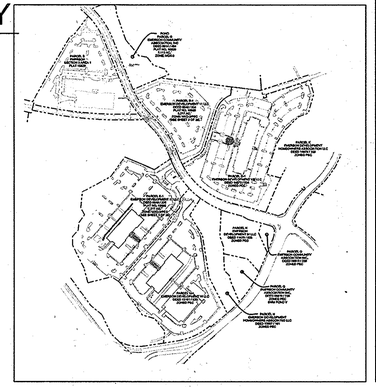
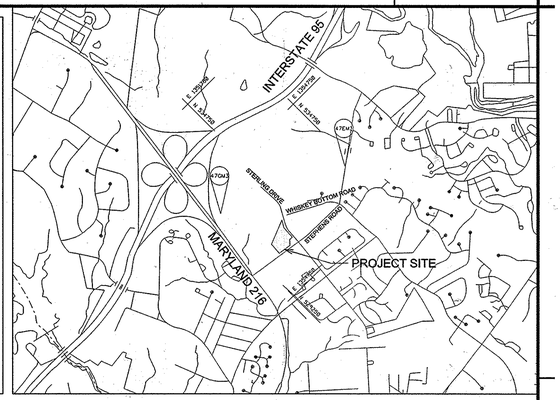
U.S. ARMY CORPS
OF ENGINEERS
BALTIMORE DISTRICT
REAL PROPERTY SERVICES FIELD OFFICE

EMERSON - CAMPUS VCP
SITE DEVELOPMENT PLAN
HOWARD COUNTY, MARYLAND





TAX MAP
SCALE 1"=500'

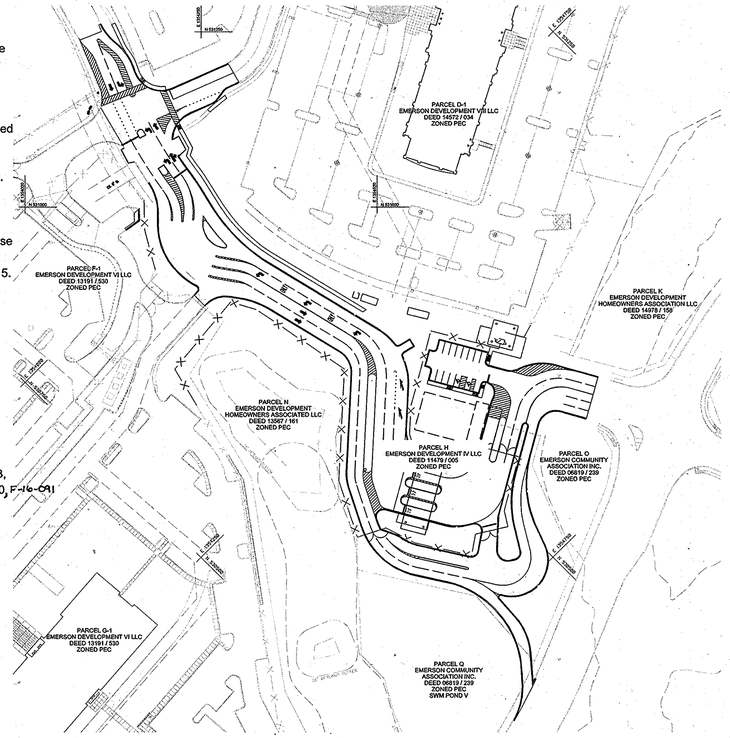
VICINITY MAP
SCALE 1"=2000'
HOWARD COUNTY ADC MAP 40, GRID: B6

GENERAL NOTES

1. All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications if applicable.
2. 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.
3. The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work being done.
4. 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)
5. 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 2.5" galvanized steel, perforated, square tube sleeve (12 gauge)-3' long. The anchor shall not extend more than two Quick Punch holes above ground level. A galvanized steel pole cap shall be mounted on top of each post.
6. All plan dimensions are to face of curb unless otherwise noted.
7. The existing topography is taken from as-built drawings with two-foot contour intervals from Daft McCune Walker, Inc. and verified by a field survey by Daft McCune Walker, Inc. completed on June 22, 2015.
8. The coordinates shown hereon are based upon the Howard County Geodetic Control which is based up on the Maryland State Plane Coordinate System. Howard County Monument Nos. 47GM3 and 47EM3 were used for this project.
9. Water is public. Sewer is public.
10. Stormwater management is provided in accordance with teh 2000 Maryland Stormwater Design Manual (revised May 2009) and Chapter 5 of the Howard County Design Manual. This project meets the criteria outlined in the MDE guidelines.
11. Existing utilities shown within Sterling Drive are based on Water Drawings, Contract No. 24-4698-D.
12. There is no floodplain on this site. The floodplain study for this site was prepared by Daft-McCune-Walker, Inc. dated June 12, 2001, and was approved in September 2001.
13. There are no streams, wetlands, their buffers, floodplain, or steep slopes (25% or greater) within the limits of disturbance of this project.
14. Based on conversations with Howard County Department of Public Works, because this project will not increase traffic to the site, no APFO study or Sight Distance Analysis Speed Study is required.
15. The Geotechnical report for this project was prepared by Johnson, Mirmiran, & Thompson, dated May 29, 2015.
16. The subject property is zoned PEC in accordance with 10/6/13 comprehensive zoning plan.
17. There are no existing structures within the limits of disturbance.
18. No grading, removal of vegetative cover or trees, paving, and new structures shall be permitted within the required wetlands, streams, their buffers, forest conservation easement areas, and 100-year floodplain.
19. Forest conservation for parcels H, G-1, D-1, F-1, AND E-1 was previously addressed under F-02-111.
20. Required landscaping was previously addressed under F-02-111.
21. Future VCC and VCIF will require redline revision to SDP-16-005 prior to issuance of any building permit for these structures.

SITE ANALYSIS DATA CHART

1. GENERAL SITE DATA
   a. PRESENT ZONING: PEC
   b. APPLICABLE DPZ FILE REFERENCES: ECP-15-086 PLAT #23732-23734, F-02-111, F-07-055, F-08-093, F-08-207, F-11-019, F-11-052, F-11-094, SP-02-012, SDP-07-109, SDP-10-096, SDP-11-025, SDP-12-010, F-16-091
   c. ADDRESS OF AFFECTED PROPERTIES:
      PARCEL D-1: 9070 STERLING DRIVE, LAUREL, MD 20723
      PARCEL E-1: 9090 STERLING DRIVE, LAUREL, MD 20723
      PARCEL F-1: 9055 STERLING DRIVE, LAUREL, MD 20723
      PARCEL G-1: 9025 STERLING DRIVE, LAUREL, MD 20723
      PARCEL H: 9005 STERLING DRIVE, LAUREL, MD 20723
      PARCEL N: STEPHENS ROAD, LAUREL, MD 20723
      PARCEL O: STEPHENS ROAD, LAUREL, MD 20723
      PARCEL Q: STEPHENS ROAD, LAUREL, MD 20723
   d. PROPOSED USE: VEHICLE CHECK POINT SECURITY GATE
   e. PROPOSED WATER: PUBLIC
   f. PROPOSED SEWER: PUBLIC
   g. AREA OF STEEP SLOPES (15% OR GREATER) WITHIN LOD: 0.25 ACRES
   g. AREA OF FLOODPLAIN WITHIN LOD: 0.00 ACRES
   i. AREA OF WETLANDS AND WETLAND BUFFERS WITHIN LOD: 0.00 ACRES
   j. AREA OF STREAMS AND STREAM BUFFERS WITHIN LOD: 0.00 ACRES
   k. AREA OF FOREST WITHIN LOD: 0.00 ACRES
2. AREA TABULATION
   a. TOTAL PROJECT AREA: 41.96 ACRES (TOTAL AREA OF ALL PARCELS LISTED)
   b. AREA OF PLAN SUBMISSION: 2.20 ACRES (PARCEL H)
   c. LIMIT OF DISTURBED AREA: 4.12 ACRES
   d. TOTAL IMPERVIOUS AREA: 2.66 ACRES
   e. BUILDING COVERAGE OF SITE: 0.12 ACRES AND 5.5% OF SITE AREA.
      FUTURE VCC BUILDING (OFFICE SPACE)- 4000 SF.
      FUTURE VCIF (VEHICLE PROCESSING SPACE) 1227 SF
      NOTE: THE FUTURE VCIF BUILDING IS NOT REQUIRED TO BE PARKED BECAUSE IT IS ONLY FOR VEHICLE PROCESSING.
3. PARKING SPACE DATA
   a. NUMBER OF PARKING SPACES REQUIRED BY ZONING REGULATIONS AND CRITERIA:
      4,000 SF OFFICE @ 3.3/1000 = 14 SPACES
   b. TOTAL NUMBER OF PARKING SPACES PROVIDED ON-SITE: 15 SPACES
      TOTAL INCLUDES:
      13 STANDARD SPACES. 2 HANDICAP SPACES. TOTAL SPACES = 15



SITE PLAN
SCALE 1"=100'

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HOWARD COUNTY GEODETIC COORDINATES	
BENCH MARK ID: 47GM3	BENCH MARK ID: 47EM3
NORTHING: 531620.07	NORTHING: 532973.07
EASTING: 1352684.71	EASTING: 1356218.71
ELEVATION: 91.734	ELEVATION: 84.447

ADDRESS CHART	
PARCEL NUMBER	STREET ADDRESS
PARCEL H	9005 STERLING DRIVE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5.6.16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-16-16

DIRECTOR — DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE: COVER SHEET

DES. BY	SCALE	PROJ. No.
M. WERDER	AS SHOWN	
DRN. BY	DATE	1 OF 70
M. WERDER	04/04/2016	
CHK. BY	APPROVED	
R. CROWLEY		

SDP-16-005

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. 45292 EXPIRATION DATE: 05/21/2016

STATE OF MARYLAND — ROBERT A. CROWLEY — 45292 — REGISTERED PROFESSIONAL ENGINEER

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CIVIL ABBREVIATIONS

AGIP	AT GRADE INLET PROTECTION
APPROX	APPROXIMATE
AVG	AVERAGE
ASPH	ASPHALT
BB	BAFFLE BOARD
BOD	BOTTOM OF DUCT BANK
BOT	BOTTOM
BLRD	BOLLARD
BLDG	BUILDING
BM	BENCHMARK
BMP	BEST MANAGEMENT PRACTICE
BRG	BEARING
BW	BOTTOM OF WALL
CB	CATCH BASIN
C&G	CURB AND GUTTER
CF	CUBIC FEET
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CI	CURB INLET
CIP	CURB INLET PROTECTION
CJ	CONSTRUCTION JOINT
CL C/L	CENTERLINE
CO	CLEANOUT
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUE, CONTINUATION
COR	CONTRACTING OFFICER REPRESENTATIVE
CP	CAMERA POLE
CTR	CENTER
DA	DRAINAGE AREA
DC	DEPRESSED CURB
DEG	DEGREE
DEMO	DEMOLITION
DET	DETAIL
DF	DIVERSION FENCE
DHCW	DOMESTIC HOT AND COLD WATER
DI	DRAINAGE INLET
DIA	DIAMETER
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DWG	DRAWING
E	EAST
EA	EACH
ED	EARTH DIKE
EJ	EXPANSION JOINT
EL/ELEV	ELEVATION
EMH	ELECTRIC MANHOLE
EP	EDGE OF PAVEMENT
EQ	EQUAL
EW	EACH WAY
EX/EXIST	EXISTING
EXP	EXPANSION
FDC	FIRE DEPARTMENT CONNECTION
FES	FLARED END SECTION
FFE	FINISHED FLOOR ELEVATION
FH	FIRE HYDRANT
FIN	FINISH
FOC	FACE OF CURB
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FRP	FIBERGLASS REINFORCED PIPE
FT	FOOT, FEET
FTG	FOOTING
G	GAS
GA	GRADED AGGREGATE
GAB	GRADED AGGREGATE BASE
GAL	GALLON
GALV	GALVANIZED
GMH	GAS MANHOLE
GV	GATE VALVE
GFE	GOVERNMENT FURNISHED EQUIPMENT
GFCI	GOVERNMENT FURNISHED CONTRACTOR INSTALLED
HH	HANDHOLE
HB	HORIZONTAL BEND
HGT	HEIGHT
HORIZ	HORIZONTAL
HR	HOUR
ID	INSIDE DIAMETER; IDENTIFICATION
IN	INCH
INV	INVERT
IP	INLET PROTECTION
IPS	IRON PIPE SET
JT	JOINT
K12	KINETIC CRASH RATING
L	LENGTH
LF	LINEAR FEET
LP	LIGHT P0LE
MAT	MATERIAL
MAX	MAXIMUM
MBR	MICRO-BIORETENTION FACILITY
MD	MARYLAND
MDSHA	MARYLAND STATE HIGHWAY ADMINISTRATION
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MM	MILLIMETER
MPO	METROPOLITAN PLANNING ORGANIZATION
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
N	NORTH
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OHE	OVERHEAD ELECTRIC
OP	OUTLET PROTECTION
PE	POLYETHYLENE PIPE
PP	POWER POLE
POB	POINT OF BEGINNING
PL	POINT OF CONNECTION
PL	PROPERTY LINE
PS	PARKING SPACE
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE PIPE
PVMT	PAVEMENT
QTY	QUANTITY
R	RADIUS
RCA	RESOURCE CONSERVATION AREA
RCP	REINFORCED CONCRETE PIPE
REF	REFERENCE
REINF	REINFORCEMENT
REQ'D	REQUIRED
RPS	REMOVABLE PUMPING STATION
S	SOUTH
SAN	SANITARY SEWER
SB	STRAW BALES
SCE	STABILIZED CONSTRUCTION ENTRANCE
SCHED	SCHEDULE
SF	SILT FENCE
STD	STANDARD
STMH	STORM DRAIN MANHOLE
TC	TOP OF CURB
TD	TRENCH DRAIN
TELCO	TELECOMMUNICATIONS
TMH	TELECOMMUNICATIONS MANHOLE
TW	TOP OF WALL
TYP	TYPICAL
UD	UNDERDRAIN
UFGS	UNITED FACILITIES GUIDE SPECIFICATIONS
UG	UNDERGROUND
UTIL	UTILITY
VERT	VERTICAL
VB	VERTICAL BEND
VCC	VISITOR CONTROL CENTER
VCIF	VISITOR CONTROL INSPECITON FACILITY
VCP	VEHICLE CONTROL POINT
W	WEST/WATER
W/	WITH
WM	WATER METER
WMA	WATER MANAGEMENT ADMINISTRATION
W/O	WITHOUT
WT	WEIGHT
WV	WATER VALVE
WWF	WELDED WIRE FABRIC

CIVIL LEGEND & SYMBOLS

EXISTING SYMBOL	REMOVAL SYMBOL	PROPOSED SYMBOL	DESCRIPTION
			PROPERTY LINE/EASEMENT
			ASPHALT PAVEMENT
			CONCRETE PAVEMENT
			CONCRETE CURB AND GUTTER
			CONCRETE CURB
			PAVEMENT STRIPING
			MILL AND OVERLAY
			BUILDING
			CANOPY
			TREE
			DECORATIVE FENCE (K-RATED)
			DECORATIVE FENCE (NON-RATED)
			PACKAGED SALLYPORT AND PEDESTRIAN TURNSTILE
			K12 RATED BARRIER ARM
			VEHICULAR BARRIER SWING ARM
			DOUBLE SWING GATE
			GRABNET
			SIGN
			NON-RATED BOLLARD
			K12-RATED BOLLARD
			REMOVABLE K4-RATED BOLLARD
275.00		275	MAJOR CONTOUR
			MINOR CONTOUR
273.7 ×		253.75 +	SPOT ELEVATION
SD		SD	STORM PIPE
			STORM MANHOLE
			CURB INLET
			GRATE INLET
			YARD INLET
SAN		SAN	SANITARY SEWER PIPE
			SANITARY SEWER MANHOLE
DHCW		DHCW	WATER LINE
			FIRE HYDRANT
			WATER VALVE
Y			SIAMESE CONNECTION
			LIGHT POLE
G			GAS LINE
PV-UL		PV-UL	ELECTRICAL LINE
			SIDEWALK RAMP
			TREELINE

OWNER'S / DEVELOPER'S CERTIFICATION

I/WE HEREBY CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION, AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT BEFORE BEGINNING THE PROJECT. I HEREBY AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY STATE OF MARYLAND, DEPARTMENT OF THE ENVIRONMENT, COMPLIANCE INSPECTORS.

4/8/16 — DATE

OWNER/DEVELOPER SIGNATURE

N/A — CARD NO.

James F. Knott, Jr. — PRINTED NAME AND TITLE

EROSION AND SEDIMENT CONTROL LEGEND & SYMBOLS

SYMBOL	DESCRIPTION
	LIMITS OF DISTURBANCE
SSF	SUPER SILT FENCE
DF	SUPER SILT FENCE
AGIP	AT-GRADE INLET PROTECTION
CIP	CURB INLET PROTECTION
SCE	STABILIZED CONSTRUCTION ENTRANCE
A-2	EARTH DIKE
BB	BAFFLE BOARD
RPS	REMOVABLE PUMPING STATION
RRP	RIPRAP INFLOW PROTECTION

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
Approved: Howard SCD 4/19/16

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. 45292 EXPIRATION DATE: 05/21/2016

STATE OF MARYLAND — ROBERT A. CROWLEY — PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5.6.16
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5-11-16
DIRECTOR	DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME: EMERSON / REVITZ PROPERTY	TAX MAP: 47	LOT/PARCEL #: LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q
PLAT # 23732-23734: 15786	ZONE: PEC	GRID: 20
DEED: 11479 / 005	ELEC. DISTRICT: 6TH	
WATER CODE	SEWER CODE	

TITLE: CIVIL LEGEND AND ABBREVIATIONS

DES. BY: M. WERDER	SCALE: NTS	PROJ. No.
DRN. BY: M. WERDER	DATE: 04/04/2016	2 OF 70
CHK. BY: R. CROWLEY	APPROVED	

SDP-16-005

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HOWARD SOIL CONVERVATION DISTRICT (HSCD) 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 HORIZANTAL 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	2.00 ACRES
AREA DISTURBED	4.67 ACRES
AREA TO BE ROOFED OR PAVED	1.23 ACRES
AREA TO BE VEGETATIVELY STABILIZED	2.89 ACRES
TOTAL CUT	2850 CU. YDS.
TOTAL FILL	1100 CU. YDS.
OFFSITE WASTE/BORROW LOCATION	TO BE DETERMINED BY THE CONTRACTOR

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.

GENERAL NOTES

1. PRIOR TO ANY LAND DISTURBING ACTIVITIES, CONTACT "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO START OF WORK.
2. ENSURE THAT POSITIVE DRAINAGE IS MAINTAINED AWAY FROM ALL BUILDINGS.
3. ALL DIMENSIONS SHOWN ARE TO FACE OF CURB OR EDGE OF PAVEMENT, UNLESS NOTED OTHERWISE.
4. UNLESS OTHERWISE REQUIRED BY APPLICABLE PERMIT OR AGENCY, OR UNLESS OTHERWISE SPECIFIED IN THE CONSTRUCTION DOCUMENTS, CONTRACTOR SHALL RESTORE DISTURBED AREAS OR DAMAGED APPURTENANCES TO MEET OR EXCEED EXISTING CONDITIONS.
5. CONTRACTOR SHALL SUBMIT A MAINTENANCE OF TRAFFIC PLAN FOR STERLING DRIVE TO THE COR THAT IS IN ACCORDANCE WITH SECTION 104 OF THE SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS AND THE REQUIREMENTS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY FIELD CONDITIONS PRIOR TO CONSTRUCTION AND TO NOTIFY THE CONTRACTING OFFICER IF FIELD CONDITIONS DIFFER.
7. ALL CONSTRUCTION SHALL CONFORM TO THE PROJECT SPECIFICATIONS, CURRENT MARYLAND SHA ROAD AND BRIDGE STANDARDS, AND USACE STANDARDS. DEVIATION FROM THESE STANDARDS AND SPECIFICATIONS SHALL FIRST BE APPROVED BY THE CONTRACTING OFFICER.
8. THERE ARE NO KNOWN WETLANDS WITHIN THE LIMITS OF DISTURBANCE. IN THE EVENT WETLAND AREAS ARE IMPACTED DURING CONSTRUCTION, PROPER MITIGATION SHALL BE PROVIDED IN ACCORDANCE WITH NAVFAC AND MD DE REQUIREMENTS.
9. EXISTING UTILITIES SHOWN ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR REPAIRING ANY DAMAGES WHICH OCCUR BY FAILURE TO LOCATE OR PROTECT THESE UTILITIES. IF DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN THOSE SHOWN HEREIN, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CONTRACTING OFFICER AND TAKE THE NECESSARY STEPS TO PROTECT THE UTILITY AND ENSURE THE CONTINUANCE OF SERVICE.
10. CONTRACTOR SHALL CONTACT MISS UTILITY AT 1-800-522-7001 AND COORDINATE WITH COR FOR LOCATING ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES. THE CONTRACTOR IS ALSO REQUIRED TO ACQUIRE THE SERVICES OF A UTILITY LOCATING COMPANY TO PHYSICALLY LOCATE THE VERTICAL AND HORIZONTAL DEPTH , TYPE, AND MATERIAL OF ALL EXISTING UTILITIES WITHIN THE LIMITS OF UNDERGROUND WORK. EXISTING UTILITIES NOT SHOWN IN THESE DRAWINGS MAY EXIST.
11. NO DISTURBANCE SHALL TAKE PLACE OUTSIDE THE LIMITS OF DISTURBANCE.
12. GRADES SHOWN DENOTE TOP OF FINISHED GRADE UNLESS OTHERWISE STATED ON TYPICAL SECTIONS OR PLANS.
13. CONTRACTOR SHALL KEEP THE CURRENT VERSION OF THE MARYLAND SHA ROAD AND BRIDGE STANDARDS, SPECIFICATIONS, AND MARYLAND EROSION AND SEDIMENT CONTROL HANDBOOK ON-SITE AT ALL TIMES DURING CONSTRUCTION FOR REFERENCE TO SECTIONS INDICATED IN THESE PLANS.
14. CONTRACTOR SHALL REPAIR ANY DAMAGE AS RESULT OF CONSTRUCTION TO THE CONTRACTING OFFICER'S SATISFACTION AND AT NO COST TO THE GOVERNMENT.

SURVEY NOTES

1. BOUNDARY INFORMATION BASED ON AS-BUILT DRAWINGS FROM DAFT MCCUNE WALKER INC.
2. TOPOGRAPHIC INFORMATION BASED ON AS-BUILT DRAWINGS FROM DAFT MCCUNE WALKER INC.
3. HORIZONTAL DATUM BASED ON MCS-NAD83.
4. VERTICAL DATUM BASED ON NAVD88.
5. NOTIFY THE CONTRACTING OFFICER'S REPRESENTATIVE (COR) IMMEDIATELY IF CONDITIONS DIFFER FROM WHAT IS SHOWN ON PLANS.

SITE UTILITY NOTES

1. DIG TEST PITS AT ALL UTILITY TIE IN LOCATIONS AND EXISTING UTILITY CROSSINGS, TO VERIFY EXISTING INVERT INFORMATION, PIPE SIZES AND MATERIALS. IF FINDINGS DIFFER FROM WHAT IS SHOWN ON PLANS, NOTIFY THE CONTRACTING OFFICER REPRESENTATIVE IMMEDIATELY, PRIOR TO COMMENCING ANY CONSTRUCTION.
2. PROVIDE 45° VERTICAL BENDS TO ROUTE WATERLINES BENEATH OTHER UTILITIES WHERE THERE IS A CONFLICT, AS REQUIRED. MINIMUM 12" VERTICAL SEPARATION REQUIRED BETWEEN UTILITIES.
3. REROUTE AND RELOCATE ANY EXISTING UTILITY IMPACTED FROM CONSTRUCTION, AS NECESSARY TO MAINTAIN PROPER COVER AND SERVICE OF EXISTING UTILITIES AFTER FINAL GRADING.
4. CONTRACTOR SHALL PATCH AND REPAIR PAVEMENT, CURBS AND GUTTERS, AND PAVEMENT MARKINGS THAT ARE DAMAGED OR REMOVED AS A RESULT OF UTILITY INSTALLATION.
5. TAPPING INTO EXISTING MANHOLES FOR A PIPE 10" OR LESS SHALL BE DONE BY CORING.
6. LINE CONNECTION TO THE MANHOLE MAY BE MADE WITH AN APPROVED FLEXIBLE SLEEVE OR A SHORT LENGTH OF PIPE WI HT A JOINT WITHIN 2' OF THE INSIDE FACE OF THE MANHOLE.
7. INSTALLATION OF NEW SANITARY SEWER LINE SHALL COMMENCE AT THE DOWNSTREAM END AND BE CONSTRUCTED UPSTREAM.
8. PROVIDE A MINIMUM OF 48 INCHES COVER OVER ALL SANITARY SEWER MAINS IN PAVED AREAS AND MINIMUM OF 36 INCHES OF COVER OVER ALL SANITARY SEWER MAINS IN NON-PAVED AREAS.
9. SANITARY SEWER LINES AND WATER MAINS SHALL BE INSTALLED WITH A MINIMUM OF 10 FEET OF HORIZONTAL SEPARATION. THE WATER MAIN SHALL BE INSTALLED A MINIMUM OF 12 INCHES ABOVE THE SEWER LINE AND IN A SEPARATE TRENCH. WHERE NEITHER OF THESE SEPARATIONS CAN BE PROVIDED AND/OR THE WATER MAIN NEEDS TO CROSS UNDER THE SEWER LINE, THE SEWER LINE SHALL BE ENCASED IN CONCRETE FOR A MINIMUM DISTANCE OF 10 FEET ON BOTH SIDES OF THE WATER LINE.

SITE REMOVAL NOTES

1. LIMITS AND ITEMS SHOWN FOR REMOVAL ARE BASED ON BEST AVAILABLE RECORD MAPPING. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY ITEMS NOT SHOWN WITHIN THE LIMITS OF CONSTRUCTION AS NECESSARY TO COMPLETE THE REQUIRED WORK. ITEMS REQUIRING REMOVAL DURING CONSTRUCTION SHALL BE REPLACED TO MEET AND/OR EXCEED THEIR ORIGINAL EXISTING CONDITION.
2. COORDINATE LIMITS OF REMOVAL WITH SITE LAYOUT, SITE GRADING AND DRAINAGE, AND SITE UTILITY PLANS.
3. PROVIDE A CLEAN, STRAIGHT SAW CUT THROUGH THE FULL DEPTH OF PAVEMENT AT THE LIMITS OF CONCRETE AND ASPHALT PAVEMENT REMOVAL.
4. ALL UTILITIES SHALL REMAIN IN SERVICE AT ALL TIMES DURING CONSTRUCTION. UTILITIES MARKED AS TO BE REMOVED OR ABANDONED IN PLACE ARE TO REMAIN IN SERVICE UNTIL NEW UTILITIES ARE INSTALLED. CONTRACTOR SHALL NOTIFY AND SCHEDULE ANY INTENDED UTILITY INTERRUPTIONS WITH THE CONTRACTING OFFICER.
5. DISPOSE OF ALL DEBRIS AND CONSTRUCTION MATERIAL IN AN APPROVED OFF-SITE WASTE DISPOSAL FACILITY.
6. THE CONTRACTOR SHALL EXCAVATE ALL TRENCHES TO INDICATED GRADIENTS, LINES, DEPTHS, AND ELEVATIONS. THE CONTRACTOR SHALL TAKE EXTRA CARE WHILE EXCAVATING TRENCHES AROUND EXISTING UTILITIES AND SHALL ENSURE PROTECTION OF ALL UTILITIES THROUGHOUT CONSTRUCTION. CONTRACTOR SHALL HAND EXCAVATE AS NECESSARY TO AVOID ANY POTENTIAL DAMAGE. CONTRACTOR SHALL ALSO UTILIZE TRENCH BOXES AND SHEETING/SHORING AS NECESSARY TO PROTECT EXISTING SITE FEATURES AND UTILITIES.

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF ENGINEERING GENERAL UTILITY NOTES

PART 1

1. APPROXIMATE LOCATIONS OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
2. TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED ON _____ (DATE) BY _____ (ENGINEERING / SURVEY FIRM).
3. HORIZONTAL AND VERTICAL SURVEY CONTROLS:

   THE COORDINATES SHOWN ON THE DRAWINGS ARE BASED ON MARYLAND STATE REFERENCE SYSTEM NAD 83/91 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 47HE, NO. 47HF, AND NO. 47H2.
   ALL VERTICAL CONTROLS ARE BASED ON NAVD 88. VERTICAL CONTROLS PROVIDED ON THE DRAWINGS ARE _____(ENGINEERNIG / SURVEY FIRM SHALL PROVIDE DESCRIPTION OF VERTICAL CONTROL POINTS, I.E., IRON BARS, CROSS CUTS ON CONCRETE STRUCTURES).
4. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
5. CLEAR ALL UTILITIES BY A MINIMUM OF 12 INCHES. CLEAR ALL POLES BY 5'-0" MINIMUM OR TUNNEL AS REQUIRED UNLESS OTHERWISE NOTED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONIES OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
6. FOR DETAILS NOT SHOWN ON THE DRAWING, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
7. WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL ◪ AT THE LOCATIONS OF THE TEST PITS. A NOTE OR NO TOES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EX STING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
8. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

AT&T	1-800-252-1133
BGE (CONSTRUCTION SERVICES)	410-637-8713
BGE (EMERGENCY)	410-685-0123
BUREAU OF UTILITIES	410-313-4900
COLONIAL PIPELINE CO.	410-795-1390
MISS UTILITY	1-800-257-7777
STATE HIGHWAY ADMINISTRATION	410-531-5533
VERIZON	1-800-743-0033

9. TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
10. THE CONTRACTOR SHALL REMOVE TREES, STUMPS, AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
11. THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410) 313-7450 AT LEAST FIVE WORKING DAYS BEFORE OPEN CUTTING OR BORING/JACKING OF ANY COUNTY ROAD FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114a OF THE HOWARD COUNTY CODE.

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. 45292 EXPIRATION DATE: 05/21/2016

STATE OF MARYLAND — ROBERT A. CROWLEY — 45292 — REGISTERED PROFESSIONAL ENGINEER

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
Approved: [signature] 4/19/16
Howard SCD

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5-6-16
DIRECTOR	DATE 5-6-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 318-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE: CIVIL GENERAL NOTES

DES. BY	SCALE	PROJ. No.
M. WERDER	NTS	
DRN. BY	DATE	3 OF 70
M. WERDER	04/04/2016	
CHK. BY	APPROVED	
R. CROWLEY		

SDP-16-005

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PARCEL D-1
EMERSON DEVELOPMENT VIII LLC
DEED 14572 / 034
ZONED PEC

REMOVE EXISTING LIGHT POLE

REMOVE CONCRETE PAVEMENT

REMOVE/REPLACE EXISTING TREE (TYP. OF 11) SEE NOTE 5.

50' STREAM BUFFER

PARCEL K
EMERSON DEVELOPMENT HOMEOWNERS ASSOCIATION LLC
DEED 14978 / 158
ZONED PEC

MINIMUM 30' STRUCTURES AND USE SETBACK LINE

30' STRUCTURE AND USE SETBACK

REMOVE EXISTING SIGN

CAP EXISTING WATER LINE AT 6" GATE VALVE

20' PUBLIC WATER AND UTILITY EASEMENT PLAT No. 23732-23734

REMOVE EXISTING FIRE HYDRANT (SEE SHEET NOTE 3)

REMOVE EXISTING LIGHT POLE

REMOVE TREE. SEE NOTE 6. (TYP OF 5)

REMOVE EXISTING STORM INLET AND 15" STORM PIPE

REMOVE EXISTING SIGN

REMOVE EXISTING SIGN

DEMOLISH EXISTING ASPHALT PAVEMENT, CONCRETE PAVEMENT, AND ASSOCIATED CURB AND GUTTER (TYP)

STERLING DRIVE

MATCHLINE: SEE SHEET 5

WETLAND LIMITS

25' WETLAND BUFFER

PARCEL O
EMERSON COMMUNITY ASSOCIATION INC.
DEED 06819 / 239
ZONED PEC

PARCEL H
EMERSON DEVELOPMENT IV LLC
DEED 11479 / 005
ZONED PEC

PARCEL N
EMERSON DEVELOPMENT HOMEOWNERS ASSOCIATED LLC
DEED 13567 / 161
ZONED PEC

LIMITS OF DISTURBANCE

PARCEL G-1
EMERSON DEVELOPMENT VI LLC
DEED 13191 / 530
ZONED PEC

EX. RETAINING WALL

PARCEL Q
EMERSON COMMUNITY ASSOCIATION INC.
DEED 06819 / 239
ZONED PEC
SWM POND V

STEPHENS ROAD (PUBLIC ROAD, MAJOR COLLECTOR)

SCALE: 1" = 30'

NOTES:
1. COORDINATE THE LIMITS OF REMOVAL WITH THE PROPOSED SITE PLAN.
2. SAW CUT THE FULL DEPTH OF PAVEMENT AT THE LIMITS OF REMOVAL.
3. EXISTING FIRE HYDRANT TO BE REMOVED AND RETURNED TO THE BUREAU OF UTILITIES.
4. TREES SHOWN ARE REPLACEMENT OR RELOCATED TREES PREVIOUSLY ADDRESSED UNDER F-02-111.
5. ALL STREET TREES BEING REMOVED SHALL BE REPLACED UNLESS NOTED OTHERWISE. REPLACEMENT TREES DEPICTED ON SHEETS 65 AND 66.
6. DUE TO GOVERNMENT PERIMETER SETBACK SECURITY REQUIREMENTS, TREES NOTED SHALL NOT BE REPLACED.

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. 45292 EXPIRATION DATE: 05/21/2016

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5.6.16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5.6.16

DIRECTOR — DATE 5-10-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
~~23732-23734~~ 15786	PEC	20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

TITLE

EXISTING CONDITIONS AND SITE DEMOLITION PLAN

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY M. WERDER	DATE 04/04/2016	4 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005

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NOTES:

1. COORDINATE THE LIMITS OF REMOVAL WITH THE PROPOSED SITE PLAN.
2. SAW CUT THE FULL DEPTH OF PAVEMENT AS THE LIMITS OF REMOVAL.
3. TREES SHOWN ARE REPLACEMENT OR RELOCATED TREES PREVIOUSLY ADDRESSED UNDER F-02-111.
4. ALL STREET TREES BEING REMOVED SHALL BE REPLACED UNLESS NOTED OTHERWISE. REPLACEMENT TREES DEPICTED ON SHEETS 65 AND 66.
5. EXISTING FIRE HYDRANT TO BE REMOVED AND RETURNED TO BUREAU OF UTILITIES.

LIMITS OF DISTURBANCE

MILL AND OVERLAY ASHPALT PAVEMENT

REMOVE EXISTING ASPHALT PAVEMENT AND ASSOCIATED CONCRETE CURB AND GUTTER

REMOVE EXISTING CROSSWALK PAVEMENT STRIPING

CAP 12" WATER LINE

REMOVE EXISTING 12" WATER LINE

REMOVE EXISTING FENCE AND DOUBLE SWING GATE

REMOVE EXISTING MANUAL RATED DROP ARM

20' PUBLIC WATER AND UTILITY EASEMENT PLAT No. 23732-23734

REMOVE EXISTING SIGN

REMOVE EXISTING BOLLARD

REMOVE EXISTING LIGHT POLES (TYP. OF 4)

REMOVE/REPLACE TREE SEE NOTE 4.

REMOVE/REPLACE EXISTING TREE

REMOVE AND RELOCATE EXISTING STOP SIGN

REMOVE EXISTING STORM INLETS AND STORM PIPES (2)

REMOVE EXISTING SIGN

REMOVE EXISTING STORM DRAIN

REMOVE AND REPLACE EXISTING FIRE HYDRANT (SEE NOTE 5)

20' PUBLIC WATER AND UTILITY EASEMENT PLAT No. 23732-23734

DEMOLISH EXISTING ASPHALT PAVEMENT, CONCRETE PAVEMENT, AND ASSOCIATED CURB AND GUTTER

CAP 12" WATER LINE

REMOVE EXISTING SIGN

REMOVE/REPLACE EXISTING TREE (TYP. OF 15) SEE NOTE 4.

REMOVE EXISTING 15" RCP STORM PIPE

SEAL 15" DIAM. PIPE OPENING @ EX. DRAINAGE INLET

REMOVE AND RELOCATE EXISTING STORM DRAIN INLET

REMOVE EXISTING SIGN

MINIMUM 30' STRUCTURES AND USES SETBACK LINE

10' PARKING SETBACK LINE

30' STRUCTURE AND USE SETBACK

PARCEL E-1
EMERSON DEVELOPMENT II LLC
ZONED PEC

PARCEL M
EMERSON DEVELOPMENT HOMEOWNERS ASSOCIATION LLC
DEED 13567 / 161
ZONED PEC

PARCEL D-1
EMERSON DEVELOPMENT VIII LLC
DEED 14572 / 034
ZONED PEC

PARCEL G-1
EMERSON DEVELOPMENT VI LLC
DEED 13191 / 530
ZONED PEC

PARCEL N
EMERSON DEVELOPMENT HOMEOWNERS ASSOCIATED LLC
DEED 13567 / 161
ZONED PEC

PARCEL F-1
EMERSON DEVELOPMENT VII LLC
DEED 13191 / 530
ZONED PEC

MATCHLINE SEE SHEET 4

0 30 60
SCALE: 1" = 30'

N

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. 45292 EXPIRATION DATE: 05/21/2016

STATE OF MARYLAND — ROBERT A. CROWLEY — 45292 — PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	5-6-16 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	5-11-16 DATE
DIRECTOR	5-16-16 DATE

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE

EXISTING CONDITIONS AND SITE DEMOLITION PLAN

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY	DATE	
M. WERDER	04/04/2016	
CHK. BY	APPROVED	
R. CROWLEY		

SDP-16-005

SHEET NOTES:

1. CONTRACTOR SHALL COORDINATE WITH CONSTRUCTION OF THE EMERSON CAMPUS FENCE.
2. ALL RADII SHALL BE 5' UNLESS NOTED OTHERWISE.
3. THE SYMBOL (8) DENOTES THE NUMBER OF PARKING SPACES.
4. FENCE SHALL EXTEND ABOVE SALLYPORT AND VERTICAL PEDESTRIAN TURNSTILES AND BE FLUSH WITH BOTTOM OF CANOPY. FENCE FABRIC SHALL BE SECURA FENCE SYSTEM ASF 0.75-9R SECURA MESH FENCE FABRIC.
5. VERTICAL PEDESTRIAN TURNSTILE WITH CARD READER (MANUFACTURE: BOON EDAM OR APPROVED EQUAL. PROVIDE FOUNDATION TO MATCH FENCE FOUNDATION.)
6. K12-RATED HYDRAULIC LIFT BARRIER ARM BY SMITH AND WESSON, OR APPROVED EQUAL, INSTALLED PER MANUFACTURER'S INSTRUCTIONS. MINIMUM 4' DEEP CONCRETE ECNASED WITH MINIMUM 6" ON ALL SIDES.
7. ALL DIMENSIONS ARE TO INSIDE FACE OF CURB, UNLESS NOTED OTHERWISE.
8. ALL LIGHTPOLE FIXTURES SHALL BE 15.5" BY 22" POLE MOUNTED LIGHT FIXTURES WITH DIE CAST ALUMINUM HOUSING AND SPILL LIGHT ELIMINATOR REFLECTOR AS MANUFACTURED BY LUMARK - TR SERIES.
9. FENCING DETAILS CAN BE FOUND ON SHEETS 51 AND 60. SITE LIGHTING POLE FOUNDATION DETAILS CAN BE FOUND ON SHEET 60.
10. INSTALL 4" PVC CONDUIT A MINIMUM OF 30 INCHES BELOW GRADE AND CAP AT BOTH ENDS.

