALL BE PLACED ALONG THE BOUNDARY OF THE TREE PROTECTION ZONE. POSTS SHALL BE LOCATED AT A MAXIMUM OF EIGHT FEET (8') ON CENTER OR AS INDICATED WITHIN THE TREE PROTECTION DETAIL.

C. WHEN THE TREE PROTECTION FENCING HAS BEEN INSTALLED, IT SHALL BE INSPECTED BY THE APPROVING AGENCY PRIOR TO DEMOLITION, GRADING, TREE CLEARING OR ANY OTHER CONSTRUCTION. THE FENCING ALONG THE TREE PROTECTION ZONE SHALL BE REGULARLY INSPECTED BY THE LANDSCAPE CONTRACTOR AND MAINTAINED UNTIL ALL CONSTRUCTION ACTIVITY HAS BEEN COMPLETED.

D. AT NO TIME SHALL MACHINERY, DEBRIS, FALLEN TREES OR OTHER MATERIALS BE PLACED, STOCKPILED OR LEFT STANDING IN THE TREE PROTECTION ZONE.

6. SOIL MODIFICATIONS
A. CONTRACTOR SHALL ATTAIN A SOIL TEST FOR ALL AREAS OF THE SITE PRIOR TO CONDUCTING ANY PLANTING. SOIL TESTS SHALL BE PERFORMED BY A CERTIFIED SOIL LABORATORY.

B. LANDSCAPE CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITIONS CONSIDERED DETRIMENTAL TO THE GROWTH OF PLANT MATERIAL. SOIL MODIFICATIONS, AS SPECIFIED HEREIN, MAY NEED TO BE CONDUCTED BY THE LANDSCAPE CONTRACTOR DEPENDING ON SITE CONDITIONS.

C. THE FOLLOWING AMENDMENTS AND QUANTITIES ARE APPROXIMATE AND ARE FOR BIDDING PURPOSES ONLY. COMPOSITION OF AMENDMENTS SHOULD BE REVISED DEPENDING ON THE OUTCOME OF A TOPSOIL ANALYSIS PERFORMED BY A CERTIFIED SOIL LABORATORY.
1.1. TO INCREASE A SANDY SOIL'S ABILITY TO RETAIN WATER AND NUTRIENTS, THOROUGHLY TILL ORGANIC MATTER INTO THE TOP 6-12". USE COMPOSTED BARK, COMPOSTED LEAF MULCH OR PEAT MOSS. ALL PRODUCTS SHOULD BE COMPOSTED TO A DARK COLOR AND BE FREE OF PIECES WITH IDENTIFIABLE LEAF OR WOOD STRUCTURE. AVOID MATERIAL WITH A PH HIGHER THAN 7.5.
1.2. TO INCREASE DRAINAGE, MODIFY HEAVY CLAY OR SILT (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) AND/OR AGRICULTURAL GYPSUM. COARSE SAND MAY BE USED IF ENOUGH IS ADDED TO BRING THE SAND CONTENT TO MORE THAN 60% OF THE TOTAL MIX. SUBSURFACE DRAINAGE LINES MAY NEED TO BE ADDED TO INCREASE DRAINAGE.
1.3. MODIFY EXTREMELY SANDY SOILS (MORE THAN 85%) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX.

7. FINISHED GRADING
A. UNLESS OTHERWISE CONTRACTED, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF TOPSOIL AND THE ESTABLISHMENT OF FINE-GRADING WITHIN THE DISTURBANCE AREA OF THE SITE.

B. LANDSCAPE CONTRACTOR SHALL VERIFY THAT SUBGRADE FOR INSTALLATION OF TOPSOIL HAS BEEN ESTABLISHED. THE SUBGRADE OF THE SITE MUST MEET THE FINISHED GRADE LESS THE REQUIRED TOPSOIL THICKNESS (1"±).

C. ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN AND UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE AS DEPICTED WITHIN THIS SET OF CONSTRUCTION PLANS, UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER OR LANDSCAPE ARCHITECT.

D. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER IN AND AROUND THE PLANTING BEDS. STANDING WATER SHALL NOT BE PERMITTED IN PLANTING BEDS.

8. TOPSOILING
A. CONTRACTOR SHALL PROVIDE A SIX INCH (6") THICK MINIMUM LAYER OF TOPSOIL, OR AS DIRECTED BY THE LOCAL ORDINANCE OR CLIENT, IN ALL PLANTING AREAS. TOPSOIL SHOULD BE SPREAD OVER A PREPARED SURFACE IN A UNIFORM LAYER TO ACHIEVE THE DESIRED COMPACTED THICKNESS.

B. ON-SITE TOPSOIL MAY BE USED TO SUPPLEMENT THE TOTAL AMOUNT REQUIRED. TOPSOIL FROM THE SITE MAY BE REJECTED IF IT HAS NOT BEEN PROPERLY REMOVED, STORED AND PROTECTED PRIOR TO CONSTRUCTION.

C. CONTRACTOR SHALL FURNISH TO THE APPROVING AGENCY AN ANALYSIS OF BOTH IMPORTED AND ON-SITE TOPSOIL TO BE UTILIZED IN ALL PLANTING AREAS. THE PH AND NUTRIENT LEVELS MAY NEED TO BE ADJUSTED THROUGH SOIL MODIFICATIONS AS NEEDED TO ACHIEVE THE REQUIRED LEVELS AS SPECIFIED IN THE MATERIALS SECTION ABOVE.

D. ALL PLANTING AND LAWN AREAS ARE TO BE CULTIVATED TO A DEPTH OF SIX INCHES (6"). ALL DEBRIS EXPOSED FROM EXCAVATION AND CULTIVATION SHALL BE DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES SECTION ABOVE. THE FOLLOWING SHALL BE TILLED INTO THE TOP FOUR INCHES (4") IN TWO DIRECTIONS (QUANTITIES BASED ON A 1,000 SQUARE FOOT AREA):
1.1. 20 POUNDS 'GROW POWER' OR APPROVED EQUAL
1.2. 20 POUNDS NITRO-FORM (COURSE) 38-0-0 BLUE CHIP

E. THE SPREADING OF TOPSOIL SHALL NOT BE CONDUCTED UNDER MUDDY OR FROZEN CONDITIONS.

9. PLANTING
A. INSOFAR THAT IT IS FEASIBLE, PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THAT THIS IS NOT POSSIBLE, LANDSCAPE CONTRACTOR SHALL PROTECT UNINSTALLED PLANT MATERIAL. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A THREE DAY PERIOD AFTER DELIVERY. PLANTS THAT WILL NOT BE PLANTED FOR A PERIOD OF TIME GREATER THAN THREE DAYS SHALL BE HEALED IN WITH TOPSOIL OR MULCH TO HELP PRESERVE ROOT MOISTURE.

B. PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE. PLANTS SHALL NOT BE INSTALLED IN TOPSOIL THAT IS IN A MUDDY OR FROZEN CONDITION.

C. ANY INJURED ROOTS OR BRANCHES SHALL BE PRUNED TO MAKE CLEAN-CUT ENDS PRIOR TO PLANTING UTILIZING CLEAN, SHARP TOOLS. ONLY INJURED OR DISEASED BRANCHING SHALL BE REMOVED.

D. ALL PLANTING CONTAINERS AND NON-BIODEGRADABLE MATERIALS SHALL BE REMOVED FROM ROOT BALLS DURING PLANTING. NATURAL FIBER BURLAP MUST BE CUT FROM AROUND THE TRUNK OF THE TREE AND FOLDED DOWN AGAINST THE ROOT BALL PRIOR TO BACKFILLING.

E. POSITION TREES AND SHRUBS AT THEIR INTENDED LOCATIONS AS PER THE PLANS AND SECURE THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO EXCAVATING PITS, MAKING NECESSARY ADJUSTMENTS AS DIRECTED.

F. PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, THE PROPOSED LANDSCAPE, AS SHOWN ON THE APPROVED LANDSCAPE PLAN, MUST BE INSTALLED, INSPECTED AND APPROVED BY THE APPROVING AGENCY. THE APPROVING AGENCY SHALL TAKE INTO ACCOUNT SEASONAL CONSIDERATIONS IN THIS REGARD AS FOLLOWS. THE PLANTING OF TREES, SHRUBS, VINES OR GROUND COVER SHALL OCCUR ONLY DURING THE FOLLOWING PLANTING SEASONS:
1.1. PLANTS: MARCH 15 TO DECEMBER 15
1.2. LAWN: MARCH 15 TO JUNE 15 OR SEPT. 1 TO DECEMBER 1

G. PLANTINGS REQUIRED FOR A CERTIFICATE OF OCCUPANCY SHALL BE PROVIDED DURING THE NEXT APPROPRIATE SEASON AT THE MUNICIPALITY'S DISCRETION. CONTRACTOR SHOULD CONTACT APPROVING AGENCY FOR POTENTIAL SUBSTITUTIONS.

H. FURTHERMORE, THE FOLLOWING TREE VARIETIES ARE UNUSUALLY SUSCEPTIBLE TO WINTER DAMAGE. WITH TRANSPLANT SHOCK AND THE SEASONAL LACK OF NITROGEN AVAILABILITY, THE RISK OF PLANT DEATH IS GREATLY INCREASED. IT IS NOT RECOMMENDED THAT THESE SPECIES BE PLANTED DURING THE FALL PLANTING SEASON:

ACER RUBRUM	PLATANUS X ACERIFOLIA
BETULA VARIETIES	POPULOUS VARIETIES
CARPINUS VARIETIES	PRUNUS VARIETIES
CRATAEGUS VARIETIES	PYRUS VARIETIES
KOELREUTERIA	QUERCUS VARIETIES
LIQUIDAMBER STYRACIFLUA	TILIA TOMENTOSA
LIRIODENDRON TULIPIFERA	ZELKOVA VARIETIES

I. PLANTING PITS SHALL BE DUG WITH LEVEL BOTTOMS, WITH THE WIDTH TWICE THE DIAMETER OF ROOT BALL. THE ROOT BALL SHALL REST ON UNDISTURBED GRADE. EACH PLANT PIT SHALL BE BACKFILLED IN LAYERS WITH THE FOLLOWING PREPARED SOIL MIXED THOROUGHLY:
- 1 PART PEAT MOSS
- 1 PART COMPOSTED COW MANURE BY VOLUME
- 3 PARTS TOPSOIL BY VOLUME
- 21 GRAMS 'AGRIFORM' PLANTING TABLETS (OR APPROVED EQUAL) AS FOLLOWS:
  - A) 2 TABLETS PER 1 GALLON PLANT
  - B) 3 TABLETS PER 5 GALLON PLANT
  - C) 4 TABLETS PER 15 GALLON PLANT
  - D) LARGER PLANTS: 2 TABLETS PER ½" CALIPER OF TRUNK

J. FILL PREPARED SOIL AROUND BALL OF PLANT HALF-WAY AND INSERT PLANT TABLETS. COMPLETE BACKFILL AND WATER THOROUGHLY.

K. ALL PLANTS SHALL BE PLANTED SO THAT THE TOP OF THE ROOT BALL, THE POINT AT WHICH THE ROOT FLARE BEGINS, IS SET AT GROUND LEVEL AND IN THE CENTER OF THE PIT. NO SOIL IS TO BE PLACED DIRECTLY ON TOP OF THE ROOT BALL.

L. ALL PROPOSED TREES DIRECTLY ADJACENT TO WALKWAYS OR DRIVEWAYS SHALL BE PRUNED AND MAINTAINED TO A MINIMUM BRANCHING HEIGHT OF 7' FROM GRADE.

M. GROUND COVER AREAS SHALL RECEIVE A ¼" LAYER OF HUMUS RAKED INTO THE TOP 1" OF PREPARED SOIL PRIOR TO PLANTING. ALL GROUND COVER AREAS SHALL BE WEEDED AND TREATED WITH A PRE-EMERGENT CHEMICAL AS PER MANUFACTURER'S RECOMMENDATION.

N. NO PLANT, EXCEPT GROUND COVERS, GRASSES OR VINES, SHALL BE PLANTED LESS THAN TWO FEET (2') FROM EXISTING STRUCTURES AND SIDEWALKS.

O. ALL PLANTING AREAS AND PLANTING PITS SHALL BE MULCHED AS SPECIFIED HEREIN TO FILL THE ENTIRE BED AREA OR SAUCER. NO MULCH IS TO TOUCH THE TRUNK OF THE TREE OR SHRUB.

P. ALL PLANTING AREAS SHALL BE WATERED IMMEDIATELY UPON INSTALLATION IN ACCORDANCE WITH THE WATERING SPECIFICATIONS AS LISTED HEREIN.

10. TRANSPLANTING (WHEN REQUIRED)
A. ALL TRANSPLANTS SHALL BE DUG WITH INTACT ROOT BALLS CAPABLE OF SUSTAINING THE PLANT.

B. IF PLANTS ARE TO BE STOCKPILED BEFORE REPLANTING, THEY SHALL BE HEALED IN WITH MULCH OR SOIL, ADEQUATELY WATERED AND PROTECTED FROM EXTREME HEAT, SUN AND WIND.

C. PLANTS SHALL NOT BE DUG FOR TRANSPLANTING BETWEEN APRIL 10 AND JUNE 30.

D. UPON REPLANTING, BACKFILL SOIL SHALL BE AMENDED WITH FERTILIZER AND ROOT GROWTH HORMONE.

E. TRANSPLANTS SHALL BE GUARANTEED FOR THE LENGTH OF THE GUARANTEE PERIOD SPECIFIED HEREIN.

F. IF TRANSPLANTS DIE, SHRUBS AND TREES LESS THAN SIX INCHES (6") DBH SHALL BE REPLACED IN KIND. TREES GREATER THAN SIX INCHES (6") DBH MAY BE REQUIRED TO BE REPLACED IN ACCORDANCE WITH THE MUNICIPALITY'S TREE REPLACEMENT GUIDELINES.

11. WATERING
A. NEW PLANTINGS OR LAWN AREAS SHALL BE ADEQUATELY IRRIGATED BEGINNING IMMEDIATELY AFTER PLANTING. WATER SHALL BE APPLIED TO EACH TREE AND SHRUB IN SUCH MANNER AS NOT TO DISTURB BACKFILL AND TO THE EXTENT THAT ALL MATERIALS IN THE PLANTING HOLE ARE THOROUGHLY SATURATED. WATERING SHALL CONTINUE AT LEAST UNTIL PLANTS ARE ESTABLISHED.

B. SITE OWNER SHALL PROVIDE WATER IF AVAILABLE ON SITE AT TIME OF PLANTING. IF WATER IS NOT AVAILABLE ON SITE, CONTRACTOR SHALL SUPPLY ALL NECESSARY WATER. THE USE OF WATERING BAGS IS RECOMMENDED FOR ALL NEWLY PLANTED TREES.

C. IF AN IRRIGATION SYSTEM HAS BEEN INSTALLED ON THE SITE, IT SHALL BE USED TO WATER PROPOSED PLANT MATERIAL, BUT ANY FAILURE OF THE SYSTEM DOES NOT ELIMINATE THE CONTRACTOR'S RESPONSIBILITY OF MAINTAINING THE DESIRED MOISTURE LEVEL FOR VIGOROUS, HEALTHY GROWTH.

12. GUARANTEE
A. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A PERIOD OF ONE (1) YEAR FROM APPROVAL OF LANDSCAPE INSTALLATION BY THE APPROVING AGENCY. CONTRACTOR SHALL SUPPLY THE OWNER WITH A MAINTENANCE BOND FOR TEN PERCENT (10%) OF THE VALUE OF THE LANDSCAPE INSTALLATION WHICH WILL BE RELEASED AT THE CONCLUSION OF THE GUARANTEE PERIOD AND WHEN A FINAL INSPECTION HAS BEEN COMPLETED AND APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE.

B. ANY DEAD OR DYING PLANT MATERIAL SHALL BE REPLACED FOR THE LENGTH OF THE GUARANTEE PERIOD. REPLACEMENT OF PLANT MATERIAL SHALL BE CONDUCTED AT THE FIRST SUCCEEDING PLANTING SEASON. ANY DEBRIS SHALL BE DISPOSED OF OFF-SITE, WITHOUT EXCEPTION.

C. TREES AND SHRUBS SHALL BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION AND THROUGHOUT THE 90 DAY MAINTENANCE PERIOD AS SPECIFIED HEREIN. CULTIVATION, WEEDING, WATERING AND THE PREVENTATIVE TREATMENTS SHALL BE PERFORMED AS NECESSARY TO KEEP PLANT MATERIAL IN GOOD CONDITION AND FREE OF INSECTS AND DISEASE.

D. LAWNS SHALL BE MAINTAINED THROUGH WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING AND OTHER OPERATIONS SUCH AS ROLLING, REGARDING AND REPLANTING AS REQUIRED TO ESTABLISH A SMOOTH, ACCEPTABLE LAWN, FREE OF ERODED OR BARE AREAS.

13. CLEANUP
A. UPON THE COMPLETION OF ALL LANDSCAPE INSTALLATION AND BEFORE THE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL UNUSED MATERIALS, EQUIPMENT AND DEBRIS FROM THE SITE. ALL PAVED AREAS ARE TO BE CLEANED.

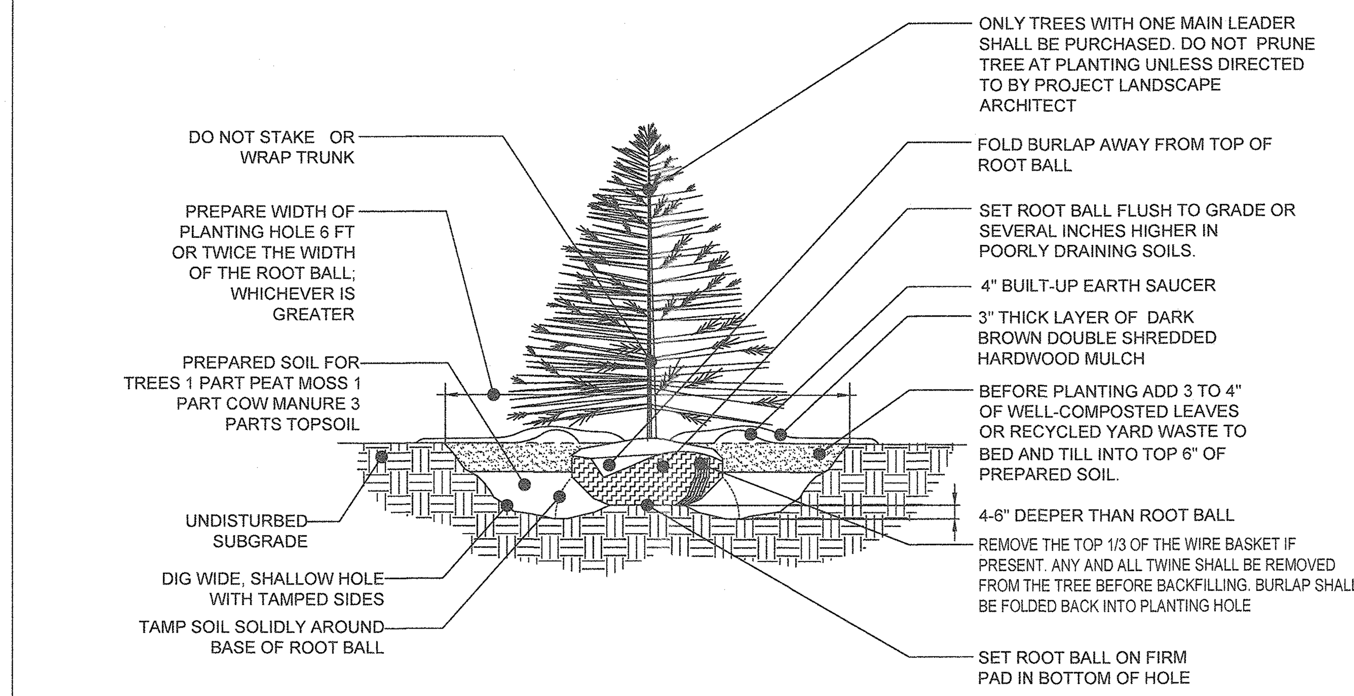
B. THE SITE SHALL BE CLEANED AND LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE.

LANDSCAPE NOTES

1. POSTING OF SURETY FOR REQUIRED LANDSCAPING IN ACCORDANCE WITH SECTION 16.124 OF THE LANDSCAPE MANUAL IN THE AMOUNT OF $60,810 FOR 167 SHADE TREES, 37 EVERGREENS, 172 SHRUBS, AND 0 LINEAR FEET OF FENCING. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MATERIAL MUST BE POSTED AS PART OF THE GRADING PERMIT. SURETY IN THE AMOUNT OF $17,000 FOR PUBLIC STREET TREES SHALL BE INCLUDED IN DED'S COST ESTIMATE.

2. THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLAN MATERIALS AND BERMS, FENCES, AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION AND WHEN NECESSARY, REPAIRED OR REPLACED.

3. AT THE TIME OF INSTALLATION, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPING MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.

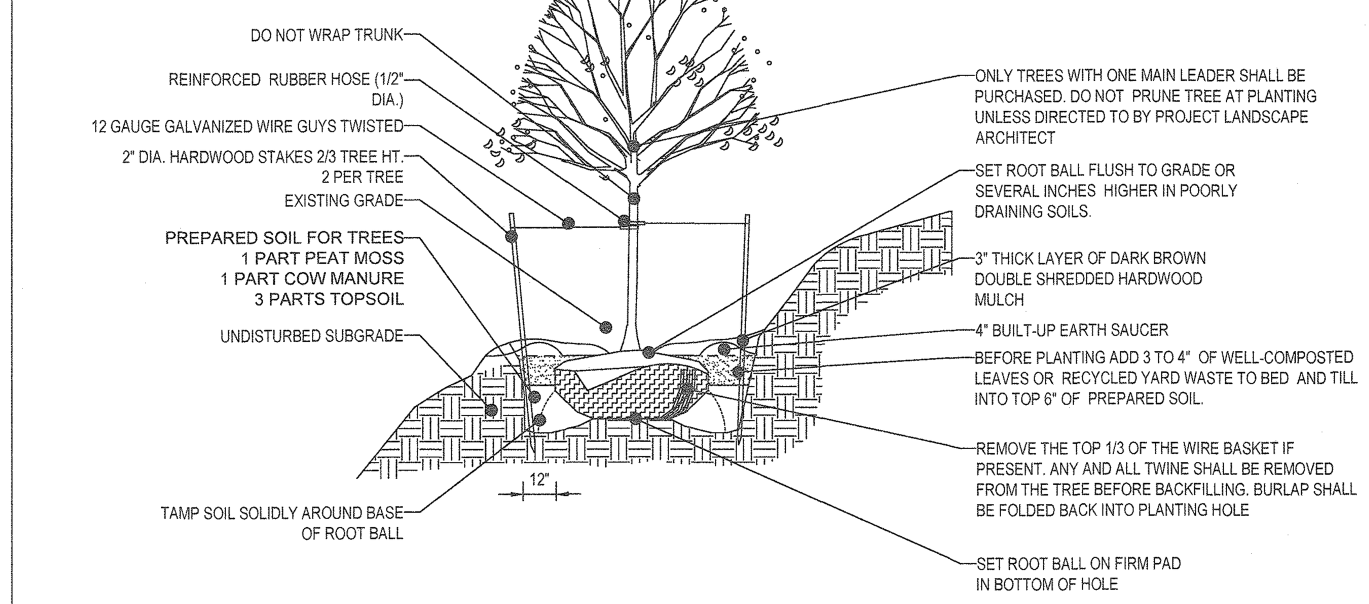


REFERENCE: ARCHITECTURAL GRAPHIC STANDARDS 1998 CUMULATIVE SUPPLEMENT.