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. 45292 EXPIRATION DATE: 05/21/2016

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5-16-16
DIRECTOR	DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q
PLAT #23732-23734 15786	ZONE PEC	GRID 20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

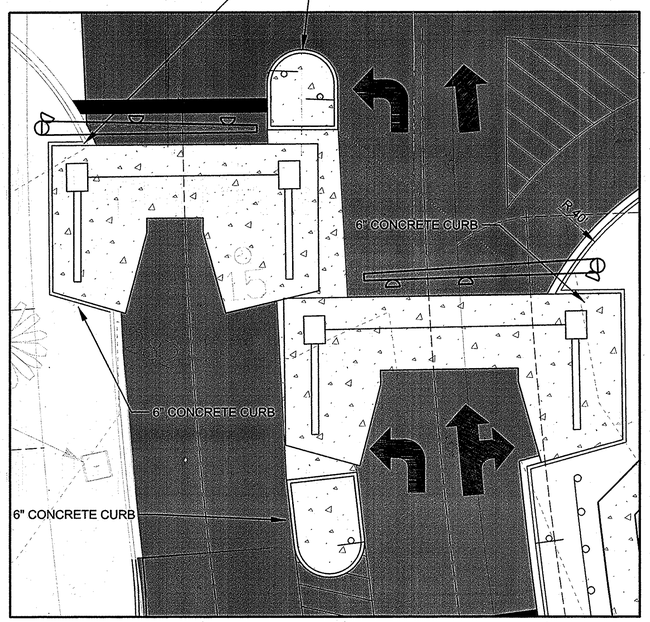
TITLE

SITE DEVELOPMENT PLAN

DES. BY M. WERDER	SCALE 1:30	PROJ. No.
DRN. BY M. WERDER	DATE 04/04/2016	6 OF 70
CHK. BY R. CROWLEY	APPROVED	

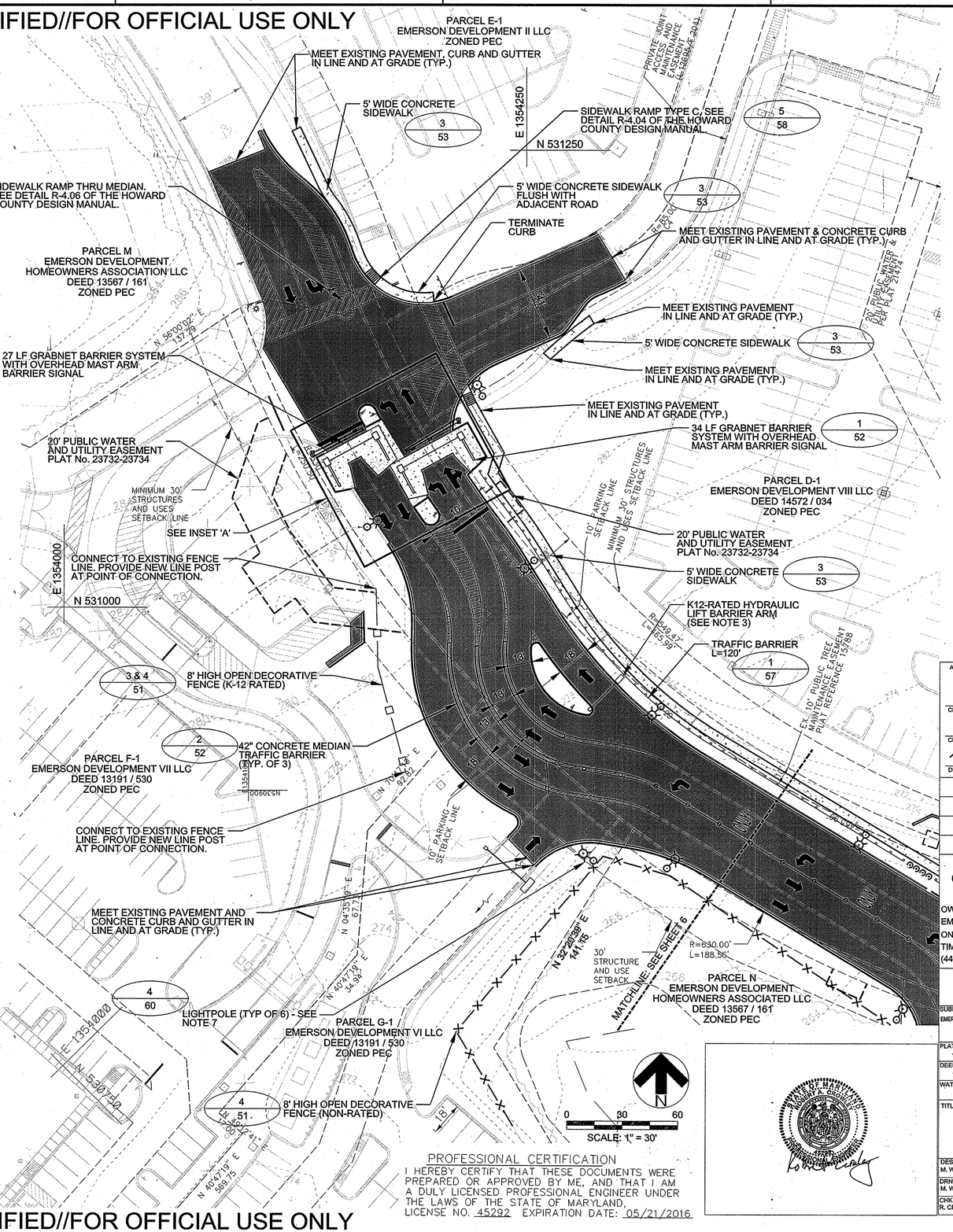
SDP-16-005

SHEET NOTES:
1. CONTRACTOR SHALL COORDINATE WITH CONSTRUCTION OF THE EMERSON CAMPUS FENCE.
2. ALL RADII SHALL BE 5' UNLESS NOTED OTHERWISE.
3. K12-RATED LIFT BARRIER ARM BY SMITH AND WESSON, OR APPROVED EQUAL, INSTALLED PER MANUFACTURER'S INSTRUCTIONS. MINIMUM 4' DEEP CONCRETE ENCASED WITH MINIMUM 6" ON ALL SIDES.
4. NOT USED.
5. ALL DIMENSIONS AND ROADWAY COORDINATE LOCATIONS ARE TO INSIDE FACE OF CURB UNLESS NOTED OTHERWISE.
6. ALL PROPOSED FENCE SHALL BE DECORATIVE (K12 RATED) AS SHOWN IN DETAILS 3 AND 4 ON SHEET 20, UNLESS NOTED OTHERWISE.
7. ALL LIGHTPOLE FIXTURES SHALL BE 15.5" BY 22" POLE MOUNTED LIGHT FIXTURES WITH DIE CAST ALUMINUM HOUSING AND SPILL LIGHT ELIMINATOR REFLECTOR AS MANUFACTURED BY LUMARK - TR SERIES.
8. FENCING DETAILS CAN BE FOUND ON SHEETS 51 AND 60. SITE LIGHTING POLE FOUNDATION DETAILS CAN BE FOUND ON SHEET 60.



INSET 'A'

SCALE: 1" = 10'



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APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5.6.16
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5-16-16
DIRECTOR	DATE 6/16/16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

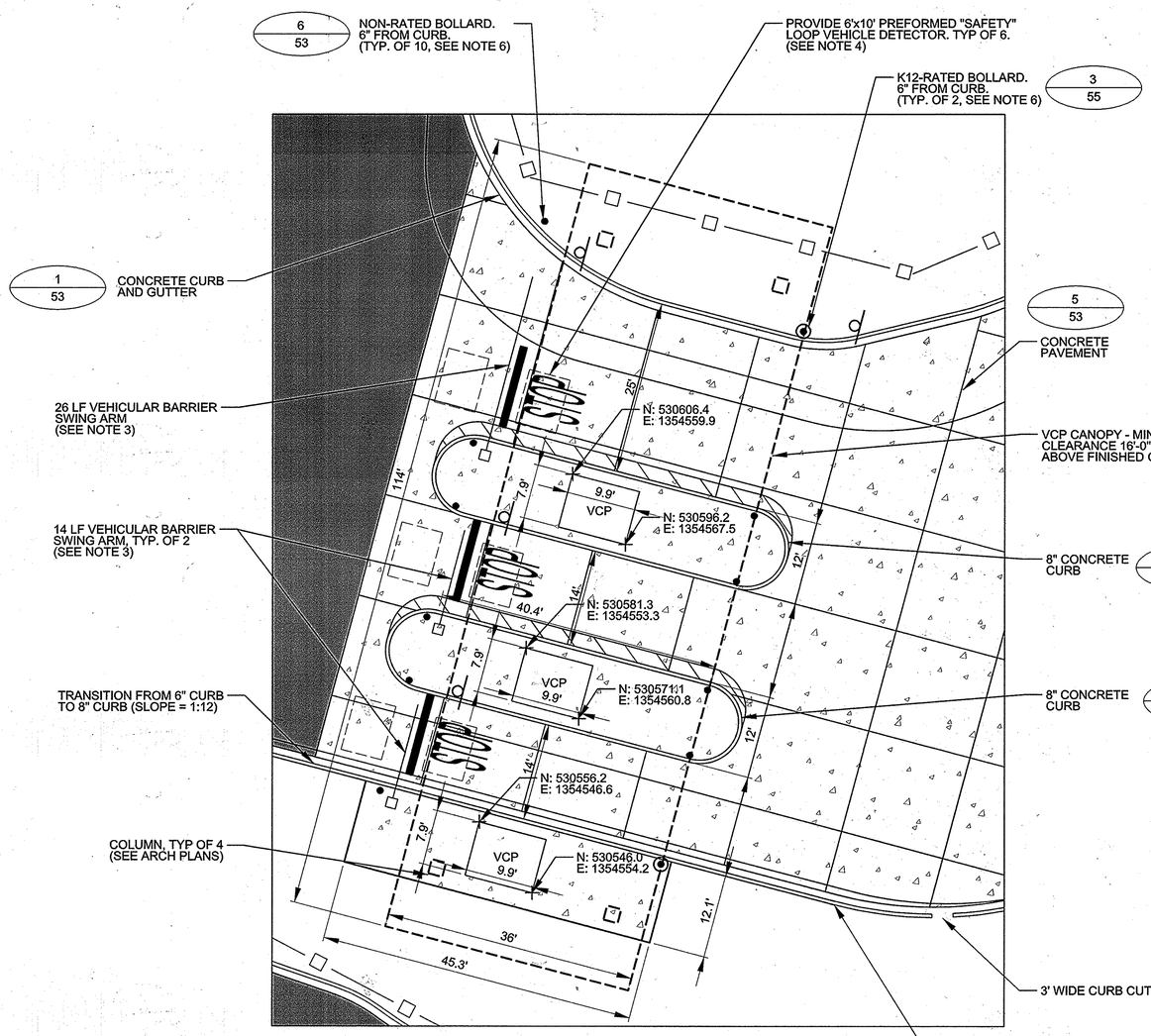
PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE

SITE DEVELOPMENT PLAN

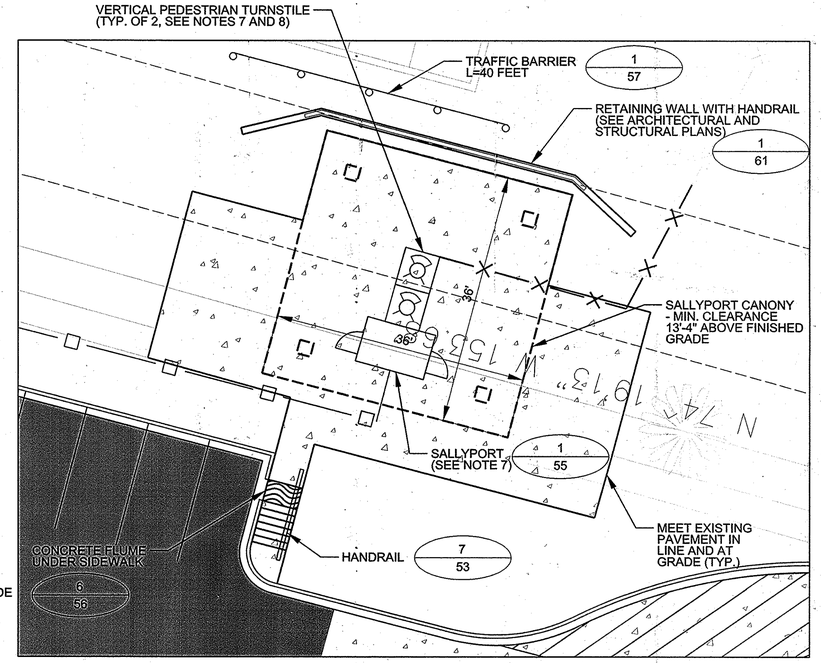
DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY	DATE	
M. WERDER	04/04/2016	7 OF 70
CHK. BY	APPROVED	
R. CROWLEY		

SDP-16-005



1 ENLARGED VCP SITE PLAN
SCALE: 1" = 10'

(REFER TO SHEET 6 FOR LOCATION OF VCP CANOPY ON THE SITE.)



2 ENLARGED SALLYPORT SITE PLAN
SCALE: 1" = 10'

(REFER TO SHEET 6 FOR LOCATION OF SALLYPORT CANOPY ON THE SITE.)

SHEET NOTES:

1. ALL RADII SHALL BE 5' UNLESS NOTED OTHERWISE.
2. ALL DIMENSIONS ARE TO INSIDE FACE OF CURB, UNLESS NOTED OTHERWISE.
3. VEHICULAR BARRIER SWING ARM. MANUFACTURER: HY SECURITY STRONG ARM OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTION
4. BASIS OF DESIGN: MARSH PRODUCTS MODEL 610 LOOP VEHICLE DETECTOR AND MODEL 865 PREFORMED LOOP. CONTRACTOR MAY SUBMIT AN ALTERNATE PRODUCT TO COR AS AN APPROVED EQUAL FOR REVIEW AND APPROVAL. CONTRACTOR SHALL INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE FOLLOWING:
   PREFORMED LOOP SHALL BE INSTALLED NO GREATER THAN 2" BELOW SURFACE OF CONCRETE PAVEMENT. LEAD-IN WIRES FROM THE DETECTOR TO THE BEGINNING OF THE LOOP SHALL BE TWISTED A MINIMUM OF FIVE TIMES PER 100 LF. CONTRACTOR SHALL CUT BACK ALL CONCRETE REINFORCEMENT 2' FROM THE OUTER PERIMETER OF THE LOOP. CONNECTIONS TO THE DETECTOR, THE LOOP AND THE EXTENSION CABLE SHALL BE SOLDERED.
   LOOP VEHICLE DETECTOR SHALL BE SET TO ALLOW ADEQUATE DEPARTURE (4 SECONDS) DELAY FOR THE VEHICLE BARRIER ARM TO PREVENT VEHICLES BEING UNDER THE ARM AS IT GOES DOWN.THE CONTRACTOR SHALL COORDINATE WITH MPO SECURITY FOR DURATION OF DELAY.
5. "SAFETY" LOOP SHALL PREVENT BARRIER ARM FROM LOWERING WHEN VEHICLE IS DETECTED.
6. CENTER OF BOLLARDS SHALL BE 18 INCHES FROM FACE OF CURB.
7. FENCE SHALL EXTEND ABOVE SALLYPORT AND VERTICAL PEDESTRIAN TURNSTILES AND BE FLUSH WITH BOTTOM OF CANOPY. FENCE FABRIC SHALL BE SECURA FENCE SYSTEM ASF 0.75-9R SECURA MESH FENCE FABRIC.
8. VERTICAL PEDESTRIAN TURNSTILE WITH CARD READER (MANUFACTURER: BOON EDAM OR APPROVED EQUAL. PROVIDE FOUNDATION TO MATCH FENCE FOUNDATION.)

PROFESSIONAL CERTIFICATION

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0 10 20
SCALE: 1" = 10'

N

STATE OF MARYLAND — ROBERT A CROWLEY — 45292 — REGISTERED PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5.6.16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-11-16

DIRECTOR — DATE 5/10/16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

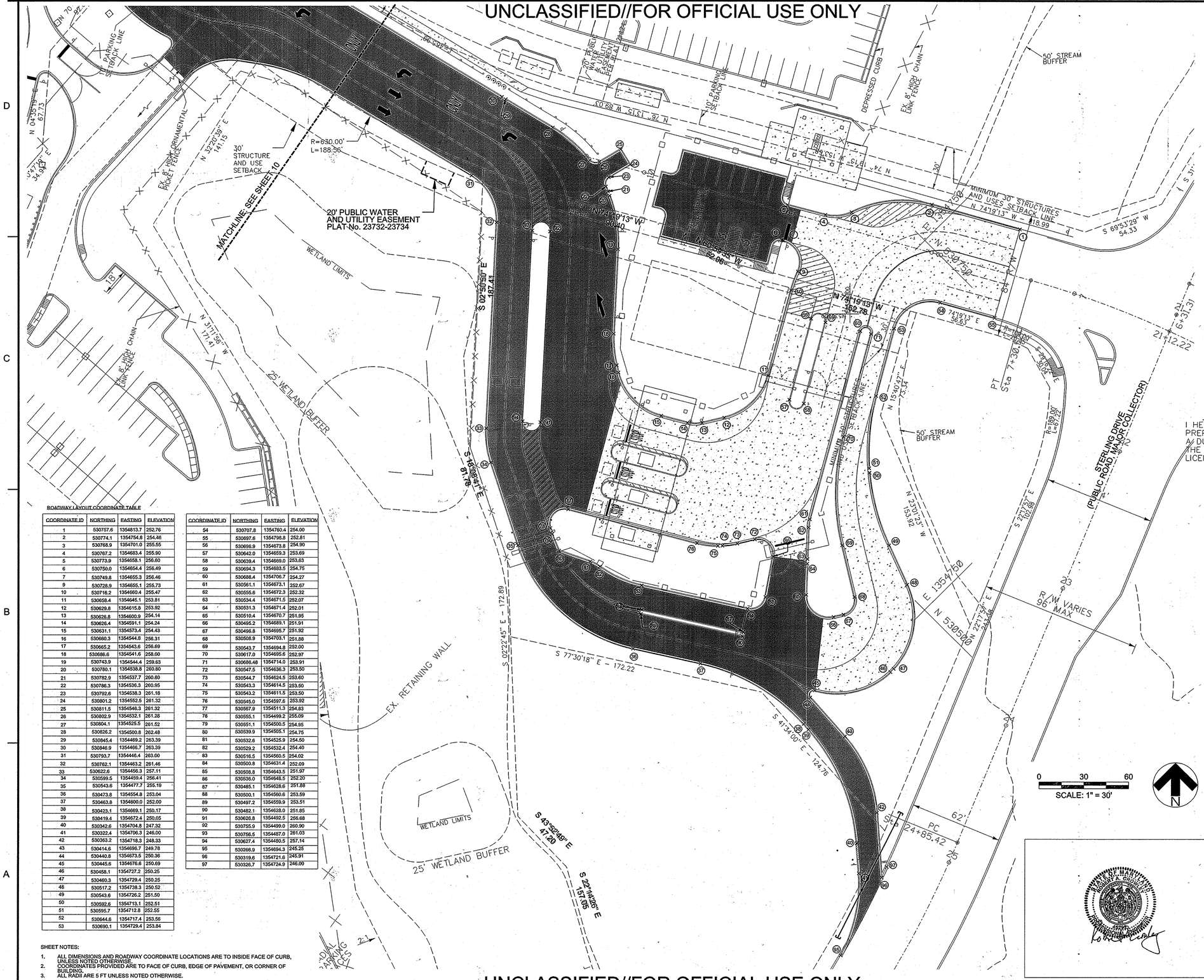
SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE: ENLARGED SITE LAYOUT PLAN

DES. BY	SCALE	PROJ. No.
M. WERDER	1:10	
DRN. BY	DATE	8 OF 70
M. WERDER	04/04/2016	
CHK. BY	APPROVED	
R. CROWLEY		

SDP-16-005



ROADWAY LAYOUT COORDINATE TABLE

COORDINATE ID	NORTHING	EASTING	ELEVATION
1	530757.6	1354813.7	252.76
2	530774.1	1354754.8	254.46
3	530768.9	1354701.0	255.55
4	530767.2	1354683.4	255.90
5	530773.9	1354658.1	256.60
6	530750.0	1354654.4	256.49
7	530749.8	1354655.3	256.46
9	530728.9	1354655.1	255.73
10	530716.2	1354660.4	255.47
11	530658.4	1354645.1	253.81
12	530629.8	1354615.8	253.92
13	530626.8	1354600.9	254.14
14	530626.4	1354591.1	254.24
15	530631.1	1354573.4	254.43
16	530660.3	1354544.8	256.31
17	530665.2	1354543.6	256.69
18	530686.6	1354541.6	258.00
19	530743.9	1354544.4	259.63
20	530780.1	1354538.8	260.80
21	530782.9	1354537.7	260.80
22	530786.3	1354536.3	260.95
23	530792.6	1354538.3	261.18
24	530801.2	1354552.5	261.32
25	530811.5	1354546.3	261.32
26	530802.9	1354532.1	261.28
27	530804.1	1354525.5	261.92
28	530826.2	1354500.8	262.48
29	530845.4	1354469.2	263.39
30	530846.9	1354466.7	263.39
31	530793.7	1354446.4	263.00
32	530762.1	1354463.2	261.46
33	530622.6	1354456.3	257.11
34	530599.5	1354459.4	256.41
35	530543.6	1354477.7	255.19
36	530473.8	1354554.8	253.04
37	530463.8	1354600.0	252.00
38	530423.1	1354669.1	250.17
39	530419.4	1354672.4	250.05
40	530342.6	1354704.8	247.32
41	530322.4	1354706.3	246.00
42	530363.2	1354718.3	248.33
43	530414.6	1354696.7	249.78
44	530440.8	1354673.5	250.36
45	530445.6	1354676.6	250.69
46	530458.1	1354727.2	250.25
47	530460.3	1354729.4	250.25
48	530517.2	1354738.3	250.52
49	530543.6	1354726.2	251.50
50	530592.6	1354713.1	252.51
51	530595.7	1354712.8	252.55
52	530644.6	1354717.4	253.56
53	530690.1	1354729.4	253.84
54	530707.8	1354760.4	254.00
55	530697.6	1354796.8	252.81
56	530699.9	1354873.8	254.90
57	530642.0	1354659.3	253.69
58	530639.4	1354669.0	253.63
59	530694.3	1354683.5	254.75
60	530688.4	1354706.7	254.27
61	530561.1	1354673.1	252.67
62	530555.6	1354672.3	252.32
63	530534.4	1354671.5	252.07
64	530531.3	1354671.4	252.01
65	530510.4	1354670.7	251.95
66	530495.2	1354689.1	251.91
67	530496.8	1354695.7	251.92
68	530508.9	1354703.1	251.88
69	530543.7	1354694.8	252.00
70	530617.0	1354695.6	252.97
71	530686.48	1354714.0	253.91
72	530547.5	1354636.3	253.50
73	530544.7	1354624.5	253.60
74	530543.3	1354614.5	253.50
75	530543.2	1354611.5	253.50
76	530545.0	1354597.6	253.92
77	530567.9	1354511.3	254.83
78	530555.1	1354499.2	255.09
79	530551.1	1354500.5	254.95
80	530539.9	1354505.1	254.75
81	530532.6	1354525.9	254.50
82	530529.2	1354532.4	254.40
83	530516.5	1354560.5	254.02
84	530500.8	1354631.4	252.09
85	530508.8	1354643.5	251.97
86	530536.0	1354648.5	252.30
87	530485.1	1354628.6	251.88
88	530500.1	1354560.6	253.59
89	530497.2	1354559.9	253.51
90	530482.1	1354628.0	251.85
91	530626.8	1354492.5	256.68
92	530755.9	1354499.0	260.90
93	530756.5	1354487.0	261.03
94	530627.4	1354480.5	257.14
95	530266.9	1354694.3	245.25
96	530319.6	1354721.8	245.91
97	530326.7	1354724.9	246.00

SHEET NOTES:

1. ALL DIMENSIONS AND ROADWAY COORDINATE LOCATIONS ARE TO INSIDE FACE OF CURB, UNLESS NOTED OTHERWISE.
2. COORDINATES PROVIDED ARE TO FACE OF CURB, EDGE OF PAVEMENT, OR CORNER OF BUILDING.
3. ALL RADII ARE 5 FT UNLESS NOTED OTHERWISE.

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. 45292 EXPIRATION DATE: 05/21/2016

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	5.6.16 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	5-16-16 DATE
DIRECTOR	5-16-16 DATE

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 215-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

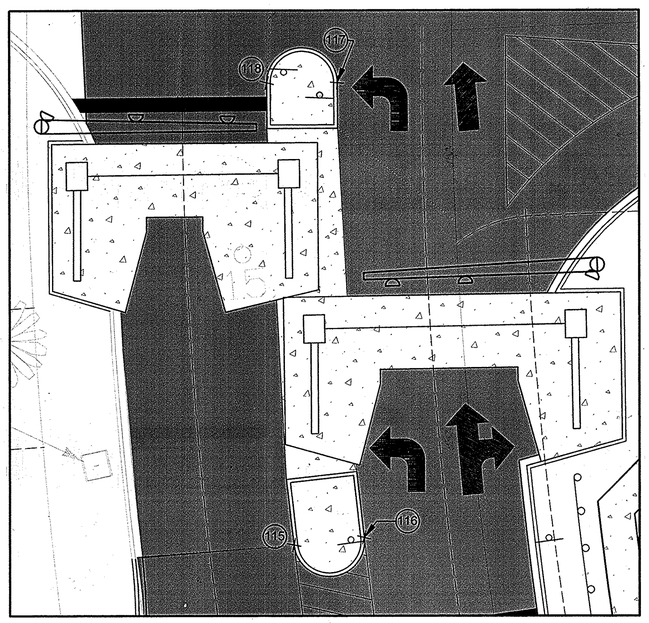
TITLE

ROADWAY COORDINATE CONTROL PLAN

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY	DATE	9 OF 70
M. WERDER	04/04/2016	
CHK. BY	APPROVED	
R. CROWLEY		

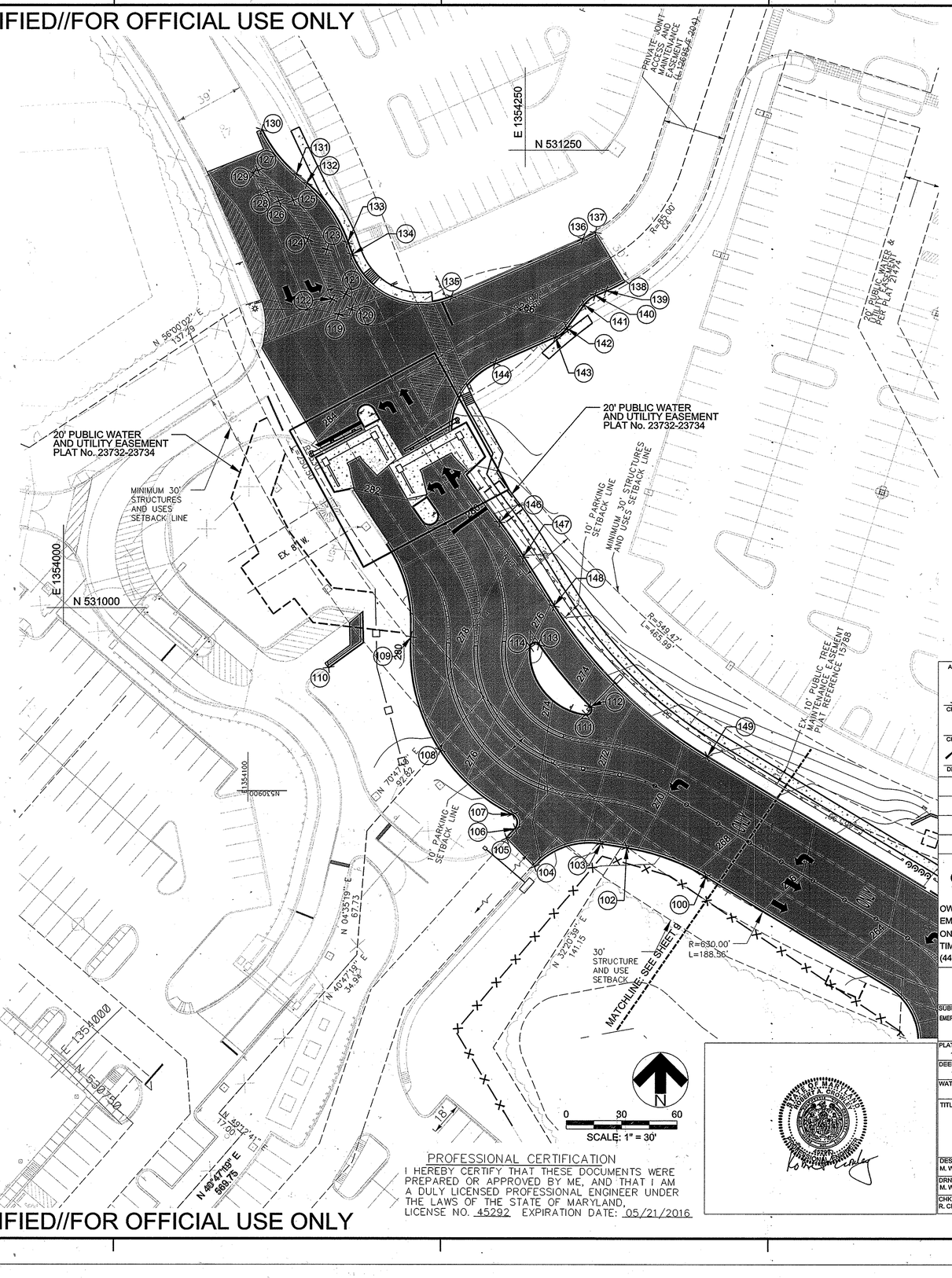
SDP-16-005

SHEET NOTES:
1. ALL RADII SHALL BE 5' UNLESS NOTED OTHERWISE.
2. ALL DIMENSIONS AND ROADWAY COORDINATE LOCATIONS ARE TO INSIDE FACE OF CURB UNLESS NOTED OTHERWISE.



INSET 'A'

SCALE: 1" = 10'



ROADWAY COORDINATE TABLE

COORDINATE ID	NORTHING	EASTING	ELEVATION
100	530853.4	1354348.1	267.73
101	NOT USED		
102	530869.3	1354305.1	270.41
103	530871.5	1354291.2	271.40
104	530858.7	1354255.0	274.73
105	530874.2	1354240.0	276.22
106	530879.5	1354244.7	274.77
107	530887.3	1354243.2	275.10
108	530922.3	1354204.0	276.60
109	530984.1	1354188.3	279.00
110	530967.3	1354143.5	280.70
111	530941.7	1354262.8	273.03
112	530946.0	1354285.0	273.35
113	530979.7	1354257.3	275.73
114	530978.4	1354252.8	276.00
115	531047.1	1354193.9	281.10
116	531052.8	1354202.2	281.17
117	531108.5	1354168.3	283.81
118	531103.8	1354159.5	283.75
119	531160.1	1354148.8	285.54
120	531162.9	1354155.8	285.57
121	531171.3	1354152.5	285.85
122	53116B.4	1354145.4	285.82
123	531195.7	1354142.7	286.39
124	531201.4	1354132.2	286.75
125	531222.6	1354124.3	287.14
126	531222.3	1354116.5	287.24
127	531239.1	1354105.1	287.71
128	531227.2	1354110.4	287.42
129	531237.3	1354102.7	287.71
130	531261.3	1354107.2	288.03
131	531236.8	1354126.0	287.36
132	531231.9	1354131.8	287.19
133	531199.5	1354153.9	286.31
134	531192.9	1354156.2	286.17
135	531170.0	1354210.0	285.94
136	531201.5	1354281.2	287.86
137	531205.0	1354288.1	288.00
138	531178.3	1354303.8	287.22
139	531173.2	1354293.7	286.89
140	531170.5	1354287.7	286.73
141	531165.6	1354281.7	286.48
142	531152.7	1354272.3	285.89
143	531147.8	1354266.2	285.65
144	531133.3	1354233.5	284.60
145	NOT USED		
146	531046.7	1354236.1	278.68
147	531027.8	1354249.0	277.49
148	531001.1	1354265.4	275.89
149	530918.6	1354348.5	269.50

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-4-16

DIRECTOR — DATE 5/16/16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE

ROADWAY COORDINATE CONTROL PLAN

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY	DATE	
M. WERDER	04/04/2016	10 OF 70
CHK. BY	APPROVED	
R. CROWLEY		

SDP-16-005

PROFESSIONAL CERTIFICATION
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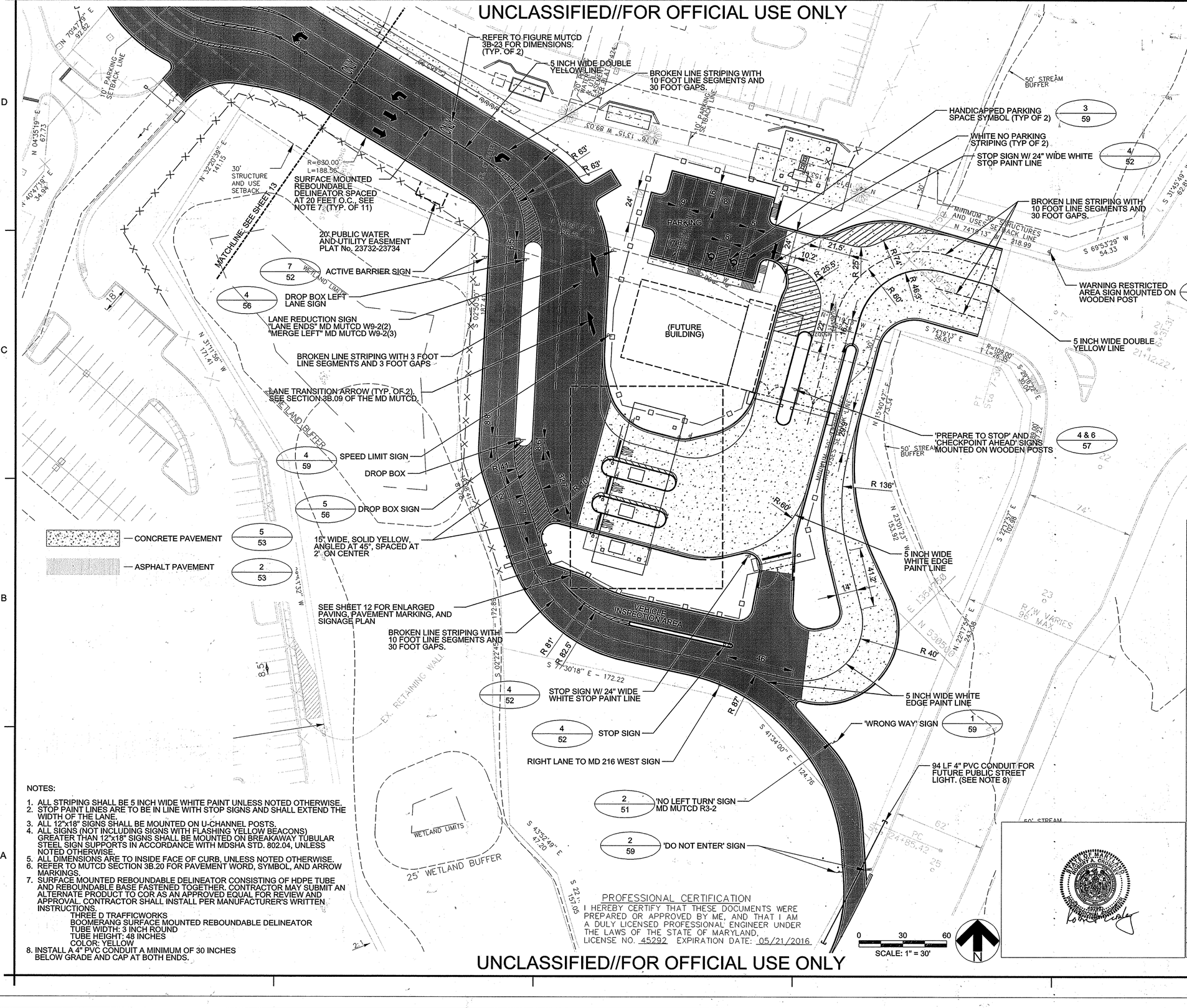

NOTES:

1. ALL STRIPING SHALL BE 5 INCH WIDE WHITE PAINT UNLESS NOTED OTHERWISE.
2. STOP PAINT LINES ARE TO BE IN LINE WITH STOP SIGNS AND SHALL EXTEND THE WIDTH OF THE LANE.
3. ALL 12"x18" SIGNS SHALL BE MOUNTED ON U-CHANNEL POSTS.
4. ALL SIGNS (NOT INCLUDING SIGNS WITH FLASHING YELLOW BEACONS) GREATER THAN 12"x18" SIGNS SHALL BE MOUNTED ON BREAKAWAY TUBULAR STEEL SIGN SUPPORTS IN ACCORDANCE WITH MDSHA STD. 802.04, UNLESS NOTED OTHERWISE.
5. ALL DIMENSIONS ARE TO INSIDE FACE OF CURB, UNLESS NOTED OTHERWISE.
6. REFER TO MUTCD SECTION 3B.20 FOR PAVEMENT WORD, SYMBOL, AND ARROW MARKINGS.
7. SURFACE MOUNTED REBOUNDABLE DELINEATOR CONSISTING OF HDPE TUBE AND REBOUNDABLE BASE FASTENED TOGETHER. CONTRACTOR MAY SUBMIT AN ALTERNATE PRODUCT TO COR AS AN APPROVED EQUAL FOR REVIEW AND APPROVAL. CONTRACTOR SHALL INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
   THREE D TRAFFICWORKS
   BOOMERANG SURFACE MOUNTED REBOUNDABLE DELINEATOR
   TUBE WIDTH: 3 INCH ROUND
   TUBE HEIGHT: 48 INCHES
   COLOR: YELLOW
8. INSTALL A 4" PVC CONDUIT A MINIMUM OF 30 INCHES BELOW GRADE AND CAP AT BOTH ENDS.

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. 45292 EXPIRATION DATE: 05/21/2016

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-6-16

DIRECTOR — DATE 5-6-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE

PAVING, PAVEMENT MARKING, AND SIGNAGE PLAN

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY	DATE	
M. WERDER	04/04/2016	
CHK. BY	APPROVED	11 OF 70
R. CROWLEY		

SDP-16-005

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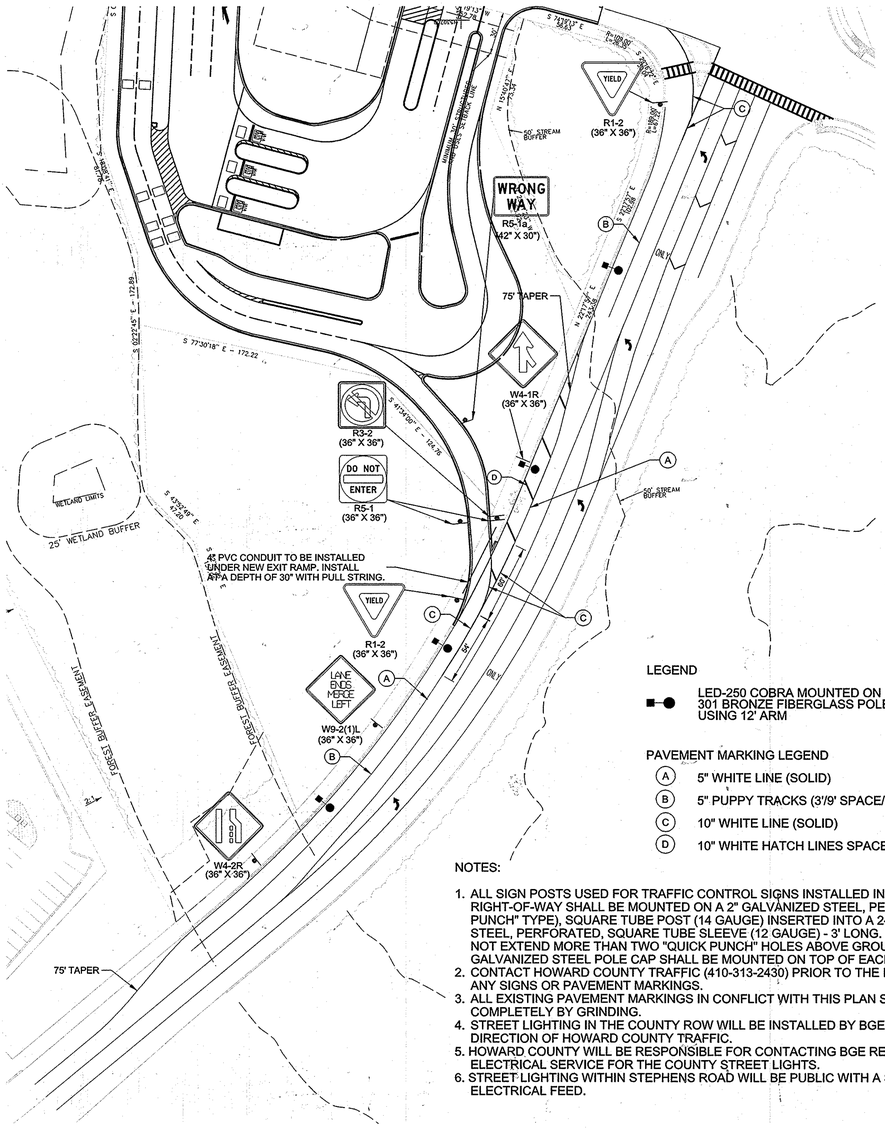


LEGEND

LED-250 COBRA MOUNTED ON 301 BRONZE FIBERGLASS POLE USING 12' ARM

PAVEMENT MARKING LEGEND

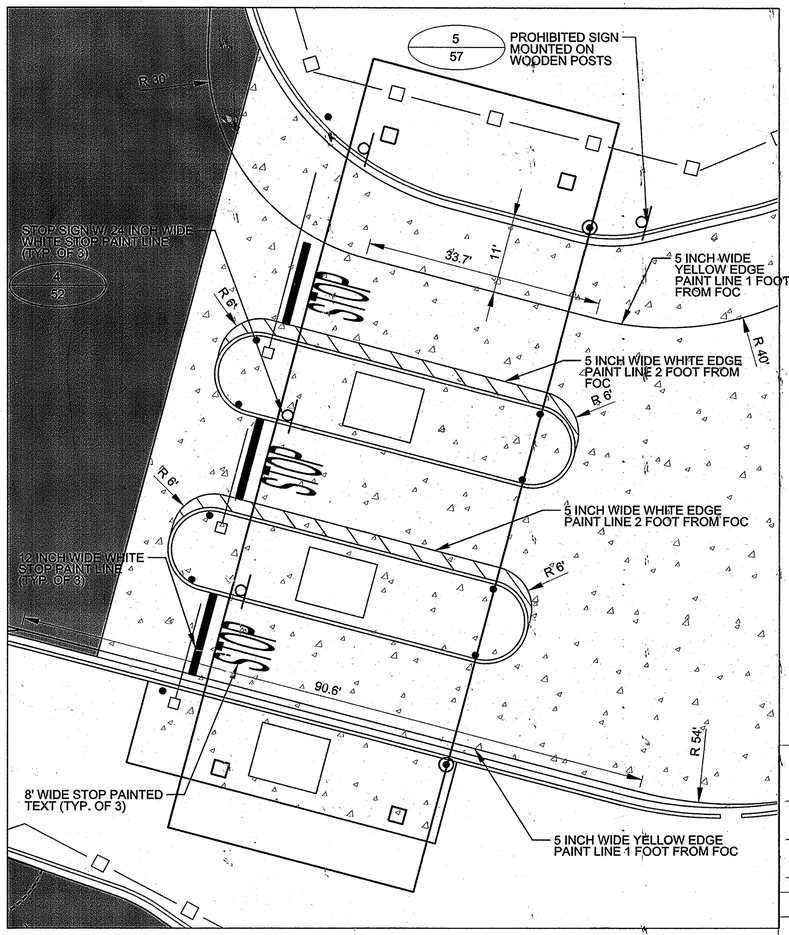
- (A) 5" WHITE LINE (SOLID)
- (B) 5" PUPPY TRACKS (3'/9' SPACE/3')
- (C) 10" WHITE LINE (SOLID)
- (D) 10" WHITE HATCH LINES SPACED 36' APART

NOTES:

1. 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" TYPE), 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 THAN TWO "QUICK PUNCH" HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
2. CONTACT HOWARD COUNTY TRAFFIC (410-313-2430) PRIOR TO THE INSTALLATION OF ANY SIGNS OR PAVEMENT MARKINGS.
3. ALL EXISTING PAVEMENT MARKINGS IN CONFLICT WITH THIS PLAN SHALL BE REMOVED COMPLETELY BY GRINDING.
4. STREET LIGHTING IN THE COUNTY ROW WILL BE INSTALLED BY BGE UNDER THE DIRECTION OF HOWARD COUNTY TRAFFIC.
5. HOWARD COUNTY WILL BE RESPONSIBLE FOR CONTACTING BGE REGARDING THE ELECTRICAL SERVICE FOR THE COUNTY STREET LIGHTS.
6. STREET LIGHTING WITHIN STEPHENS ROAD WILL BE PUBLIC WITH A SEPARATE ELECTRICAL FEED.

1 STEPHENS ROAD SIGNAGE, PAVEMENT MARKING AND STREET LIGHTING PLAN

SCALE: 1"=20'



2 VCP ENLARGED PAVING, PAVEMENT MARKING & SIGNAGE PLAN

SCALE: 1"=10'

NOTES:

1. ALL STRIPING SHALL BE 5 INCH WIDE WHITE PAINT UNLESS NOTED OTHERWISE.
2. STOP PAINT LINES ARE TO BE IN LINE WITH STOP SIGNS AND SHALL EXTEND THE WIDTH OF THE LANE.
3. ALL 12"x18" SIGNS SHALL BE MOUNTED ON U-CHANNEL POSTS.
4. ALL SIGNS (NOT INCLUDING SIGNS WITH FLASHING YELLOW BEACONS) GREATER THAN 12"x18" SIGNS SHALL BE MOUNTED ON BREAKAWAY TUBULAR STEEL SIGN SUPPORTS IN ACCORDANCE WITH MDSHA STD. 802.04.
5. ALL DIMENSIONS ARE TO INSIDE FACE OF CURB UNLESS NOTED OTHERWISE.
6. "STOP" TEXT IN ACCORDANCE WITH SECTION 3B.20, FIGURE 3B-23 OF THE MARYLAND MUTCD.

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. 45292 EXPIRATION DATE: 05/21/2016

STATE OF MARYLAND — ROBERT A. CROWLEY — PROFESSIONAL ENGINEER

0 10 20
SCALE: 1" = 10'

N

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5.6.16
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5-16-16
DIRECTOR	DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
23132-4318 15786	PEC	20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

TITLE

ENLARGED PAVING, PAVEMENT MARKING, AND SIGNAGE PLAN

DES. BY	SCALE	PROJ. No.
M. WERDER	1:10	
DRN. BY M. WERDER	DATE 04/04/2016	12 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005

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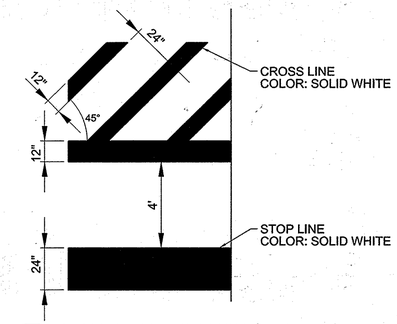
NOTES:

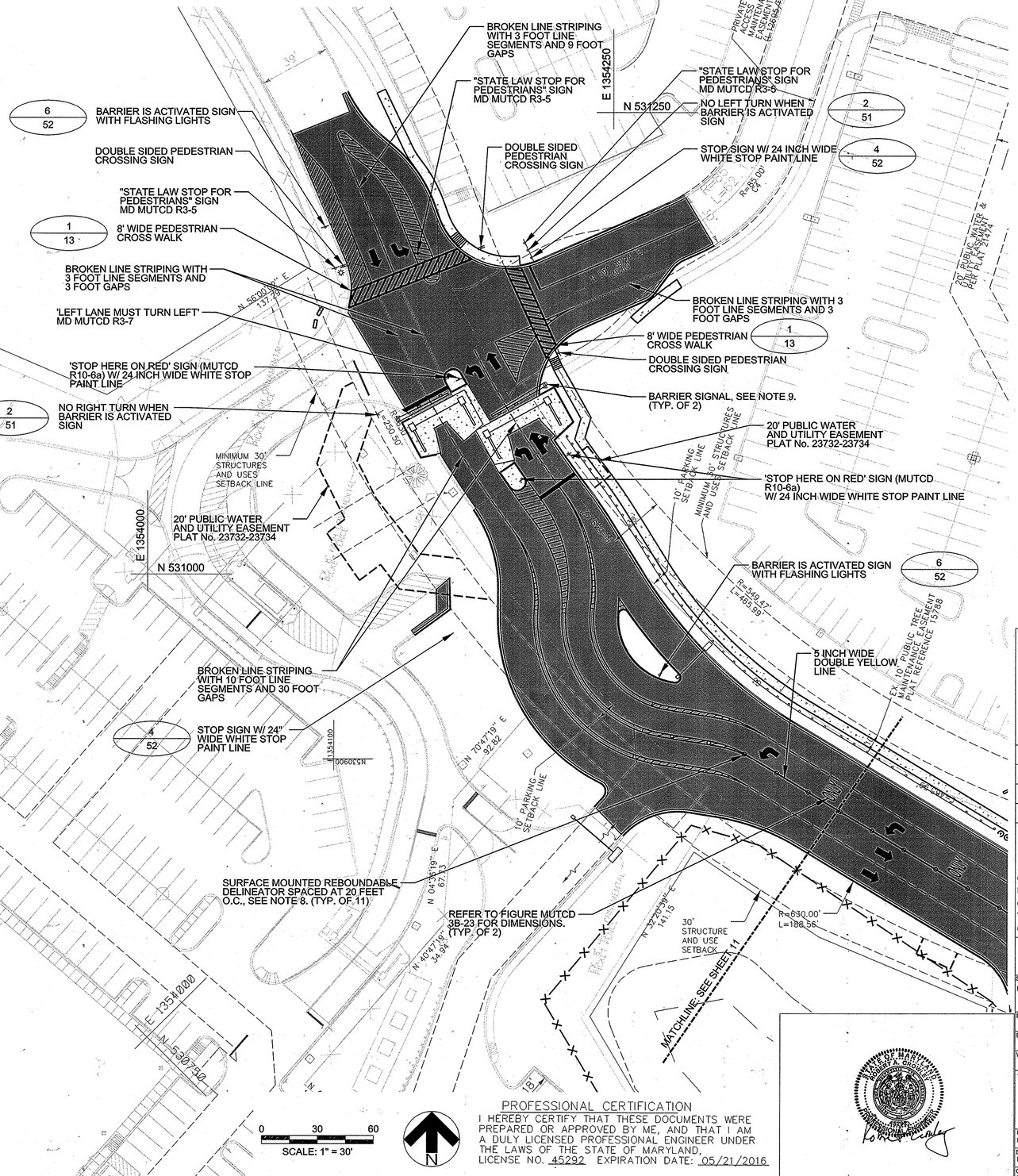
1. ALL STRIPING UNLESS OTHERWISE NOTED SHALL BE 4" THICK, WHITE, ANGLED AT 45°, AND SPACED AT 3' ON CENTER.
2. STOP PAINT LINES ARE TO BE IN LINE WITH STOP SIGNS AND SHALL EXTEND THE WIDTH OF THE LANE.
3. ALL 12"x18" SIGNS SHALL BE MOUNTED ON U-CHANNEL POSTS.
4. ALL SIGNS (NOT INCLUDING SIGNS WITH FLASHING YELLOW BEACONS) GREATER THAN 12"x18" SIGNS SHALL BE MOUNTED ON BREAKAWAY TUBULAR STEEL SIGN SUPPORTS IN ACCORDANCE WITH MDSHA STD. 802.04, UNLESS NOTED OTHERWISE.
5. NOT USED.
6. ALL DIMENSIONS ARE TO INSIDE FACE OF CURB UNLESS NOTED OTHERWISE.
7. REFER TO MUTCD SECTION 3B.20 FOR PAVEMENT WORD, SYMBOL, AND ARROW MARKINGS.
8. SURFACE MOUNTED REBOUNDABLE DELINEATOR CONSISTING OF HDPE TUBE AND REBOUNDABLE BASE FASTENED TOGETHER. CONTRACTOR MAY SUBMIT AN ALTERNATE PRODUCT TO COR AS AN APPROVED EQUAL FOR REVIEW AND APPROVAL. CONTRACTOR SHALL INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
   THREE D TRAFFICWORKS
   BOOMERANG SURFACE MOUNTED REBOUNDABLE DELINEATOR
   TUBE WIDTH: 3 INCH ROUND
   TUBE HEIGHT: 48 INCHES
   COLOR: YELLOW
9. BARRIER SIGNAL SHALL HAVE ONE (1) SIGNAL PER LANE, CENTERED ABOVE TRAVEL LANE, MOUNTED OVERHEAD ON MAST ARM. BARRIER SIGNALS SHALL BE THREE (3)-PHASE, 12 INCH SIGNALS. THE THREE (3) PHASES SHALL BE RED-YELLOW-GREEN WITH A RESTING PHASE ON GREEN.



1 — CROSSWALK AND STOP LINE DETAIL
SCALE: NONE

PAVEMENT LEGEND:

- CONCRETE PAVEMENT — 5/53
- ASPHALT PAVEMENT — 2/53



0 30 60
SCALE: 1" = 30'

N

PROFESSIONAL CERTIFICATION
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STATE OF MARYLAND — ROBERT A. CROWLEY — 45292 — PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5.6.16
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5-11-16
DIRECTOR	DATE 5.16.16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 216-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE
PAVING, PAVEMENT MARKING, AND SIGNAGE PLAN

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY	DATE	13 OF 70
M. WERDER	04/04/2016	
CHK. BY	APPROVED	
R. CROWLEY		

SDP-16-005

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SHEET NOTES:

1. REFER TO SHEET 48 FOR CURB RADII TABLES AND CONSTRUCTION BASELINE DATA.
2. THE SYMBOL (8) DENOTES THE NUMBER OF PARKING SPACES.
3. ALL COORDINATES & DIMENSIONS ARE TO INSIDE FACE OF CURB, UNLESS NOTED OTHERWISE.

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CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-16-16

DIRECTOR — DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

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OWNER/DEVELOPER:
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SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

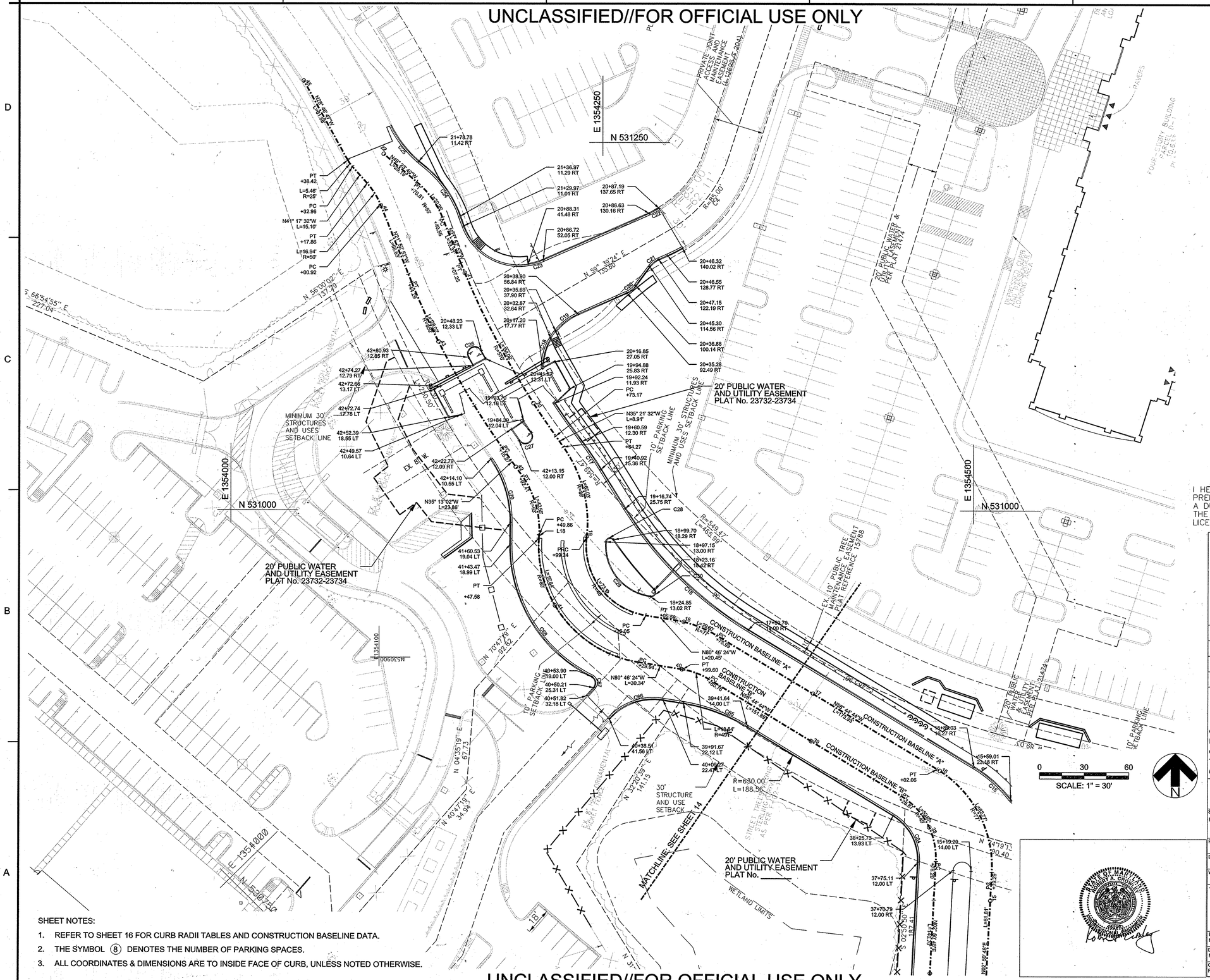
PLAT #	ZONE	GRID
15786	PEC	20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

TITLE

ROADWAY ALIGNMENT PLAN

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY M. WERDER	DATE 04/04/2016	14 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005



SHEET NOTES:

1. REFER TO SHEET 16 FOR CURB RADII TABLES AND CONSTRUCTION BASELINE DATA.
2. THE SYMBOL (8) DENOTES THE NUMBER OF PARKING SPACES.
3. ALL COORDINATES & DIMENSIONS ARE TO INSIDE FACE OF CURB, UNLESS NOTED OTHERWISE.

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APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5.6.16
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5-11-16
DIRECTOR	DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE: ROADWAY ALIGNMENT PLAN

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY M. WERDER	DATE 04/04/2016	15 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005

CONSTRUCTION BASELINE DATA

CONSTRUCTION BASELINE "A"				
STATION	TANGENT/CURVE DATA		NORTHING	EASTING
10+00.00	L = 36.58'	N74° 19' 12.55"W	530743.7809	1354809.8107
10+36.58	R = 60.00' L = 95.16'	D = 090°52'27.36" T = 60.92'	530753.6671	1354774.5918
10+36.58	R = 60.00' L = 95.16'	D = 090°52'27.36" T = 60.92'	530753.6671	1354774.5918
11+31.74	L = 72.96'	S14° 48' 20.09"W	530711.2323	1354700.3682
12+04.71	R = 60.00' L = 94.27'	D = 090°01'00.40" T = 60.02'	530640.6921	1354681.7233
12+04.71	R = 60.00' L = 94.27'	D = 090°01'00.40" T = 60.02'	530640.6921	1354681.7233
12+98.97	L = 56.80'	N75° 10' 39.51"W	530598.0211	1354608.3660
13+55.77	R = 60.00' L = 81.71'	D = 078°01'27.48" T = 48.61'	530612.5518	1354553.4564
13+55.77	R = 60.00' L = 81.71'	D = 078°01'27.48" T = 48.61'	530612.5518	1354553.4564
14+37.48	L = 81.81'	N02° 50' 47.97"E	530673.5350	1354508.8798
15+19.29	R = 77.00' L = 82.77'	D = 061°35'31.81" T = 45.89'	530755.2418	1354512.9427
15+19.29	R = 77.00' L = 82.77'	D = 061°35'31.81" T = 45.89'	530755.2418	1354512.9427
16+02.06	L = 173.93'	N58° 44' 43.84"W	530824.8909	1354475.9884
17+75.99	R = 77.00' L = 29.60'	D = 022°01'39.90" T = 14.99'	530915.1319	1354327.3020
18+05.59	L = 20.45'	N80° 46' 23.74"W	530925.3106	1354299.6977
18+26.05	R = 48.00' L = 73.19'	D = 087°22'00.74" T = 45.84'	530928.5904	1354279.5073
18+26.05	R = 48.00' L = 73.19'	D = 087°22'00.74" T = 45.84'	530928.5904	1354279.5073
18+99.24	R = 89.00' L = 65.03'	D = 041°51'50.79" T = 34.04'	530981.4810	1354239.5212
18+99.24	R = 89.00' L = 65.03'	D = 041°51'50.79" T = 34.04'	530981.4810	1354239.5212
19+64.27	L = 8.91'	N35° 21' 31.60"W	531043.0683	1354223.6777
19+73.17	R = 570.00' L = 134.08'	D = 013°28'38.64" T = 67.35'	531050.3321	1354218.5235
19+73.17	R = 570.00' L = 134.08'	D = 013°28'38.64" T = 67.35'	531050.3321	1354218.5235
21+07.25	L = 33.31'	N21° 52' 52.96"W	531167.7569	1354154.4480
21+40.56	R = 63.00' L = 30.25'	D = 027°30'46.68" T = 15.42'	531198.6646	1354142.0348
21+40.56	R = 63.00' L = 30.25'	D = 027°30'46.68" T = 15.42'	531198.6646	1354142.0348
21+70.81	L = 29.19'	N49° 23' 39.64"W	531223.0155	1354124.5770
22+00.00			531242.0122	1354102.4176

CONSTRUCTION BASELINE "C"				
STATION	TANGENT/CURVE DATA		NORTHING	EASTING
50+00.00	L = 35.07'	S77° 30' 18.02"E	530472.3098	1354565.9828
50+35.07	R = 131.00' L = 82.17'	D = 035°56'17.66" T = 42.49'	530464.7219	1354600.2235
51+17.24	L = 4.95'	S41° 34' 00.36"E	530423.7422	1354669.8931
51+22.19	R = 131.03' L = 84.77'	D = 037°03'56.93" T = 43.93'	530420.0364	1354673.1793
51+22.19	R = 131.03' L = 84.77'	D = 037°03'56.93" T = 43.93'	530420.0364	1354673.1793
52+06.96	L = 20.99'	S04° 12' 07.44"E	530343.3783	1354705.7667
52+27.96	R = 101.00' L = 58.09'	D = 032°57'09.04" T = 29.87'	530322.4401	1354707.3050
52+27.96	R = 101.00' L = 58.09'	D = 032°57'09.04" T = 29.87'	530322.4401	1354707.3050
52+86.04	L = 13.96'	S28° 45' 01.60"W	530266.4588	1354695.1256
53+00.00			530254.2225	1354688.4124

CONSTRUCTION BASELINE "B"				
STATION	TANGENT/CURVE DATA		NORTHING	EASTING
30+00.00	L = 37.88'	N74° 19' 12.55"W	530698.5308	1354797.1093
30+37.88	R = 26.00' L = 41.24'	D = 090°52'27.36" T = 26.40'	530708.7690	1354760.6364
30+37.88	R = 26.00' L = 41.24'	D = 090°52'27.36" T = 26.40'	530708.7690	1354760.6364
30+79.12	L = 77.51'	S14° 48' 20.09"W	530690.3806	1354728.4728
31+56.63	R = 136.00' L = 67.14'	D = 028°17'10.65" T = 34.27'	530615.4451	1354708.6662
31+56.63	R = 136.00' L = 67.14'	D = 028°17'10.65" T = 34.27'	530615.4451	1354708.6662
32+23.77	L = 41.21'	S13° 28' 50.56"E	530548.9876	1354707.8978
32+64.98	R = 40.00' L = 80.97'	D = 115°58'32.55" T = 63.98'	530508.9140	1354717.5044
32+64.98	R = 40.00' L = 80.97'	D = 115°58'32.55" T = 63.98'	530508.9140	1354717.5044
33+45.95	L = 115.32'	N77° 30' 18.02"W	530460.5367	1354669.9523
34+61.26	R = 93.00' L = 96.35'	D = 059°21'37.31" T = 53.00'	530485.4856	1354557.3682
34+61.26	R = 93.00' L = 96.35'	D = 059°21'37.31" T = 53.00'	530485.4856	1354557.3682
35+57.61	L = 58.83'	N18° 08' 40.70"W	530547.3212	1354489.1138
36+16.45	R = 52.00' L = 19.05'	D = 020°59'28.67" T = 9.63'	530603.2286	1354470.7922
36+35.50	L = 140.70'	N02° 50' 47.97"E	530622.0047	1354468.2706
37+76.20	R = 49.00' L = 52.67'	D = 061°35'31.81" T = 29.21'	530762.5310	1354475.2582
37+76.20	R = 49.00' L = 52.67'	D = 061°35'31.81" T = 29.21'	530762.5310	1354475.2582
38+28.87	L = 151.89'	N58° 44' 43.84"W	530806.8532	1354451.7418
39+80.76	R = 49.00' L = 18.84'	D = 022°01'39.90" T = 9.54'	530885.6620	1354321.8918
39+99.60	L = 30.34'	N80° 46' 23.74"W	530892.1394	1354304.3254
40+29.94	R = 80.00' L = 117.64'	D = 084°15'08.07" T = 72.35'	530897.0044	1354274.3764
40+29.94	R = 80.00' L = 117.64'	D = 084°15'08.07" T = 72.35'	530897.0044	1354274.3764
41+47.58	L = 2.28'	N03° 28' 44.33"E	530980.8239	1354207.3512
41+49.86	R = 63.00' L = 42.55'	D = 038°41'46.40" T = 22.12'	530983.0968	1354207.4894
41+49.86	R = 63.00' L = 42.55'	D = 038°41'46.40" T = 22.12'	530983.0968	1354207.4894
41+92.41	L = 23.86'	N35° 13' 02.07"W	531023.2505	1354196.0747
42+16.27	R = 550.00' L = 128.02'	D = 013°20'09.59" T = 64.30'	531042.7463	1354182.3132
42+16.27	R = 550.00' L = 128.02'	D = 013°20'09.59" T = 64.30'	531042.7463	1354182.3132
43+44.29	L = 56.63'	N21° 52' 52.48"W	531154.9431	1354121.2704
44+00.92	R = 50.00' L = 16.94'	D = 019°24'40.02" T = 8.55'	531207.4917	1354100.1659
44+17.86	L = 15.10'	N41° 17' 32.49"W	531221.8525	1354091.3356
44+32.96	R = 25.00' L = 5.46'	D = 012°30'45.31" T = 2.74'	531233.1976	1354081.3714
44+38.42	L = 61.58'	N28° 46' 47.18"W	531237.6591	1354078.2433
45+00.00			531291.6364	1354048.5938

CONSTRUCTION BASELINE "D"				
STATION	TANGENT/CURVE DATA		NORTHING	EASTING
60+00.00	L = 175.00'	N74° 19' 12.55"W	530743.6050	1354721.9861
61+75.00			530790.9008	1354553.4984

CURB LINE RADII DATA

CURB TABLE			
CURB #	LENGTH	RADIUS	DELTA
C1	55.27	75.00	042.22
C2	18.04	25.00	041.35
C3	7.85	5.00	090.00
C4	7.85	5.00	090.00
C5	7.85	5.00	090.00
C6	8.29	5.00	095.04
C7	26.30	15.00	100.45
C8	13.54	75.00	010.35
C9	42.99	40.00	061.57
C10	9.88	20.00	028.30
C11	42.97	40.00	061.55
C12	36.80	91.00	023.17
C13	7.28	5.00	083.38
C14	7.28	5.00	083.46
C15	33.42	91.00	021.04
C16	118.11	250.00	027.07
C17	22.90	250.00	005.25
C18	46.60	40.00	066.76
C19	46.60	40.00	066.76
C20	7.85	15.00	030.00
C21	7.85	15.00	030.00
C22	7.77	69.00	006.45
C23	65.63	40.00	094.00
C24	39.65	75.00	030.29
C25	31.07	75.00	023.73
C26	7.80	5.00	089.44
C27	15.71	5.00	180.00
C28	7.40	3.00	141.24
C29	53.04	35.00	086.83
C30	7.40	3.00	141.24
C31	18.85	6.00	180.00
C32	9.42	6.00	090.00
C33	18.86	6.00	180.13
C34	18.85	6.00	180.00
C35	15.71	5.00	180.00
C36	15.71	5.00	180.00
C37	11.85	3.75	181.01
C38	74.05	150.00	028.29
C39	15.74	10.00	090.17
C40	27.63	15.00	105.56

CURB TABLE			
CURB #	LENGTH	RADIUS	DELTA
C41	5.55	25.00	012.73
C42	19.89	10.00	113.98
C43	16.06	10.00	091.99
C44	30.97	75.00	023.66
C45	7.39	25.00	016.94
C46	12.10	81.00	008.56
C47	21.46	10.00	122.97
C48	14.05	55.00	014.64
C49	10.09	55.00	010.51
C50	3.14	1.00	180.00
C51	3.14	1.00	180.00
C52	39.65	25.00	090.87
C53	49.39	150.00	018.86
C54	50.97	150.00	019.47
C55	61.06	51.92	067.38
C56	54.57	51.92	060.22
C57	7.74	3.00	147.84
C58	56.74	87.00	037.36
C59	57.51	100.00	032.95
C60	84.78	130.00	037.36
C61	81.54	130.00	035.94
C62	108.78	105.00	059.36
C63	23.45	64.00	020.99
C64	37.65	35.00	061.64
C65	46.13	120.00	022.03
C66	40.01	40.00	057.31
C67	9.21	5.00	105.53
C68	53.19	99.00	030.78
C70	45.93	75.00	035.08

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. 45292 EXPIRATION DATE: 05/21/2016

STATE OF MARYLAND — ROBERTA CROWLEY — 45292 — REGISTERED PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-11-16

DIRECTOR — DATE 5-10-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 216-1000

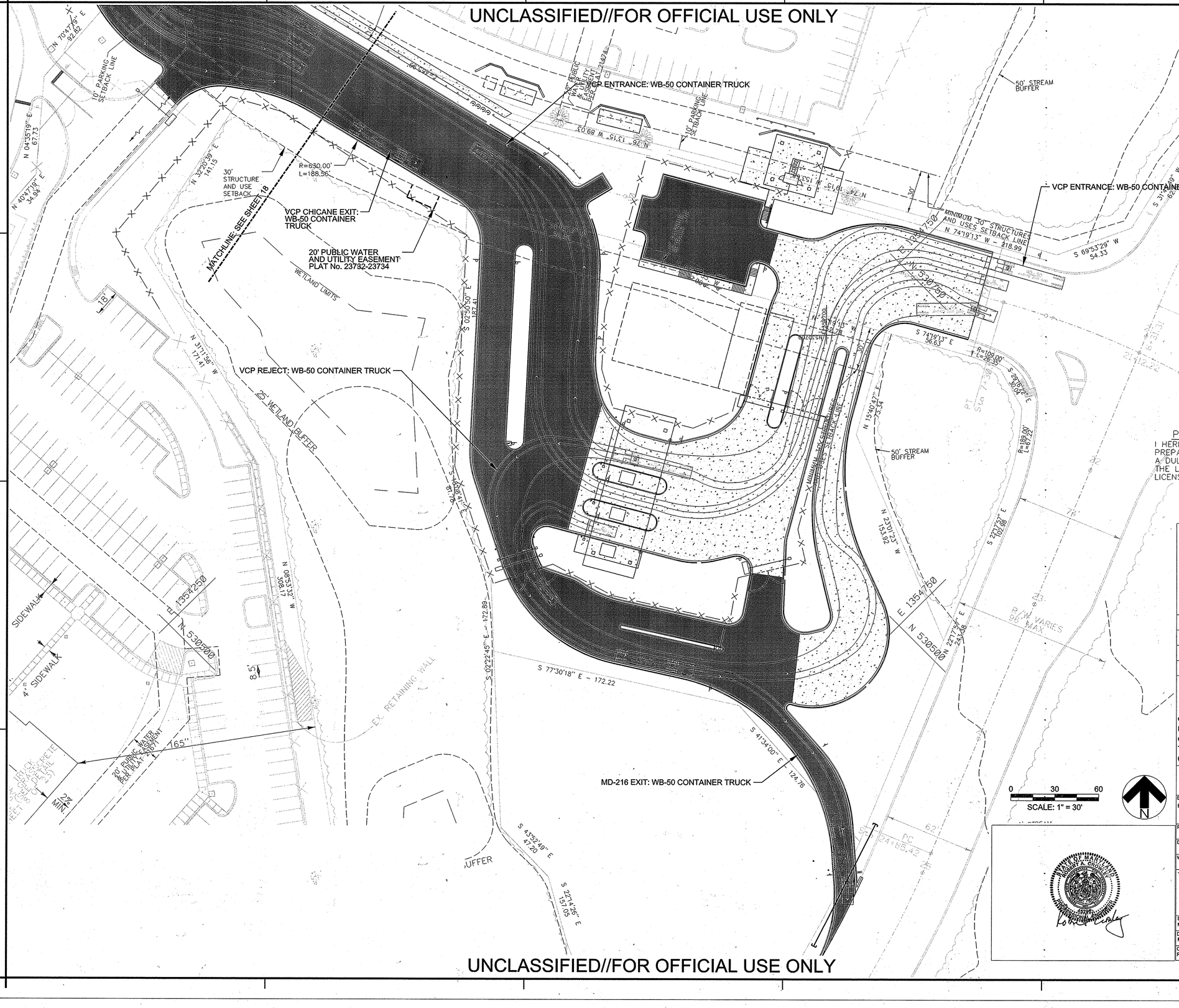
SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

TITLE: ROADWAY ALIGNMENT SCHEDULE

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY M. WERDER	DATE 04/04/2016	16 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005



PROFESSIONAL CERTIFICATION

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APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	5-6-16 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	5-16-16 DATE
DIRECTOR	5-16-16 DATE

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

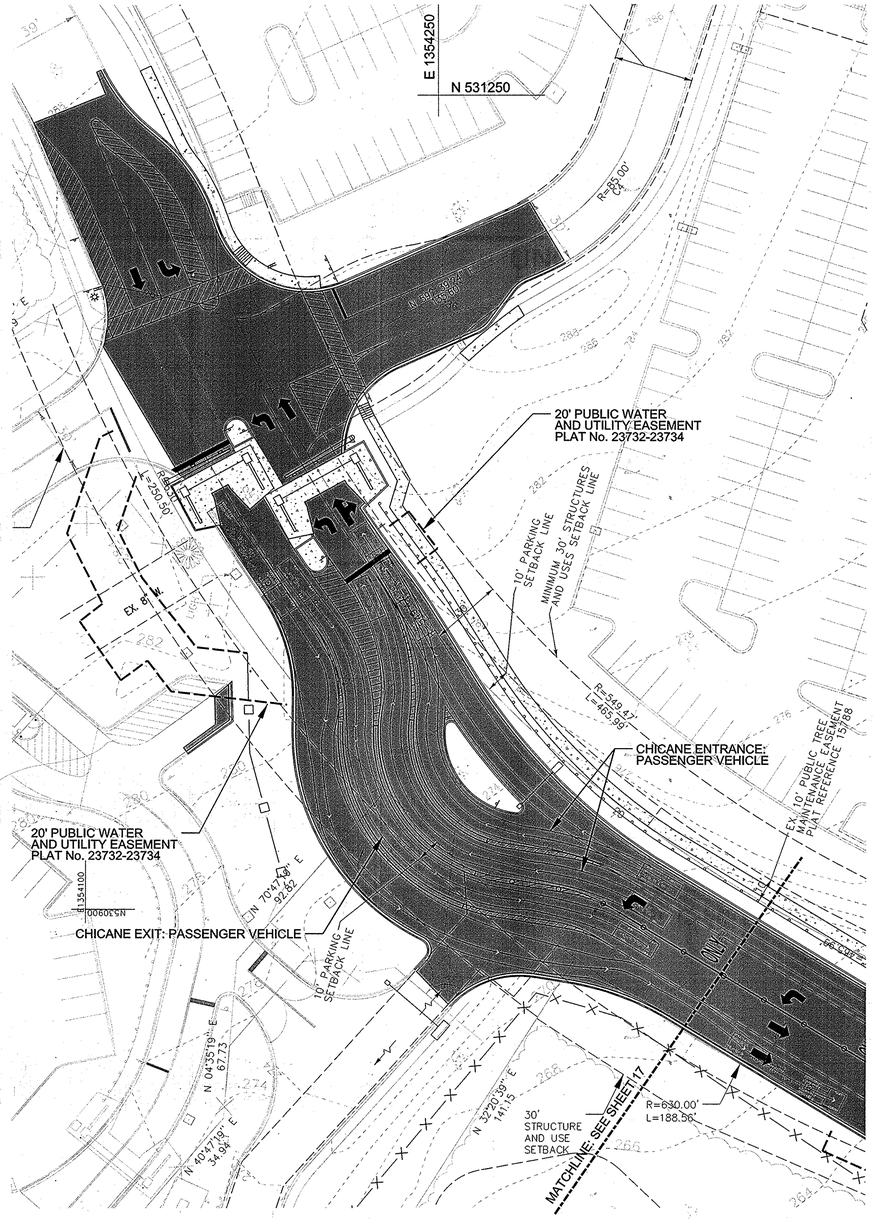
SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

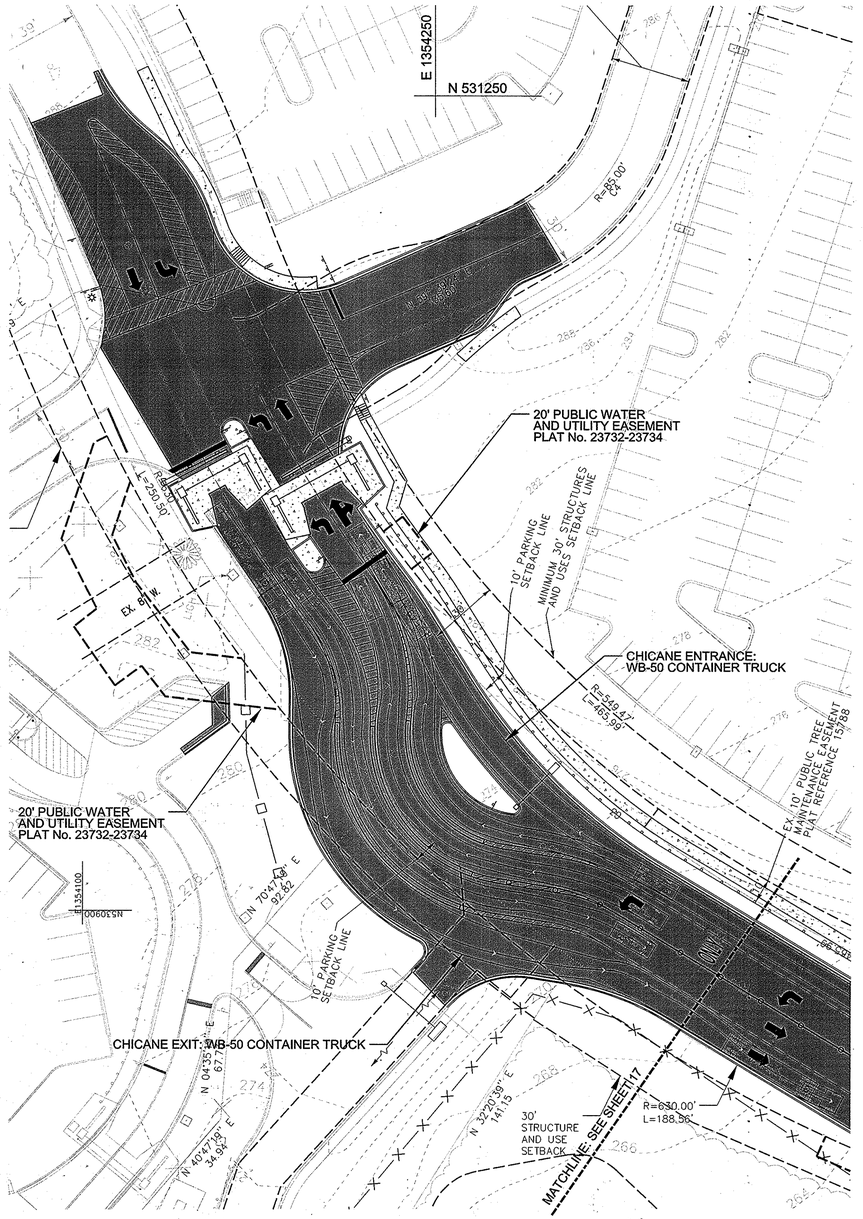
TITLE: SITE VEHICLE MANEUVERS PLAN

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY M. WERDER	DATE 04/04/2016	17 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005



PASSENGER VEHICLE



WB-50 CONTAINER TRUCK

N

0 30 60

SCALE: 1" = 30'

PROFESSIONAL CERTIFICATION

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STATE OF MARYLAND — ROBERT A. CROWLEY — 45292 — PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5-4-16
DIRECTOR	DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA. 22201
(571) 218-1000

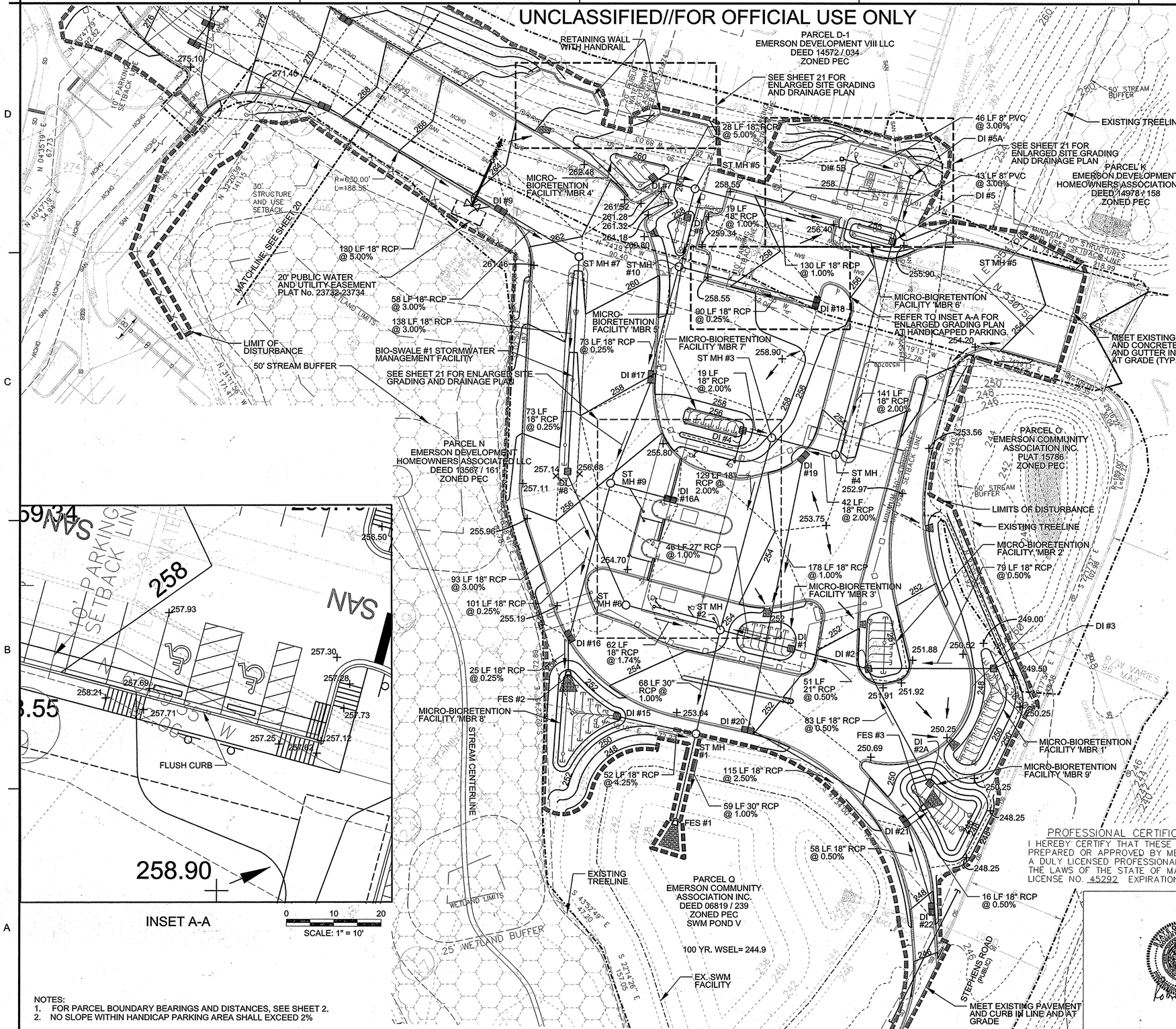
SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 16S / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

TITLE: SITE VEHICLE MANEUVERS PLAN

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY M. WERDER	DATE 04/04/2016	18 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005



STORM STRUCTURE SCHEDULE

ID	DETAIL	RIM	INVERT IN	INVERT OUT
DI 1	2 / SHEET 54**	253.00	240.03 248.33 (6" U/D)	239.93
DI 2	4 / SHEET 54	252.00	240.39 (S) 243.83 (E) 247.33 (6" U/D)	240.29
DI 2A	4 / SHEET 54	246.00	241.33 (6" U/D)	240.80
DI 3	4 / SHEET 54	249.00	244.33 (6" U/D)	244.23
DI 4	4 / SHEET 54	257.00	252.33 (6" U/D) 252.60 (8" PVC)	252.23
DI 5	5 / SHEET 54	256.00	249.71 (N) 249.54 (W) 251.44 (6" U/D)	248.31
DI 5A	6 / SHEET 58	258.05	251.10	251.00
DI 5B	6 / SHEET 58	258.10	–	252.48
DI 6	4 / SHEET 54	259.00	254.33 (6" U/D)	251.13
DI 7	4 / SHEET 54	261.00	256.33 (6" U/D)	254.33
DI 8	4 / SHEET 54	256.50	250.07 252.50 (6" U/D)	249.97
DI 9	1 / SHEET 54	263.00	256.05	255.95
DI 15	4 / SHEET 54	252.00	247.33 (6" U/D)	247.21
DI 16	1 / SHEET 54	254.75	251.16	251.06
DI 16A	1 / SHEET 54	254.60	251.71	251.61
DI 17	1 / SHEET 54	258.00	251.80	251.70
DI 18	1 / SHEET 54	257.12	–	252.31
DI 19	1 / SHEET 54	253.50	–	249.94
DI 20	1 / SHEET 54	252.00	248.16	248.06
DI 21	1 / SHEET 54	249.50	245.18 (W) 245.18 (E)	245.08
DI 22	1 / SHEET 54	247.75	–	245.47
ST MH 1	2 / SHEET 54	252.00	238.69 (N) 245.00 (W)	238.59
ST MH 2	2 / SHEET 54	254.25	241.87 (N) 239.47 (E) 246.00 (W) 252.07 (8" PVC)	239.37
ST MH 3	2 / SHEET 54	257.00	251.65 (W) 244.55 (E)	244.45
ST MH 4	2 / SHEET 54	253.90	245.49	245.39
ST MH 5	2 / SHEET 54	259.50	253.23 (W) 250.94 (S)	250.84
ST MH 6	2 / SHEET 54	255.20	247.18	247.08
ST MH 7	2 / SHEET 54	261.50	254.31	254.21
ST MH 9	2 / SHEET 54	255.80	251.52 (E) 251.52 (N)	251.42
ST MH 10	2 / SHEET 54	259.00	252.08	251.98
TD 1	7 / SHEET 55	254.60	–	251.78
TD 2	7 / SHEET 55	254.60	–	251.56
TD 3	7 / SHEET 55	254.60	–	251.68
FES 1	6 / SHEET 55	–	–	238.00
FES 2	6 / SHEET 55	–	–	251.00
FES 3	6 / SHEET 55	–	–	245.00

** NOTE: PROVIDE 48" DIAMETER MANHOLE PER DETAIL 2 ON SHEET 54 WITH 2'-7" SQUARE OPENING TO ACCEPT A SINGLE WR FRAME & GRATE, IN LIEU OF CIRCULAR MANHOLE COVER.