EVERGREEN TREE PLANTING DETAIL

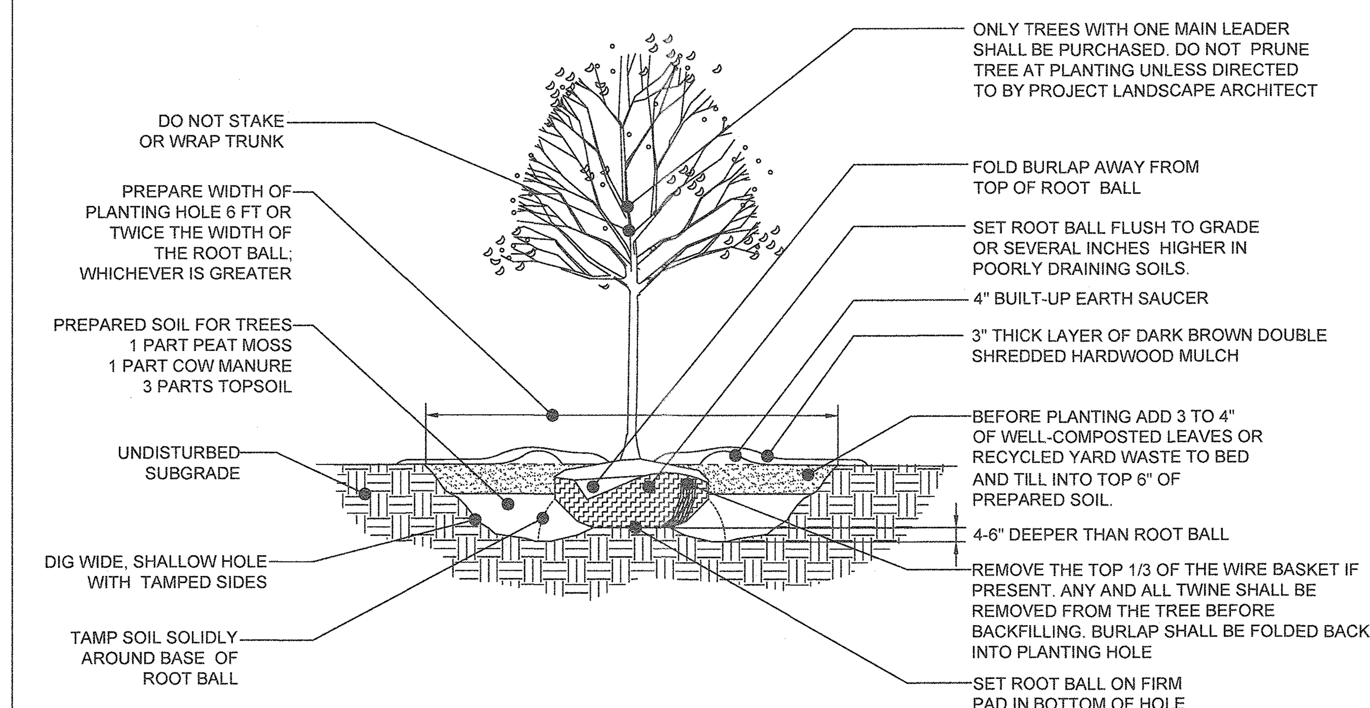
NOT TO SCALE

NOTE: TREE STAKING TO BE REMOVED AFTER 2 GROWING SEASONS



TREE PLANTING ON SLOPE DETAIL

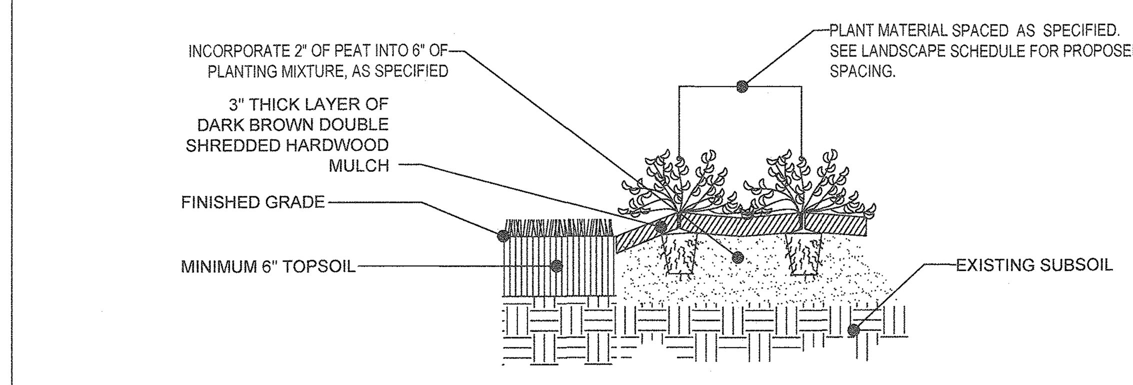
NOT TO SCALE



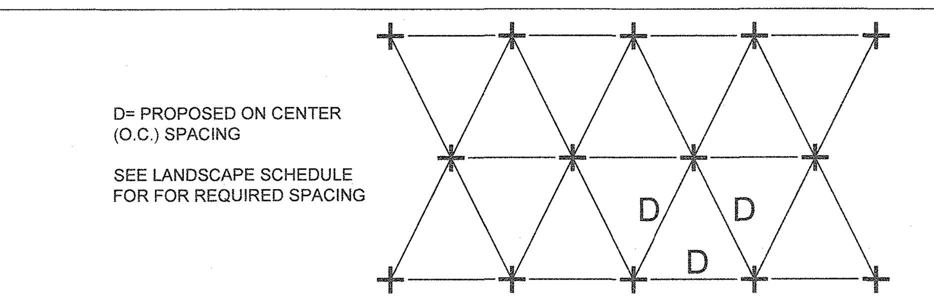
REFERENCE: ARCHITECTURAL GRAPHIC STANDARDS 1998 CUMULATIVE SUPPLEMENT.

DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE



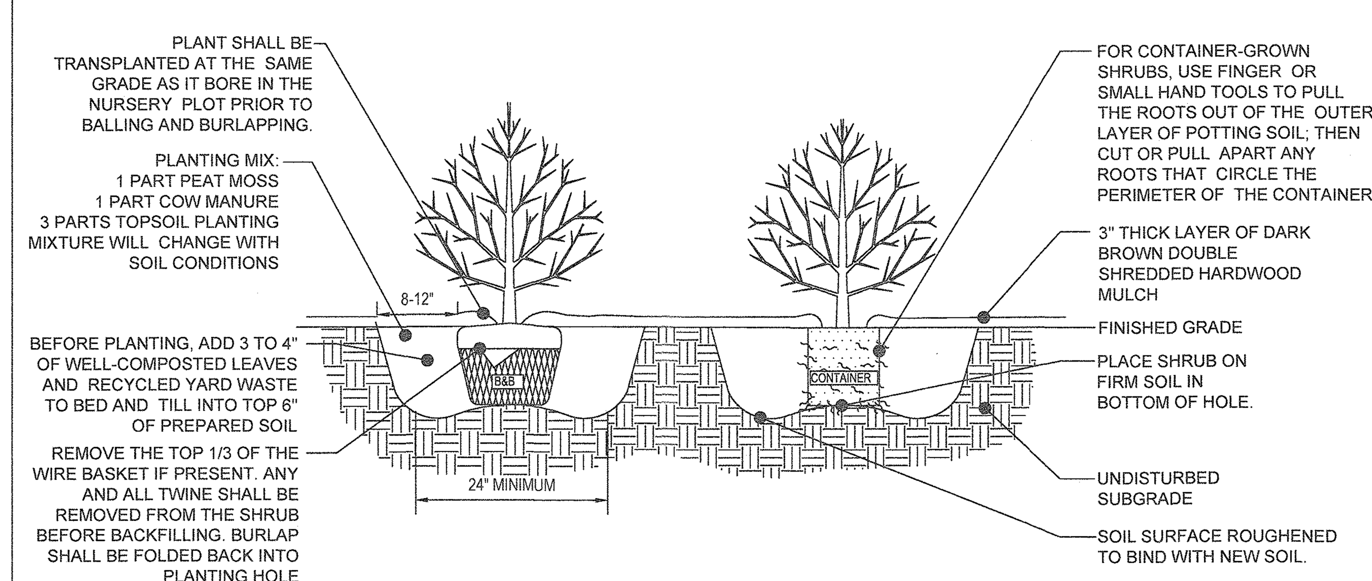
TYPICAL PERENNIAL AND GROUND COVER PLANTING



TYPICAL PERENNIAL AND GROUND COVER SPACING & LAYOUT

PERENNIAL/GROUND COVER PLANTING DETAIL

NOT TO SCALE



REFERENCE: ARCHITECTURAL GRAPHIC STANDARDS 1998 CUMULATIVE SUPPLEMENT

DECIDUOUS AND EVERGREEN SHRUB PLANTING DETAIL

NOT TO SCALE

SEEDING SPECIFICATIONS

1. PRIOR TO SEEDING, AREA IS TO BE TOPSOILED, FINE GRADED, AND RAKED OF ALL DEBRIS LARGER THAN 2" DIAMETER.

2. PRIOR TO SEEDING, CONSULT MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.

3. SEEDING RATES:

PERENNIAL RYEGRASS	1/2 LB/1,000 SQ FT
KENTUCKY BLUEGRASS	1 LB/1,000 SQ FT
RED FESCUE	1 1/2 LBS/1,000 SQ FT
SPREADING FESCUE	1 1/2 LBS/1,000 SQ FT
FERTILIZER (20:10:10)	14 LBS/1,000 SQ FT
MULCH	90 LBS/1,000 SQ FT

4. GERMINATION RATES WILL VARY AS TO TIME OF YEAR FOR SOWING. CONTRACTOR TO IRRIGATE SEEDED AREA UNTIL AN ACCEPTABLE STAND OF COVER IS ESTABLISHED BY OWNER.

OWNER MAINTENANCE RESPONSIBILITIES

UPON OWNER'S (OR OWNER CONTRACTOR'S) COMPLETION OF LANDSCAPING WORK, THE OWNER IS FULLY RESPONSIBLE FOR ALL FUTURE MAINTENANCE, CARE, UPKEEP, WATERING, AND TRIMMING OF ALL INSTALLED VEGETATION, PLANTS, TREE, BUSHES, SHRUBS, GRASSES, GRASS, ORNAMENTAL PLANTS AND FLOWERS, FLOWERS, GROUND COVER, AND LANDSCAPING, INCLUDING ALL LANDSCAPE ISLANDS AND AREAS ADJACENT OR PART OF THE LANDSCAPED AREAS. THIS RESPONSIBILITY INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:

- TREES ADJACENT TO WALKWAYS AND AREAS OF PEDESTRIAN TRAFFIC MUST BE MAINTAINED TO ASSURE THAT ANY BRANCHES MUST BE LIMBED UP TO A CLEARANCE HEIGHT OF 7 FT. (FROM ALL PEDESTRIAN SURFACES) OR PRUNED BACK TO AVOID ANY INTERFERENCE WITH THE TYPICAL PATH OF TRAVEL.
- TREES WITHIN VEHICULAR SIGHT LINES, AS ILLUSTRATED ON THE LANDSCAPE PLAN, ARE TO BE TRIMMED TO A CLEARANCE HEIGHT OF 7 FT. (FROM ALL PAVED, TRAVELED SURFACES), OR AS OTHERWISE INDICATED ON THE PLANS.
- VEGETATIVE GROUND COVER, SHRUBS AND ORNAMENTAL PLANTS AND GRASSES MUST BE TRIMMED SO THAT NO PORTION OF THE PLANT EXCEEDS 30 INCHES ABOVE GRADE (OF ALL PAVED, TRAVEL SURFACES) ALONG AND WITHIN THE SIGHT LINES OF PARKING LOTS AND INGRESS-EGRESS WAYS.
- FALLEN PLANT FLOWERS, FRUIT, SEEDS AND DEBRIS DROPPINGS ARE TO BE REMOVED IMMEDIATELY FROM VEHICULAR AND PEDESTRIAN TRAFFIC AREAS TO PREVENT TRIPPING, SLIPPING OR ANY OTHER HAZARDS.

THESE REQUIREMENTS DO NOT AFFECT THE PLANT LIFE GUARANTEES THE LANDSCAPE CONTRACTOR IS REQUIRED TO PROVIDE.

OWNER'S CERTIFICATE

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

ATAPCO HOWARD SQUARE I STATUTORY TRUST — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION JP — DATE 8/8/18

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/9/18

DIRECTOR — DATE 8-9-18

THIS REVISION REPLACES THE PREVIOUS SHEET DATED APRIL, 2017

NO.	DATE	REVISION
1	06/2018	UPDATE LS PLAN PER REVISED RETAINING WALL A, BUILDING B, AND GARAGE B FOOTPRINTS

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
Phone: (410) 821-7900
Fax: (410) 821-7987
MD@BohlerEng.com

E.R. McWILLIAMS
REGISTERED LANDSCAPE ARCHITECT

PROFESSIONAL CERTIFICATION
I, ERIC R. McWILLIAMS, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 3697, EXPIRATION DATE: 9/20/18

DEVELOPER/OWNER:
ATAPCO HOWARD SQUARE I BUSINESS TRUST
1 SOUTH STREET, SUITE 2800
BALTIMORE, MD 21202
(410) 347-7189

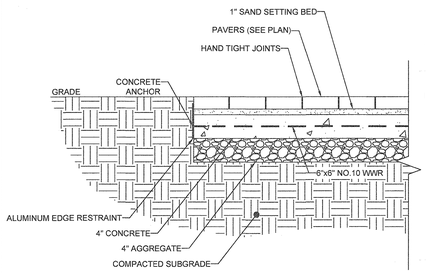
HOWARD SQUARE
PHASE 8 & 9, PARCEL B
APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 - PARCEL: C
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

LANDSCAPE NOTES AND DETAILS

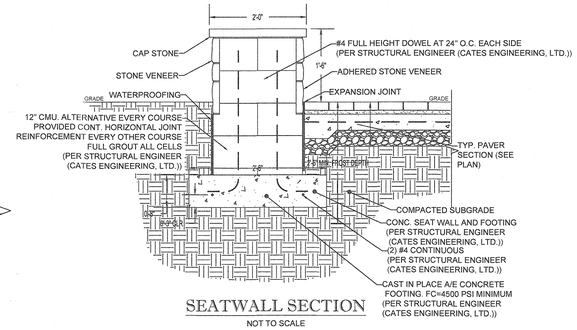
DATE:	APRIL, 2017	BEI PROJECT NO.	2541
REVISED:	JUNE, 2018		
DRAFT:RJM	CHECK:HMA	SCALE: AS NOTED	SHEET 21 OF 27