NOTES:
1. FOR PARCEL BOUNDARY BEARINGS AND DISTANCES, SEE SHEET 2.
2. NO SLOPE WITHIN HANDICAP PARKING AREA SHALL EXCEED 2%

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-16-16

DIRECTOR — DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 216-1000

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. 45292 EXPIRATION DATE: 05/21/2016

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

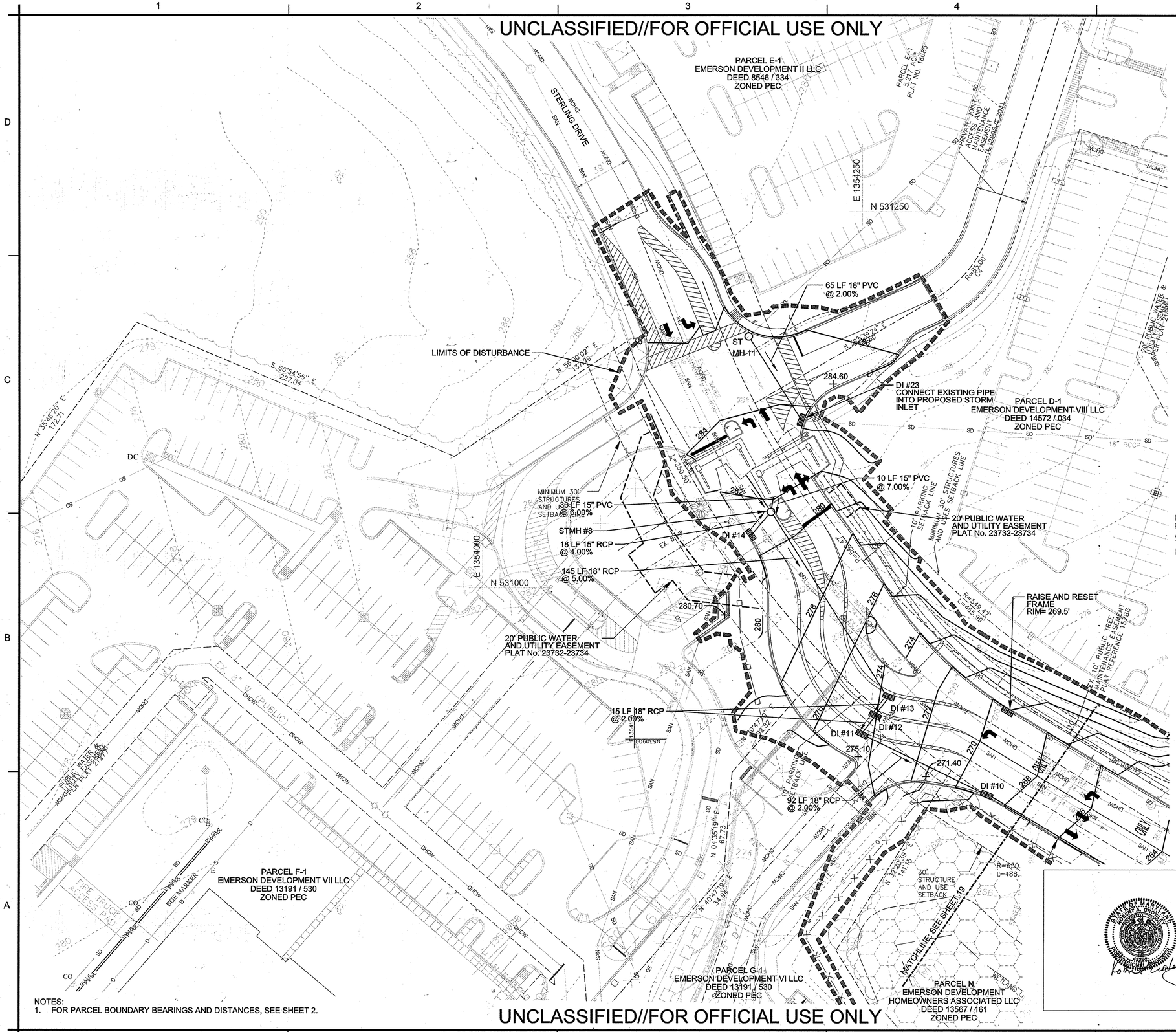
PLAT #	ZONE	GRID
15786	PEC	20
DEED: 11479 / 005	ELEC. DISTRICT: 6TH	
WATER CODE	SEWER CODE	

TITLE

STORMWATER MANAGEMENT
SITE GRADING & DRAINAGE PLAN

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY: M. WERDER	DATE: 04/04/2016	19 OF 70
CHK. BY: R. CROWLEY	APPROVED	

SDP-16-005



STORM STRUCTURE SCHEDULE				
ID	DETAIL	RIM	INVERT IN	INVERT OUT
DI 10	1 / SHEET 54	269.00	263.91	262.58
DI 11	7 / SHEET 59	274.50	265.85	265.75
DI 12	7 / SHEET 59	274.00	266.25	266.15
DI 13	7 / SHEET 59	273.75	266.65	266.55
DI 14	1 / SHEET 54	280.75	--	274.72
DI 23	1 / SHEET 54	283.75	280.00	279.90 (EX. 18" RCP)
ST MH 8	2 / SHEET 54	281.00	274.00 (N) 274.00 (NE) 274.00 (W)	273.90
ST MH 11	2 / SHEET 54	285.00	281.93 (EX. 18" RCP)	281.30

NOTES:

1. SPOT ELEVATIONS ALONG CURB LINE AREA AT BASE OF CURB.
2. PROVIDE DRAIN AND PIPE CONNECTION AT BOTTOM OF GRABNET PIT.

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. 45292 EXPIRATION DATE: 05/21/2016

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-4-16

DIRECTOR — DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
23732-23734 15786	PEC	20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

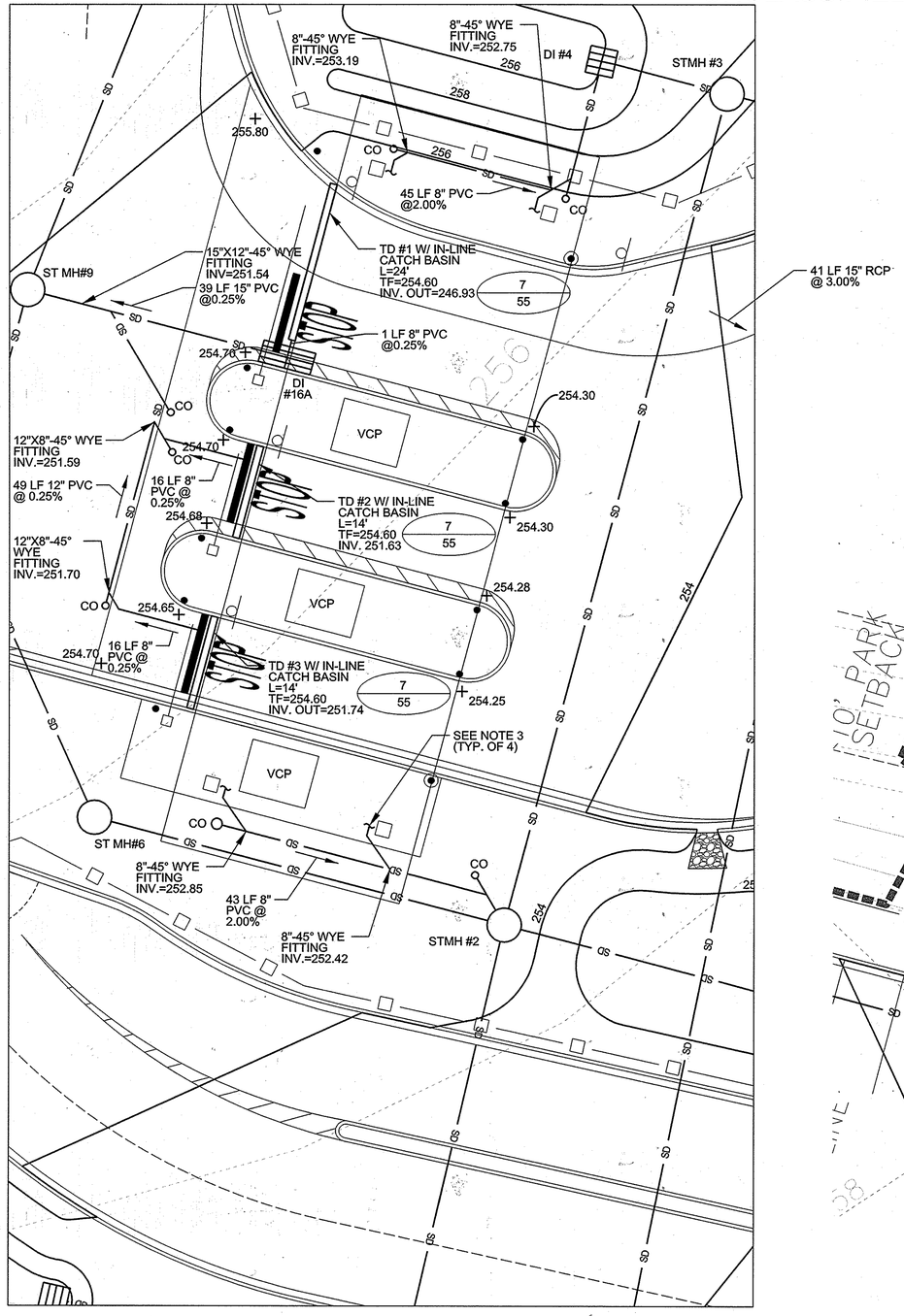
TITLE

STORMWATER MANAGEMENT
SITE GRADING & DRAINAGE PLAN

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY M. WERDER	DATE 04/04/2016	20 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005

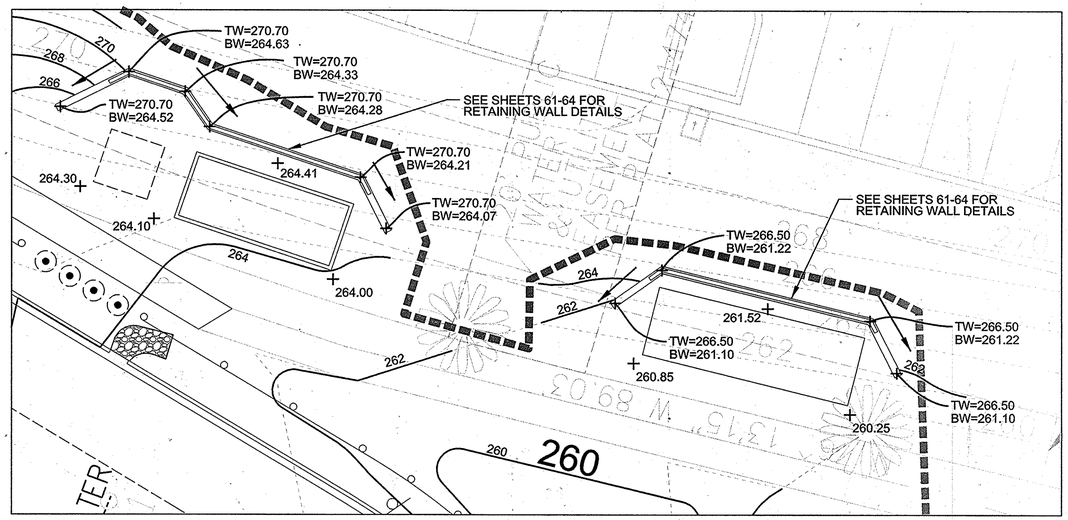
NOTES:
1. FOR PARCEL BOUNDARY BEARINGS AND DISTANCES, SEE SHEET 2.



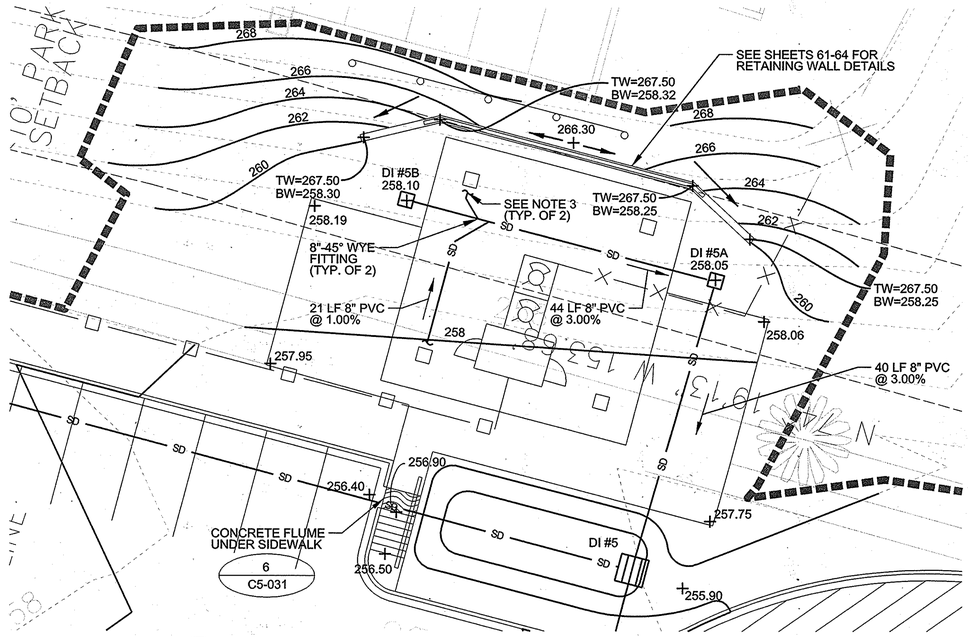
1 ENLARGED VCP GRADING PLAN
SCALE: 1"=10'

SHEET NOTES:

1. MAXIMUM SLOPE OF FINISHED GRADE AT VCP SHALL BE 1.00%
2. ALL HORIZONTAL PIPES BENDS SHALL BE 45° UNLESS NOTED OTHERWISE.
3. CONNECT TO ROOF DRAIN AT PEDESTRIAN CANOPY COLUMNS. INVERT IS 14 INCHES BELOW GRADE. SEE ARCHITECTURAL PLANS.
3. CONNECT TO ROOF DRAIN AT VCP CANOPY COLUMNS. INVERT IS 18 INCHES BELOW GRADE. SEE ARCHITECTURAL PLANS.
4. SEE SHEET 9 FOR STORM STRUCTURE SCHEDULE.



3 ENLARGED EQUIPMENT PADS GRADING PLAN
SCALE: 1"=10'



2 ENLARGED PEDESTRIAN ENTRANCE GRADING PLAN
SCALE: 1"=10'

PROFESSIONAL CERTIFICATION

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0 10 20
SCALE: 1" = 10'

N

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	5.6.16 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	5-11-16 DATE
DIRECTOR	5/16-16 DATE

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE
STORMWATER MANAGEMENT ENLARGED SITE GRADING AND DRAINAGE PLAN

DES. BY	SCALE	PROJ. No.
M. WERDER	1:10	
DRN. BY	DATE	21 OF 70
M. WERDER	04/04/2016	
CHK. BY	APPROVED	
R. CROWLEY		

SDP-16-005

STORM STRUCTURE SCHEDULE				
ID	DETAIL	RIM	INVERT IN	INVERT OUT
DI 1	1 / SHEET 23	251.50	240.75 (E)	240.65
DI 2	4 / SHEET 23	249.00	-	241.41

CURB INLET PROTECTION (TYP. OF 2) — 2/30

LIMITS OF DISTURBANCE

TEMPORARY ASPHALT BERM — 7/32

STABILIZED CONSTRUCTION ENTRANCE — 4/30

MATCHLINE, SEE SHEET 23

20' PUBLIC WATER AND UTILITY EASEMENT PLAT No. 23732-23734

30' STRUCTURE AND USE SETBACK

25' WETLAND BUFFER

50' STREAM BUFFER

STOCKPILE AREA

STERLING DRIVE

STEPHENS ROAD (PUBLIC ROAD, MAJOR COLLECTOR)

EARTH DIKE (TYPE A-2) DA = 0.59 ACRES — 1/32

DIVERSION FENCE — 5/32

SEDIMENT TRAP #1 TYPE: ST-1 DA = 1.55 ACRES — 1/31

REMOVABLE PUMPING STATION — 2/32

EARTH DIKE (TYPE A-2) DA = 0.56 ACRES — 1/32

RIPRAP INFLOW PROTECTION — 3/32

OUTLET PROTECTION (TYP.) — 5/30

PIPE END SECTION

BAFFLE BOARD — 4/32

56 LF 21" CMP @ 3%

SEQUENCE OF CONSTRUCTION

1. OBTAIN A GRADING PERMIT FOR THE PROPOSED WORK.
2. NOTIFY THE HOWARD COUNTY DEPARTMENT OF PERMITS AND LICENESES (DILP) AT LEAST 48 HOURS PRIOR TO BEGINNING WORK. (2 DAYS)
3. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE (SCE) AND ALL PERIMETER CONTROL DEVICES, INCLUDING SUPER SILT FENCE (SSF), DIVERSION FENCE (DF), AND INLET PROTECTION AS SHOWN ON THE PLANS. (ONE WEEK)
4. WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR, INSTALL SEDIMENT TRAP NO. 1, WITH REMOVABLE PUMPING STATION, AND EARTH DIKES. (ONE WEEK)
5. UPON COMPLETION OF THE SEDIMENT TRAPS AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, BEGIN CLEARING / GRUBBING AND DEMOLITION OPERATIONS ACROSS THE REMAINING SITE AREA. TEMPORARILIY STOCKPILE EXCAVATED MATERIAL IN THE DESIGNATED LOCATION. CONTINUE GRADING OPERATIONS TO BRING THE SITE TO PROPOSED GRADES STABILIZING PAVED AREAS WITH GRAVEL SUBBASE. PLACE SUPER SILT FENCE (SSF) AROUND ALL MICRO-BIORETENTION AREAS UPON CONSTRUCTION UNTIL SITE STABILIZATION IS ACHIEVED. (4 WEEKS)
6. TRENCH AND INSTALL SITE UTILITIES, INCLUDING STORM SEWER, DOMESTIC WATER, AND ELECTRICAL / TELECOMMUNICATIONS. INSTALL INLET PROTECTION AS INLETS ARE COMPLETED. (6 WEEKS)
7. BEGIN CONSTRUCTION OF THE CURBS AND SIDEWALKS ACROSS THE SITE AND PLACE ASPHALT AND CONCRETE PAVEMENT BASE COURSES. ADJUST DIVERSION FENCE AND EARTH DIKES AS NECESSARY TO MAINTAIN DRAINAGE TO SEDIMENT TRAP NO. 1. (4 WEEKS)
8. CONSTRUCT VEHICLE CHECK POINT (VCP). CONNECT ROOF DRAINS TO STORM SEWER SYSTEM. (3 WEEKS)
9. FINE GRADE THE SITE AND INSTALL PERMANENT SEED AND MULCH ON LAWN SAREAS. ESTABLISH A MINIMUM 70% COVER OF VEGETATIVE SPECIES IN THE PERVIOUS AREAS. (2 WEEKS)
10. UPON STABILIZATION OF THE SITE AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE THE SEDIMENT TRAP. REMOVE SOFT SUBBASE MATERIAL FROM POOL AREA PRIOR TO BACKFILLING WITH APPROPRIATE FILL/SOIL MATERIAL. BACKFILL THE TRAP AREA, AND INSTALL THE CONCRETE CURB, GRAVEL SUBBASE, AND ASPHALT PAVEMENT BASE COURSES IN THE TRAP AREA. (2 WEEKS)
11. PROCEED WITH FINAL PAVING OPERATIONS AND INSTALL THE SITE LANDSCAPING PER PLANS.
12. UPON FINAL STABILIZATION OF ALL REMAINING AREAS AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE THE REMAINING SEDIMENT CONTROL MEASURES AND STABILIZE ANY AREAS DISTURBED BY DOING SO.

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

SIGNATURE OF DEVELOPER — DATE 4/8/15
PRINT NAME BELOW SIGNATURE: James E. Kraft, II.

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

SIGNATURE OF ENGINEER — DATE 4/8/16
PRINT NAME BELOW SIGNATURE: Robert E. Crowley

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 4/19/16

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-4-16
DIRECTOR — DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

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. 45292 EXPIRATION DATE: 05/21/2016

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

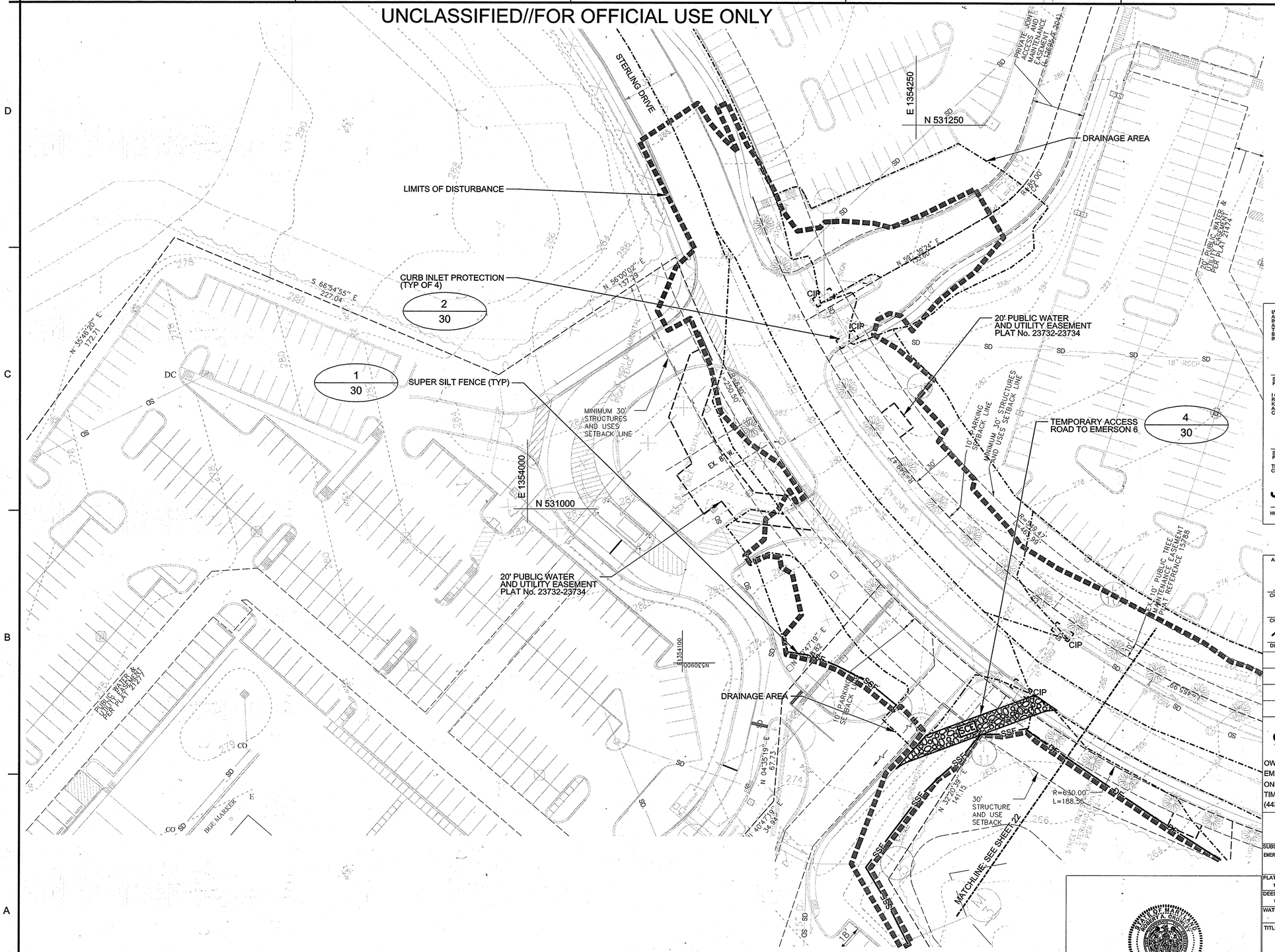
PLAT #	ZONE	GRID
15786	PEC	20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

TITLE
EROSION AND SEDIMENT CONTROL PLAN PHASE 1

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY M. WERDER	DATE 04/04/2016	22 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005

SCALE: 1" = 30'



0 30 60
SCALE: 1" = 30'

N

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SIGNATURE OF DEVELOPER — DATE: 4/8/16
PRINT NAME BELOW SIGNATURE
James F. Linnett, Jr.

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

SIGNATURE OF ENGINEER — DATE: 4/8/16
PRINT NAME BELOW SIGNATURE Robert Crowley

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

HOWARD SOIL CONSERVATION DISTRICT — DATE: 4/19/16

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE: 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE: 5-16-16
DIRECTOR — DATE: 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 216-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

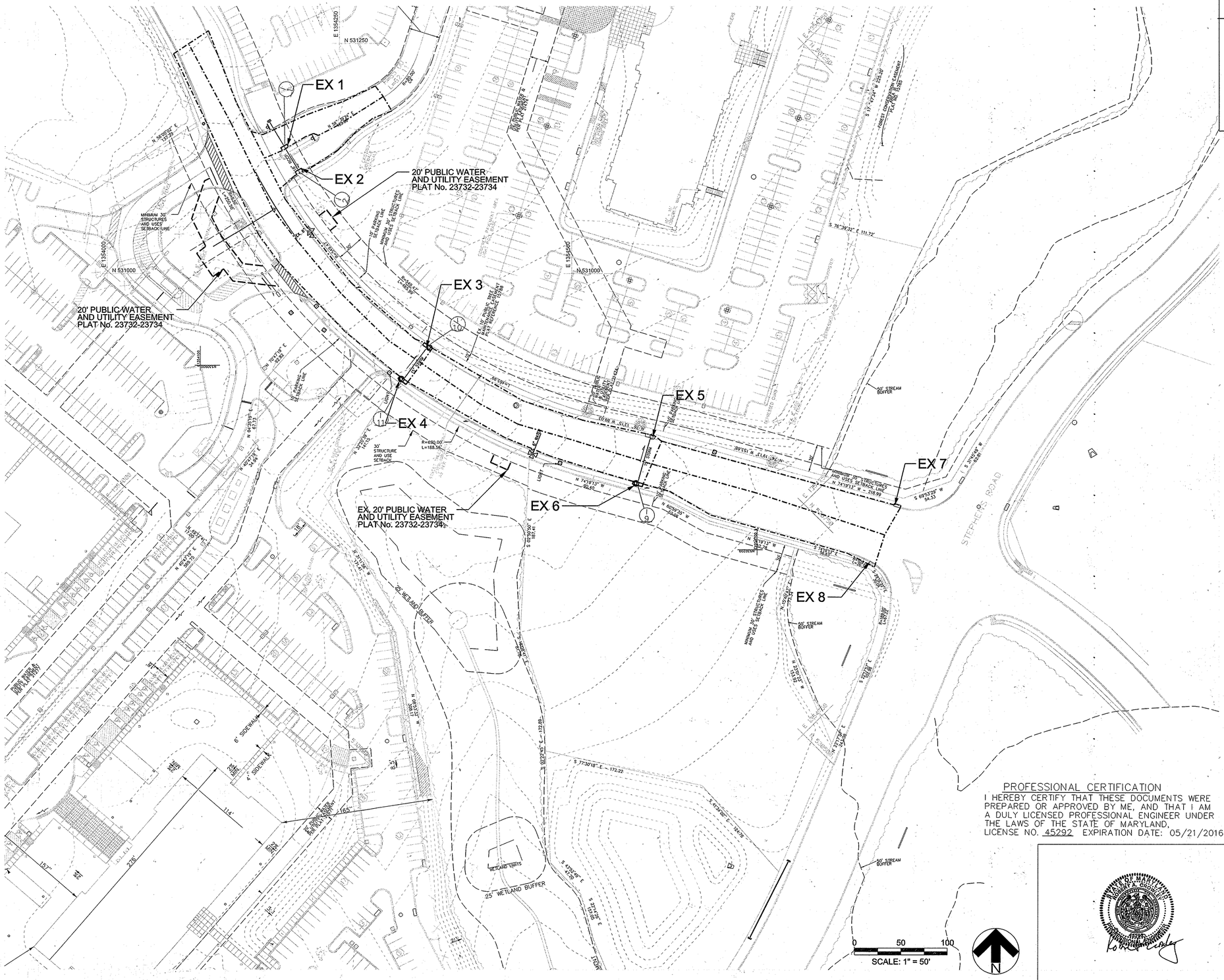
PLAT #	ZONE	GRID
15786	PEC	20
DEED: 11479 / 005	ELEC. DISTRICT: 6TH	
WATER CODE	SEWER CODE	

TITLE

EROSION AND SEDIMENT CONTROL PLAN PHASE 1

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY: M. WERDER	DATE: 04/04/2016	23 OF 70
CHK. BY: R. CROWLEY	APPROVED	

SDP-16-005



DRAINAGE ID	AREA (AC)
EX 1	0.069
EX 2	0.081
EX 3	0.176
EX 4	0.249
EX 5	0.157
EX 6	0.133
EX 7	0.176
EX 8	0.197

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-11-16

DIRECTOR — DATE 6-10-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

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SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

TITLE

EXISTING DRAINAGE MAP

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY M. WERDER	DATE 04/04/2016	24 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005

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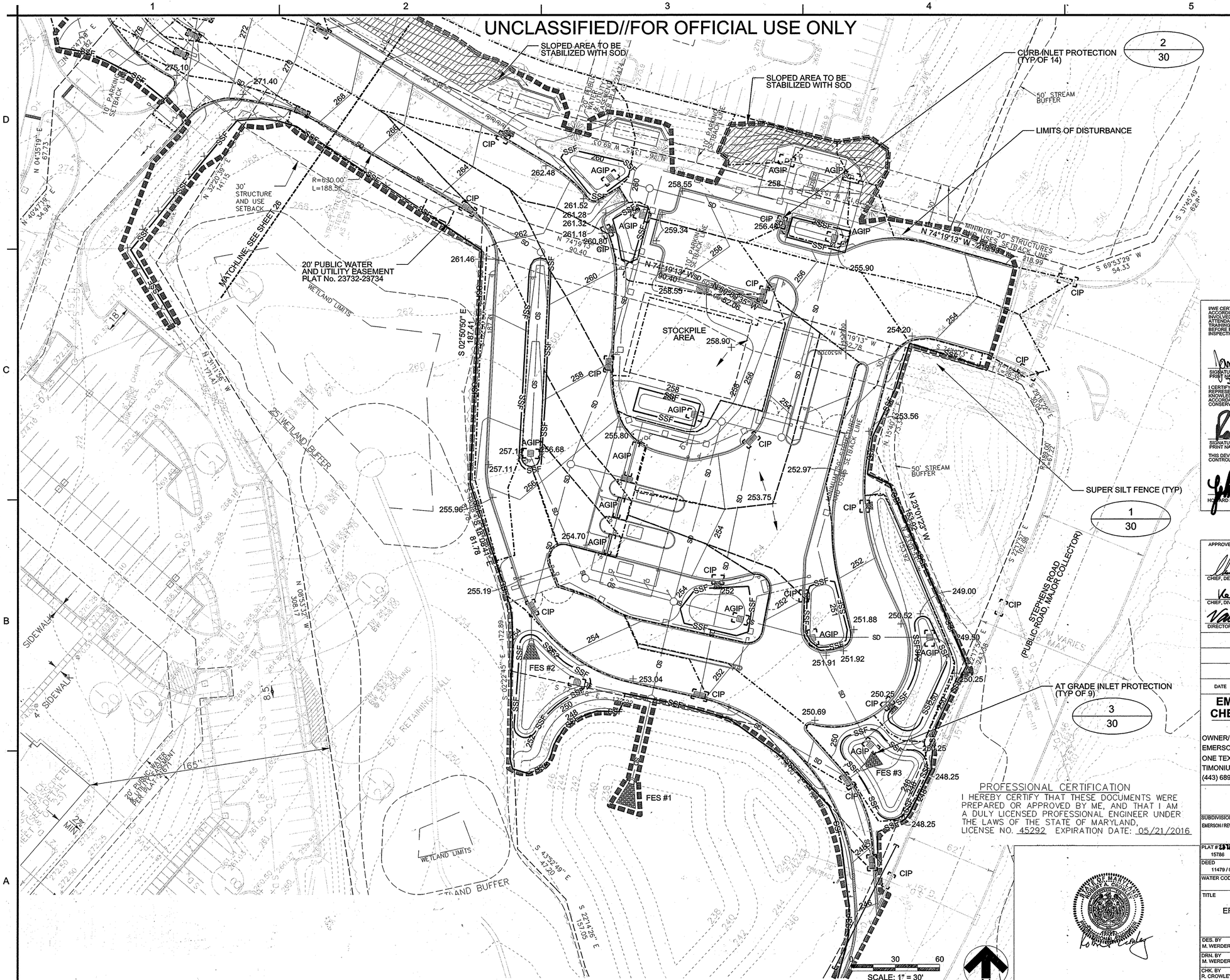

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SIGNATURE OF DEVELOPER — DATE 4/8/16
PRINT NAME BELOW SIGNATURE James R. Knode, Jr.

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

SIGNATURE OF ENGINEER — DATE 4/8/16
PRINT NAME BELOW SIGNATURE Robert Crowley

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 4/19/16

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-6-16
DIRECTOR — DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

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. 45292 EXPIRATION DATE: 05/21/2016

STATE OF MARYLAND — ROBERT A. CROWLEY — 45292 — PROFESSIONAL ENGINEER

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE

EROSION AND SEDIMENT CONTROL PLAN PHASE 2

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY M. WERDER	DATE 04/04/2016	25 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005

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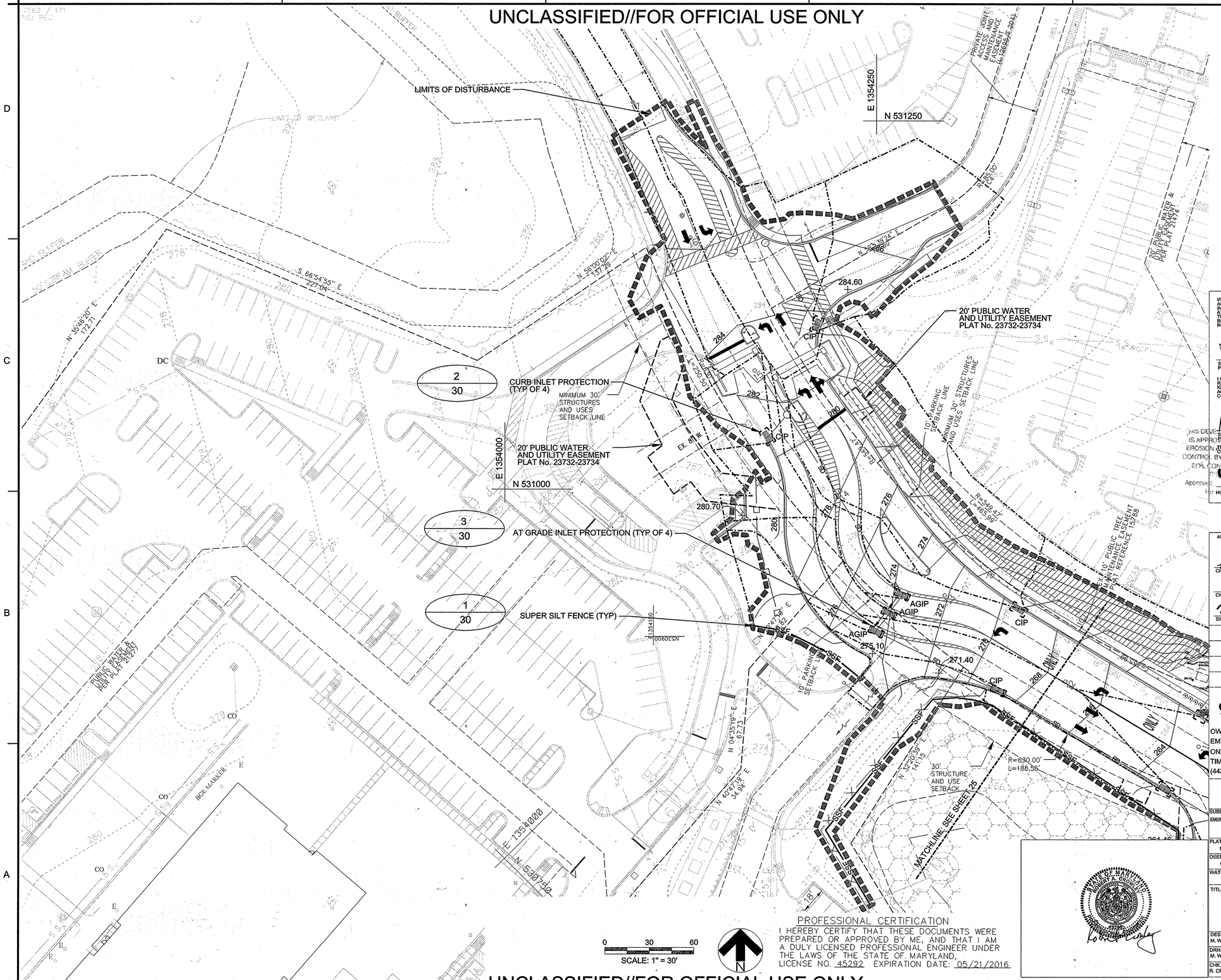

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SIGNATURE OF DEVELOPER PRINT NAME BELOW SIGNATURE James F. Knott, Jr. — DATE 4/8/16

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

SIGNATURE OF ENGINEER PRINT NAME BELOW SIGNATURE ROBERT CROWLEY — DATE 4/8/16

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 4/19/16

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-11-16

DIRECTOR — DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
23732-23734 15786	PEC	20

DEED	ELEC. DISTRICT
11479 / 005	6TH

WATER CODE	SEWER CODE

TITLE

EROSION AND SEDIMENT CONTROL PLAN PHASE 2

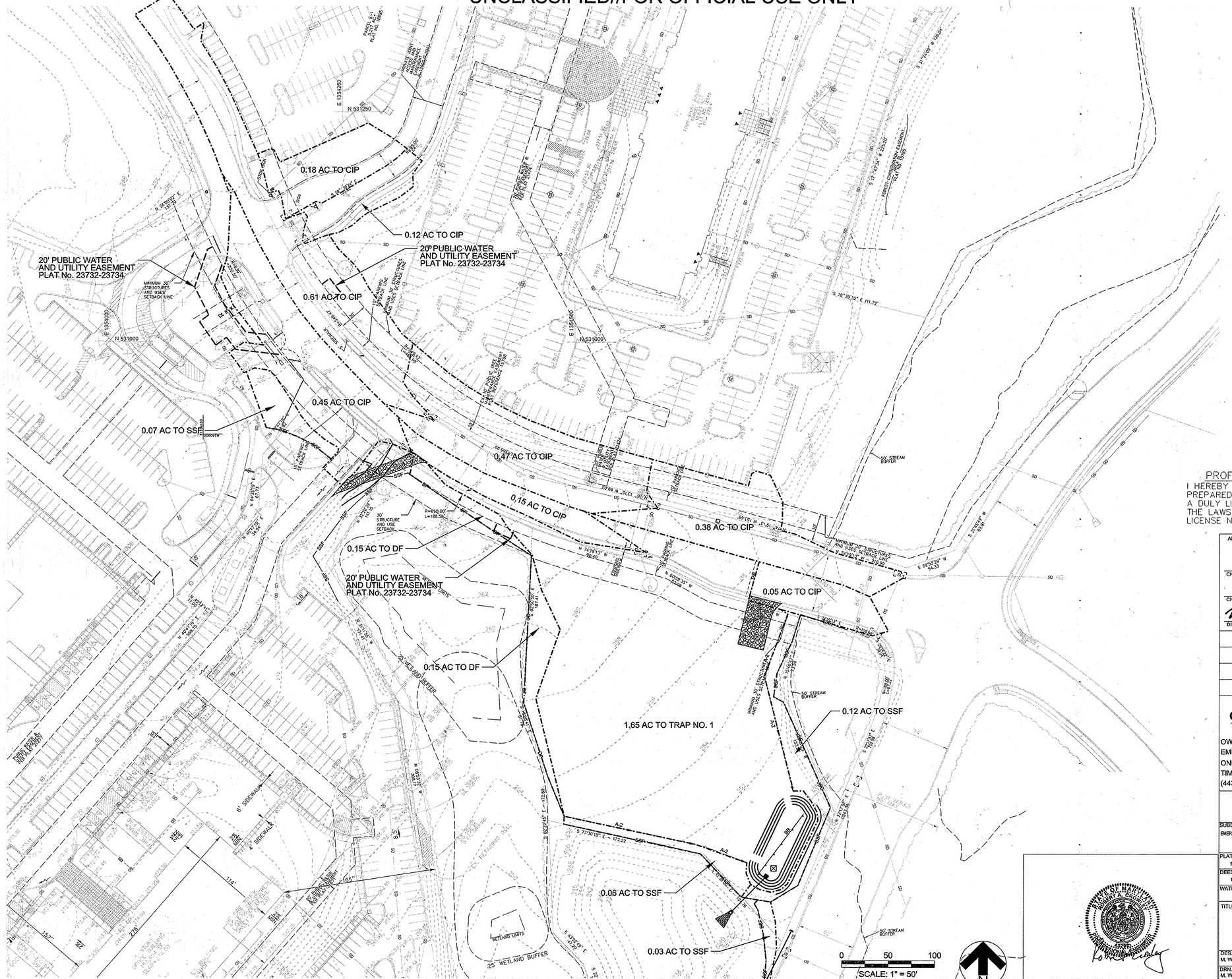
DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY M. WERDER	DATE 04/04/2016	26 OF 70
CHK. BY R. CROWLEY	APPROVED	

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. 45292 EXPIRATION DATE: 05/21/2016

STATE OF MARYLAND ROBERT A. CROWLEY 45292 PROFESSIONAL ENGINEER

SDP-16-005



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

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
Approved
Howard SCD
4/19/16

PROFESSIONAL CERTIFICATION
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APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	5-6-16 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	5-11-16 DATE
DIRECTOR	5-16-16 DATE

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE

EXISTING CONDITIONS
DRAINAGE AREA MAP
EROSION AND SEDIMENT CONTROL

DES. BY	SCALE	PROJ. No.
M. WEAVER	1:30	
DRN. BY	DATE	
M. WEAVER	04/04/2016	27 OF 70
CHK. BY	APPROVED	
R. CRAWLEY		

SDP-16-005

STATE OF MARYLAND ROBERT A. CRAWLEY 45292 PROFESSIONAL ENGINEER

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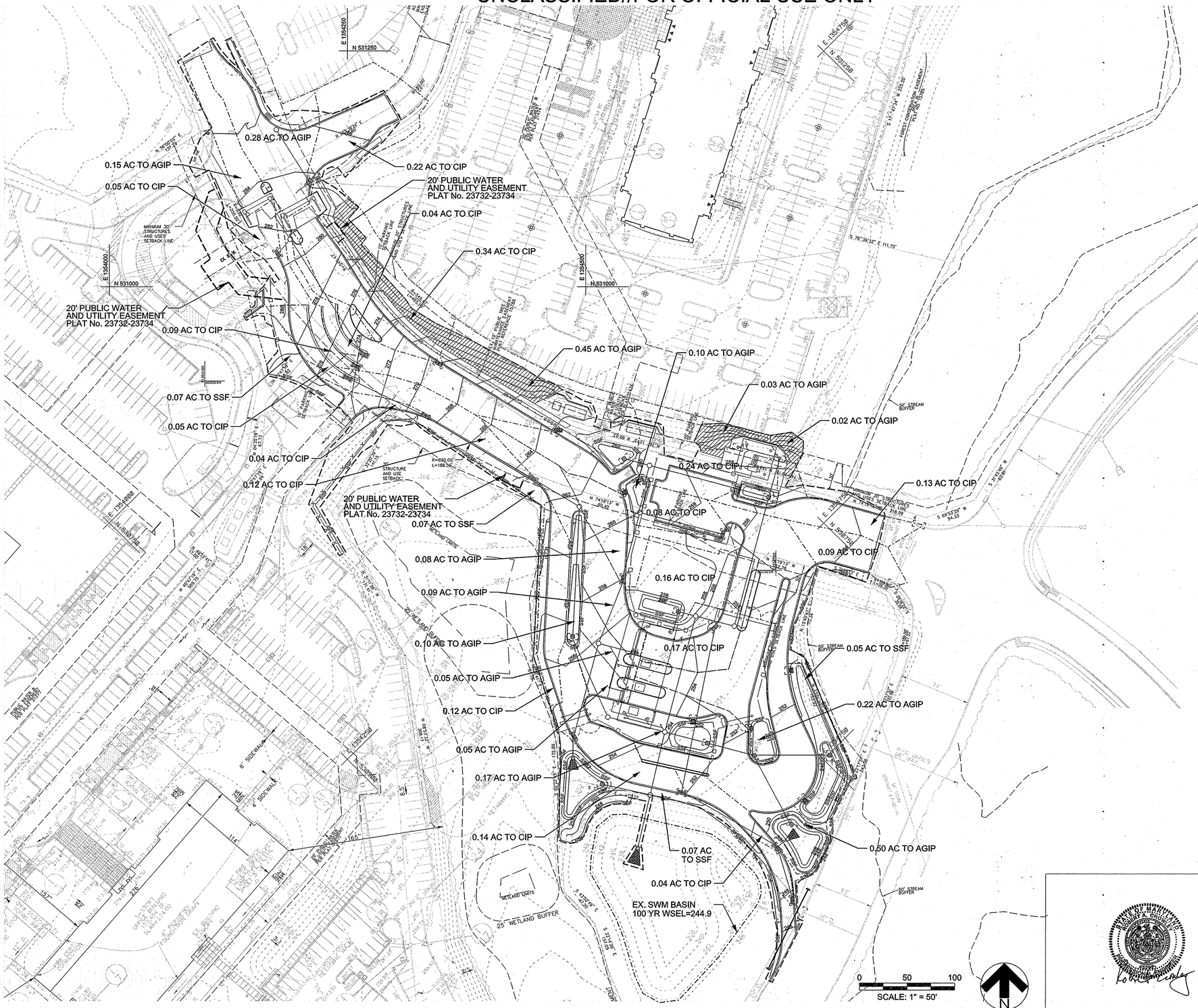

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
Approved: Howard SCD
4/19/16

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. 45292 EXPIRATION DATE: 05/21/2016

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	5-6-16 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	5-4-16 DATE
DIRECTOR	5-16-16 DATE

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

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SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE

PROPOSED CONDITIONS
DRAINAGE AREA MAP
EROSION AND SEDIMENT CONTROL

DES. BY	SCALE	PROJ. No.
M. WEBBER	1:30	
DRN. BY	DATE	28 OF 70
M. WEBBER	04/04/2016	
CHK. BY	APPROVED	
R. CROSLEY		

SDP-16-005

STATE OF MARYLAND — ROBERT A. CROSLEY — 45292 — PROFESSIONAL ENGINEER

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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-4-2 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; P_2O_5 (phosphorous), 200 pounds per acre; K_2O (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.

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

SIGNATURE OF DEVELOPER — DATE 4/8/16
PRINT NAME BELOW SIGNATURE
James W. Knabb, Jr.

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

SIGNATURE OF ENGINEER — DATE 4/8/16
PRINT NAME BELOW SIGNATURE
ROBERT CROWLEY

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 4/19/16

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-11-16
DIRECTOR — DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE

EROSION AND SEDIMENT CONTROL NOTES

DES. BY	SCALE	PROJ. No.
M. WERDER	NTS	
DRN. BY	DATE	29 OF 70
M. WERDER	04/04/2016	
CHK. BY	APPROVED	
R. CROWLEY		

SDP-16-005

NOTES:
1. SEEDING AND STABILIZATION IS TO BE PROVIDED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR OR AT THE INTERVALS REQUIRED BY THE 2011 MARYLAND STANDARD SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, WHICHEVER IS MORE STRINGENT.

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. 45292 EXPIRATION DATE: 05/21/2016

STATE OF MARYLAND — ROBERT A. CROWLEY — PROFESSIONAL ENGINEER

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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

1 SUPER SILT FENCE
SCALE: NONE

DETAIL E-9-3 CURB INLET PROTECTION

STANDARD SYMBOL: CIP

MAXIMUM DRAINAGE AREA = ¼ ACRE

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 ¼ 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.

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

2 CURB INLET PROTECTION
SCALE: NONE

DETAIL E-9-2 AT-GRADE INLET PROTECTION

STANDARD SYMBOL: AGIP

MAXIMUM DRAINAGE AREA = 1 ACRE

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.

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

3 AT GRADE INLET PROTECTION
SCALE: NONE

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.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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4 CONSTRUCTION ENTRANCE
SCALE: NONE

SECTION II - TEMPORARY SEEDING

VEGETATION - ANNUAL GRASS OR GRAIN USED TO PROVIDE COVER ON DISTURBED AREAS FOR UP TO 12 MONTHS. FOR LONGER DURATION OF VEGETATIVE COVER, PERMANENT SEEDING IS REQUIRED.

A. SEED MIXTURES - TEMPORARY SEEDING

TEMPORARY SEEDING SUMMARY

SEED MIXTURE (HARDINESS ZONE 7a) FROM TABLE 26					FERTILIZER RATE (10-10-10)	LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS		
	ANNUAL RYEGRASS	50 LBS/AC	3/1 - 4/30 8/15 - 11/1	1/4 - 1/2 INCHES	600 LB/AC (15 LB/1000 SF)	2 TON/AC (100 LB/1000 SF)
	WEEPING LOVEGRASS	4 LBS/AC	5/1-8/14	1/4 - 1/2 INCHES		
	MILLET	50 LBS/AC	5/1-8/14	1/2 INCHES		

SECTION III: PERMANENT SEEDING

SEEDING GRASS AND LEGUMES TO ESTABLISH GROUND COVER FOR A MINIMUM PERIOR OF ONE YEAR ON DISTURBED AREAS GENERALLY RECEIVING LOW MAINTENANCE.

A. SEED MIXTURES - PERMANENT SEEDING

i. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREAFORM FERTILIZER (46-0-0) AT 3-1/2 LBS/1000 SQ. FT. (150 LBS/AC), IN ADDITION TO THE ABOVE SOIL AMENDMENTS SHOWN IN THE TABLE BELOW, TO BE PERFORMED AT THE TIME OF SEEDING.

PERMANENT SEEDING SUMMARY

SEED MIXTURE (HARDINESS ZONE 7a) (FROM TABLE 25)					FERTILIZER RATE (10-20-20)			LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P2O5	K2O	
3	TALL FESCUE (75%) PERENNIAL RYEGRASS (10%) KENTUCKY BLUEGRASS (5%)	125 15 10	3/1-5/15 8/15-10/15	1/4" TO 1/2"	90 LB/AC (2 LB/ 1000 SF)	175 LB/AC (4 LB/ 1000 SF)	175 LB/AC (4 LB/ 1000 SF)	2 TON/AC (100 LB/ 1000 SF)
7	TALL FESCUE (83%) WEEPING LOVEGRASS (2%) PLUS SERECIA LESPEDEZA (15%)	110 3 20	3/1-5/15 5/16-8/14 8/15-10/15	1/4" TO 1/2"				

DETAIL D-4-1-A ROCK OUTLET PROTECTION I

STANDARD SYMBOL: ROP1

DISCHARGE TO SEMI CONFINED CHANNEL SECTION

RIPRAP	
CLASS	THICKNESS (T)
I	19 IN
II	32 IN
III	46 IN

CONSTRUCTION SPECIFICATIONS

1. RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.
3. PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (⅜ TO 1½ INCH STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
4. EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF THE RIPRAP.
5. CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE STONE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
6. WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.
7. CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.
8. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

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

ROCK OUTLET PROTECTION

STRUCTURE ID	TYPE	CLASS	LENGTH	WIDTH	THICKNESS	MIN HEIGHT OF RIPRAP
FES #1	ROP II	CLASS I	14 FT	16.52 FT	19 IN	1.0 FT
FES #2	ROP II	CLASS I	10 FT	11.5 FT	19 IN	1.0 FT
FES #3	ROP II	CLASS I	10 FT	11.5 FT	19 IN	1.0 FT
FES - ST	ROP II	CLASS I	14 FT	15.75 FT	19 IN	1.0 FT
MBR #1	ROP I	CLASS I	5 FT	8 FT	19 IN	1.0 FT
MBR #2	ROP I	CLASS I	2 FT	5 FT	19 IN	1.0 FT
MBR #3	ROP I	CLASS I	2 FT	5 FT	19 IN	1.0 FT
MBR #4	ROP I	CLASS I	2 FT	5 FT	19 IN	1.0 FT
MBR #5	ROP I	CLASS I	2 FT	5 FT	19 IN	1.0 FT

5 OUTLET PROTECTION
SCALE: NONE

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. 45292 EXPIRATION DATE: 05/21/2016

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

[signature] 4/8/16
SIGNATURE OF DEVELOPER — DATE
PRINT NAME BELOW SIGNATURE
James F. Knott, Jr.

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

[signature] 4/8/16
SIGNATURE OF ENGINEER — DATE
PRINT NAME BELOW SIGNATURE Robert Crowley

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

[signature] 4/19/16
HOWARD SOIL CONSERVATION DISTRICT — DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[signature] 5-6-16
CHIEF, DEVELOPMENT ENGINEERING DIVISION NY — DATE

[signature] 5-11-16
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

[signature] 5-16-16
DIRECTOR — DATE

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q
PLAT #23132-23134 15786	ZONE PEC	GRID 20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

TITLE: EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

DES. BY M. WERDER	SCALE NTS	PROJ. No.
DRN. BY M. WERDER	DATE 04/04/2016	30 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005

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DETAIL G-1-1 PIPE OUTLET SEDIMENT TRAP ST-I

STANDARD SYMBOL: ST–I

MAXIMUM DRAINAGE AREA = 5 ACRES

NOTE:
REFER TO DETAIL G–2–1 – TYPICAL ANTI–SEEP COLLARS
REFER TO DETAIL G–2–2 – RISER BASE
REFER TO DETAIL G–2–3 – CONCENTRIC TRASH RACK AND ANTI–VORTEX DEVICE

1 OF 3

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

DETAIL G-1-1 PIPE OUTLET SEDIMENT TRAP ST-I

STANDARD SYMBOL: ST–I

CONSTRUCTION SPECIFICATIONS

1. CONSTRUCT TRAP IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE AVOIDED.
2. CLEAR, GRUB, AND STRIP ANY VEGETATION AND ROOT MAT FROM THE AREA UNDER THE EMBANKMENT AND TRAP BOTTOM.
3. PERFORATE THE RISER WITH 1 INCH DIAMETER HOLES SPACED 6 INCHES ON CENTER WITH THE LOWEST PERFORATIONS AT THE WET STORAGE ELEVATION OR PROVIDE A HORIZONTAL OR VERTICAL DRAW–DOWN DEVICE PERFORATED ACCORDING TO APPROVED PLAN. DO NOT PERFORATE THE RISER WITHIN 6 INCHES OF THE TOP OF THE HORIZONTAL BARREL.
4. SET RISER/BARREL ASSEMBLY PRIOR TO EMBANKMENT CONSTRUCTION. MAKE ALL PIPE CONNECTIONS WATERTIGHT. OFFSET RISER FROM EMBANKEMENT TO ACCOMODATE PLACEMENT OF THE TRASH RACK. ANCHOR THE RISER WITH EITHER A REINFORCED CONCRETE BASE OR STEEL PLATE BASE TO PREVENT FLOTATION. MAKE CONCRETE BASES AT LEAST TWICE THE RISER DIAMETER AND 18 INCHES THICK WITH THE RISER EMBEDDED 9 INCHES.
5. USE FILL MATERIAL FREE OF ROOTS, WOODY VEGETATION, OVERSIZED STONES, ROCKS, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIAL FOR THE EMBANKMENT.
6. HAND COMPACT IN 4 INCH LAYERS FILL MATERIAL AROUND THE PIPE SPILLWAY. PLACE A MINIMUM OF 2 FEET OF HAND COMPACTED BACKFILL OVER THE PIPE SPILLWAY BEFORE CROSSING IT WITH CONSTRUCTION EQUIPMENT.
7. CONSTRUCT TOP OF EMBANKMENT 1 FOOT MINIMUM ABOVE RISER CREST. COMPACT THE EMBANKMENT BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
8. MAKE ALL CUT AND FILL SLOPES 2:1 OR FLATTER.
9. WRAP THE RISER WITH ¼ INCH GALVANIZED HARDWARE CLOTH THEN WRAP WITH NONWOVEN GEOTEXTILE. DO NOT WRAP WITH MORE THAN ONE LAYER OF GEOTEXTILE. EXTEND HARDWARE CLOTH AND GEOTEXTILE AT LEAST 6 INCHES ABOVE THE HIGHEST PERFORATIONS AND AT LEAST 6 INCHES BELOW THE LOWEST PERFORATIONS. OVERLAP, FOLD AND FASTEN WHERE ENDS OF GEOTEXTILE COME TOGETHER TO PREVENT BYPASS. REPLACE GEOTEXTILE AS NECESSARY TO PREVENT CLOGGING.
10. USE STRAPS OR CONNECTING BANDS AT THE TOP AND BOTTOM OF THE GEOTEXTILE TO HOLD THE GEOTEXTILE AND HARDWARE CLOTH IN PLACE.
11. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS.
12. STABILIZE THE EMBANKMENT AND INTERIOR SLOPES WITH SEED AND MULCH. STABILIZE POINTS OF CONCENTRATED INFLOW AS SHOWN ON APPROVED PLAN.
13. CONSTRUCT AND MAINTAIN THE OUTLET ACCORDING TO THE APPROVED PLAN AND IN SUCH A MANNER THAT EROSION AT OR BELOW THE OUTLET DOES NOT OCCUR.
14. REMOVE SEDIMENT AND RESTORE TRAP TO ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO CLEANOUT ELEVATION (50% OF WET STORAGE DEPTH). DEPOSIT REMOVED SEDIMENT IN AN APPROVED AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE. KEEP POINTS OF INFLOW AND OUTFLOW AS WELL AS INTERIOR OF THE TRAP FREE FROM EROSION, AND REMOVE ACCUMULATED DEBRIS. MAINTAIN EMBANKMENTS TO CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B–4 VEGETATIVE STABILIZATION. REMOVE ANY TREES, BRUSH, OR OTHER WOODY VEGETATION GROWING ON EMBANKMENT OR NEAR PRINCIPAL SPILLWAY. MAINTAIN LINE, GRADE, AND CROSS SECTION. MAINTAIN WATER TIGHT CONNECTIONS. REPLACE GEOTEXTILE AROUND PERFORATED RISER IF DRY STORAGE VOLUME DOES NOT DRAW DOWN WITHIN 10 HOURS.
15. WHEN DEWATERING TRAP, PASS REMOVED WATER THROUGH AN APPROVED SEDIMENT CONTROL PRACTICE.
16. UPON REMOVAL, GRADE AND STABILIZE THE AREA OCCUPIED BY TRAP.

2 OF 3

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

DETAIL G-1-1 PIPE OUTLET SEDIMENT TRAP ST-I

STANDARD SYMBOL: ST–I

PIPE OUTLET SEDIMENT TRAP ST–I, TRAP NO. #1		
DRAINAGE AREA – INTIAL	1.65	ACRES
DRAINAGE AREA – INTERIM	1.65	ACRES
DRAINAGE AREA – FINAL	1.65	ACRES
TOTAL STORAGE REQUIRED	5,940	CF
TOTAL STORAGE PROVIDED	6,325	CF
WET STORAGE REQUIRED	2,970	CF
WET STORAGE PROVIDED	3,032	CF
DRY STORAGE REQUIRED	2,970	CF
DRY STORAGE PROVIDED	3,293	CF
TRAP BOTTOM ELEVATION	247.00	FT
TRAP BOTTOM DIMENSIONS	26 X 82	FT x FT
RISER CREST (DRY STORAGE) ELEVATION	249.45	FT
OUTLET (WET STORAGE) ELEVATION	248.20	FT
CLEANOUT ELEVATION	247.60	FT
TOP OF EMBANKMENT ELEVATION	250.95	FT
SIDE SLOPE	3:1	H:V RATIO
EMBANKMENT TOP WIDTH	14.0	FT
PRINCIPAL SPILLWAY MATERIAL (BARREL, RISER, ANTI–SEEP COLLAR)	CORRUGATED METAL	
RISER DIAMETER	27	IN
BARREL DIAMETER	21	IN
TRASH RACK DIAMETER	42	IN
TRASH RACK HEIGHT	21	IN
ANTI–SEEP COLLAR DIMENSIONS	4'-0" x 4'-0"	FT
OUTLET PROTECTION – LENGTH	14	FT
OUTLET PROTECTION – WIDTH	15.75	FT
OUTLET PROTECTION – DEPTH	19	IN

3 OF 3

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

DETAIL G-2-1 TYPICAL ANTI-SEEP COLLARS

STANDARD SYMBOL

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

2 ANTI-SEEP COLLAR
SCALE: NONE

SEDIMENT TRAP PROFILE
SCALE: NTS

1 PIPE OUTLET SEDIMENT TRAP
SCALE: NONE

DETAIL G-2-2 CORRUGATED RISER BASE

STANDARD SYMBOL

CONSTRUCTION SPECIFICATIONS

1. BOTTOM OF CONCRETE BASE TO BE PLACED ON UNDISTURBED, NATURAL GROUND.
2. NO STONE IS ALLOWED UNDER BASE. IF NECESSARY, TO ACHIEVE STABILITY INCREASE DEPTH OF CONCRETE BASE.

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

3 RISER BASE
SCALE: NONE

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. 45292 EXPIRATION DATE: 05/21/2016

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

[signature] 4/8/16
SIGNATURE OF DEVELOPER — DATE
PRINT NAME BELOW SIGNATURE
James F. Knott, Jr.

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SIGNATURE OF ENGINEER — DATE
PRINT NAME BELOW SIGNATURE Robert Crowley

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[signature] 5-6-16
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[signature] 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

[signature] 5-16-16
DIRECTOR — DATE

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q
PLAT # 23132-23134 15786	ZONE PEC	GRID 20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

TITLE
EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

DES. BY M. WERDER	SCALE NTS	PROJ. No.
DRN. BY M. WERDER	DATE 04/04/2016	31 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005

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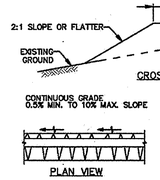
DETAIL C-1 EARTH DIKE

STANDARD SYMBOL: A-1 — PLACE DESIGNATION (A-1, A-2, A-3) ON FLOW DOWNHILL SIDE OF DIKE



CROSS SECTION

PLAN VIEW

	DIKE TYPE A	DIKE TYPE B
a – DIKE HEIGHT	18 IN MIN.	30 IN MIN.
b – DIKE WIDTH	24 IN MIN.	36 IN MIN.
c – FLOW WIDTH	4 FT MIN.	6 FT MIN.
d – FLOW DEPTH	12 IN MIN.	24 IN MIN.

FLOW CHANNEL STABILIZATION

A–1	SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER DIVERSION.)
A–2/B–2	SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD.
A–3/B–3	4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL A MINIMUM OF 7 INCHES AND FLUSH WITH GROUND.

CONSTRUCTION SPECIFICATIONS

1. REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF EARTHDIKE.
2. EXCAVATE OR SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.
3. COMPACT FILL.
4. CONSTRUCT FLOW CHANNEL ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
5. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
6. STABILIZE EARTH DIKE WITHIN THREE DAYS OF INSTALLATION. STABILIZE FLOW CHANNEL FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.
7. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP EARTH DIKE AND POINT OF DISCHARGE FREE OF EROSION, AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B–4 VEGETATIVE STABILIZATION.
8. UPON REMOVAL OF EARTH DIKE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL, STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

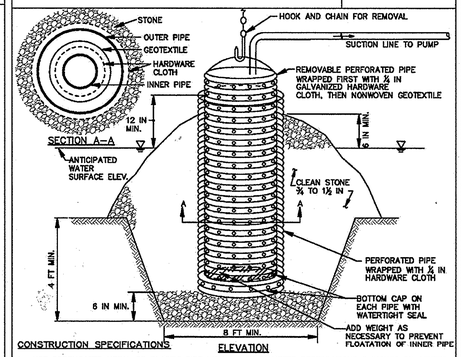
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

1 EARTH DIKE
SCALE: NONE

DETAIL F-1 REMOVABLE PUMPING STATION

STANDARD SYMBOL: RPS



ELEVATION

CONSTRUCTION SPECIFICATIONS

1. USE CORRUGATED METAL OR PLASTIC PIPE WITH 1 INCH DIAMETER PERFORATIONS 6 INCHES ON CENTER.
2. USE A MINIMUM 12 INCH DIAMETER INNER PIPE WITH AN OUTER PIPE A MINIMUM 6 INCHES LARGER IN DIAMETER. BOTTOM OF EACH PIPE MUST BE CAPPED WITH WATERTIGHT SEAL.
3. WRAP EACH PIPE WITH ½ INCH GALVANIZED HARDWARE CLOTH. ON INNER PIPE WRAP NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS, OVER THE HARDWARE CLOTH.
4. EXCAVATE 8 FEET X 8 FEET X 4 FEET DEEP PIT FOR PIPE PLACEMENT. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE, 6 INCHES IN DEPTH PRIOR TO PIPE PLACEMENT.
5. SET TOP OF INNER AND OUTER PIPES MINIMUM 12 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION (OR RISER CREST ELEVATION WHEN DEWATERING A BASIN).
6. BACKFILL PIT AROUND THE OUTER PIPE WITH ¾ TO 1½ INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE AND EXTEND STONE A MINIMUM OF 6 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.
7. DISCHARGE TO A STABLE AREA AT A NONEROSIVE RATE.
8. A REMOVABLE PUMPING STATION REQUIRES FREQUENT MAINTENANCE. IF SYSTEM CLOGS, PULL OUT INNER PIPE AND REPLACE GEOTEXTILE. KEEP POINT OF DISCHARGE FREE OF EROSION.

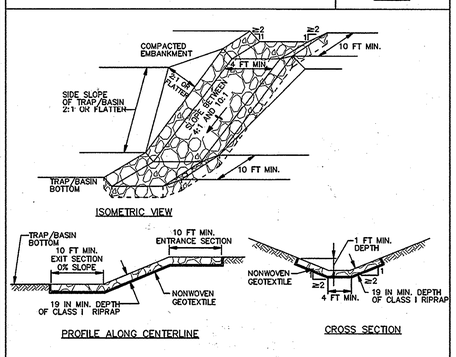
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

2 REMOVABLE PUMPING STATION
SCALE: NONE

DETAIL D-3-1 RIPRAP INFLOW PROTECTION

STANDARD SYMBOL: RRP



CONSTRUCTION SPECIFICATIONS

1. PROVIDE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS, UNDER THE BOTTOM AND ALONG SIDES OF ALL RIPRAP.
2. CONSTRUCT INFLOW CHANNEL WITH CLASS I RIPRAP OR EQUIVALENT RECYCLED CONCRETE LINING TO A MINIMUM DEPTH OF 19 INCHES ($2 \times D_{50}$) AND A 1 FOOT DEEP FLOW CHANNEL. INFLOW RIPRAP PROTECTION CHANNEL MUST HAVE A TRAPEZOIDAL CROSS SECTION WITH 2:1 OR FLATTER SIDE SLOPES AND A 4 FOOT MINIMUM BOTTOM WIDTH.
3. INSTALL ENTRANCE AND EXIT SECTIONS AS SHOWN ON THE PROFILE.
4. BLEND RIPRAP INTO EXISTING GROUND.
5. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. KEEP POINTS OF INFLOW AND OUTFLOW FREE OF EROSION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

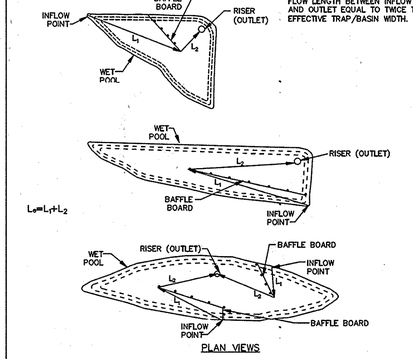
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

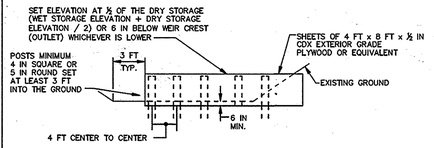
3 RIPRAP INFLOW PROTECTION
SCALE: NONE

DETAIL G-2-4 BAFFLE BOARDS

STANDARD SYMBOL: BB

BAFFLES ARE REQUIRED TO PROVIDE A FLOW LENGTH BETWEEN INFLOW POINT AND OUTLET EQUAL TO TWICE THE EFFECTIVE TRAP/BASIN WIDTH.





BAFFLE DETAIL

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

4 BAFFLE BOARD
SCALE: NONE

PROFESSIONAL CERTIFICATION

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SIGNATURE OF DEVELOPER — DATE 4/8/16
PRINT NAME BELOW SIGNATURE James S. Emerson, Jr.

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

SIGNATURE OF ENGINEER — DATE 4/8/16
PRINT NAME BELOW SIGNATURE ROBERT CROWLEY

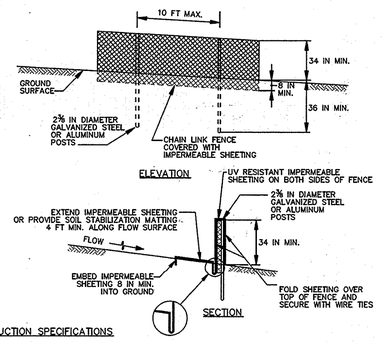
THIS DEVELOPMENT PLAN IS ACKNOWLEDGED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SOIL CONSERVATION DISTRICT — 4/19/16

DETAIL C-9 DIVERSION FENCE

STANDARD SYMBOL: DF

MAXIMUM DRAINAGE AREA = 2 ACRES



ELEVATION

SECTION

CONSTRUCTION SPECIFICATIONS

1. USE 42 INCH HIGH, 9 GAUGE OR THICKER CHAIN LINK FENCING (2⅜ INCH MAXIMUM OPENING).
2. USE 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. THE POSTS DO NOT NEED TO BE SET IN CONCRETE.
3. FASTEN CHAIN LINK FENCE SECURELY TO THE FENCE POSTS WITH WIRE TIES.
4. SECURE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING TO CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT TOP, MID SECTION, AND BELOW GROUND SURFACE.
5. EXTEND SHEETING A MINIMUM OF 4 FEET ALONG FLOW SURFACE AND EMBED END A MINIMUM OF 8 INCHES INTO GROUND. SOIL STABILIZATION MATTING MAY BE USED IN LIEU OF IMPERMEABLE SHEETING ALONG FLOW SURFACE.
6. WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM FACING DOWNGRADE.
7. KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

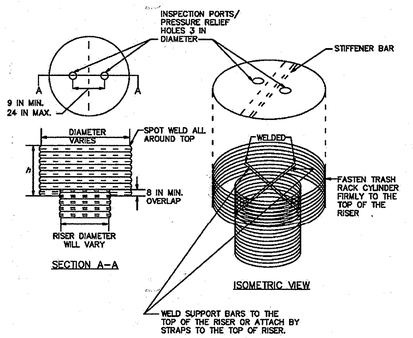
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

5 DIVERSION FENCE
SCALE: NONE

DETAIL G-2-3 CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE

STANDARD SYMBOL: TR



1 OF 2

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

DETAIL G-2-3 CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE

STANDARD SYMBOL: TR

RISER DIAM. (IN)	TRASH RACK CYLINDER DIAM. (IN)	TRASH RACK CYLINDER THICKNESS (GAUGE)	TRASH RACK CYLINDER h (IN)	MINIMUM SIZE SUPPORT BAR	MINIMUM TOP THICKNESS (GAUGE)	MINIMUM TOP STIFFENER
12	18	16	14	#6 REBAR	16	N/A
15	21	16	15	#6 REBAR	16	N/A
18	27	16	16	#6 REBAR	16	N/A
21	30	16	19	#6 REBAR	16	N/A
24	36	16	21	#6 REBAR	14	N/A
27	42	16	21	#6 REBAR	14	N/A
36	54	14	25	#8 REBAR	12	N/A
42	60	14	27	#8 REBAR	12	N/A
48	72	12	29	1¾ IN PIPE OR 1¼ x 1¼ x ¼ ANGLE	10	N/A
54	78	12	33	1¾ IN PIPE OR 1¼ x 1¼ x ¼ ANGLE	10	N/A
60	90	12	37	1½ IN PIPE OR 1½ x 1½ x ¼ ANGLE	8	N/A
66	96	10	41	2 IN PIPE OR 2 x 2 x 5/16 ANGLE	8	2 x 2 x ¼ ANGLE
72	102	10	44	2 IN PIPE OR 2 x 2 x 5/16 ANGLE	8	2½ x 2½ x ¼ ANGLE
78	114	10	47	2½ IN PIPE OR 2 x 2 x ¼ ANGLE	8	2½ x 2½ x ¼ ANGLE
84	120	10	50	2½ IN PIPE OR 2½ x 2½ x ¼ ANGLE	8	2½ x 2½ x 5/16 ANGLE

NOTE:
THE ABOVE TRASH RACK AND ANTI–VORTEX DEVICE INFORMATION IS FOR CORRUGATED METAL PIPE ONLY. CONCRETE RISERS MUST MEET THE REQUIREMENTS OF MD 378.

2 OF 2

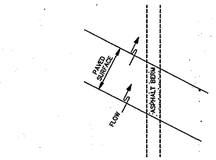
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

6 TRASH RACK
SCALE: NONE

DETAIL C-5 TEMPORARY ASPHALT BERM

STANDARD SYMBOL: TAB



CROSS SECTION

CONSTRUCTION SPECIFICATIONS

1. CONSTRUCT BERM ON AN UNINTERRUPTED, CONTINUOUS GRADE.
2. INSTALL BERM TO CONFORM TO CROSS SECTION DIMENSIONS OF A UNIFORM HEIGHT OF 8 INCHES MINIMUM AND APPROXIMATE WIDTH OF 3½ FEET.
3. PROVIDE OUTLET PROTECTION AS REQUIRED ON PLAN.
4. COMPACT ASPHALT BERM.
5. REPAIR DAMAGED ASPHALT. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE.
6. UPON REMOVAL OF ASPHALT BERM, RETURN TO ORIGINAL CONDITIONS OR AS SPECIFIED ON APPROVED PLAN.