SDP-16-017



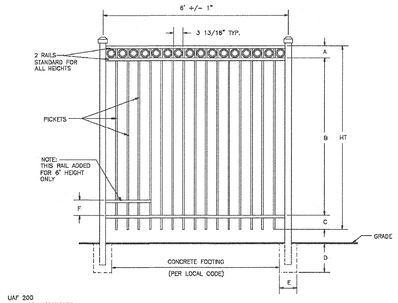
PAVER EDGE SECTION

NOT TO SCALE



SEATWALL SECTION

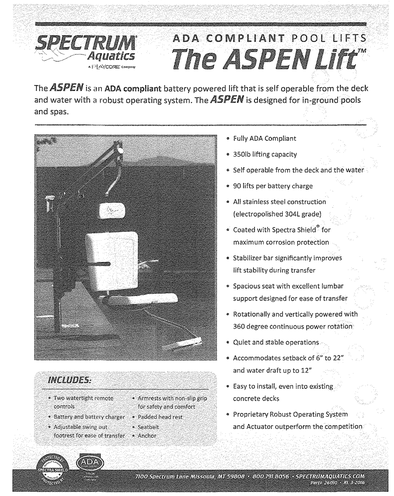
NOT TO SCALE



SPECIFICATIONS RESIDENTIAL	
POSTS	2"x2"x.080 WALL 2"x2"x.080 WALL 2"x2"x.125 WALL 2 1/2"x2 1/2"x.100 WALL
HORIZONTAL RAILS SIDE WALLS TOP WALLS	1 1/8" x 1" .062" .062"
PICKETS PICKET SPACING	5/8"x5/8"x.050 WALL 3 13/16"
AVAILABLE HEIGHTS	3, 3 1/2, 4, 5 & 6 FT.

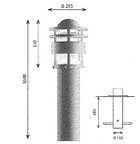
DIMENSIONS							
HT	A	B	C	D	E	F
3'	4 13/16"	24 1/2"	5 1/2"	PER LOCAL CODE		6"
3 1/2"	4 13/16"	30 1/2"	5 1/2"	PER LOCAL CODE		6"
4'	4 13/16"	36 1/2"	5 1/2"	PER LOCAL CODE		6"
5'	4 13/16"	48 1/2"	5 1/2"	PER LOCAL CODE		6"
6'	4 13/16"	60 1/2"	5 1/2"	PER LOCAL CODE		6"

ALUMINUM POOL FENCE DETAIL



louis poulsen

ALBERTSLUND BOLLARD



Design:
Jens Møller-Jensen

Concept:
The fixture provides a wide symmetrical illumination. The design of the reflector ring combined with the internal reflector ensures the majority of the light is directed downward. The anti-glare ring shields the lamp from direct view.

Finish:
Aluminium coloured with textured surface, graphite with textured surface or grey, powder coated.

Material:
Reflector: White, spun aluminium. Enclosure: Injection moulded clear polycarbonate. Ring: Spun aluminium. Anti glare ring: Spun aluminium. Top:

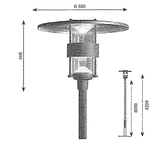
Weight:
Min: 9.7 kg. Max: 13.7 kg.

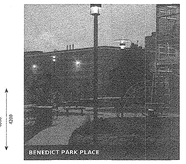
Class:
Ingress protection IP44. Electric shock protection I w. ground. II w/o ground. IK10.

Info notes:
Supplied with bracket for terminal box. Post for base plate installation is supplied without anchor bolts. Anchor bolts to be sourced locally.

louis poulsen

ALBERTSLUND MAXI POST





Design:
Jens Møller-Jensen

Concept:
The fixture emits symmetrical glare-free light directed downwards. The top shade helps direct the light downwards and prevent light from being emitted upwards. The white painted reflectors result in diffuse and comfortable light distribution. The reflector ring protects against direct glare and does also serve as a heat sink.

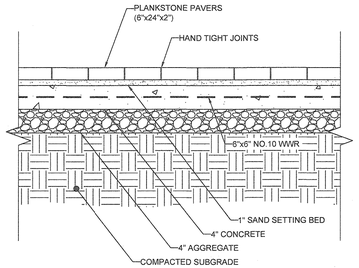
Finish:
Aluminium coloured with textured surface, graphite with textured surface or grey, powder coated.

Material:
Top shade: Form pressed glass fibre. Enclosure:

Weight:
Min: 13.2 kg. Max: 21.1 kg.

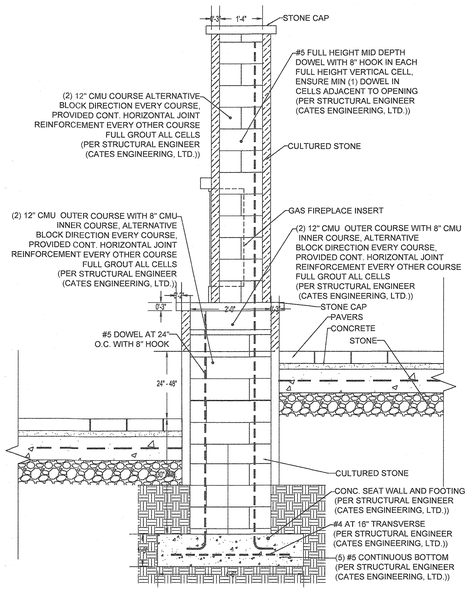
Class:
Ingress protection IP66. Electric shock protection I w. ground. II w/o ground. IK10.

Info notes:
Transition pieces for Ø 60mm and Ø 115mm pole can be bought as accessory parts. Mounting: for pole Ø 76 mm. The innovation of the LED technology is constant. The specifications mentioned are based on present technology. Please find updated info on products on our website www.louispoulsen.com.



PLANKSTONE PAVER SECTION

NOT TO SCALE



FIREPLACE SECTION

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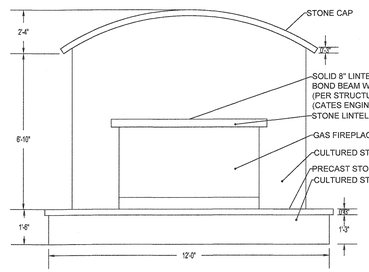
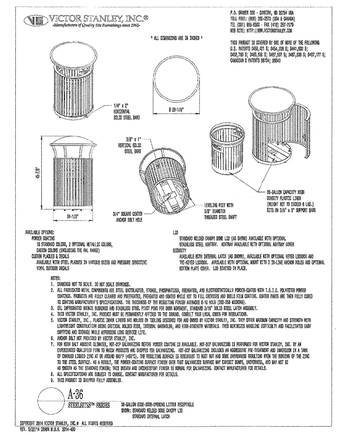
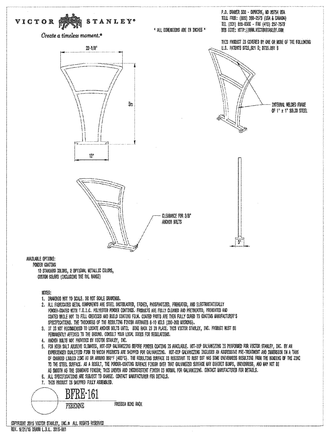
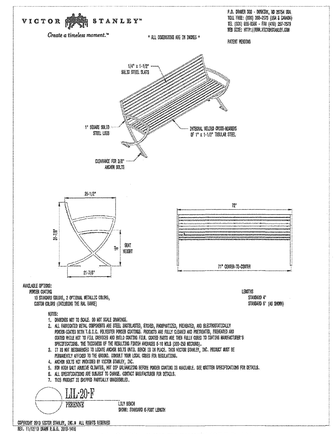


MASONRY FIREPLACE ELEVATION

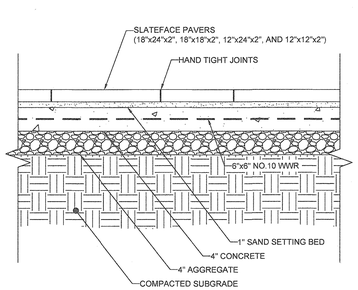
NOT TO SCALE





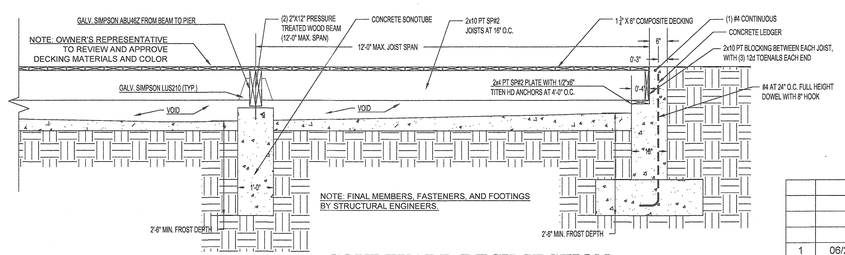


BENCHES - 4' OR 6' LENGTH (SEE PLAN)



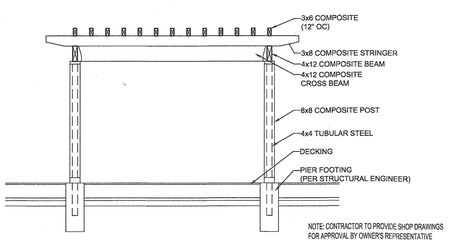
SLATEFACE PAVER SECTION

NOT TO SCALE



COURTYARD DECK SECTION

NOT TO SCALE



PERGOLA SECTION

SCALE: ½"" = 1' - 0"

THIS REVISION REPLACES THE PREVIOUS SHEET DATED APRIL, 2017

NO.	DATE	REVISION
1	06/2018	UPDATED LS PLAN PER REVISED RETAINING WALL A, BUILDING B, AND GARAGE B FOOT PRINTS

OWNER'S CERTIFICATE

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

ATAPCO HOWARD SQUARE I STATUTORY TRUST — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 8/8/18

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/9/18

DIRECTOR — DATE 8-9-18

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD, SUITE 801
TOWSON, MARYLAND 21204
Phone: (410) 821-7900
Fax: (410) 821-7987
MD@BohlerEng.com

E.R. McWILLIAMS
REGISTERED LANDSCAPE ARCHITECT

CERTIFICATION
I, ERIC R. McWILLIAMS, CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 3697, EXPIRATION DATE: 9/20/18

DEVELOPER/OWNER:

ATAPCO HOWARD SQUARE I BUSINESS TRUST
1 SOUTH STREET, SUITE 2800
BALTIMORE, MD 21202
(410) 347-7189

HOWARD SQUARE

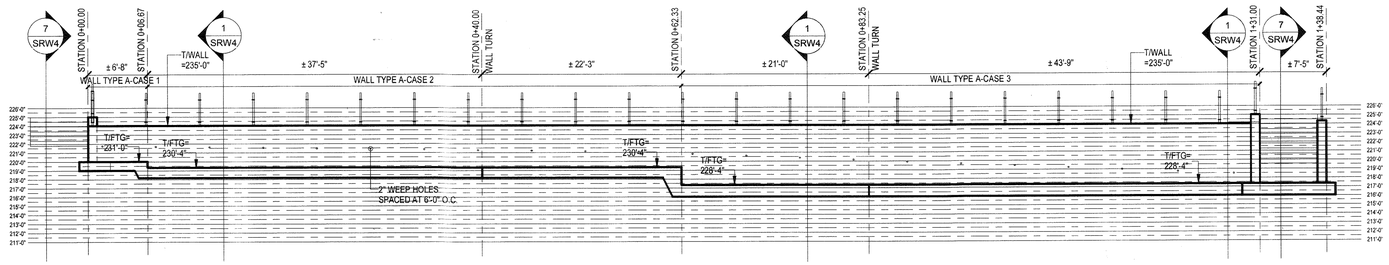
PHASE 8 & 9, PARCEL B APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 - PARCEL: C
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