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

7 TEMPORARY ASPHALT BERM
SCALE: NONE

STATE OF MARYLAND — ROBERT A. CROWLEY — 15292 — PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-11-16
DIRECTOR — DATE 5-10-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

TITLE

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

DES. BY	SCALE	PROJ. No.
M. WERDER	NTS	
DRN. BY M. WERDER	DATE 04/04/2016	32 OF 70
CHK. BY R. CROWLEY	APPROVED	

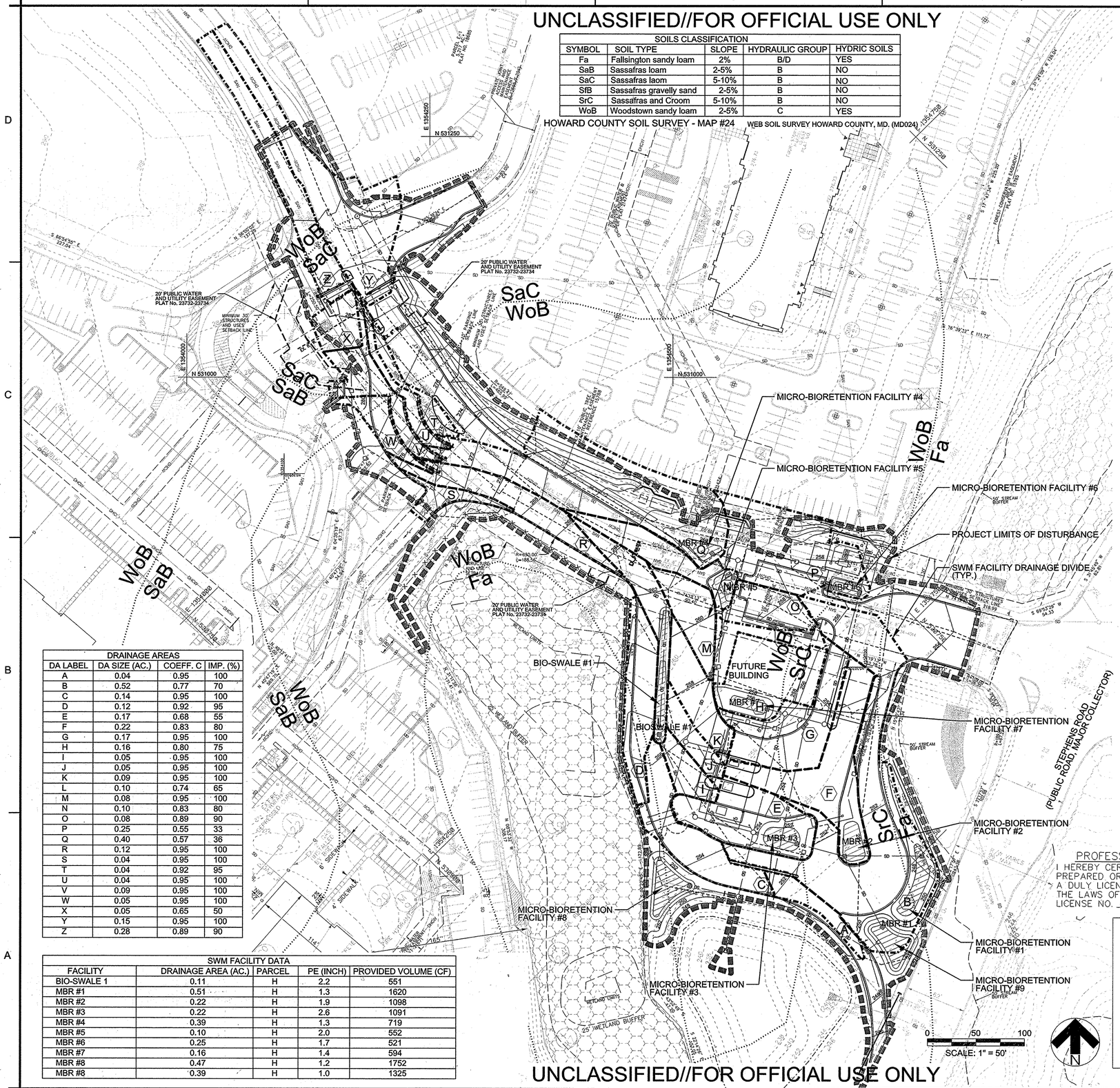
SDP-16-005

UNCLASSIFIED//FOR OFFICIAL USE ONLY

SOILS CLASSIFICATION				
SYMBOL	SOIL TYPE	SLOPE	HYDRAULIC GROUP	HYDRIC SOILS
Fa	Fallsington sandy loam	2%	B/D	YES
SaB	Sassafras loam	2-5%	B	NO
SaC	Sassafras loam	5-10%	B	NO
SfB	Sassafras gravelly sand	2-5%	B	NO
SrC	Sassafras and Croom	5-10%	B	NO
WoB	Woodstown sandy loam	2-5%	C	YES

HOWARD COUNTY SOIL SURVEY - MAP #24

WEB SOIL SURVEY HOWARD COUNTY, MD. (MD024)



LEGEND

- FOREST CONSERVATION EASEMENT
- WETLAND DELINEATION
- 25 FOOT WETLAND BUFFER / SITE EASEMENTS
- EXISTING TREE
- EXISTING CHAIN LINK FENCE
- 275.00 EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- SD EXISTING STORM PIPE
- SAN EXISTING SANITARY SEWER PIPE
- DHCW EXISTING WATER LINE
- SF SUPER SILT FENCE
- CURB / AT-GRADE INLET PROTECTION
- CHAIN LINK FENCE
- SD STORM PIPE
- STORM MANHOLE
- CURB INLET
- GRATE INLET
- SAN SANITARY SEWER PIPE
- SANITARY SEWER MANHOLE
- DHCW WATER LINE
- FIRE HYDRANT
- SWM FACILITY DRAINAGE DIVIDES
- LIMITS OF DISTURBANCE
- EXISTING TREE LINE
- (A) DRAINAGE AREA LABEL
- WoB / Fa SOIL LIMITS

DRAINAGE AREAS			
DA LABEL	DA SIZE (AC.)	COEFF. C	IMP. (%)
A	0.04	0.95	100
B	0.52	0.77	70
C	0.14	0.95	100
D	0.12	0.92	95
E	0.17	0.68	55
F	0.22	0.83	80
G	0.17	0.95	100
H	0.16	0.80	75
I	0.05	0.95	100
J	0.05	0.95	100
K	0.09	0.95	100
L	0.10	0.74	65
M	0.08	0.95	100
N	0.10	0.83	80
O	0.08	0.89	90
P	0.25	0.55	33
Q	0.40	0.57	36
R	0.12	0.95	100
S	0.04	0.95	100
T	0.04	0.92	95
U	0.04	0.95	100
V	0.09	0.95	100
W	0.05	0.95	100
X	0.05	0.65	50
Y	0.15	0.95	100
Z	0.28	0.89	90

SWM FACILITY DATA				
FACILITY	DRAINAGE AREA (AC.)	PARCEL	PE (INCH)	PROVIDED VOLUME (CF)
BIO-SWALE 1	0.11	H	2.2	551
MBR #1	0.51	H	1.3	1620
MBR #2	0.22	H	1.9	1098
MBR #3	0.22	H	2.6	1091
MBR #4	0.39	H	1.3	719
MBR #5	0.10	H	2.0	552
MBR #6	0.25	H	1.7	521
MBR #7	0.16	H	1.4	594
MBR #8	0.47	H	1.2	1752
MBR #8	0.39	H	1.0	1325

0 50 100
SCALE: 1" = 50'

N

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. 45292 EXPIRATION DATE: 05/21/2016

ROBERT A. CROWLEY III — 45292 — PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5-4-16
DIRECTOR	DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
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SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20

DEED	ELEC. DISTRICT	
11479 / 005	6TH	

WATER CODE	SEWER CODE

TITLE

STORMWATER MANAGEMENT
STORM DRAIN DRAINAGE
AREA & SOILS MAP

DES. BY	SCALE	PROJ. No.
M. WERDER	1:50	
DRN. BY	DATE	
M. WERDER	04/04/2016	
CHK. BY	APPROVED	
R. CROWLEY		

33 OF 70

SDP-16-005

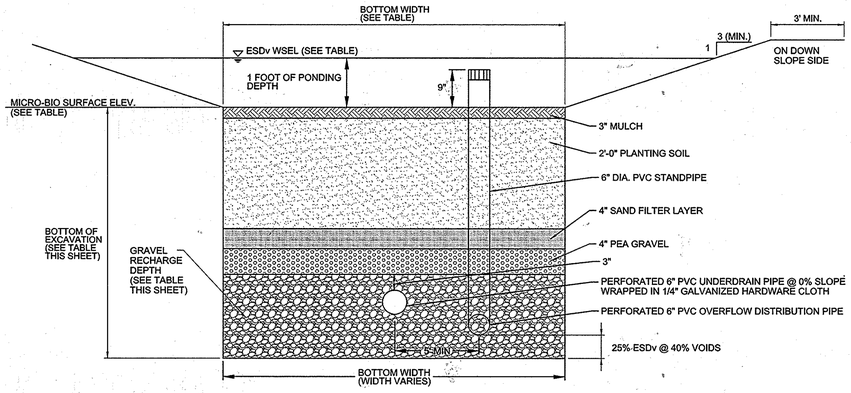


TABLE B.4.1 SWM MATERIAL SPECIFICATIONS			
MATERIAL	SPECIFICATION	SIZE	NOTES
PLANTINGS	REFER TO LANDSCAPING PLANS	N/A	PLANTINGS ARE SITE-SPECIFIC
PLANTING SOIL (2' DEEP)	SAND (55-85% BY WEIGHT) SILT (0-20%) CLAY (1-8%) pH 5.7-7.1 ORGANICS 1.5% MIN.	N/A	USE MDSHA BIORETENTION SOIL MIX SPECIFICATION
ORGANIC CONTENT (PLANTING SOIL)	MIN. 10% BY DRY WEIGHT (ASTM D 2974)	N/A	
MULCH	SHREDDED HARDWOOD		AGED 6 MONTHS, MINIMUM; NO PINE OR WOOD CHIPS
PEA GRAVEL DIAPHRAGM	PEA GRAVEL: ASTM-D-448	NO.8 OR NO.9 (1/8" TO 3/8")	
CURTAIN DRAIN	ORNAMENTAL STONE: WASHED COBBLES	STONE: 2" TO 5"	
GEOTEXTILE		N/A	PE TYPE 1 NON-WOVEN
GRAVEL (UNDERDRAINS AND INFILTRATION BERMS)	AASHTO M-43	NO.57 OR NO.6 AGGREGATE (3/8" TO 3/4")	
UNDERDRAIN PIPING	F-758, TYPE PS 28 OR AASHTO M-278	4" TO 6" RIGID SCHEDULE 40 PVC OR SDR 35	SLOTTED OR PERFORATED PIPE; 3/8" PERF. @ 6" ON CENTER, 4 HOLES PER ROW; MINIMUM OF 3" GRAVEL OVER PIPES; NOT NECESSARY UNDERNEATH PIPES. PERFORATED PIPES SHALL BE WRAPPED WITH 1/4-INCH GALVANIZED HARDWARE CLOTH
POURED-IN-PLACE CONCRETE (IF REQUIRED)	MSHA MIX NO. 3 F'c=3500 PSI @ 28 DAYS, NORMAL WEIGHT, AIR-ENTRAINED; REINFORCING TO MEET ASTM-615-60	N/A	ON-SITE TESTING OF POURED-IN-PLACE CONCRETE REQUIRED; 28 DAY STRENGTH AND SLUMP TEST; ALL CONCRETE DESIGN (CAST-IN-PLACE OR PRE-CAST) NOT USING PREVIOUSLY APPROVED STATE OR LOCAL STANDARDS REQUIRES DESIGN DRAWINGS SEALED AND APPROVED BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE OF MARYLAND. DESIGN TO INCLUDE MEETING ACI CODE 350,R/99; VERTICAL LOADING [H-10 OR H-20]; ALLOWABLE HORIZONTAL LOADING (BASED ON SOIL PRESSURES); AND ANALYSIS OF POTENTIAL CRACKING
SAND	AASHTO M-6 OR ASTM C-33	0.02" - 0.04"	SAND SUBTITUTIONS SUCH AS DIABASE AND GRAYSTONE #10 ARE NOT ACCETABLE. NO CALCIUM CARBONATED OR DOLOMITIC SAND SUBSTITUTIONS ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND.

NOTE: THIS MATERIALS TABLE IS FOR MICRO-BIORETENTION AND BIO-SWALES

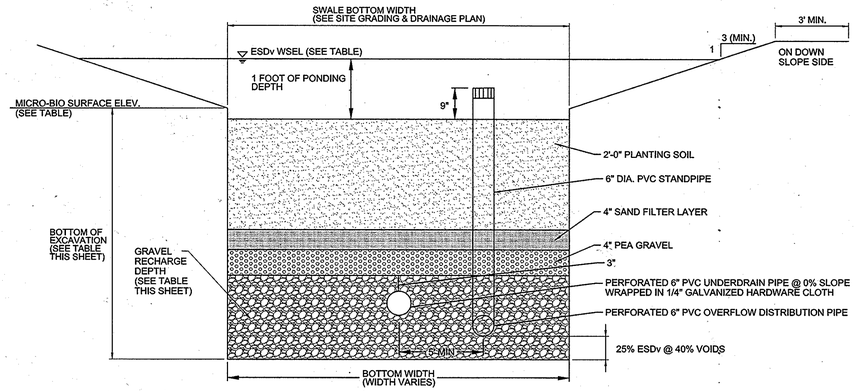
MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6) AND BIO-SWALE (M-8)

a. The Owner shall maintain the plant material, mulch layer and soil layer annually. Maintenance of mulch and soil is limited to correcting areas of erosion or wash out. Any mulch replacement shall be done in the spring. Plant material shall be checked for disease and insect infestation and maintenance will address dead material and pruning. Acceptable replacement plant material is limited to the following: 2000 Maryland Stormwater Design Manual Volume II, Table A.4.1 and 2.
b. The Owner shall perform a plant in the spring and in the fall of each year. During the inspection, the Owner shall remove dead and diseased vegetation considered beyond treatment, replace dead plant material with acceptable replacement plant material, treat diseased trees and shrubs, and replace all deficient stakes and wires.
c. The Owner shall inspect the mulch each spring. The mulch shall be replaced every two to three years. The previous mulch layer shall be removed before the new layer is applied.
d. The Owner shall correct soil erosion on an as needed basis, with a minimum of once per month and after each heavy storm.

	MBR #1		MBR #2		MBR #3		MBR #4		MBR #5		MBR #6		MBR #7		MBR #8		MBR #9	
	DESIGN	*AS-BUILT	DESIGN	*AS-BUILT	DESIGN	*AS-BUILT	DESIGN	*AS-BUILT	DESIGN	*AS-BUILT	DESIGN	*AS-BUILT	DESIGN	*AS-BUILT	DESIGN	*AS-BUILT	DESIGN	*AS-BUILT
FILTER BED AREA (SQ FT) LENGTH WIDTH	1640 94' 15'		738 40.5' 18.5'		742 20.5' 37.5'		460 12.5' 36.0'		352 14.5' 34.0'		320 8.0' 38.5'		370 9.5' 38.5'		1183 32.6' 36.3'		809 18.7' 43.3'	
FILTER BED SURFACE ELEVATION	248.00'		251.00'		252.00'		260.00'		258.00'		254.00'		256.00'		251.00'		244.00	
FILTER UNDERDRAIN PIPE: SIZE ELEVATION	6" 244.33'		6" 247.33'		6" 248.33'		6" 256.33'		6" 254.33'		6" 250.33'		6" 252.33'		6" 247.33'		6" 240.33	
GRAVEL THICKNESS (RECHARGE DEPTH)	3" MIN.		3" MIN.		3" MIN.		3" MIN.		3" MIN.		3" MIN.		3" MIN.		3" MIN.		3" MIN.	
BOTTOM OF EXCAVATION	242.76		245.92'		246.92'		254.84'		252.84'		248.84'		250.84'		245.84'		238.84	
INLET RIM ELEVATION	249.00'		252.00'		253.00'		261.00'		259.00'		255.00'		257.00'		252.00'		245.00	
STONE RESERVOIR (25% ESDv)	13"		11"		11"		12"		12"		12"		12"		12"		12"	

DATE AS-BUILT ACCEPTED BY MDE: _____

1 (M-6) MICRO-BIORETENTION FACILITY CROSS-SECTION
SCALE: NONE



	BIOSWALE #1	
	DESIGN	*AS-BUILT
FILTER BED AREA (SQ FT) LENGTH WIDTH	691 130' 11'	
SURFACE ELEVATION AT INLET	256.75'	
GRAVEL THICKNESS (RECHARGE DEPTH)	3" MIN.	
BOTTOM OF EXCAVATION	252.34'	
INLET RIM ELEVATION	257.75	
STONE RESERVOIR (25% ESDv)	6"	

DATE AS-BUILT ACCEPTED BY MDE: _____

2 (M-8) BIO-SWALE CROSS-SECTION
SCALE: NONE

AS-BUILT CERTIFICATION

I hereby certify that the stormwater management facilities (both BMPs and ESD practices) shown on the plans have been constructed in accordance with the plans approved by the Maryland Department of the Environment, except as noted in red on the "AS-BUILT" drawings.

Name _____ Signature _____

Maryland Registration Number (PE or LS) _____ Date _____

MDE No. _____

Facilities being certified (list each individually using facility ID number and/or description):

(M-6) MBR #1
(M-6) MBR #2
(M-6) MBR #3
(M-6) MBR #4
(M-6) MBR #5
(M-6) MBR #6
(M-6) MBR #7
(M-8) BIO-SWALE #1

Attach additional form(s) if necessary.

"Certify" means to state or declare a professional opinion based on sufficient and appropriate onsite inspections and material tests conducted during construction.

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. 45292 EXPIRATION DATE: 05/21/2016

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-4-16
DIRECTOR — DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

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PARCEL H

OWNER/DEVELOPER:
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SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE: STORMWATER MANAGEMENT DETAILS

DES. BY	SCALE	PROJ. No.
M. WERDER	NTS	
DRN. BY	DATE	34 OF 70
M. WERDER	04/04/2016	
CHK. BY	APPROVED	
R. CROWLEY		

SDP-16-005

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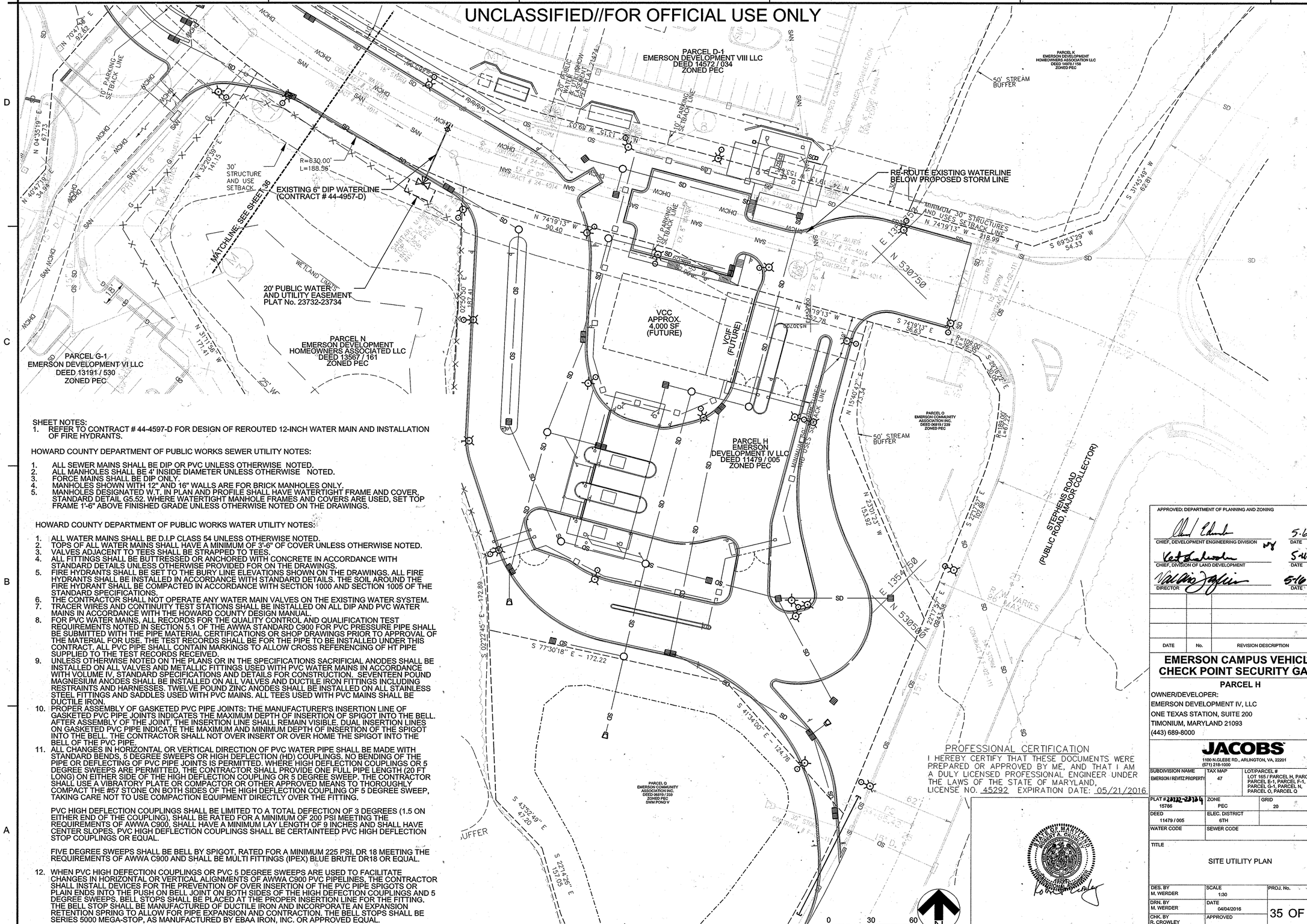

SHEET NOTES:
1. REFER TO CONTRACT # 44-4597-D FOR DESIGN OF REROUTED 12-INCH WATER MAIN AND INSTALLATION OF FIRE HYDRANTS.

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS SEWER UTILITY NOTES:

1. ALL SEWER MAINS SHALL BE DIP OR PVC UNLESS OTHERWISE NOTED.
2. ALL MANHOLES SHALL BE 4' INSIDE DIAMETER UNLESS OTHERWISE NOTED.
3. FORCE MAINS SHALL BE DIP ONLY.
4. MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
5. MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVER, STANDARD DETAIL G5.52. WHERE WATERTIGHT MANHOLE FRAMES AND COVERS ARE USED, SET TOP FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS WATER UTILITY NOTES:

1. ALL WATER MAINS SHALL BE D.I.P CLASS 54 UNLESS OTHERWISE NOTED.
2. TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
3. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
4. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
5. FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS.
6. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
7. TRACER WIRES AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL.
8. FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE AWWA STANDARD C900 FOR PVC PRESSURE PIPE SHALL BE SUBMITTED WITH THE PIPE MATERIAL CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF THE MATERIAL FOR USE. THE TEST RECORDS SHALL BE FOR THE PIPE TO BE INSTALLED UNDER THIS CONTRACT. ALL PVC PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS REFERENCING OF HT PIPE SUPPLIED TO THE TEST RECORDS RECEIVED.
9. UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE WITH VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. SEVENTEEN POUND MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSES. TWELVE POUND ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL TEES USED WITH PVC MAINS SHALL BE DUCTILE IRON.
10. PROPER ASSEMBLY OF GASKETED PVC PIPE JOINTS: THE MANUFACTURER'S INSERTION LINE OF GASKETED PVC PIPE JOINTS INDICATES THE MAXIMUM DEPTH OF INSERTION OF SPIGOT INTO THE BELL. AFTER ASSEMBLY OF THE JOINT, THE INSERTION LINE SHALL REMAIN VISIBLE. DUAL INSERTION LINES ON GASKETED PVC PIPE INDICATE THE MAXIMUM AND MINIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. THE CONTRACTOR SHALL NOT OVER INSERT OR OVER HOME THE SPIGOT INTO THE BELL OF THE PVC PIPE.
11. ALL CHANGES IN HORIZONTAL OR VERTICAL DIRECTION OF PVC WATER PIPE SHALL BE MADE WITH STANDARD BENDS, 5 DEGREE SWEEPS OR HIGH DEFLECTION (HD) COUPLINGS. NO BENDING OF THE PIPE OR DEFLECTING OF PVC PIPE JOINTS IS PERMITTED. WHERE HIGH DEFLECTION COUPLINGS OR 5 DEGREE SWEEPS ARE PERMITTED, THE CONTRACTOR SHALL PROVIDE ONE FULL PIPE LENGTH (20 FT LONG) ON EITHER SIDE OF THE HIGH DEFLECTION COUPLING OR 5 DEGREE SWEEP. THE CONTRACTOR SHALL USE A VIBRATORY PLATE OR COMPACTOR OR OTHER APPROVED MEANS TO THOROUGHLY COMPACT THE #57 STONE ON BOTH SIDES OF THE HIGH DEFLECTION COUPLING OF 5 DEGREE SWEEP, TAKING CARE NOT TO USE COMPACTION EQUIPMENT DIRECTLY OVER THE FITTING.

    PVC HIGH DEFLECTION COUPLINGS SHALL BE LIMITED TO A TOTAL DEFECTION OF 3 DEGREES (1.5 ON EITHER END OF THE COUPLING), SHALL BE RATED FOR A MINIMUM OF 200 PSI MEETING THE REQUIREMENTS OF AWWA C900, SHALL HAVE A MINIMUM LAY LENGTH OF 9 INCHES AND SHALL HAVE CENTER SLOPES. PVC HIGH DEFLECTION COUPLINGS SHALL BE CERTAINTEED PVC HIGH DEFLECTION STOP COUPLINGS OR EQUAL.

    FIVE DEGREE SWEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 225 PSI, DR 18 MEETING THE REQUIREMENTS OF AWWA C900 AND SHALL BE MULTI FITTINGS (IPEX) BLUE BRUTE DR18 OR EQUAL.

12. WHEN PVC HIGH DEFECTION COUPLINGS OR PVC 5 DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENTS OF AWWA C900 PVC PIPELINES, THE CONTRACTOR SHALL INSTALL DEVICES FOR THE PREVENTION OF OVER INSERTION OF THE PVC PIPE SPIGOTS OR PLAIN ENDS INTO THE PUSH ON BELL JOINT ON BOTH SIDES OF THE HIGH DEFECTION COUPLINGS AND 5 DEGREE SWEEPS. BELL STOPS SHALL BE PLACED AT THE PROPER INSERTION LINE FOR THE FITTING. THE BELL STOP SHALL BE MANUFACTURED OF DUCTILE IRON AND INCORPORATE AN EXPANSION RETENTION SPRING TO ALLOW FOR PIPE EXPANSION AND CONTRACTION. THE BELL STOPS SHALL BE SERIES 5000 MEGA-STOP, AS MANUFACTURED BY EBAA IRON, INC. OR APPROVED EQUAL.

SCALE: 1" = 30'

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5-6-16
DIRECTOR	DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

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(443) 689-8000

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. 45292 EXPIRATION DATE: 05/21/2016

STATE OF MARYLAND — ROBERT A. CROWLEY — 45292 — REGISTERED PROFESSIONAL ENGINEER

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE: SITE UTILITY PLAN

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY	DATE	
M. WERDER	04/04/2016	35 OF 70
CHK. BY	APPROVED	
R. CROWLEY		

SDP-16-005

NOTES:

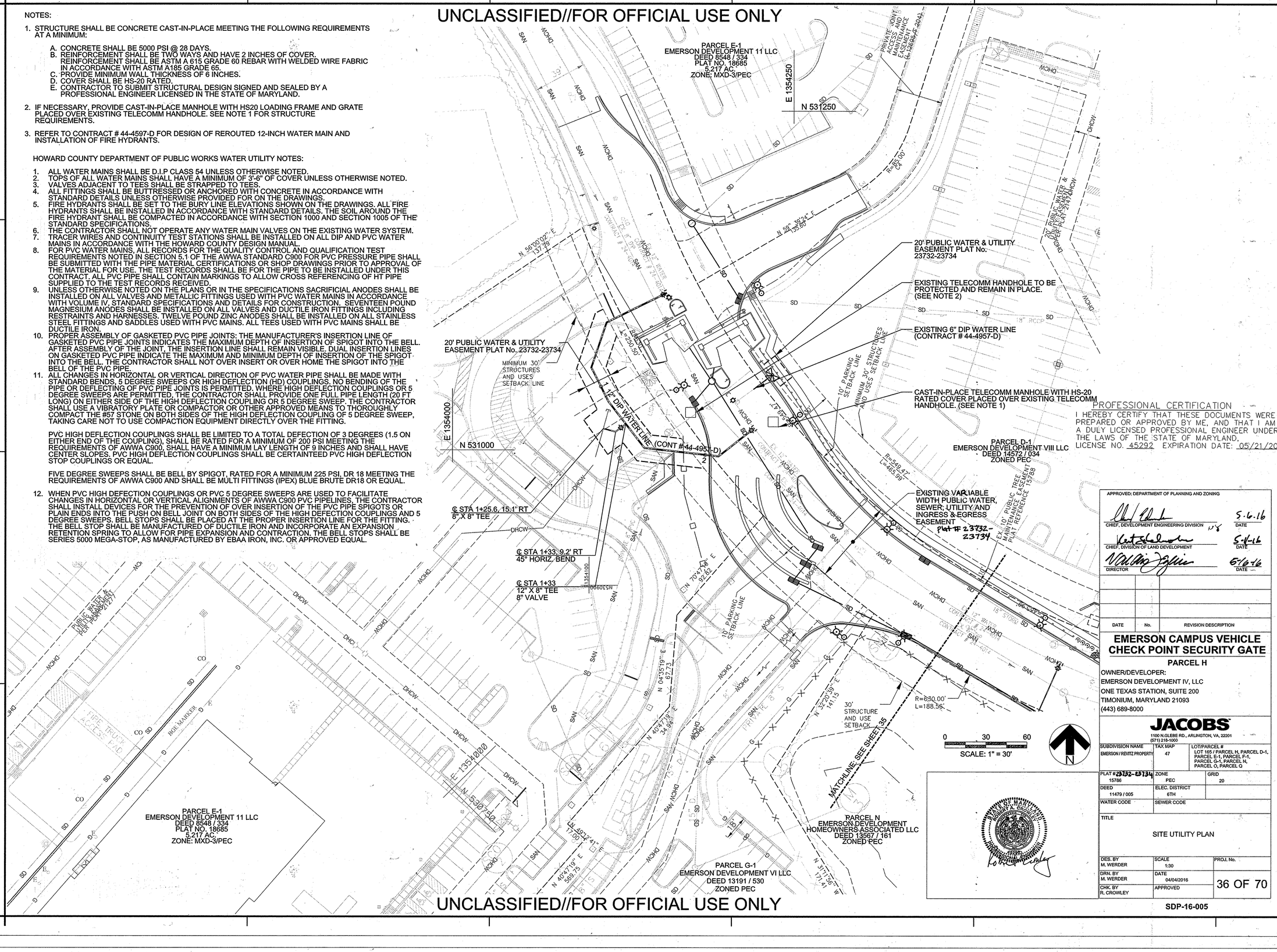
1. STRUCTURE SHALL BE CONCRETE CAST-IN-PLACE MEETING THE FOLLOWING REQUIREMENTS AT A MINIMUM:
   A. CONCRETE SHALL BE 5000 PSI @ 28 DAYS.
   B. REINFORCEMENT SHALL BE TWO WAYS AND HAVE 2 INCHES OF COVER. REINFORCEMENT SHALL BE ASTM A 615 GRADE 60 REBAR WITH WELDED WIRE FABRIC IN ACCORDANCE WITH ASTM A185 GRADE 65.
   C. PROVIDE MINIMUM WALL THICKNESS OF 6 INCHES.
   D. COVER SHALL BE HS-20 RATED.
   E. CONTRACTOR TO SUBMIT STRUCTURAL DESIGN SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MARYLAND.
2. IF NECESSARY, PROVIDE CAST-IN-PLACE MANHOLE WITH HS20 LOADING FRAME AND GRATE PLACED OVER EXISTING TELECOMM HANDHOLE. SEE NOTE 1 FOR STRUCTURE REQUIREMENTS.
3. REFER TO CONTRACT # 44-4597-D FOR DESIGN OF REROUTED 12-INCH WATER MAIN AND INSTALLATION OF FIRE HYDRANTS.

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS WATER UTILITY NOTES:

1. ALL WATER MAINS SHALL BE D.I.P CLASS 54 UNLESS OTHERWISE NOTED.
2. TOPS OF ALL WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" OF COVER UNLESS OTHERWISE NOTED.
3. VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
4. ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
5. FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS. THE SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND SECTION 1005 OF THE STANDARD SPECIFICATIONS.
6. THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
7. TRACER WIRES AND CONTINUITY TEST STATIONS SHALL BE INSTALLED ON ALL DIP AND PVC WATER MAINS IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL.
8. FOR PVC WATER MAINS, ALL RECORDS FOR THE QUALITY CONTROL AND QUALIFICATION TEST REQUIREMENTS NOTED IN SECTION 5.1 OF THE AWWA STANDARD C900 FOR PVC PRESSURE PIPE SHALL BE SUBMITTED WITH THE PIPE MATERIAL CERTIFICATIONS OR SHOP DRAWINGS PRIOR TO APPROVAL OF THE MATERIAL FOR USE. THE TEST RECORDS SHALL BE FOR THE PIPE TO BE INSTALLED UNDER THIS CONTRACT. ALL PVC PIPE SHALL CONTAIN MARKINGS TO ALLOW CROSS REFERENCING OF HT PIPE SUPPLIED TO THE TEST RECORDS RECEIVED.
9. UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS SACRIFICIAL ANODES SHALL BE INSTALLED ON ALL VALVES AND METALLIC FITTINGS USED WITH PVC WATER MAINS IN ACCORDANCE WITH VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION. SEVENTEEN POUND MAGNESIUM ANODES SHALL BE INSTALLED ON ALL VALVES AND DUCTILE IRON FITTINGS INCLUDING RESTRAINTS AND HARNESSES. TWELVE POUND ZINC ANODES SHALL BE INSTALLED ON ALL STAINLESS STEEL FITTINGS AND SADDLES USED WITH PVC MAINS. ALL TEES USED WITH PVC MAINS SHALL BE DUCTILE IRON.
10. PROPER ASSEMBLY OF GASKETED PVC PIPE JOINTS: THE MANUFACTURER'S INSERTION LINE OF GASKETED PVC PIPE JOINTS INDICATES THE MAXIMUM DEPTH OF INSERTION OF SPIGOT INTO THE BELL. AFTER ASSEMBLY OF THE JOINT, THE INSERTION LINE SHALL REMAIN VISIBLE. DUAL INSERTION LINES ON GASKETED PVC PIPE INDICATE THE MAXIMUM AND MINIMUM DEPTH OF INSERTION OF THE SPIGOT INTO THE BELL. THE CONTRACTOR SHALL NOT OVER INSERT OR OVER HOME THE SPIGOT INTO THE BELL OF THE PVC PIPE.
11. ALL CHANGES IN HORIZONTAL OR VERTICAL DIRECTION OF PVC WATER PIPE SHALL BE MADE WITH STANDARD BENDS, 5 DEGREE SWEEPS OR HIGH DEFLECTION (HD) COUPLINGS. NO BENDING OF THE PIPE OR DEFLECTING OF PVC PIPE JOINTS IS PERMITTED. WHERE HIGH DEFLECTION COUPLINGS OR 5 DEGREE SWEEPS ARE PERMITTED, THE CONTRACTOR SHALL PROVIDE ONE FULL PIPE LENGTH (20 FT LONG) ON EITHER SIDE OF THE HIGH DEFLECTION COUPLING OR 5 DEGREE SWEEP. THE CONTRACTOR SHALL USE A VIBRATORY PLATE OR COMPACTOR OR OTHER APPROVED MEANS TO THOROUGHLY COMPACT THE #57 STONE ON BOTH SIDES OF THE HIGH DEFLECTION COUPLING OF 5 DEGREE SWEEP, TAKING CARE NOT TO USE COMPACTION EQUIPMENT DIRECTLY OVER THE FITTING.

    PVC HIGH DEFLECTION COUPLINGS SHALL BE LIMITED TO A TOTAL DEFECTION OF 3 DEGREES (1.5 ON EITHER END OF THE COUPLING), SHALL BE RATED FOR A MINIMUM OF 200 PSI MEETING THE REQUIREMENTS OF AWWA C900, SHALL HAVE A MINIMUM LAY LENGTH OF 9 INCHES AND SHALL HAVE CENTER SLOPES. PVC HIGH DEFLECTION COUPLINGS SHALL BE CERTAINTEED PVC HIGH DEFLECTION STOP COUPLINGS OR EQUAL.

    FIVE DEGREE SWEEPS SHALL BE BELL BY SPIGOT, RATED FOR A MINIMUM 225 PSI, DR 18 MEETING THE REQUIREMENTS OF AWWA C900 AND SHALL BE MULTI FITTINGS (IPEX) BLUE BRUTE DR18 OR EQUAL.
12. WHEN PVC HIGH DEFECTION COUPLINGS OR PVC 5 DEGREE SWEEPS ARE USED TO FACILITATE CHANGES IN HORIZONTAL OR VERTICAL ALIGNMENTS OF AWWA C900 PVC PIPELINES, THE CONTRACTOR SHALL INSTALL DEVICES FOR THE PREVENTION OF OVER INSERTION OF THE PVC PIPE SPIGOTS OR PLAIN ENDS INTO THE PUSH ON BELL JOINT ON BOTH SIDES OF THE HIGH DEFECTION COUPLINGS AND 5 DEGREE SWEEPS. BELL STOPS SHALL BE PLACED AT THE PROPER INSERTION LINE FOR THE FITTING. THE BELL STOP SHALL BE MANUFACTURED OF DUCTILE IRON AND INCORPORATE AN EXPANSION RETENTION SPRING TO ALLOW FOR PIPE EXPANSION AND CONTRACTION. THE BELL STOPS SHALL BE SERIES 5000 MEGA-STOP, AS MANUFACTURED BY EBAA IRON, INC. OR APPROVED EQUAL.



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APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5.6.16
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5-6-16
DIRECTOR	DATE 5/6/16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

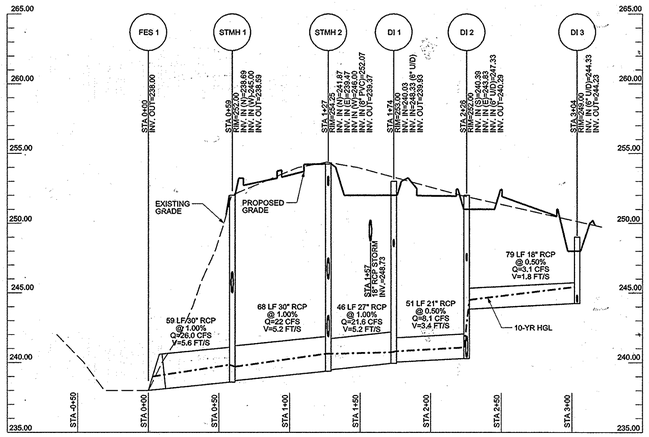
SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT # 23732-23734 15786	ZONE PEC	GRID 20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

TITLE: SITE UTILITY PLAN

DES. BY M. WERDER	SCALE 1:30	PROJ. No.
DRN. BY M. WERDER	DATE 04/04/2016	36 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005



1 STORM PROFILE: FES 1 - DI 3
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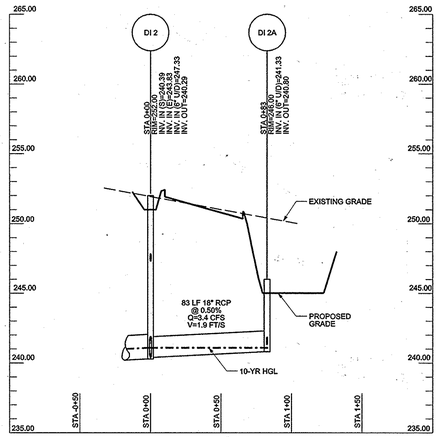
0 50 100

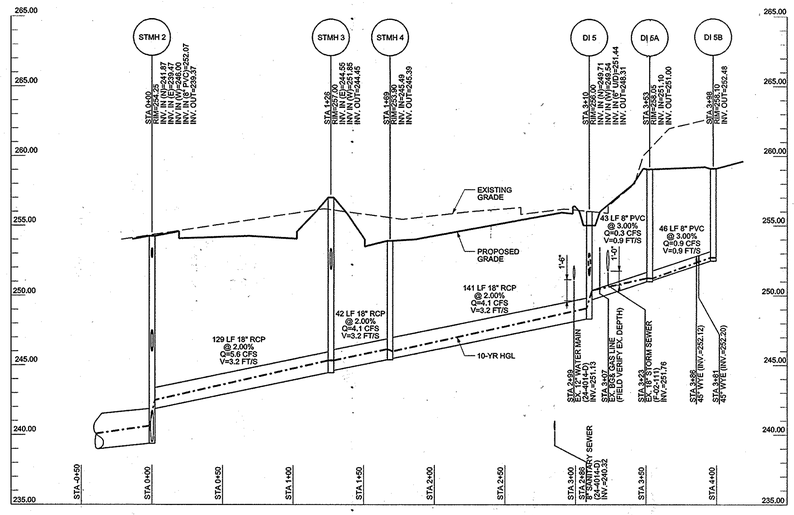
SCALE:
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'



2 STORM PROFILE: DI 2 - DI2A
SCALE: HORIZONTAL 1" = 50', VERTICAL 1" = 5'

0 50 100

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



3 STORM PROFILE: STMH 2 - DI 5B
SCALE: HORIZONTAL 1" = 50', VERTICAL 1" = 5'

0 50 100

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

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APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5.6.16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-6-16

DIRECTOR — DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

TITLE: UTILITY PROFILES

DES. BY	SCALE	PROJ. No.
M. WERDER	AS SHOWN	
DRN. BY M. WERDER	DATE 04/04/2016	37 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005

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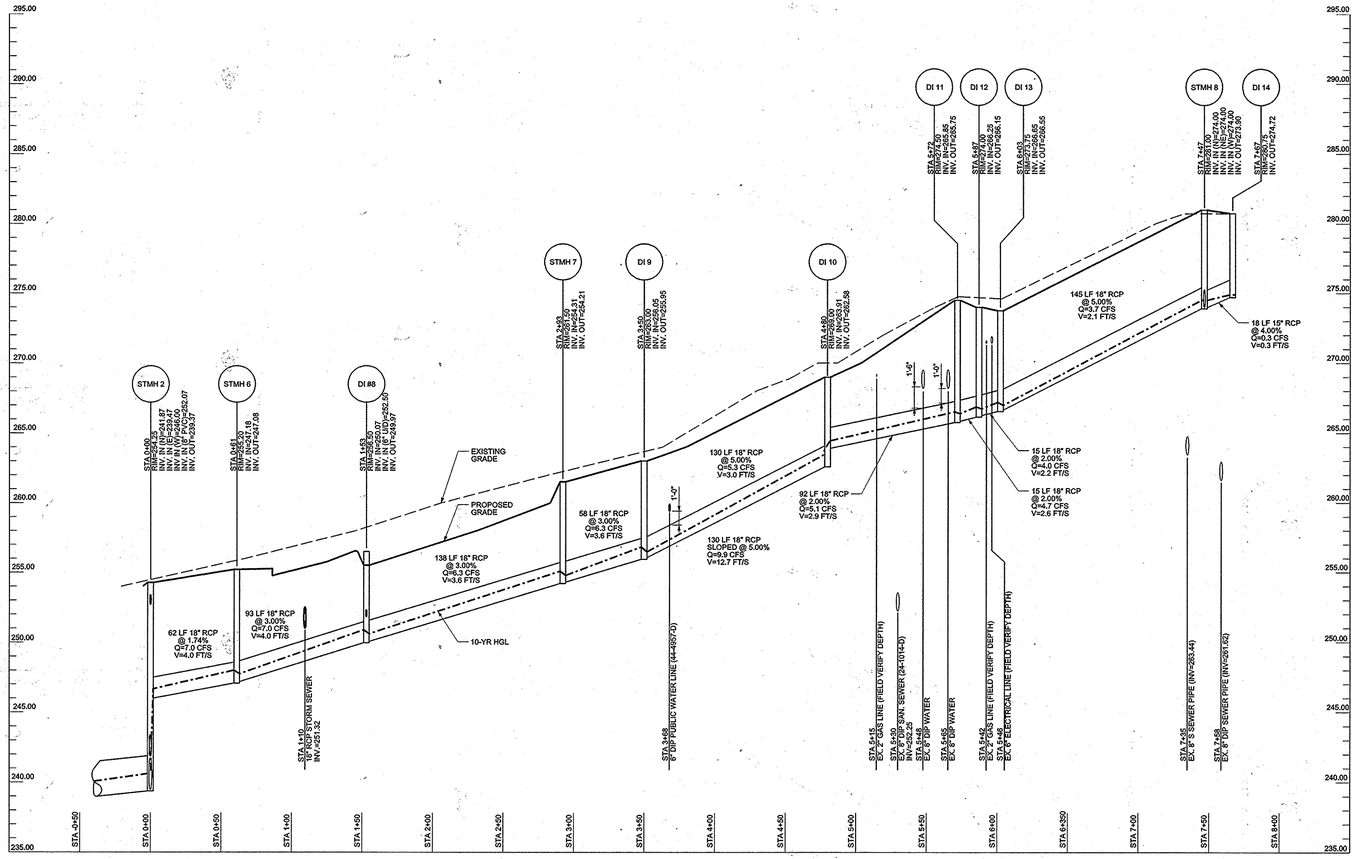