LANDSCAPE NOTES AND DETAILS

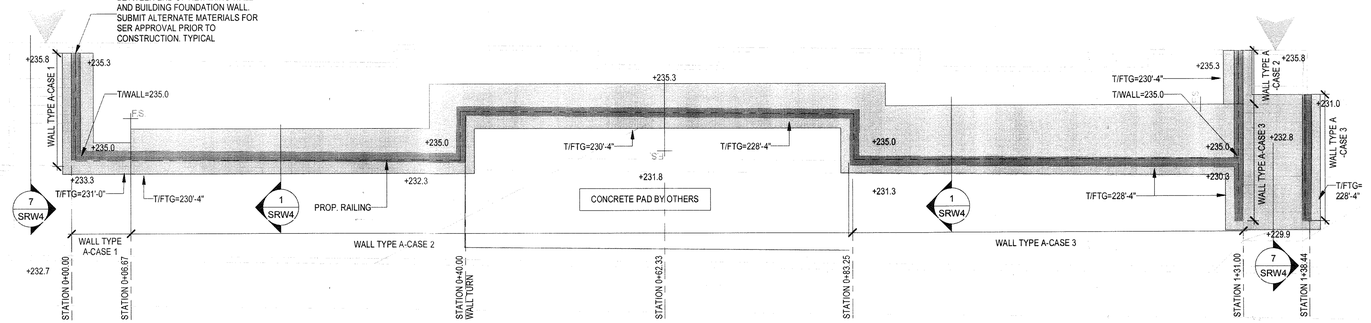
DRAFT:RJM	CHECK:HMA	SCALE: AS NOTED	DATE: APRIL, 2017 REVISED: JUNE, 2018	BEI PROJECT NO. 2541 SHEET 22 OF 27

SDP-16-017



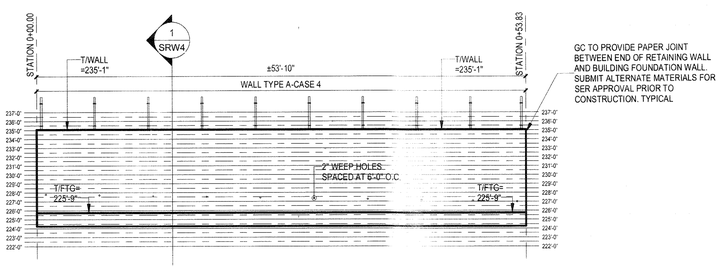
SITE RETAINING WALL - ELEVATION A

SCALE: 1/8" = 1'-0"



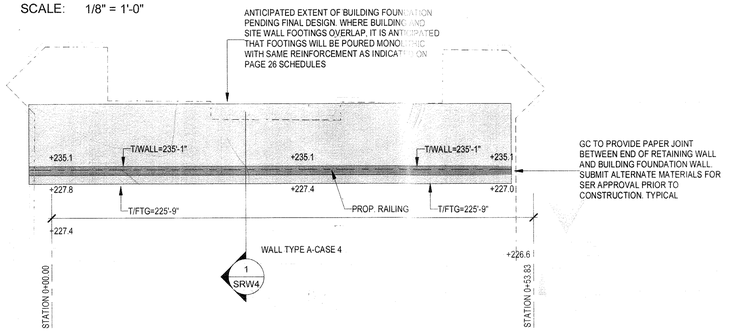
SITE RETAINING WALL - PLAN A

SCALE: 1/8" = 1'-0"



SITE RETAINING WALL - ELEVATION B

SCALE: 1/8" = 1'-0"



SITE RETAINING WALL - PLAN B

SCALE: 1/8" = 1'-0"

MASONRY LEVEL B SPECIAL INSPECTION ACI 530-11 (TABLE 1.19.2)

INSPECTION TASKS	C	P	REFERENCE FOR CRITERIA: IBC SECTION	ACI 530 ASCE 5 TMS 402	ACI 530.1 ASCE 6 TMS 602	PERIODIC STAGES	REQ. ON PROJECT
1. VERIFY COMPLIANCE WITH THE APPROVED SUBMITTALS	-	X					Y
2. AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:							
a. PROPORTIONS OF SITE PREPARED MORTAR	-	X			ART. 2.1, 2.6A	INSPECTIONS NOT LESS THAN ONCE EVERY 5,000 SQ. FEET OF WALL. DISTRIBUTED EVENLY THROUGHOUT MASONRY CONSTRUCTION	Y
b. CONSTRUCTION OF MORTAR JOINTS	-	X			ART. 3.3B		Y
c. GRADE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGE	-	X			ART. 2.4B 2.4H		N
d. LOCATION OF REINFORCEMENT CONNECTORS AND PRESTRESSING TENDONS AND ANCHORAGES	-	X			ART. 3.4, 3.6A		N
e. PRESTRESSING TECHNIQUE	-	X			ART. 3.6B		N
f. PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY	X	X			ART. 2.1C		N
3. PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:							
a. GROUT SPACE	-	X			ART. 3.2D, 3.2F	PRIOR TO EACH GROUT POUR	Y
b. GRADE, TYPE AND SIZE OF REINFORCEMENT AND ANCHOR BOLTS, AND PRESTRESSING TENDONS AND ANCHORAGES	-	X		ART. 1.16	ART. 2.4, 3.4		Y
c. PLACEMENT OF REINFORCEMENT, CONNECTORS, AND PRESTRESSING TENDONS AND ANCHORAGES	-	X		ART. 1.16	ART. 3.2E, 3.4, AND 3.6A		Y
d. PROPORTIONS OF SITE-PREPARED GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS	-	X			ART. 2.6E, 2.4, AND 3.6A		Y
e. CONSTRUCTION OF MORTAR JOINTS	-	X			ART. 3.3B		Y
4. VERIFY DURING CONSTRUCTION							
a. SIZE AND LOCATION OF STRUCTURAL ELEMENTS	-	X			ART. 3.3F	INSPECTIONS NOT LESS THAN ONCE EVERY 5,000 SQ. FEET OF WALL. DISTRIBUTED EVENLY THROUGHOUT MASONRY CONSTRUCTION WHEN TEMP. IS BELOW 40°F, OR ABOVE 90°F. UNANNOUNCED INSPECTIONS SHALL OCCUR AT LEAST EVERY OTHER DAY OF MASONRY CONSTRUCTION	Y
b. TYPE, SIZE AND LOCATIONS OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION	-	X		ART. 1.16.4.3, 1.17.1			Y
c. WELDING OF REINFORCEMENT	X	-		ART. 2.1.7.7.2 3.3.3.4c 8.3.3.4b			N
d. PREPARATION, CONSTRUCTION AND PROTECTION OF MASONRY DURING COLD WEATHER (<40°F) OF HOT WEATHER (>90°F).	-	X			ART. 1.8C 1.0.13/1.4D		Y
e. APPLICATION AND MEASUREMENT OF PRESTRESSING FORCE	X	-			ART. 3.6B		N
f. PLACEMENT OF GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS IS IN COMPLIANCE	X	-			ART. 3.5 3.6C		N
g. PLACEMENT OF AAC MASONRY UNITS AND CONSTRUCTION OF THIN-BED MORTAR JOINTS	X	X			ART. 3.3 B.8		N
5. OBSERVATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS	-	X			ART. 1.4 B.2.a.3, 1.4 B.2.c.3, 1.4 B.3, 1.4 B.4		Y

C = CONTINUOUS
P = PERIODIC

CONCRETE STRENGTH AND DURABILITY REQUIREMENTS

	LOC.	STRUCTURAL MEMBERS	EXPOSURE CLASS(1)	MINIMUM 28 DAY COMPRESSIVE STRENGTH (PSI) (3)	MAXIMUM WATER/CEMENT RATIO (PERCENT)	RECOMMENDED MINIMUM SLUMP (INCHES)(4)
		FOOTINGS				
BELOW GRADE		WITH BOTTOM OF FOOTING POURED AT REQUIRED FROST DEPTH	F2	4500	0.45	3
		SLABS ON GRADE AND SOIL SUPPORTED STAIRS				
		EXTERIOR, IN DIRECT CONTACT WITH SOIL, EXPOSED TO DE-ICING CHEMICALS	F3/C2	5000	0.40	3

1. EXPOSURE CLASS DESCRIPTIONS:
   F0: CONCRETE NOT EXPOSED TO FREEZING AND THAWING CYCLES AND PROTECTED FROM MOISTURE.
   F1: CONCRETE EXPOSED TO FREEZING AND THAWING CYCLES AND OCCASIONAL EXPOSURE TO MOISTURE.
   F2: CONCRETE EXPOSED TO FREEZING AND THAWING CYCLES AND IN CONTINUOUS CONTACT WITH MOISTURE.
   F3: CONCRETE EXPOSED TO FREEZING AND THAWING CYCLES AND IN CONTINUOUS CONTACT WITH MOISTURE AND EXPOSED TO DEICING CHEMICALS
   C2: CONCRETE EXPOSED TO MOISTURE AND DEICING CHEMICALS.
2. CONCRETE WHICH CAN BE EXPOSED TO CYCLES OF FREEZING-AND-THAWING DURING CONSTRUCTION SHALL BE AIR-ENTRAINED IN ACCORDANCE WITH THE TABLE BELOW WITH THE SAME AIR CONTENT AS FOR EXPOSURE CLASS F1.
3. THE CONCRETE STRENGTHS SPECIFIED ARE THE CODE REQUIRED MINIMUM. SEE THE PLANS AND DETAILS FOR HIGHER CONCRETE STRENGTH REQUIREMENTS.
4. RECOMMENDED SLUMP APPLY WHEN VIBRATION IS USED TO CONSOLIDATE THE CONCRETE AND MAY BE INCREASED BY 1" FOR OTHER CONSOLIDATION METHODS. SLUMP MAY BE INCREASED WHEN CHEMICAL ADMIXTURES ARE USED, PROVIDED THAT THE ADMIXTURE TREATED CONCRETE HAS THE SAME OR LOWER WATER/CEMENT RATIO AND DOES NOT SHOW SEGREGATION POTENTIAL OR EXCESSIVE BLEEDING. CONCRETE SLUMP SHALL NOT BE LESS THAN 1 INCH. MEASURED SLUMP TOLERANCE SHALL BE +/- 1.5 MAXIMUM.

CONCRETE STRENGTH AND DURABILITY REQUIREMENTS (cont.)

TOTAL AIR CONTENT FOR CONCRETE EXPOSED TO CYCLES OF FREEZING-AND-THAWING

NOMINAL MAXIMUM AGGREGATE SIZE, (INCHES)	AIR CONTENT, PERCENT: EXPOSURE CLASS, F1	EXPOSURE CLASSES, F2 AND F3
3/8	6.0%	7.5%
1/2	5.5%	7.0%
3/4	5.0%	6.0%
1	4.5%	6.0%

AGGREGATE SHALL CONFORM TO ASTM C33 AND MAY RANGE FROM 3/8" TO 3/4" IN SIZE. CONCRETE IN EXPOSURE CLASSES F1, F2, OR F3 SHALL BE AIR ENTRAINED ACCORDING TO TABLE 4.4.1, ACI-318. THIS TABLE SHOWN IS FOR USUSL MAXIMUM AGGREGATE SIZES USED IN STRUCTURAL CONCRETE. MEASURED AIR CONTENT TOLERANCE SHALL BE +/- 1.5 MAXIMUM.

STRUCTURAL NOTES

DESIGN LOADS & VALUES BASED ON GEOTECHNICAL ENGINEERING REPORT PREPARED BY HILLIS-CARNES ENGINEERING ASSOCIATES, INC. DATED MARCH 18, 2015.
ALLOWABLE SAFE SOIL BEARING PRESSURE = 3,000 PSF
ACTIVE EQUIVALENT FLUID PRESSURE = 48 PSF/FT
PASSIVE EQUIVALENT FLUID PRESSURE = 325 PSF/FT
SOIL WEIGHT = 120 PCF
COEFFICIENT OF FRICTION = 0.35
MINIMUM FACTOR OF SAFETY AGAINST SLIDING = 1.5
MINIMUM FACTOR OF SAFETY AGAINST OVERTURNING = 1.5

1. GENERAL

A. ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE PROVISIONS OF THE 2012 IBC, STATE AND LOCAL COUNTY REQUIREMENTS, AND THE FOLLOWING CRITERIA:

2. FOUNDATIONS

A. THE ASSUMED ALLOWABLE SAFE BEARING PRESSURE IS **3,000 PSF**; TO BE VERIFIED BY AN ON-SITE GEOTECHNICAL ENGINEER OR BUILDING OFFICIAL. ALL FOOTINGS SHALL PROJECT AT LEAST 1'-0" INTO UNDISTURBED NATURAL SOIL OR COMPACTED STRUCTURAL FILL.
B. BOTTOMS OF FOOTINGS TO BE AT LEAST **2-6"** BELOW FINISHED GRADE OR TO FROST LINE DETERMINED BY BUILDING OFFICIAL. ALL BEARING STRATA SHALL BE ADEQUATELY DRAINED BEFORE PLACING CONCRETE. NO EXCAVATION SHALL BE CLOSER THAN AT LEAST A SLOPE OF TWO HORIZONTAL TO ONE VERTICAL (2 HORIZ.:1 VERT.) TO UNDERSIDE EDGE OF ANY EXISTING FOOTINGS WITHOUT THE WRITTEN AND CERTIFIED PERMISSION OF A GEOTECHNICAL ENGINEER. STEP FOOTINGS WITH A RATIO OF TWO HORIZ. TO ONE VERTICAL.
C. PROVIDE SHORING AND PROTECTION FOR EXCAVATION BANKS AS NECESSARY TO PREVENT CAVING AND COMPLY WITH ALL APPLICABLE OSHA RULES AND REGULATIONS.

3. CONCRETE

A. CONCRETE MATERIAL, QUALITY CONTROL, DESIGN AND CONSTRUCTION SHALL CONFIRM WITH REQUIREMENTS OF CHAPTER 19, INTERNATIONAL BUILDING CODE (IBC), AND WITH BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI-318).
B. MINIMUM SPECIFIED 28 DAYS CONCRETE DESIGN STRENGTH SHALL BE AS SHOWN ON THE CONCRETE STRENGTH AND DURABILITY REQUIREMENTS TABLE LOCATED BELOW UNLESS A HIGHER STRENGTH IS SHOWN ON THE CONSTRUCTION DRAWINGS. EXPOSURE CATEGORIES ARE PER ACI-318, CHAPTER 4. CEMENTITIOUS MATERIALS CONTENT SHALL BE LIMITED AS PER ACI-318, TABLE 4.2.2. ALL CEMENTITIOUS MATERIALS SHALL BE INCLUDED IN CALCULATING WATER/CEMENT RATIO.
C. MIXING, TRANSPORTING, AND PLACEMENT OF CONCRETE SHALL CONFORM TO ACI 301.
D. HIGH STRENGTH GROUT SHALL BE NON-SHRINK, NON-METALLIC CONFORMING TO ASTM C 827 AND SHALL HAVE A COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS.
E. ALL REINFORCING STEEL SHALL BE HIGH STRENGTH NEW BILLET STEEL CONFORMING TO ASTM A-615, GRADE 60 (60,000 PSI). WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A-185. ALL REINFORCING SHALL BE DETAILED, FABRICATED, AND PLACED IN ACCORDANCE WITH THE ACI'S "MANUAL OF STANDARD PRACTICE FOR DETAILING CONCRETE STRUCTURES" (ACI-315). DETAILS OF REINFORCEMENT SHALL CONFORM TO ACI 318-LATEST EDITION, ACI 315 AND CRSI STANDARDS.
F. CONCRETE PROTECTION FOR REINFORCEMENT: PROVIDE THE MINIMUM CLEARANCES (COVER) FOR REINFORCEMENT AS FOLLOWS:

FOOTINGS AND OTHER CONCRETE POURED AGAINST EARTH	3"
FORMED CONCRETE EXPOSED TO EARTH	2"
SLABS ON GROUND, UNLESS OTHERWISE NOTED	MID-DEPTH

G. PROVIDE 3' X 3' CORNER AND "T" BARS TO MATCH ALL HORIZONTAL REINFORCING IN WALLS AND FOOTINGS. ALL LAPS SHALL BE A MINIMUM OF 30 BAR DIAMETERS. PROVIDE DOWELS BETWEEN ALL FOOTINGS, WALLS AND PIERS TO MATCH SIZE AND SPACING OF VERTICAL REINFORCING.
E. WALL TO HAVE VERTICAL CONTROL JOINTS SPACED AT NO MORE THAN 25'-0" HORIZONTALLY AS REQUIRED AND EXPANSION JOINTS AT 75'-0" O.C. OR WHERE SHOWN ON PLAN.
F. CHAMFER ALL EXPOSED CONCRETE CORNERS, 3/4"x3/4" UNLESS NOTED OTHERWISE ON ARCHITECTURAL DRAWINGS.
G. MAXIMUM PERMISSIBLE WATER CEMENTIOUS MATERIALS RATIOS FOR CONCRETE WHEN STRENGTH DATA FROM FIELD EXPERIENCE OR TRIAL MIXTURES ARE NOT AVAILABLE SHALL BE IN ACCORDANCE WITH ACI 318.
H. PLACE CONCRETE FOR FOUNDATIONS ON THE SAME DAY SUBGRADE APPROVAL IS GIVEN BY THE GEOTECHNICAL ENGINEER.
I. PROTECT CONCRETE FROM FREEZING DURING PLACING AND FOR A PERIOD OF NOT LESS THAN FIVE DAYS AFTERWARD.
J. CAST IN PLACE ALL SLEEVES AND INSERTS.

4A. MASONRY

A. ALL MASONRY CONSTRUCTION TO BE IN ACCORDANCE WITH THE NATIONAL CONCRETE MASONRY ASSOCIATION'S STANDARD PRACTICES AND "SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF LOAD-BEARING CONCRETE MASONRY" OR ACI 530 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES". ALL MASONRY TO CONFORM TO THE FOLLOWING SPECIFICATION
LOAD-BEARING C.M.U ASTM C90
MORTAR ASTM C270, TYPE S EXTERIOR BELOW GRADE
ASTM C270, TYPE N EXTERIOR ABOVE GRADE
ASTM C270, TYPE N INTERIOR LOAD-BEARING
ASTM C270, TYPE O INTERIOR NON-LOAD BEARING

B. CMU UNITS SHALL HAVE A MINIMUM COMPRESSION STRENGTH OF FM = 1500 PSI. CONTRACTOR SHALL PROVIDE SPECIAL TEST AND INSPECTION FOR THE LOCATION OF THE REINFORCEMENT AND DURING CONSTRUCTION OF CMU WALL.

C. JOINT REINFORCING: PROVIDE TRUSS TYPE ZINC COATED, COLD DRAWN STEEL WIRE CONFORMING TO ASTM A82 DUROWALL OR EQUIVALENT AT EVERY OTHER BLOCK COURSE ABOVE GRADE. REINFORCEMENT SHOULD CONSIST OF TWO OR MORE LONGITUDINAL WIRES, NO. 9 GAUGE OR LARGER, WELD CONNECTED WITH NO. 12 GAUGE OR LARGER CROSS WIRES.

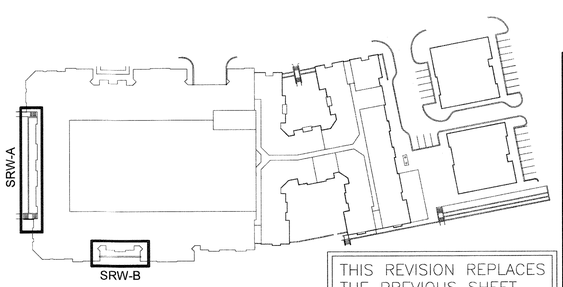
D. GROUT OR PEA GRAVEL CONCRETE USED FOR FILLING UNIT CELLS OF MASONRY SHALL CONFORM TO ASTM C476 AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI ON THE NET AREA AT 28 DAYS.

E. REINFORCED MASONRY SHALL BE BUILT SO THAT ALL CELLS LINE UP. WEBS OF UNITS TO BE REINFORCED SHALL BE FILLED WITH GROUT OR PEA GRAVEL AND SHALL HAVE FULL MORTAR COVERAGE.

F. FOR LOW LIFT GROUTING (5'-0" OR LESS), PROVIDE A LAP AT THE SPLICE OF 48 BAR DIAMETERS. FOR HIGH LIFT GROUTING, PROVIDE "CLEAN OUT" AT BOTTOM OF ALL BLOCK CORES.

5. CONSTRUCTION OBSERVATION AND TESTING

A. THE REQUIRED FOOTING SUBGRADE BEARING CAPACITY SHALL BE CERTIFIED BY A MARYLAND LICENSED PROFESSIONAL ENGINEER (TESTING AGENCY) PRIOR TO LEVELING PAD PLACEMENT.
B. CONSTRUCTION OF RETAINING WALL SHALL BE PERFORMED UNDER THE OBSERVATION OF A MARYLAND LICENSED PROFESSIONAL ENGINEER (TESTING AGENCY). UPON COMPLETION OF THE WORK, TESTING AGENCY SHALL SUBMIT TO THE CITY OF GAITHERSBURG DEPARTMENT OF PUBLIC WORKS A SIGNED AND SEALED REPORT STATING THAT THE RETAINING WALL WAS CONSTRUCTED IN ACCORDANCE WITH PLANS, SPECIFICATIONS AND ACCEPTED MODIFICATIONS (IF APPLICABLE), AND THAT THE RETAINING WALL AS-BUILT IS ADEQUATE TO WITHSTAND DESIGN SERVICE LOADS AND PRESSURES TO WHICH IT MAY BE SUBJECTED.
C. THIS WALL IS LOCATED ENTIRELY ON PRIVATE PROPERTY AND SHALL BE PRIVATELY MAINTAINED BY THE PROPERTY OWNER.



KEY PLAN

THIS REVISION REPLACES THE PREVIOUS SHEET DATED APRIL, 2017

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 8/8/18
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/8/18
DIRECTOR — DATE 8-9-18

NO.	DATE	REVISION
1	06/2018	REVISE RETAINING WALL A

CATES ENGINEERING STRUCTURAL CONSULTING
13575 Heathcote Blvd, Suite 170 Gainesville, VA 20155
Tel:571.261.9280 Fax:571.261.9286 www.cateseng.com

STATE OF MARYLAND — BRIAN LINDSAY CATES — No. 16270 — PROFESSIONAL ENGINEER

I HEREBY VERIFY THAT THE DOCUMENTS ARE APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO.: 16270, EXPIRATION DATE: 11/20/2018

DEVELOPER/OWNER:
ATAPCO HOWARD SQUARE I BUSINESS TRUST
1 SOUTH STREET, SUITE 2800
BALTIMORE, MD 21202
(410) 347-7189

HOWARD SQUARE

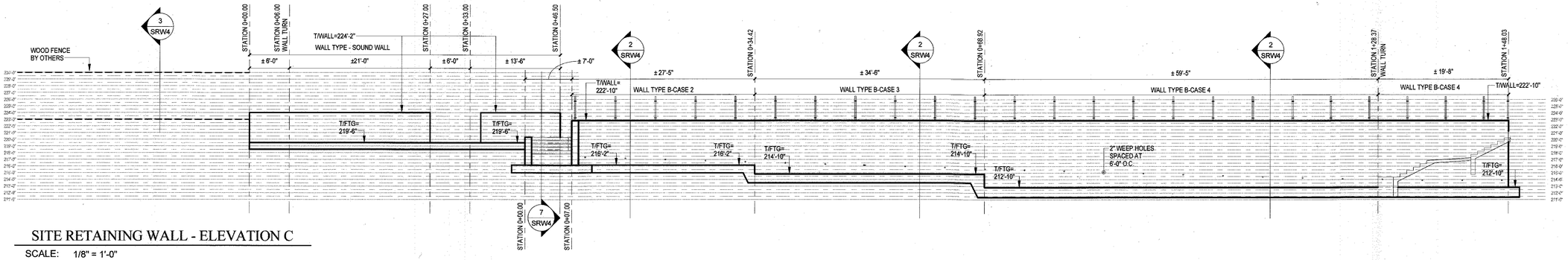
PHASE 8 & 9, PARCEL B
APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 - PARCEL: B
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

SITE RETAINING WALL PLANS/ELEVATIONS

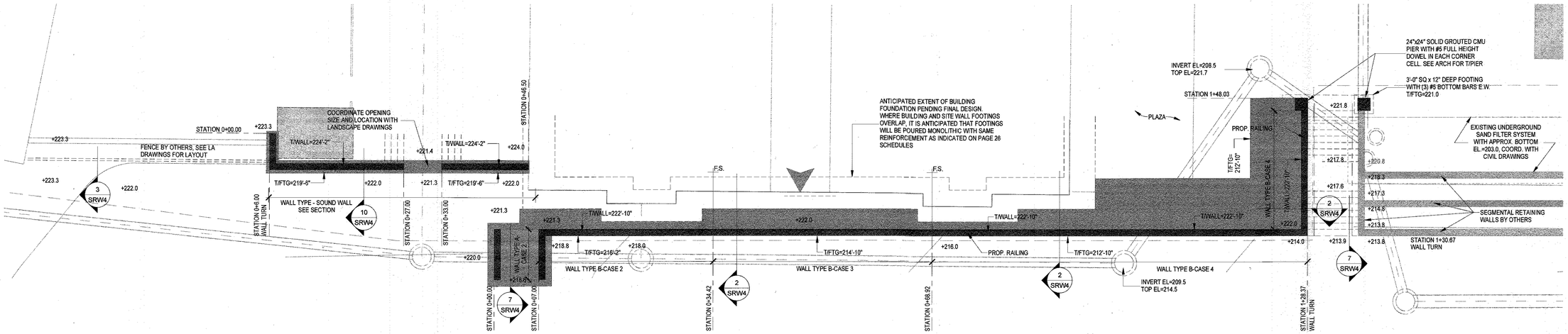
DATE: OCTOBER, 2015		PROJECT #	876-011-16
REVISED: JUNE, 2018			
DRAFT: VTF	CHECK: MRP	SCALE: AS SHOWN	SHEET 23 OF 27