1 STORM PROFILE: STMH 2 - DI 14

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

0 50 100

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

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STATE OF MARYLAND — ROBERT A. CROWLEY — 45292 — PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-11-16

DIRECTOR — DATE 5-10-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
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TITLE: UTILITY PROFILES

DES. BY	SCALE	PROJ. No.
M. WERDER	AS SHOWN	
DRN. BY M. WERDER	DATE 04/04/2016	38 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005

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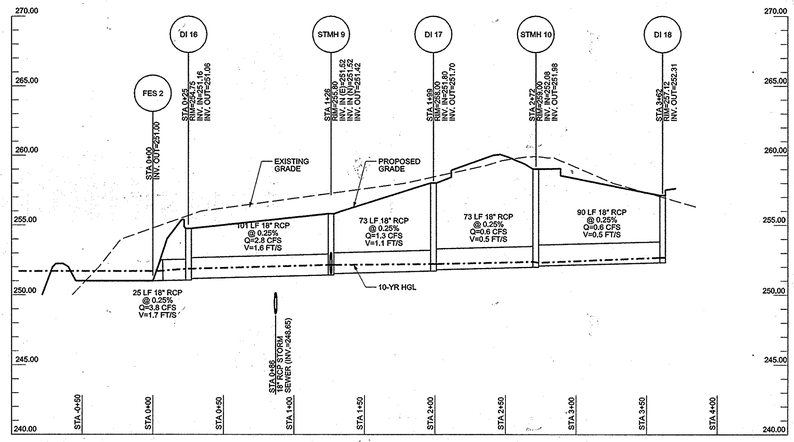

1 STORM PROFILE: FES 2 - DI 18
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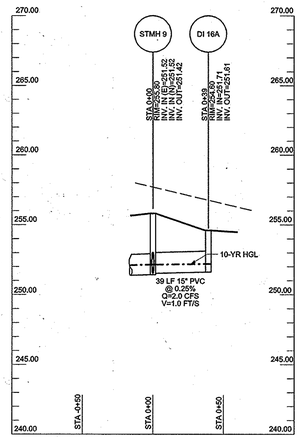
VERTICAL: 1" = 5'



2 STORM PROFILE: STMH 9 - DI 16A
SCALE: HORIZONTAL 1" = 50', VERTICAL 1" = 5'

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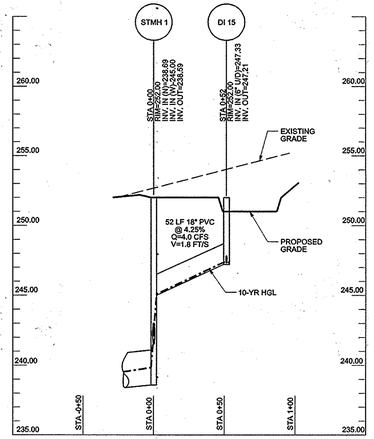
VERTICAL: 1" = 5'



3 STORM PROFILE: STMH 1 - DI 15
SCALE: HORIZONTAL 1" = 50', VERTICAL 1" = 5'

0 50 100
SCALE:
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-11-16

DIRECTOR — DATE 5-10-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED: 11479 / 005	ELEC. DISTRICT: 6TH	
WATER CODE	SEWER CODE	

TITLE: UTILITY PROFILES

DES. BY	SCALE	PROJ. No.
M. WERDER	AS SHOWN	
DRN. BY: M. WERDER	DATE: 04/04/2016	39 OF 70
CHK. BY: R. CROWLEY	APPROVED	

SDP-16-005

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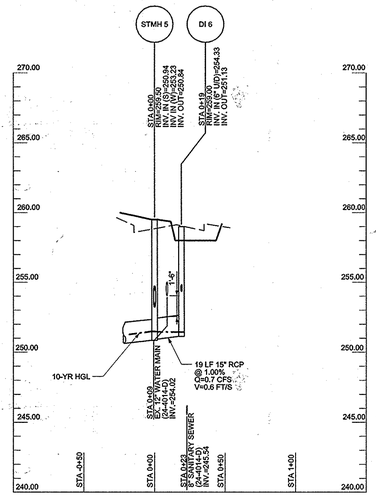

1 STORM PROFILE: STMH 5 - DI 6

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SCALE:
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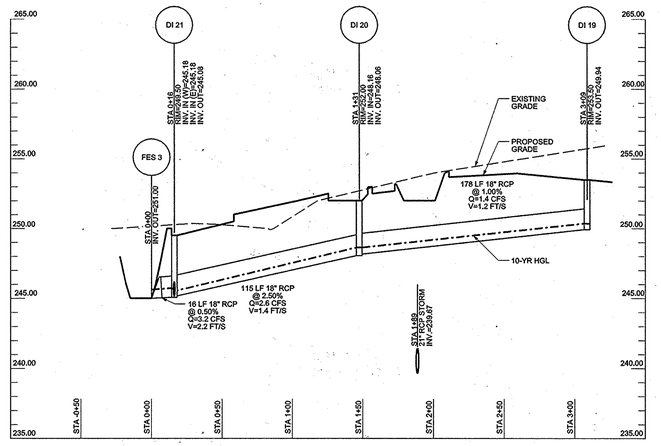
VERTICAL: 1" = 5'



2 STORM PROFILE: FES 3 - DI 19

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

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SCALE:
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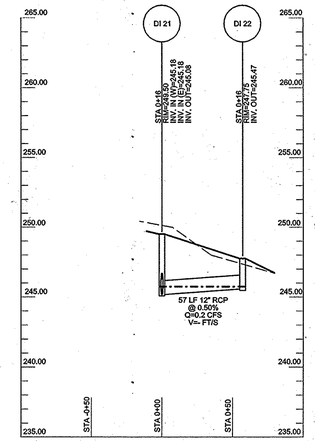
VERTICAL: 1" = 5'



3 STORM PROFILE: DI 21 - DI 22

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

0 50 100

SCALE:
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VERTICAL: 1" = 5'

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STATE OF MARYLAND — ROBERT A. CROWLEY — 45292 — PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-16-16

DIRECTOR — DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

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TIMONIUM, MARYLAND 21093
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SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
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PLAT #	ZONE	GRID
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DES. BY	SCALE	PROJ. No.
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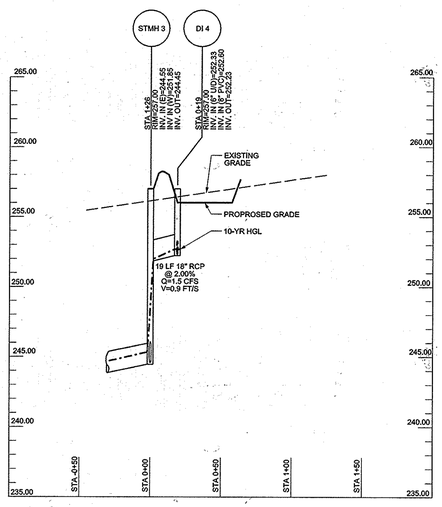

1 **STORM PROFILE: STMH 3 - DI 4**

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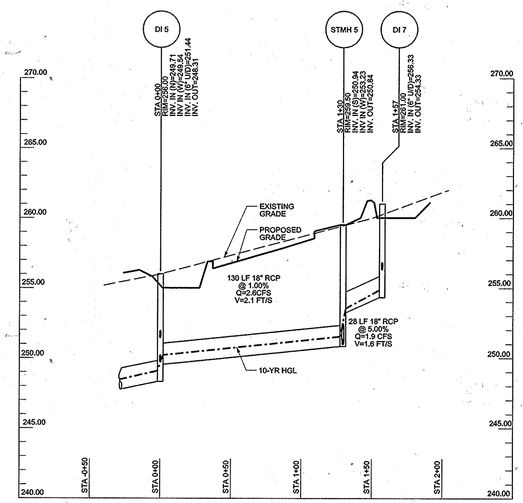
SCALE:
HORIZONTAL: 1" = 50'
VERTICAL: 1" = 5'



2 **STORM PROFILE: DI 5 - DI 7**

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

0 50 100

SCALE:
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VERTICAL: 1" = 5'

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APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-16-16

DIRECTOR — DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

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1100 N.GLEBE RD., ARLINGTON, VA, 22201
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SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
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TITLE: UTILITY PROFILES

DES. BY	SCALE	PROJ. No.
M. WERDER	AS SHOWN	
DRN. BY	DATE	
M. WERDER	04/04/2016	41 OF 70
CHK. BY	APPROVED	
R. CROWLEY		

SDP-16-005

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EMERSON FACILITY - SEQUENCE OF CONSTRUCTION

STANDARDS

1. ALL TEMPORARY TRAFFIC CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND THE SHA BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES.
2. INSTALL TOP AND SIDE BARRIER WALL MARKERS IN ACCORDANCE WITH SHA STANDARD NOS. 104.01-25 AND 104.01-26.

MAINTENANCE OF TRAFFIC - SPECIAL NOTES FOR FACILITY ACCESS AND WORK HOURS

1. THE CONTRACTOR SHALL MAINTAIN ACCESS TO THE FACILITY AT ALL TIMES DURING ALL HOURS OF CONSTRUCTION, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
2. AT LEAST ONE LANE IN EACH DIRECTION SHALL BE MAINTAINED INTO THE FACILITY TO ACCOMMODATE A SINGLE UNIT TRUCK DESIGN VEHICLE.

PRE CONSTRUCTION ACTIVITIES

1. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER AND FACILITY SECURITY MANAGER TO SCHEDULE THE START OF WORK ON GOVERNMENT PROPERTY. REFER TO THE SPECIFICATIONS FOR REQUIRED NOTIFICATIONS AND PROCEDURES PRIOR TO STARTING WORK.
2. ALL CONDUIT WORK REQUIRED FOR THE PROPOSED SECURITY IMPROVEMENTS SHALL BE APPROVED BY THE SECURITY MANAGER. WHERE POSSIBLE, CONDUIT WORK SHOULD BE INSTALLED PRIOR TO BEGINNING ACTIVITIES IN PHASE 1.

PHASE 1 - PROPOSED PAVEMENT SOUTH OF STERLING DRIVE & TEMPORARY ACCESS ROAD TO E6

1. INSTALL REQUIRED EROSION AND SEDIMENT CONTROL DEVICES.
2. INSTALL TEMPORARY SIGNING, TRAFFIC CONTROL DEVICES, AND TEMPORARY CONCRETE BARRIER.
3. SHIFT TRAVEL LANES TO THE NORTH, AND MAINTAIN TWO LANES OF TRAFFIC ALONG STERLING DRIVE, AS SHOWN.
4. DURING PHASE 1, MAINTAIN THE EXISTING ENTRANCES TO BUILDINGS E6, E7, AND E8.
5. SEE NOTES FOR PHASE 1 PEDESTRIAN - SEQUENCE OF CONSTRUCTION.
6. CONSTRUCT PROPOSED FULL DEPTH PAVEMENT, AS SHOWN.
7. CONSTRUCT / INSTALL PROPOSED CONCRETE ISLAND, SECURITY CONDUIT AND EQUIPMENT, FOUNDATIONS, AND CANOPY.
8. CONSTRUCT THE TEMPORARY ACCESS ROAD FOR BUILDING E6.

PHASE 1 PEDESTRIAN

1. CLOSE THE EXISTING SIDEWALK ALONG THE NORTH SIDE OF STERLING DRIVE.
2. DIRECT ALL PEDESTRIAN TRAFFIC TO USE EXISTING SIDEWALK ALONG THE SOUTH SIDE OF STERLING DRIVE.

PHASE 2 - PROPOSED PAVEMENT SOUTH OF STERLING DRIVE AT BUILDINGS E6 & E7

1. INSTALL REQUIRED EROSION AND SEDIMENT CONTROL DEVICES.
2. INSTALL TEMPORARY SIGNING, TRAFFIC CONTROL DEVICES, AND TEMPORARY CONCRETE BARRIER.
3. SHIFT TRAVEL LANES TO THE NORTH, AND MAINTAIN TWO LANES OF TRAFFIC ALONG STERLING DRIVE, AS SHOWN.
4. DURING PHASE 2, MAINTAIN THE EXISTING ENTRANCES TO BUILDINGS E7 AND E8.
5. CONSTRUCTION TRAFFIC SHALL UTILIZE THE TEMPORARY ACCESS ROAD TO BUILDING E6.
6. SEE NOTES FOR PHASE 2 PEDESTRIAN - SEQUENCE OF CONSTRUCTION.
7. CONSTRUCT PROPOSED FULL DEPTH PAVEMENT FOR NEW ENTRANCES TO BUILDINGS E6 AND E7, AS SHOWN.
8. INSTALL THE PROPOSED GRABNET WITHIN THE WORK AREA (EASTBOUND STERLING DRIVE).
9. AS A FINAL ACTIVITY OF PHASE 2, ADJUST THE TIE-IN OF THE TEMPORARY ACCESS ROAD FOR BUILDING E6 AND CONSTRUCT PROPOSED FULL DEPTH PAVEMENT AND CURB AND GUTTER.

PHASE 2 PEDESTRIAN

1. MAINTAIN THE CLOSURE OF THE EXISTING SIDEWALK ALONG THE NORTH SIDE OF STERLING DRIVE SET UP DURING PHASE 1.
2. DIRECT ALL PEDESTRIAN TRAFFIC TO USE EXISTING SIDEWALK ALONG THE SOUTH SIDE OF STERLING DRIVE.

PHASE 3 - PROPOSED MEDIANS ALONG STERLING DRIVE / BUILDING E8 ENTRANCE

1. INSTALL REQUIRED EROSION AND SEDIMENT CONTROL DEVICES.
2. INSTALL TEMPORARY SIGNING AND TRAFFIC CONTROL DEVICES.
3. MAINTAIN TWO LANES OF TRAFFIC ALONG NEWLY CONSTRUCTED PAVEMENT ON STERLING DRIVE, AS SHOWN.
4. A TEMPORARY 3-WAY FLAGGER OPERATION MAY BE REQUIRED IF THE REQUIRED WORK ACTIVITIES LIMITS THE AVAILABLE PAVEMENT WIDTH REQUIRED FOR TWO-WAY TRAFFIC AND AS APPROVED BY THE ENGINEER.
5. DURING PHASE 3, MAINTAIN THE EXISTING ENTRANCE TO BUILDING E7.
6. CLOSE THE EXISTING ENTRANCE TO BUILDING E8, AND DIRECT TRAFFIC TO THE BUILDING E5 ENTRANCE.
7. CONSTRUCTION TRAFFIC SHALL UTILIZE THE TEMPORARY ACCESS ROAD TO BUILDING E6.
8. SEE NOTES FOR PHASE 3 PEDESTRIAN - SEQUENCE OF CONSTRUCTION.
9. CONSTRUCT FULL DEPTH PAVEMENT AND MEDIANS ALONG STERLING DRIVE AND AT THE ENTRANCE TO BUILDING E8, AS SHOWN.
10. INSTALL THE PROPOSED GRABNET WITHIN THE WORK AREA (WESTBOUND STERLING DRIVE).
11. CONSTRUCT THE PROPOSED PEDESTRIAN SECURITY AND TURNSTILE AREA ON THE NORTH SIDE OF STERLING DRIVE.

PHASE 3 PEDESTRIAN

1. CLOSE EXISTING SIDEWALK ALONG THE NORTH SIDE OF STERLING DRIVE FROM STEPHENS ROAD TO WEST OF THE BUILDING E8 ENTRANCE.
2. THE CONTRACTOR SHALL PREPARE AND SUBMIT A PLAN FOR APPROVAL TO ADDRESS TEMPORARY PEDESTRIAN ACCESS FOR PHASE 3.

PHASE 4 - STERLING DR. MEDIANS / CONCRETE BARRIER CHICANES / FINAL EQUIPMENT INSTALLATION

1. PHASE 4 WORK SHALL BE PERFORMED DURING THE WEEKEND OR AFTER FACILITY WORK HOURS, UNLESS OTHERWISE APPROVED OR DIRECTED BY THE ENGINEER AND THE SECURITY MANAGER.
2. INSTALL REQUIRED EROSION AND SEDIMENT CONTROL DEVICES.
3. INSTALL TEMPORARY SIGNING AND TRAFFIC CONTROL DEVICES.
4. MAINTAIN TWO LANES OF TRAFFIC ALONG STERLING DRIVE. IF THE REQUIRED WORK ACTIVITIES LIMITS THE AVAILABLE PAVEMENT WIDTH REQUIRED FOR TWO-WAY TRAFFIC, THE CONTRACTOR SHALL EXECUTE A FLAGGER OPERATION TO TEMPORARILY MAINTAIN TRAFFIC.
5. MAINTAIN BUILDINGS E3 AND E5 ACCESS THROUGH THE BUILDING E5 OVERFLOW LOT CONNECTOR.
6. SEE NOTES FOR PHASE 4 PEDESTRIAN - SEQUENCE OF CONSTRUCTION.
7. CONSTRUCT MEDIANS ALONG STERLING DRIVE AT THE ENTRANCES OF BUILDINGS E7 AND E8.
8. INSTALL REMAINING PROPOSED SECURITY GATES AND EQUIPMENT.
9. DEMOLISH THE TEMPORARY ACCESS ROAD AT BUILDING E6.
10. GRIND, PATCH, AND RESURFACE THE PAVEMENT AS SHOWN ON THE PLANS.
11. INSTALL ALL PROPOSED SIGNS, PAVEMENT MARKINGS, LIGHTING, AND LANDSCAPE WITHIN THE PROJECT LIMITS.

PHASE 4 PEDESTRIAN

1. PEDESTRIANS SHALL UTILIZE ALL PROPOSED SIDEWALKS AND CROSSWALKS.
2. IF REQUIRED, AND AS APPROVED BY THE ENGINEER, THE CONTRACTOR SHALL DEVELOP A TEMPORARY PEDESTRIAN-MOT PLAN FOR PHASE 4.

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. 45292 EXPIRATION DATE: 05/21/2016

STATE OF MARYLAND — ROBERT A. CROWLEY — 45292 — REGISTERED PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5-6-16
DIRECTOR	DATE 5-10-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #s	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE
MAINTENANCE OF TRAFFIC
SEQUENCE OF CONSTRUCTION NOTES

DES. BY	SCALE	PROJ. No.
M. WERDER	NTS	
DRN. BY	DATE	
M. WERDER	04/04/2016	
CHK. BY	APPROVED	42 OF 70
R. CROWLEY		

SDP-16-005

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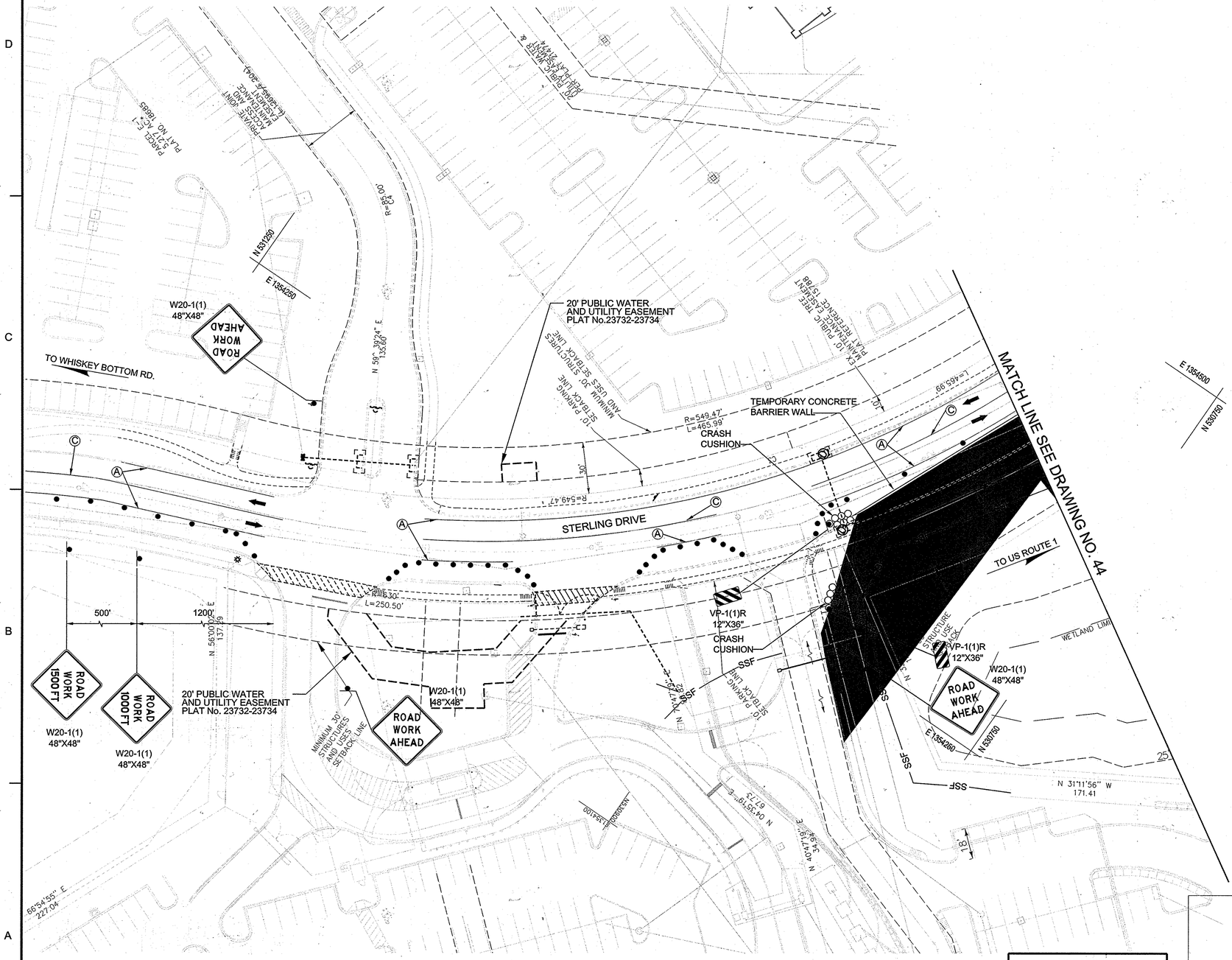

PAVEMENT MARKING LEGEND

- Ⓐ 5 INCH WHITE NONTOXIC LEAD FREE WATERBORNE PAVEMENT MARKING PAINT - SOLID
- Ⓑ 5 INCH YELLOW NONTOXIC LEAD FREE WATERBORNE PAVEMENT MARKING PAINT - SOLID
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- Ⓔ 24 INCH WHITE NONTOXIC LEAD FREE WATERBORNE PAVEMENT MARKING PAINT - SOLID

PHASE 1 - SHEET 1 OF 2

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

MOT LEGEND

- WORK ZONE
- PREVIOUS WORK ZONE
- TEMPORARY TRAFFIC SIGN — SIGN FACE
- DIRECTION OF TRAFFIC
- CHANNELIZING DEVICES

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PROFESSIONAL CERTIFICATION

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STATE OF MARYLAND — ROBERT A. CROWLEY — 45292 — PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5-11-16
DIRECTOR	DATE 5-10-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

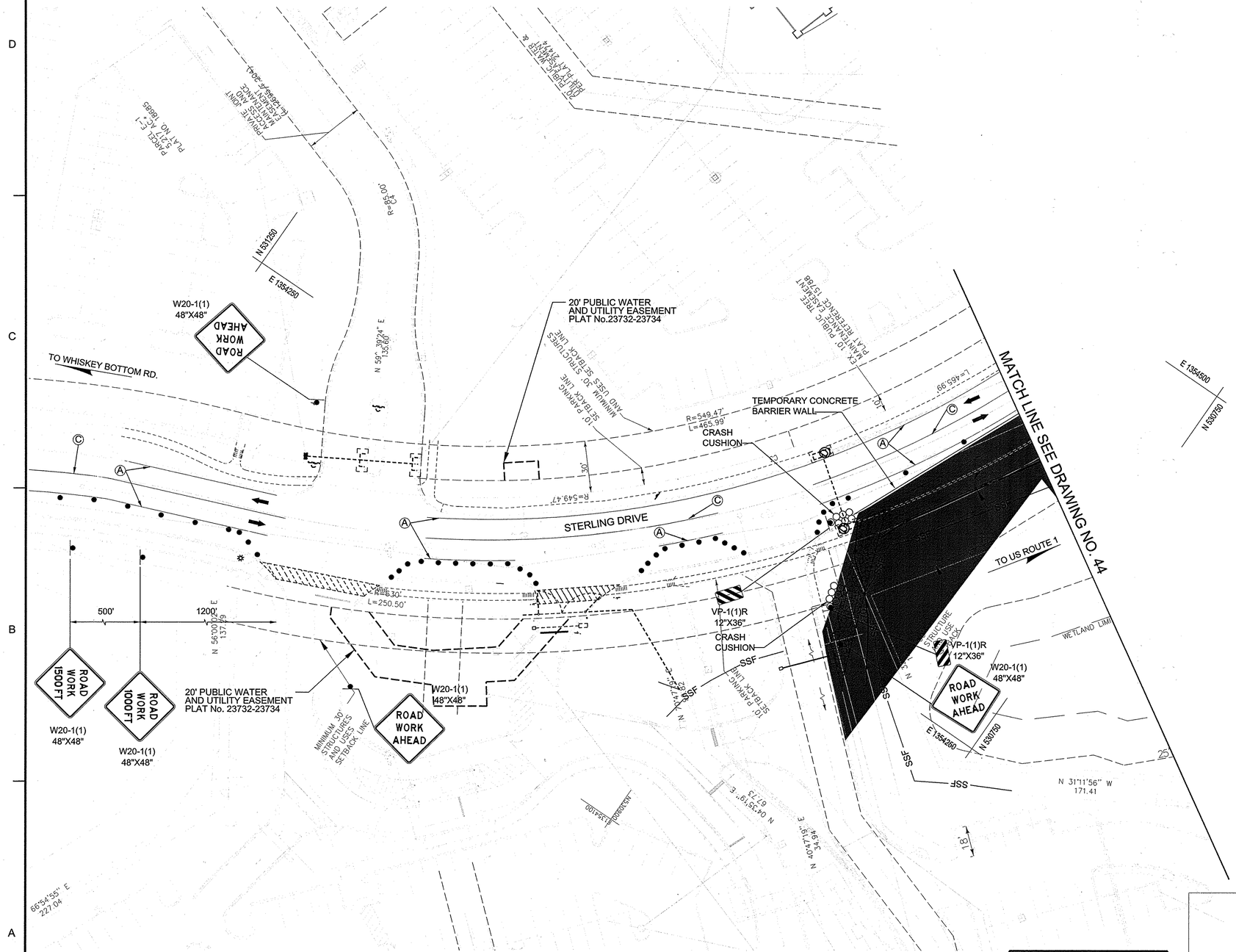
PLAT # 23732-23734	ZONE PEC	GRID 20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

TITLE

TRAFFIC CONTROL PLAN
PHASE 1

DES. BY M. WERDER	SCALE 1:30	PROJ. No.
DRN. BY M. WERDER	DATE 04/04/2016	43 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005



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- Ⓔ 24 INCH WHITE NONTOXIC LEAD FREE WATERBORNE PAVEMENT MARKING PAINT - SOLID

PHASE 1 - SHEET 1 OF 2

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

MOT LEGEND

- WORK ZONE
- PREVIOUS WORK ZONE
- TEMPORARY TRAFFIC SIGN SIGN FACE
- DIRECTION OF TRAFFIC
- CHANNELIZING DEVICES

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CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5-16-16
DIRECTOR	DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 216-1000

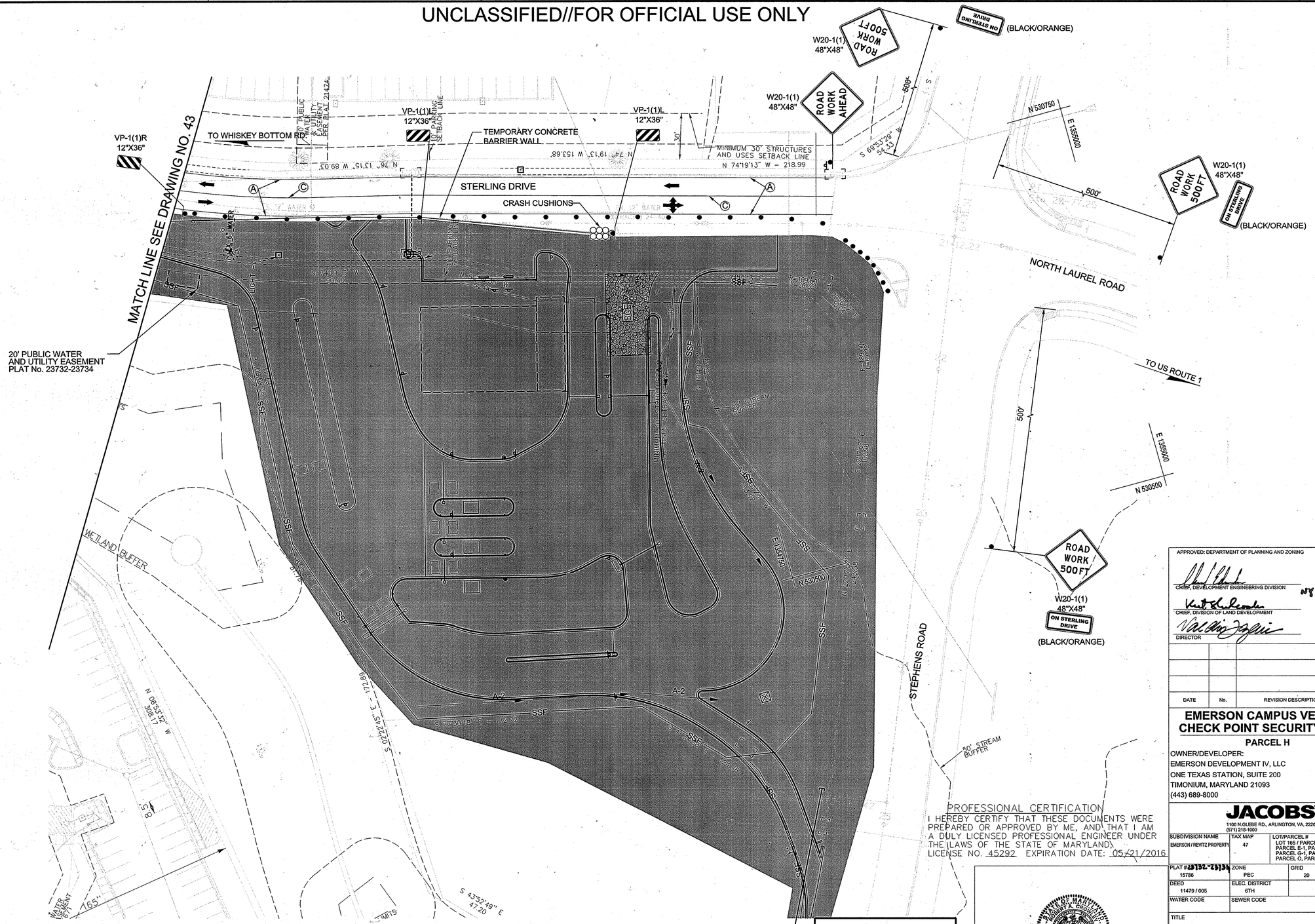
SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

TITLE
TRAFFIC CONTROL PLAN
PHASE 1

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY M. WERDER	DATE 04/04/2016	43 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005



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PHASE 1 - SHEET 2 OF 2

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

MOT LEGEND

- WORK ZONE
- PREVIOUS WORK ZONE
- TEMPORARY TRAFFIC SIGN — SIGN FACE
- DIRECTION OF TRAFFIC
- CHANNELIZING DEVICES

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STATE OF MARYLAND — ROBERT A. CROWLEY — 45292 — PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-6-16
DIRECTOR — DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 216-1000

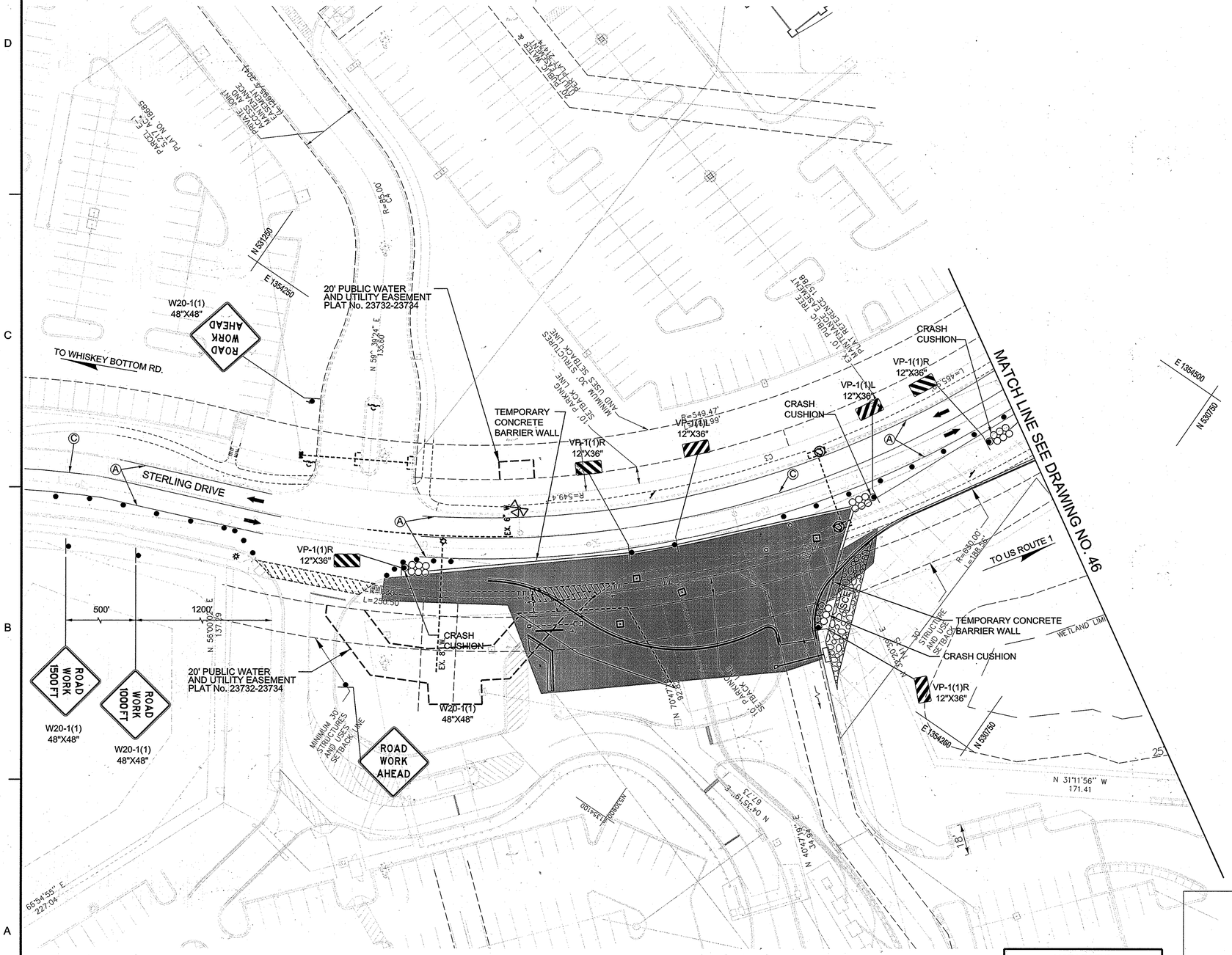
SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE
TRAFFIC CONTROL PLAN
PHASE 1

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY	DATE	44 OF 70
M. WERDER	04/04/2016	
CHK. BY	APPROVED	
R. CROWLEY		

SDP-16-005



PAVEMENT MARKING LEGEND

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PHASE 2 - SHEET 1 OF 2

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

MOT LEGEND

- WORK ZONE
- PREVIOUS WORK ZONE
- TEMPORARY TRAFFIC SIGN SIGN FACE
- DIRECTION OF TRAFFIC
- CHANNELIZING DEVICES

PROFESSIONAL CERTIFICATION

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LICENSE NO. 45292 EXPIRATION DATE: 05/21/2016

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-11-16
DIRECTOR — DATE 5-10-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
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(571) 216-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

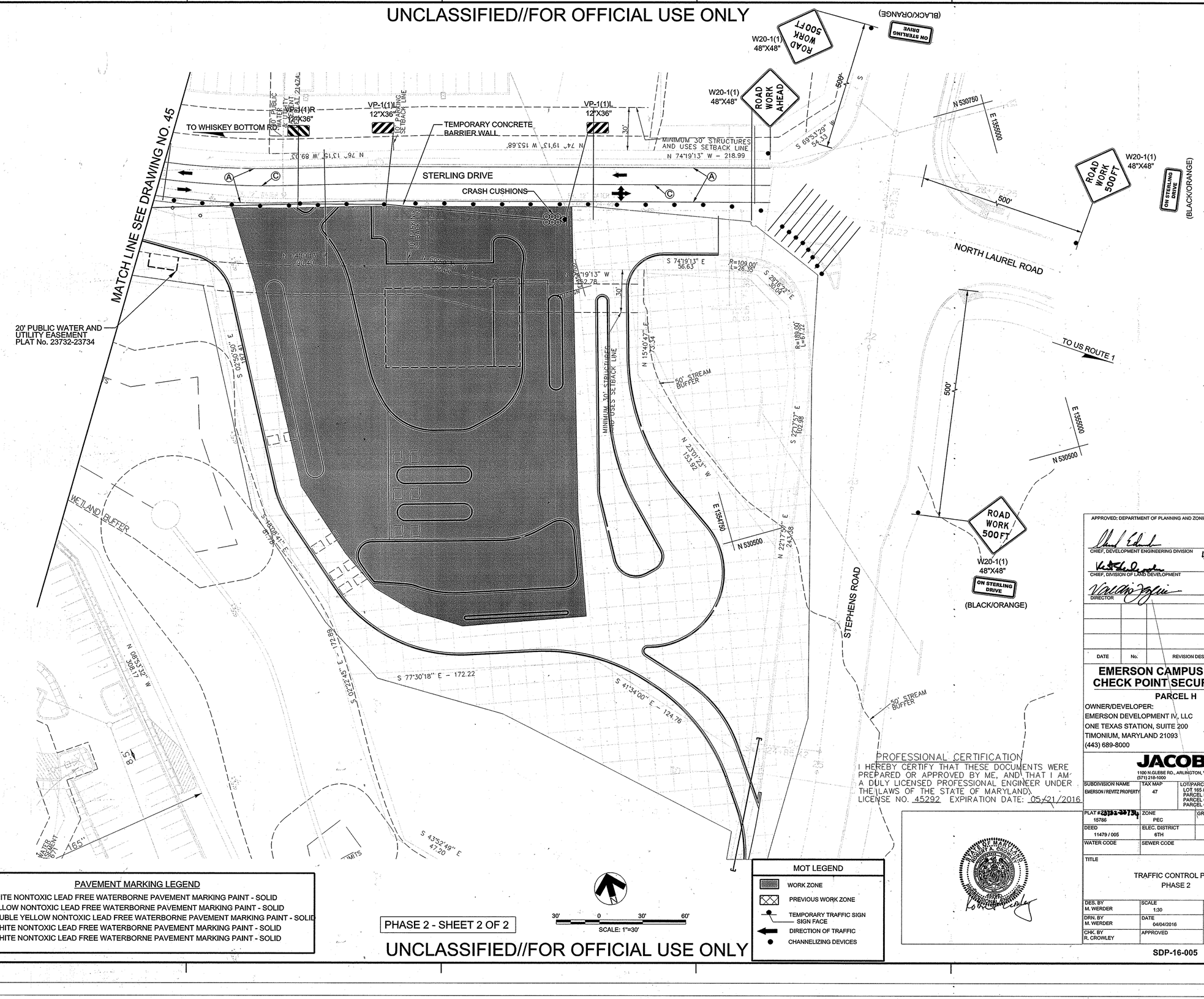
TITLE

TRAFFIC CONTROL PLAN
PHASE 2

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	86649
DRN. BY	DATE	
M. WERDER	04/04/2016	45 OF 70
CHK. BY	APPROVED	
R. CROWLEY		

SDP-16-005

STATE OF MARYLAND — ROBERT A. CROWLEY — 19742 — REGISTERED PROFESSIONAL ENGINEER



PAVEMENT MARKING LEGEND

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MOT LEGEND

- WORK ZONE
- PREVIOUS WORK ZONE
- TEMPORARY TRAFFIC SIGN — SIGN FACE
- DIRECTION OF TRAFFIC
- CHANNELIZING DEVICES

N

30' 0 30' 60'

SCALE: 1"=30'

PHASE 2 - SHEET 2 OF 2

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5-6-16
DIRECTOR	DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
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PROFESSIONAL CERTIFICATION
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JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