SDP-15-017



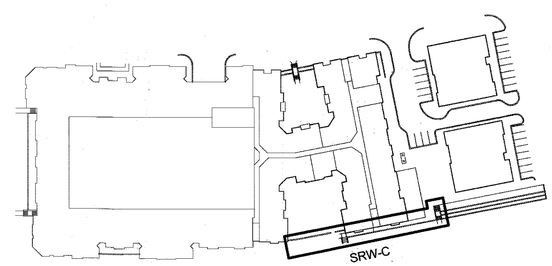
SITE RETAINING WALL - ELEVATION C

SCALE: 1/8" = 1'-0"



SITE RETAINING WALL - PLAN C

SCALE: 1/8" = 1'-0"



KEY PLAN

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5-18-17
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 6-8-17
DIRECTOR	DATE 6-8-17

NO.	DATE	REVISION

I HEREBY VERIFY THAT THESE DOCUMENTS ARE APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO.: 16270, EXPIRATION DATE: 11/20/2018

DEVELOPER/OWNER:

ATAPCO HOWARD SQUARE I BUSINESS TRUST
1 SOUTH STREET, SUITE 2800
BALTIMORE, MD 21202
(410) 347-7189

HOWARD SQUARE

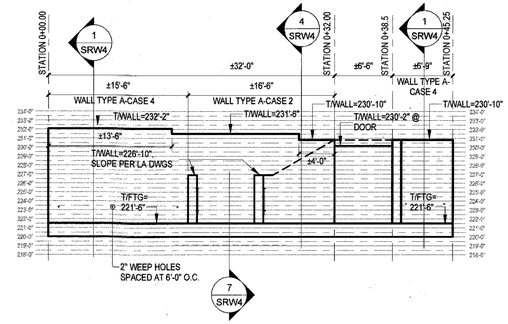
PHASE 8 & 9, PARCEL B
APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 - PARCEL: B
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

SITE RETAINING WALL PLANS/ELEVATIONS

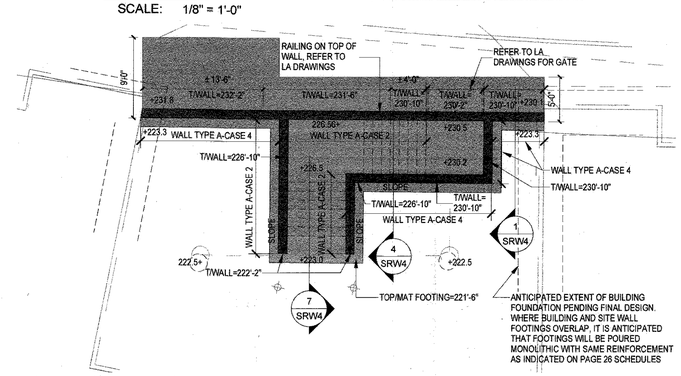
DATE: OCTOBER, 2015		PROJECT #: 876-010-15	
REVISED: APRIL 10 2017			
DRAFT: VTF	CHECK: MRP	SCALE: AS SHOWN	SHEET: 24 OF: 27

SDP-16-017



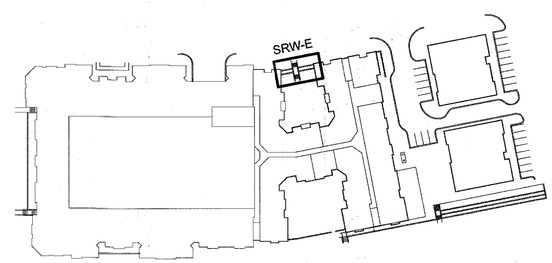
SITE RETAINING WALL - ELEVATION E

SCALE: 1/8" = 1'-0"



SITE RETAINING WALL - PLAN E

SCALE: 1/8" = 1'-0"



KEY PLAN

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	JP	DATE 5-12-17
CHIEF, DIVISION OF LAND DEVELOPMENT		DATE 6-8-17
DIRECTOR		DATE 6-8-17

NO.	DATE	REVISION

I HEREBY VERIFY THAT THESE DOCUMENTS ARE APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO.: 16070, EXPIRATION DATE: 11/26/2018

DEVELOPER/OWNER:

ATAPCO HOWARD SQUARE I BUSINESS TRUST
1 SOUTH STREET, SUITE 2800
BALTIMORE, MD 21202
(410) 347-7189

HOWARD SQUARE

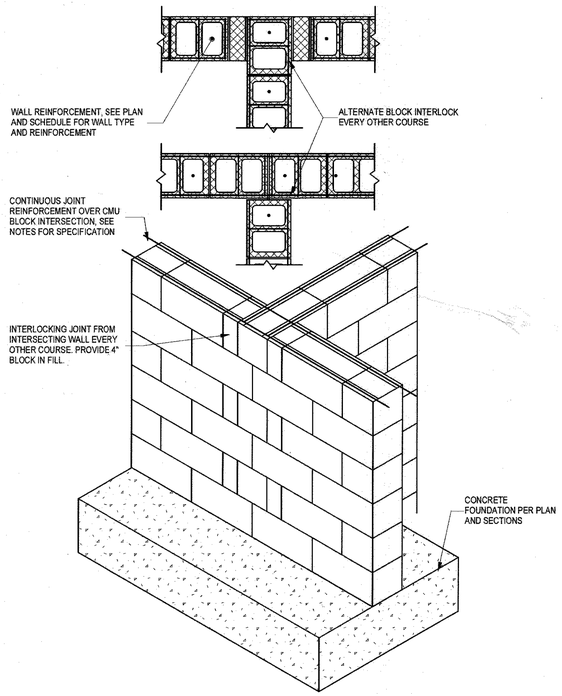
PHASE 8 & 9, PARCEL B
APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 - PARCEL: B
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

SITE RETAINING WALL PLANS/ELEVATIONS

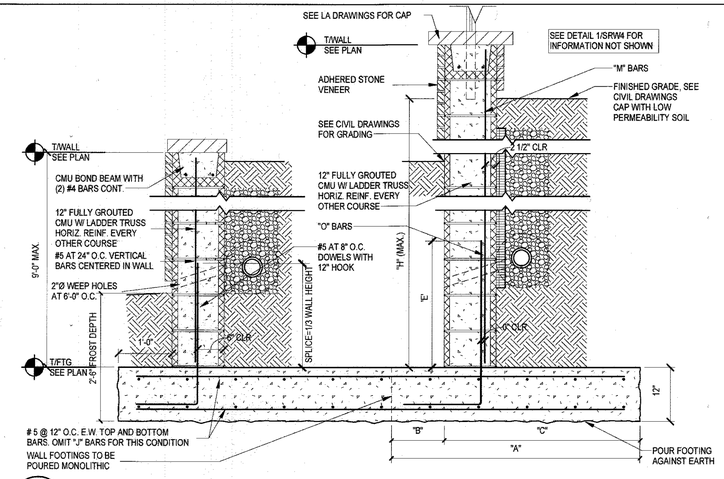
DATE: OCTOBER, 2015		PROJECT #: 1373-001-15	
REVISED: APRIL 10, 2017			
DRAFT: VTF	CHECK: MRP	SCALE: AS SHOWN	SHEET: 25 OF: 27

SDP-16-017



8 SRW4 TYPICAL REINFORCING AT CMU WALL CORNERS

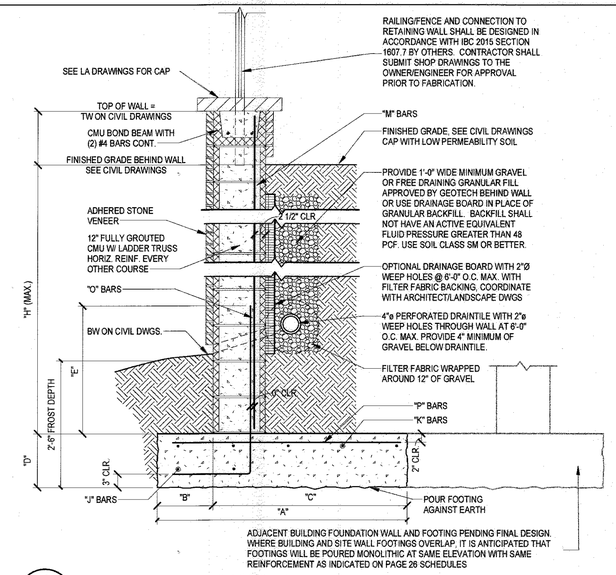
SCALE: N.T.S. PLAN VIEW



4 SRW4 CONCRETE CANTILEVERED RETAINING WALL

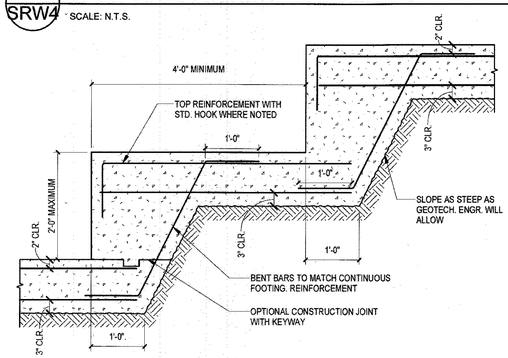
SCALE: N.T.S. TIERED CONDITION

CONCRETE MASONRY RETAINING WALL - WALL TYPE A (ACTIVE PRESSURE = 48 PCF)					
WALL HEIGHT	DIMENSIONS				
H	A	B	C	D	E
CASE 1 0'-0" TO 4'-0"	3'-6"	1'-0"	2'-6"	1'-0"	FULL HEIGHT
CASE 2 4'-1" TO 6'-0"	5'-0"	1'-0"	4'-0"	1'-2"	3'-4"
CASE 3 6'-1" TO 8'-0"	7'-6"	1'-0"	6'-6"	1'-4"	3'-4"
CASE 4 8'-1" TO 10'-0"	9'-0"	1'-0"	8'-0"	1'-6"	3'-4"
WALL HEIGHT	REINFORCING				
H	J	K	M	O	P
CASE 1 0'-0" TO 4'-0"	2 #4	3 #4	-	#5 @ 24" FULL HEIGHT	#4 @ 18"
CASE 2 4'-1" TO 6'-0"	3 #4	5 #4	#5 @ 16"	#5 @ 16"	#4 @ 18"
CASE 3 6'-1" TO 8'-0"	3 #4	7 #5	#5 @ 8"	#5 @ 8"	#5 @ 16"
CASE 4 8'-1" TO 10'-0"	3 #4	11 #5	#5 @ 8"	#8 @ 8"	#5 @ 10"



1 SRW4 CONCRETE MASONRY CANTILEVERED SITE RETAINING WALL

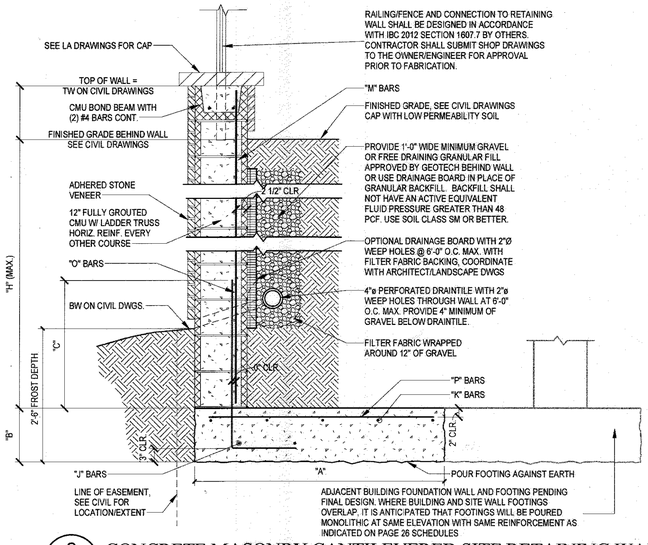
SCALE: N.T.S. TYPE A



5 SRW4 STEPPED FOOTING DETAIL

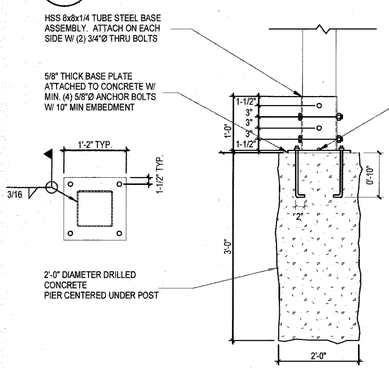
SCALE: N.T.S.

CONCRETE MASONRY RETAINING WALL - WALL TYPE B (ACTIVE PRESSURE = 48 PCF)					
WALL HEIGHT	DIMENSIONS				
H	A	B	C		
CASE 1 0'-0" TO 4'-0"	3'-6"	1'-0"	FULL HEIGHT		
CASE 2 4'-1" TO 6'-0"	5'-0"	1'-2"	3'-4"		
CASE 3 6'-1" TO 8'-0"	7'-6"	1'-4"	3'-4"		
CASE 4 8'-1" TO 10'-0"	9'-0"	1'-6"	3'-4"		
WALL HEIGHT	REINFORCING				
H	J	K	M	O	P
CASE 1 0'-0" TO 4'-0"	2 #4	3 #4	-	#5 @ 24" FULL HEIGHT	#4 @ 18"
CASE 2 4'-1" TO 6'-0"	3 #4	5 #4	#5 @ 16"	#5 @ 16"	#4 @ 14"
CASE 3 6'-1" TO 8'-0"	3 #4	7 #5	#5 @ 8"	#5 @ 8"	#5 @ 12"
CASE 4 8'-1" TO 10'-0"	3 #4	11 #5	#5 @ 8"	#8 @ 8"	#5 @ 8"



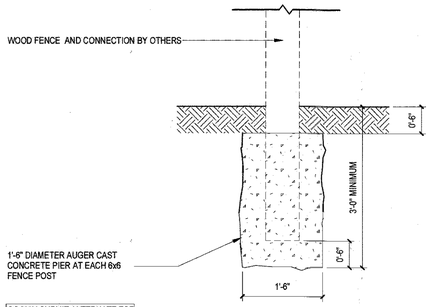
2 SRW4 CONCRETE MASONRY CANTILEVERED SITE RETAINING WALL

SCALE: N.T.S. TYPE B



9 SRW4 WOOD TRELLIS POST CONNECTION

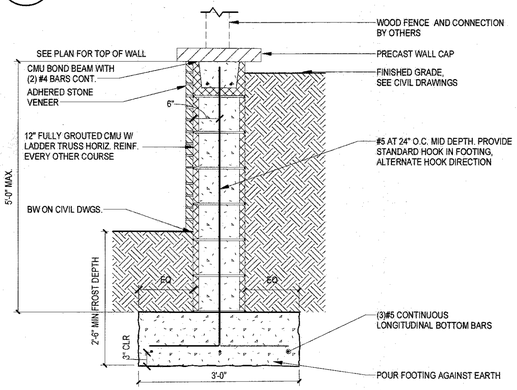
SCALE: N.T.S.



GC MAY SUBMIT ALTERNATE FOR EOR APPROVAL

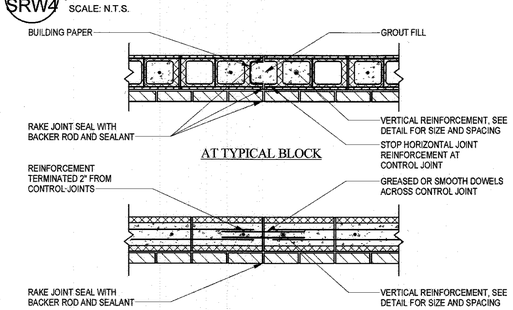
3 SRW4 WOOD FENCE POST FOUNDATION

SCALE: N.T.S.



10 SRW4 CONCRETE MASONRY SOUND WALL

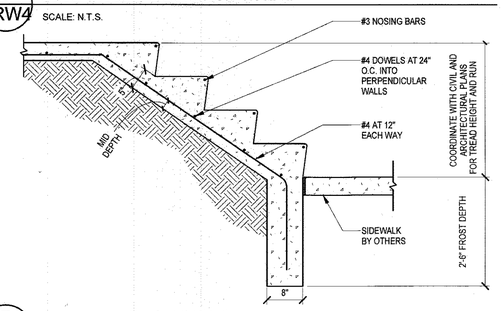
3/4" = 1'-0"



NOTES:
1. PROVIDE VERTICAL CONTROL JOINTS IN CMU WALLS AT A MAXIMUM HORIZONTAL SPACING OF 24'-0" O.C. LOCATE JOINTS OR PROVIDE ADDITIONAL JOINTS AT CHANGES IN WALL HEIGHT, AT JOINTS IN FOOTINGS AND ADJACENT TO WALL CORNERS OR INTERSECTIONS WITHIN A DISTANCE EQUAL TO HALF THE CONTROL JOINT SPACING.

6 SRW4 CMU WALL CONTROL JOINT

SCALE: N.T.S.



7 SRW4 TYPICAL SOIL SUPPORTED STAIR

SCALE: N.T.S.

NO.	DATE	REVISION

CATES ENGINEERING STRUCTURAL CONSULTING
13575 Heathcote Blvd. Suite 170 Gainesville, VA 20155
Tel:571.261.9280 Fax:571.261.9286 www.catesengr.com

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I HEREBY VERIFY THAT THESE DOCUMENTS ARE APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 16076, EXPIRATION DATE: 11/06/2018

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	JP	5-18-17 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT		6-8-17 DATE
DIRECTOR		6-8-17 DATE

DEVELOPER/OWNER:

ATAPCO HOWARD SQUARE I BUSINESS TRUST
1 SOUTH STREET, SUITE 2800
BALTIMORE, MD 21202
(410) 347-7189

HOWARD SQUARE

PHASE 8 & 9, PARCEL B
APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 - PARCEL: B
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

SITE RETAINING WALL DETAILS

DATE: OCTOBER, 2015		PROJECT #:	1373-001-15
REVISED: APRIL 10, 2017			
DRAFT: VTF	CHECK: MRP	SCALE: AS SHOWN	SHEET: 26 OF: 27

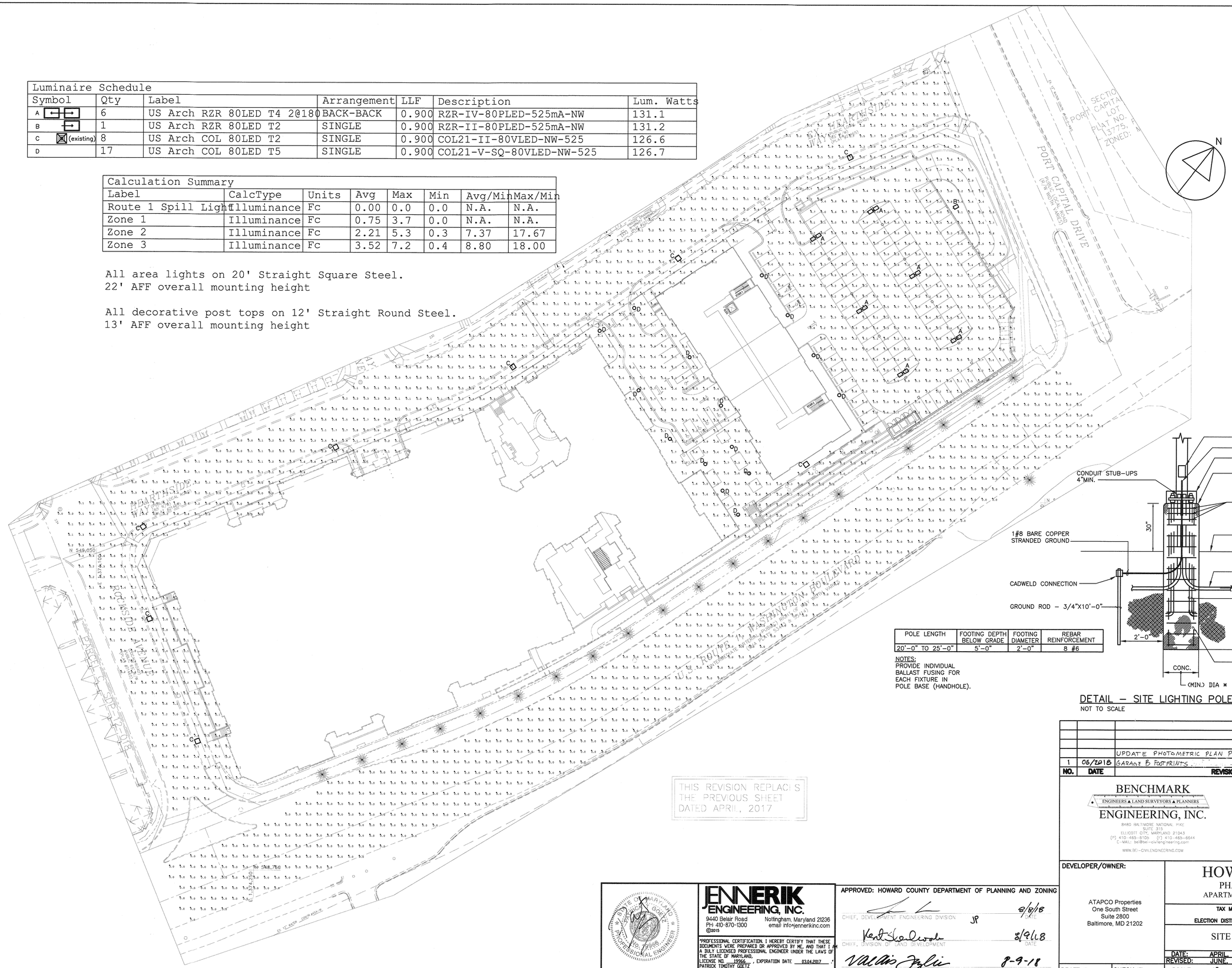
SDP-16-017

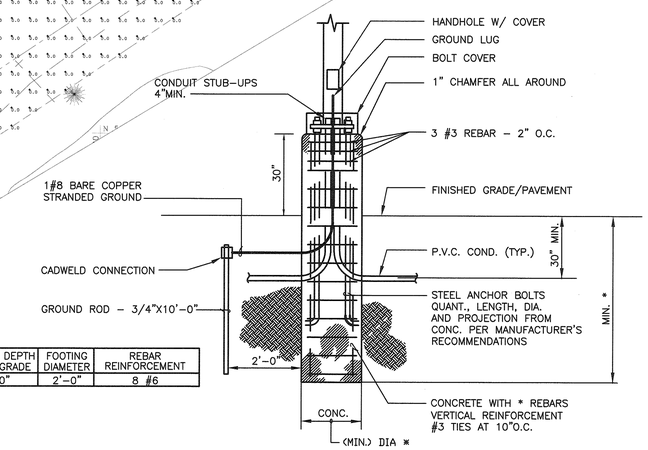
Luminaire Schedule						
Symbol	Qty	Label	Arrangement	LLF	Description	Lum. Watts
A	6	US Arch RZR 80LED T4 2@180	BACK-BACK	0.900	RZR-IV-80PLED-525mA-NW	131.1
B	1	US Arch RZR 80LED T2	SINGLE	0.900	RZR-II-80PLED-525mA-NW	131.2
C (existing)	8	US Arch COL 80LED T2	SINGLE	0.900	COL21-II-80VLED-NW-525	126.6
D	17	US Arch COL 80LED T5	SINGLE	0.900	COL21-V-SQ-80VLED-NW-525	126.7

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Route 1 Spill Light	Illuminance	Fc	0.00	0.0	0.0	N.A.	N.A.
Zone 1	Illuminance	Fc	0.75	3.7	0.0	N.A.	N.A.
Zone 2	Illuminance	Fc	2.21	5.3	0.3	7.37	17.67
Zone 3	Illuminance	Fc	3.52	7.2	0.4	8.80	18.00

All area lights on 20' Straight Square Steel.
22' AFF overall mounting height

All decorative post tops on 12' Straight Round Steel.
13' AFF overall mounting height





POLE LENGTH	FOOTING DEPTH BELOW GRADE	FOOTING DIAMETER	REBAR REINFORCEMENT
20'-0" TO 25'-0"	5'-0"	2'-0"	8 #6

NOTES:
PROVIDE INDIVIDUAL BALLAST FUSING FOR EACH FIXTURE IN POLE BASE (HANDHOLE).

DETAIL - SITE LIGHTING POLE BASE
NOT TO SCALE

NO.	DATE	REVISION
		UPDATE PHOTOMETRIC PLAN PER REVISED BUILDING B AND
1	06/2018	GARAGE B FOOTPRINTS

BENCHMARK
ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS
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One South Street
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Baltimore, MD 21202

HOWARD SQUARE
PHASE 8 & 9, PARCEL B
APARTMENT AND RETAIL BUILDINGS

TAX MAP: 43 GRID 3 & 9 - PARCEL: B
ZONED: CAC-CLI
ELECTION DISTRICT NO. 1 - HOWARD COUNTY, MARYLAND

SITE DEVELOPMENT PLAN

DATE: APRIL, 2018
REVISED: JUNE, 2018
BEI PROJECT NO. 2541

DRAFT:JEI | CHECK:JEI | SCALE: 1" = 40' | SHEET 27 OF 27

STATE OF MARYLAND PATRICK TIMOTHY GEETZ No. 19966 PROFESSIONAL ENGINEER

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PH: 410-870-1300
email: info@jennerikinc.com
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"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19966, EXPIRATION DATE 03.04.2017."
PATRICK TIMOTHY GEETZ

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 8/8/18
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 8/9/18
DIRECTOR — DATE 8-9-18