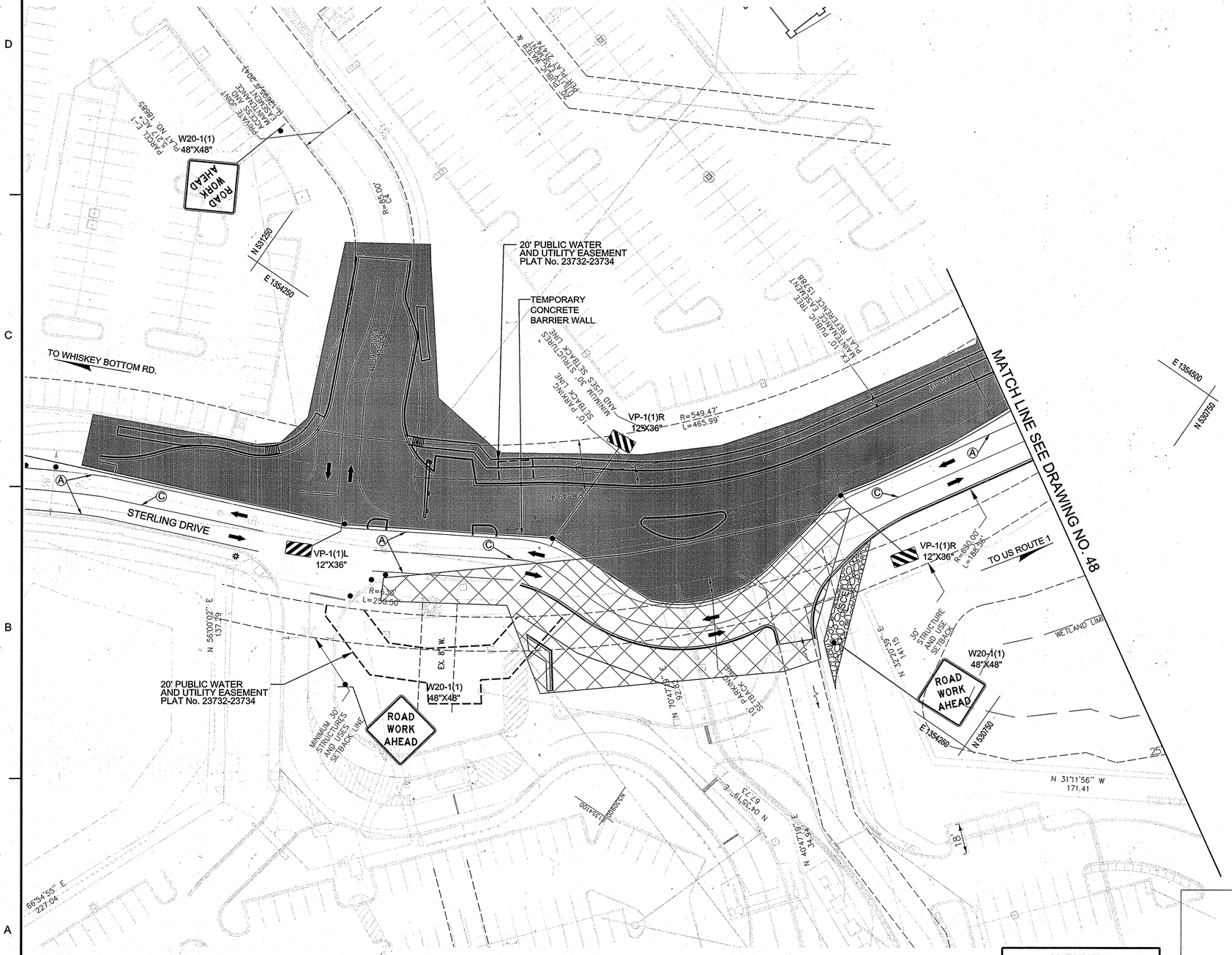
PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE

TRAFFIC CONTROL PLAN
PHASE 2

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY	DATE	46 OF 70
M. WERDER	04/04/2016	
CHK. BY	APPROVED	
R. CROWLEY		

SDP-16-005



PAVEMENT MARKING LEGEND

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- Ⓑ 5 INCH YELLOW NONTOXIC LEAD FREE WATERBORNE PAVEMENT MARKING PAINT - SOLID
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- Ⓔ 24 INCH WHITE NONTOXIC LEAD FREE WATERBORNE PAVEMENT MARKING PAINT - SOLID

PHASE 3 - SHEET 1 OF 2

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

MOT LEGEND

- WORK ZONE
- PREVIOUS WORK ZONE
- TEMPORARY TRAFFIC SIGN SIGN FACE
- DIRECTION OF TRAFFIC
- CHANNELIZING DEVICES

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PROFESSIONAL CERTIFICATION

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STATE OF MARYLAND — ROBERT A. CROWLEY — 45292 — REGISTERED PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5-6-16
DIRECTOR	DATE 5-10-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

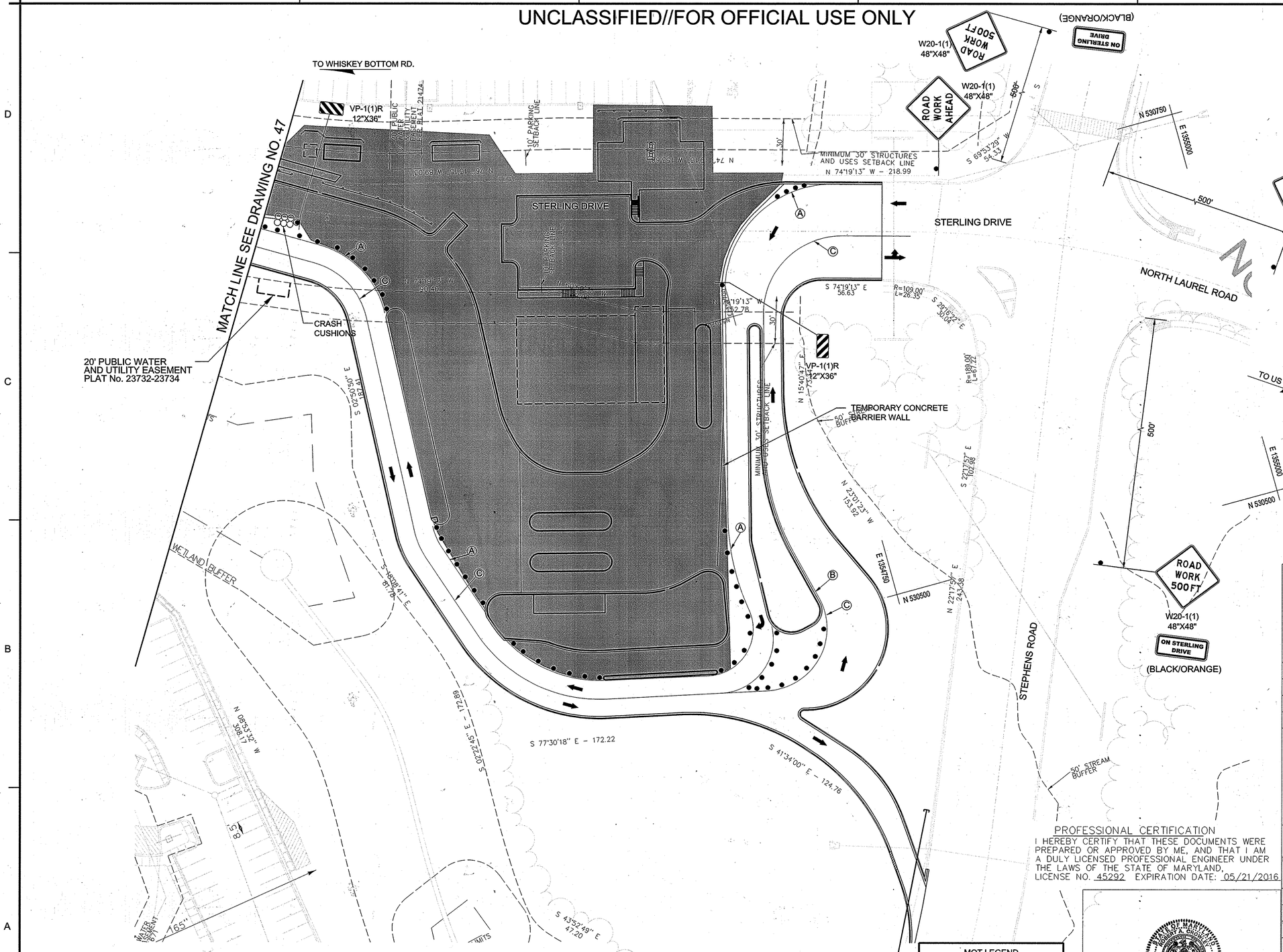
PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE

TRAFFIC CONTROL PLAN
PHASE 3

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY	DATE	
M. WERDER	04/04/2016	47 OF 70
CHK. BY	APPROVED	
R. CROWLEY		

SDP-16-005



PAVEMENT MARKING LEGEND

Ⓐ 5 INCH WHITE NONTOXIC LEAD FREE WATERBORNE PAVEMENT MARKING PAINT - SOLID
Ⓑ 5 INCH YELLOW NONTOXIC LEAD FREE WATERBORNE PAVEMENT MARKING PAINT - SOLID
Ⓒ 5 INCH DOUBLE YELLOW NONTOXIC LEAD FREE WATERBORNE PAVEMENT MARKING PAINT - SOLID
Ⓓ 12 INCH WHITE NONTOXIC LEAD FREE WATERBORNE PAVEMENT MARKING PAINT - SOLID
Ⓔ 24 INCH WHITE NONTOXIC LEAD FREE WATERBORNE PAVEMENT MARKING PAINT - SOLID

PHASE 3 - SHEET 2 OF 2

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

MOT LEGEND

- WORK ZONE
- PREVIOUS WORK ZONE
- TEMPORARY TRAFFIC SIGN SIGN FACE
- DIRECTION OF TRAFFIC
- CHANNELIZING DEVICES

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. 45292 EXPIRATION DATE: 05/21/2016

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-11-16
DIRECTOR — DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

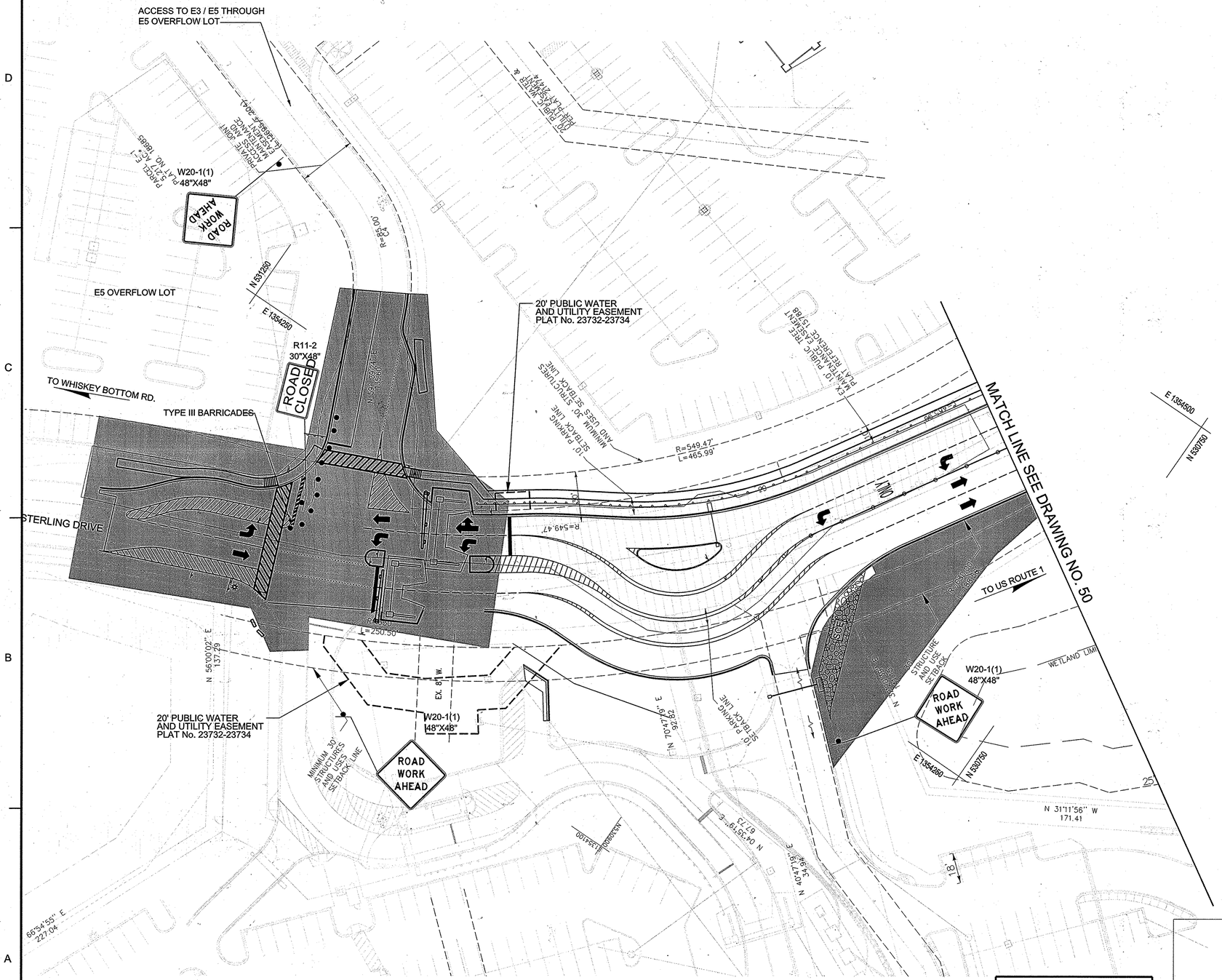
SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

TITLE
TRAFFIC CONTROL PLAN
PHASE 3

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY M. WERDER	DATE 04/04/2016	48 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005



PAVEMENT MARKING LEGEND

- Ⓐ 5 INCH WHITE NONTOXIC LEAD FREE WATERBORNE PAVEMENT MARKING PAINT - SOLID
- Ⓑ 5 INCH YELLOW NONTOXIC LEAD FREE WATERBORNE PAVEMENT MARKING PAINT - SOLID
- Ⓒ 5 INCH DOUBLE YELLOW NONTOXIC LEAD FREE WATERBORNE PAVEMENT MARKING PAINT - SOLID
- Ⓓ 12 INCH WHITE NONTOXIC LEAD FREE WATERBORNE PAVEMENT MARKING PAINT - SOLID
- Ⓔ 24 INCH WHITE NONTOXIC LEAD FREE WATERBORNE PAVEMENT MARKING PAINT - SOLID

PHASE 4 - SHEET 1 OF 2

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

MOT LEGEND

- WORK ZONE
- PREVIOUS WORK ZONE
- TEMPORARY TRAFFIC SIGN SIGN FACE
- DIRECTION OF TRAFFIC
- CHANNELIZING DEVICES

PROFESSIONAL CERTIFICATION
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STATE OF MARYLAND — ROBERT A. CROWLEY — 19292 — REGISTERED PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	5.6.16 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	5-11-16 DATE
DIRECTOR	5-16-16 DATE

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

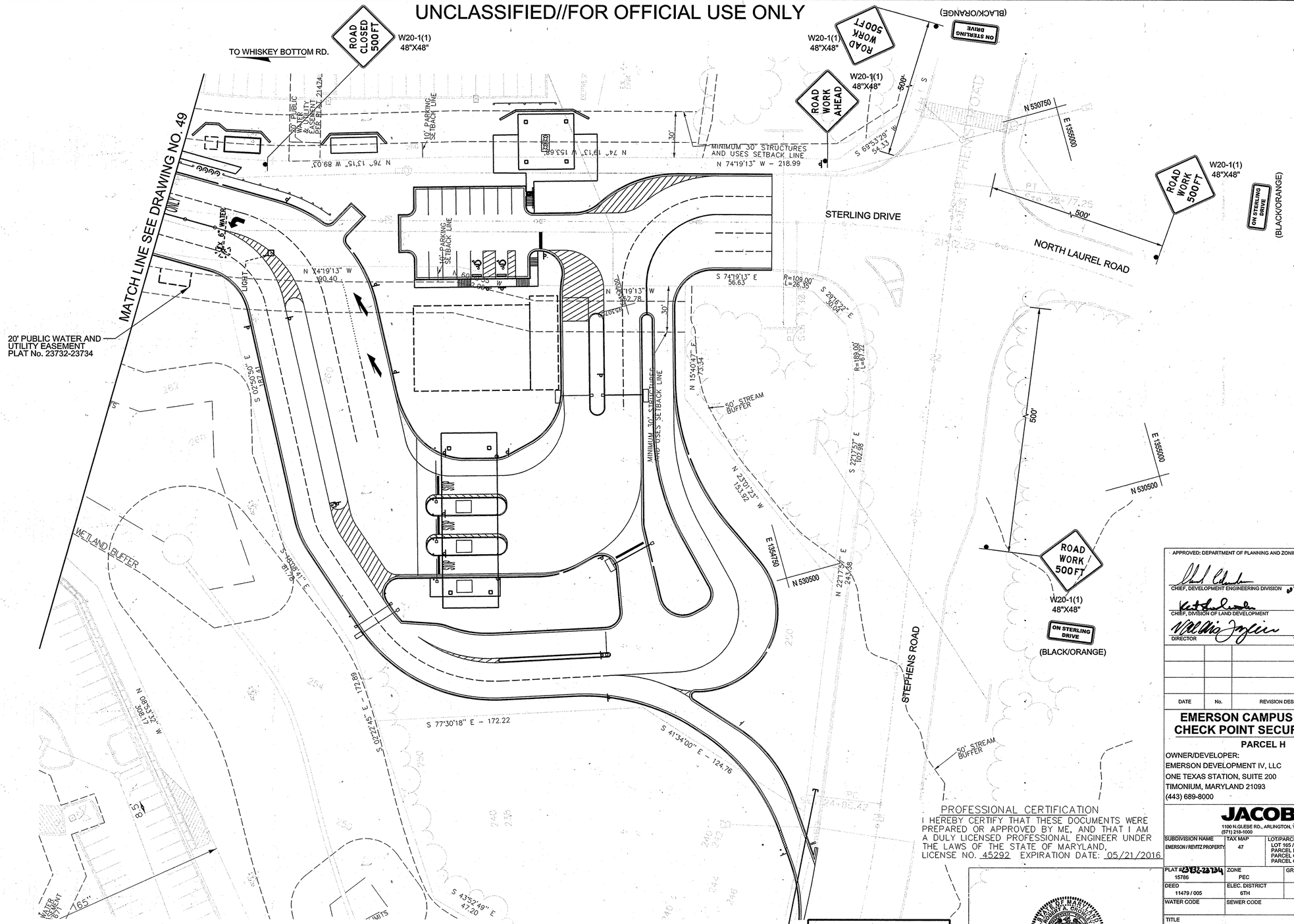
PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE

TRAFFIC CONTROL PLAN
PHASE 4

DES. BY	SCALE	PROJ. No.
M. WERDER	1:30	
DRN. BY M. WERDER	DATE 04/04/2016	49 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005



PAVEMENT MARKING LEGEND

- Ⓐ 5 INCH WHITE NONTOXIC LEAD FREE WATERBORNE PAVEMENT MARKING PAINT - SOLID
- Ⓑ 5 INCH YELLOW NONTOXIC LEAD-FREE WATERBORNE PAVEMENT MARKING PAINT - SOLID
- Ⓒ 5 INCH DOUBLE YELLOW NONTOXIC LEAD FREE WATERBORNE PAVEMENT MARKING PAINT - SOLID
- Ⓓ 12 INCH WHITE NONTOXIC LEAD FREE WATERBORNE PAVEMENT MARKING PAINT - SOLID
- Ⓔ 24 INCH WHITE NONTOXIC LEAD FREE WATERBORNE PAVEMENT MARKING PAINT - SOLID

PHASE 4 - SHEET 2 OF 2

MOT LEGEND

- WORK ZONE
- PREVIOUS WORK ZONE
- TEMPORARY TRAFFIC SIGN SIGN FACE
- DIRECTION OF TRAFFIC
- CHANNELIZING DEVICES

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	5-6-16 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	5-11-16 DATE
DIRECTOR	5-16-16 DATE

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 216-1000

PROFESSIONAL CERTIFICATION
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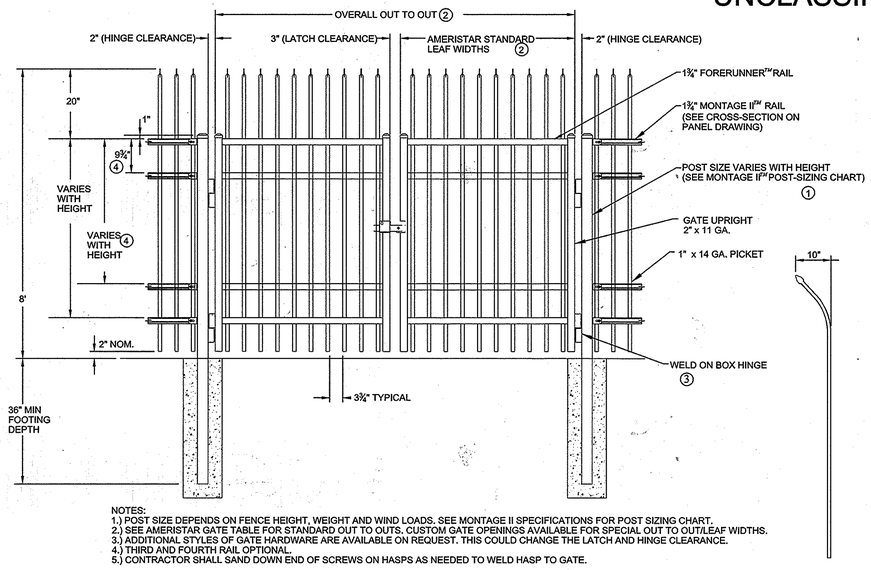
STATE OF MARYLAND — ROBERT A. CROWLEY — REGISTERED PROFESSIONAL ENGINEER — 45292 — PROFESSIONAL ENGINEER

SUBDIVISION NAME: EMERSON / REVITZ PROPERTY	TAX MAP: 47	LOT/PARCEL #: LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q
PLAT #: 15786 (23732-23734)	ZONE: PEC	GRID: 20
DEED: 11479 / 005	ELEC. DISTRICT: 6TH	
WATER CODE	SEWER CODE	

TITLE
TRAFFIC CONTROL PLAN
PHASE 4

DES. BY: M. WERDER	SCALE: 1:30	PROJ. No.
DRN. BY: M. WERDER	DATE: 04/04/2016	50 OF 70
CHK. BY: R. CROWLEY	APPROVED	

SDP-16-005

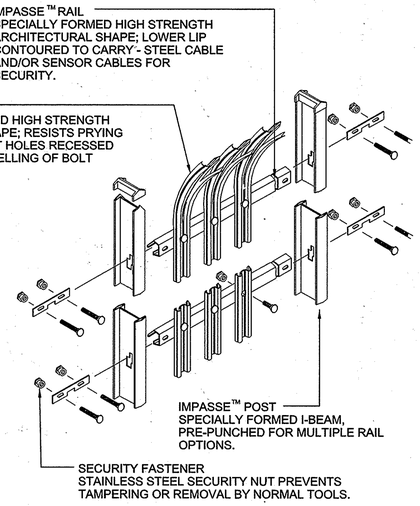


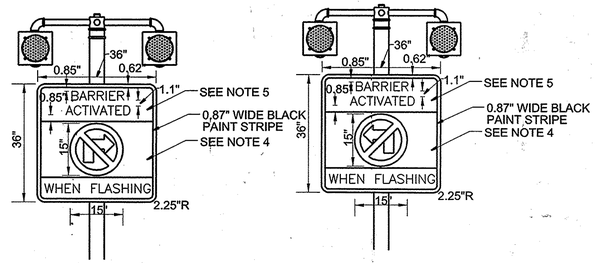
NOTES:
1.) POST SIZE DEPENDS ON FENCE HEIGHT, WEIGHT AND WIND LOADS. SEE MONTAGE II SPECIFICATIONS FOR POST SIZING CHART.
2.) SEE AMERISTAR GATE TABLE FOR STANDARD OUT TO OUTS. CUSTOM GATE OPENINGS AVAILABLE FOR SPECIAL OUT TO OUT/LEAF WIDTHS.
3.) ADDITIONAL STYLES OF GATE HARDWARE ARE AVAILABLE ON REQUEST. THIS COULD CHANGE THE LATCH AND HINGE CLEARANCE.
4.) THIRD AND FOURTH RAIL OPTIONAL.
5.) CONTRACTOR SHALL SAND DOWN END OF SCREWS ON HASPS AS NEEDED TO WELD HASP TO GATE.

1 AMERISTAR MONTAGE II ORNAMENTAL INVINCIBLE DOUBLE SWING GATE

SCALE: NONE

DETAIL IS BASE DESIGN. CONCRACTOR MAY USE EQUIVALENT PRODUCT THAT MEETS PROJECT REQUIREMENTS AND SPECIFICATIONS AND AS APPROVED BY THE COR.

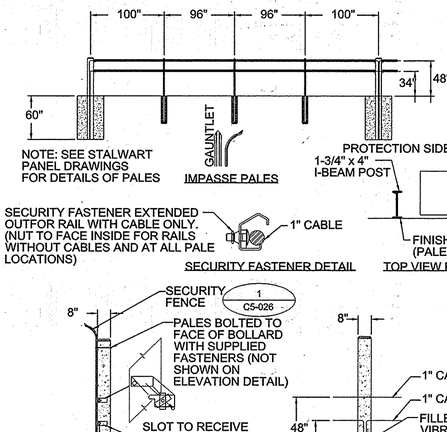


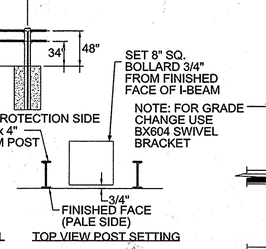


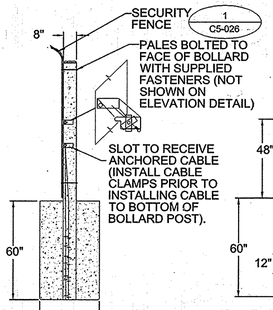
NOTES:
1. SIGN SHALL BE IN ACCORDANCE WITH MUTCD REQUIREMENTS.
2. MOUNTING HEIGHT - 84" FROM BOTTOM OF SIGN TO PAVEMENT.
3. 8" FLASHING YELLOW BEACONS ON SUPPORTS IN ACCORDANCE W/ UFGS SPECIFICATION 34 41 26.00 10 ACCESS CONTROL POINT CONTROL SYSTEM SECTION 2.12 "WARNING BEACONS" AND SECTION 2.13 "TRAFFIC SIGNAL SUPPORTS".
4. BLACK AND RED INK ON ASTM TYPE IX (DGS) WHITE SHEETING.
5. BLACK INK ON FLUORESCENT YELLOW 3" C TEXT .080 ALUMINUM.

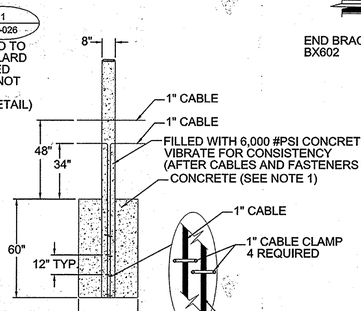
2 NO TURN WHEN BARRIER IS ACTIVATED SIGN

SCALE: NONE







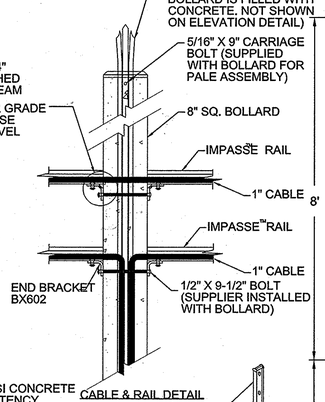


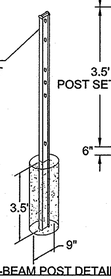
NOTES:
1. BACKFILL CONCRETE (MINIMUM 3000 PSI FOR I-BEAM POSTS) INTO THE EXCAVATION AND EXTEND 2 INCHES ABOVE GRADE. END, GATE, CORNER, AND CABLE TERMINATION BOLLARDS SHALL BE BACKFILLED WITH MINIMUM 6000 PSI CONCRETE POURED INTO THE INTERIOR AND AROUND THE EXTERIOR OF THE BOLLARD, USING APPROPRIATE VIBRATORY EQUIPMENT.

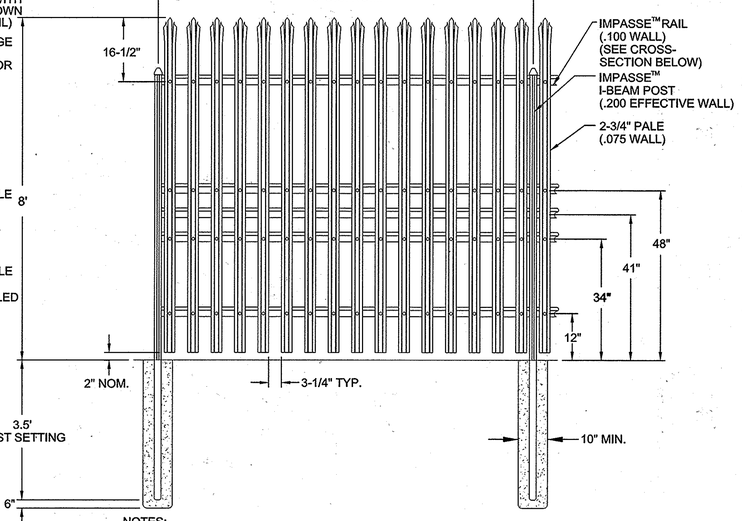
3 STALWART M50 (K12) ANTI-RAM CABLED STEEL BARRIER

SCALE: NONE

DETAIL IS BASE DESIGN. CONTRACTOR MAY USE EQUIVALENT PRODUCT THAT MEETS PROJECT REQUIREMENTS AND SPECIFICATIONS AND AS APPROVED BY THE COR.





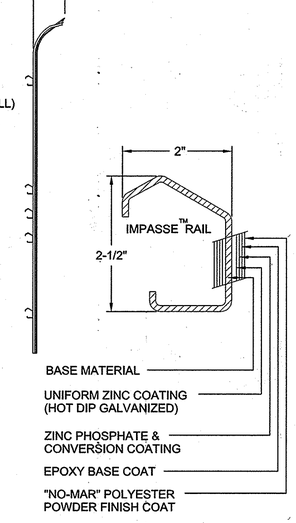


NOTES:
1. SEE DETAIL 2 ON THIS SHEET FOR K-12 ANTI-RAM CABLED STEEL BARRIER INSTALLTION FOR PORTIONS OF FENCE TO BE K-12 RATED. SEE SITE LAYOUT PLAN FOR SECTION OF FENCE THAT IS TO BE K-12 RATED.
2. IDS SYSTEM IS TO BE ATTACHED TO FENCE PICKETTS EVERY 8'. REPLACE CURVED PICKETTS WITH STRAIGHT PICKETTS AT LOCATIONS FOR IDS CONNECTIONS. FENCE HALF POSTS CAN BE USED FOR IDS CONNECTIONS. STRAIGHT PICKETTS ARE TO BE SAME HEIGHT AS CURVED PICKETTS.

4 AMERISTAR 8' HIGH IMPASSE GAUNTLET HIGH SECURITY STEEL FENCE

SCALE: NONE

DETAIL IS BASE DESIGN. CONTRACTOR MAY USE EQUIVALENT PRODUCT THAT MEETS PROJECT REQUIREMENTS AND SPECIFICATIONS AND AS APPROVED BY THE COR.



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APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-4-16
DIRECTOR — DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 216-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
23152-23134, 15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE: SITE DETAILS

DES. BY	SCALE	PROJ. No.
M. WERDER	NTS	
DRN. BY	DATE	
M. WERDER	04/04/2016	
CHK. BY	APPROVED	
R. CROWLEY		

51 OF 70

SDP-16-005

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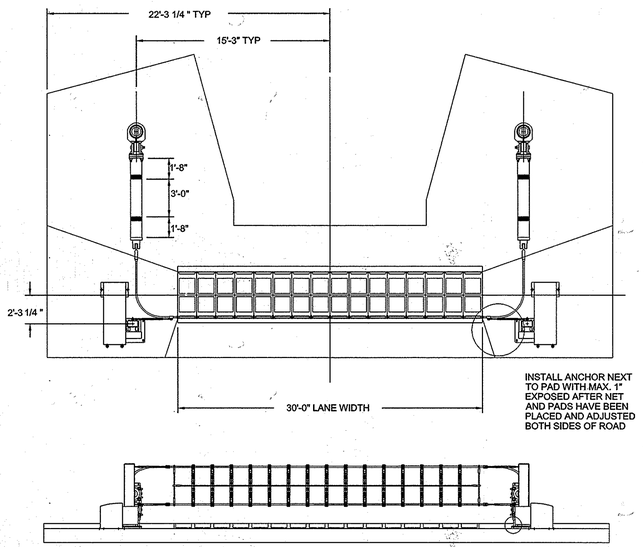
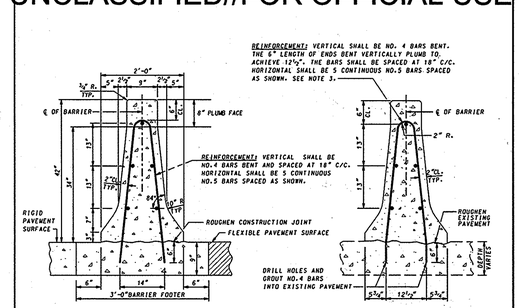


1 GROUND RETRACTABLE AUTOMOBILE BARRIER (GRAB-300)

SCALE: NONE

DETAIL IS BASE DESIGN. CONCRACTOR MAY USE EQUIVALENT PRODUCT THAT MEETS PROJECT REQUIREMENTS AND SPECIFICATIONS AND AS APPROVED BY THE COR.



RIGID PAVING (HALF SECTION)

FLEXIBLE PAVING (HALF SECTION. SEE NOTE 9)

NEW CONSTRUCTION (OR CONSTRUCTION ON EXISTING FLEXIBLE PAVEMENT)

CONSTRUCTION ON EXISTING RIGID PAVEMENT (BARRIER FOOTER IS REQUIRED FOR EXISTING FLEXIBLE PAVEMENT)

NOTES

1. THE BARRIER AND FOOTER SHALL BE CAST SEPARATELY USING THE FIXED FORM OR THE SLIP FORM CONSTRUCTION METHOD USING CONCRETE MIX NO.6 (4500 PSI).
2. THE CONTRACTOR HAS THE OPTION TO CONSTRUCT THE BARRIER FOOTER AND BARRIER AFTER CONSTRUCTION OF THE PAVEMENT. THE FOOTER FORMS. IF USED. SHALL BE REMOVED IF THE BARRIER AND FOOTER ARE CONSTRUCTED BEFORE THE PAVEMENT.
3. WHEN THE BARRIER IS CONSTRUCTED USING THE SLIP FORM METHOD DIAGONAL NO. 4 REINFORCEMENT BARS ARE REQUIRED. SEE STD. NO. 648.44-04.
4. ALL REINFORCEMENT BARS. INCLUDING ENDS. SHALL BE EPOXY COATED. ALL BAR LAPS TO BE 30 BAR DIAMETERS. TIE BARS TOGETHER. ALL REINFORCEMENT BARS SHALL BE ASTM A 615. GRADE 60.
5. SPACING OF CONTRACTION JOINTS SHALL BE 20 FEET REGARDLESS OF CONSTRUCTION METHOD.
6. COST OF THE CONCRETE FOOTER. ALL REINFORCEMENT. AND EXCAVATION SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER LINEAR FOOT FOR 42 INCH F SHAPE CONCRETE MEDIAN TRAFFIC BARRIER.
7. WHEN THE BARRIER IS CONSTRUCTED ON EXISTING RIGID PAVEMENT THE COST OF ALL REINFORCEMENT. DRILLED HOLES. GROUT. LABOR. TOOLS. EQUIPMENT. ETC.. SHALL BE INCIDENTAL TO THE PRICE PER LINEAR FOOT FOR THE ITEM SPECIFIED IN NOTE 6.
8. TOLERANCES IN DIMENSIONS SHOWN SHALL BE WITHIN ¼"
9. WHEN THE BARRIER IS TO BE CONSTRUCTED ON EXISTING FLEXIBLE PAVEMENT THE PAVEMENT SHALL BE SAW CUT FULL DEPTH. THE WIDTH FOR THE CONCRETE FOOTER SHALL BE AS INDICATED. THE COST FOR ALL SAW CUTS. PAVEMENT REMOVAL. AND ALL INCIDENTALS AND LABOR SHALL BE INCIDENTAL TO THE PRICE PER LINEAR FOOT FOR THE ITEM SPECIFIED IN NOTE 6.

SPECIFICATION 604	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

SHA	APPROVAL + SHA REVISIONS	APPROVAL + FEDERAL HIGHWAY ADMINISTRATION
APPROVAL	3-1-01	3-28-01
REVISED	1-15-04	3-31-04
REVISED		
REVISED		

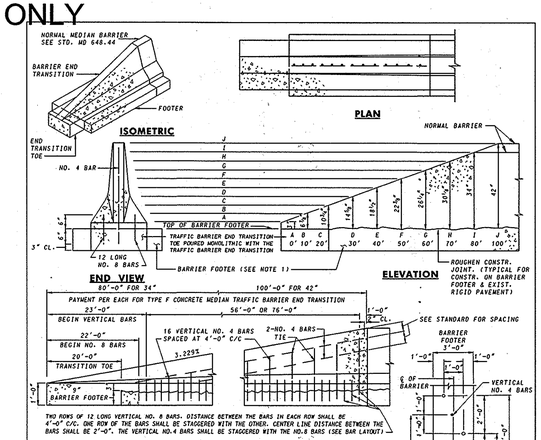
Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

42 INCH F SHAPE CONCRETE MEDIAN TRAFFIC BARRIER

STANDARD NO. MD 648.44

2 CONCRETE MEDIAN

SCALE: NONE



TWO ROWS OF 12 LONG VERTICAL NO. 8 BARS. DISTANCE BETWEEN THE BARS IN EACH ROW SHALL BE 4'-0" C/C. ONE ROW OF THE BARS SHALL BE STAGGERED WITH THE OTHER. CENTER LINE DISTANCE BETWEEN THE BARS SHALL BE 2'-0". THE VERTICAL NO.4 BARS SHALL BE STAGGERED WITH THE NO.8 BARS (SEE BAR LAYOUT)

NOTES

1. THE TRAFFIC BARRIER END TRANSITION SHALL BE CONSTRUCTED USING THE FIXED FORM METHOD. NO FOOTER IS REQUIRED WHEN THE BARRIER IS CONSTRUCTED ON EXISTING RIGID PAVEMENT. BARRIER AND FOOTER SHALL BE CAST SEPARATELY. MONOLITHIC PLACEMENT NOT PERMITTED. SEE STD. NO 648.44 FOR BARRIER FOOTER DETAILS.
2. THE TRAFFIC BARRIER END TRANSITION AND BARRIER FOOTER SHALL BE CONSTRUCTED USING CONCRETE MIX NO.6 (4500 PSI).
3. ALL REINFORCEMENT BARS. INCLUDING ENDS AND TIES. SHALL BE EPOXY COATED. ALL BAR LAPS TO BE 30 BAR DIAMETERS. TIE BARS TOGETHER.
4. THIS TRAFFIC BARRIER END TRANSITION IS PROHIBITED WHEN THE DESIGN SPEED IS 45 MPH OR GREATER. THE ENGINEER MUST DETERMINE THE TYPE OF END TREATMENT FOR DESIGN SPEEDS OVER 45 MPH.
5. COST OF THE CONCRETE BARRIER FOOTER (IF REQUIRED) SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER EACH FOR THE 34 INCH OR 42 INCH F SHAPE CONCRETE MEDIAN TRAFFIC BARRIER END TRANSITION.
6. WHEN THE BARRIER END TRANSITION IS CONSTRUCTED ON EXISTING RIGID PAVEMENT THE COST OF ROUGHENING THE PAVEMENT SURFACE, EXCAVATION FOR TRANSITION TOE, REINFORCEMENT, DRILLED HOLES. GROUT. LABOR. TOOLS. EQUIPMENT. ETC.. SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER EACH FOR THE ITEM SPECIFIED IN NOTE 5.
7. TOLERANCES IN DIMENSIONS SHOWN SHALL BE WITHIN ¼".

SPECIFICATION 604	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

SHA	APPROVAL + SHA REVISIONS	APPROVAL + FEDERAL HIGHWAY ADMINISTRATION
APPROVAL	3-1-01	3-28-01
REVISED	11-08-06	10-25-06
REVISED		
REVISED		

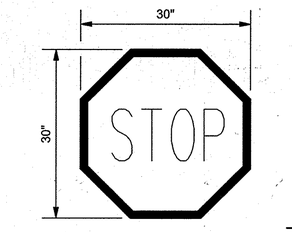
Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

42 INCH F SHAPE CONCRETE MEDIAN TRAFFIC BARRIER END TRANSITION

STANDARD NO. MD 648.33-04

3 CONCRETE MEDIAN END TRANSITION

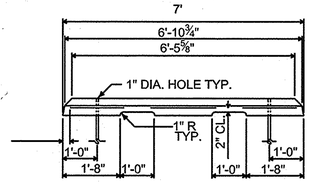
SCALE: NONE



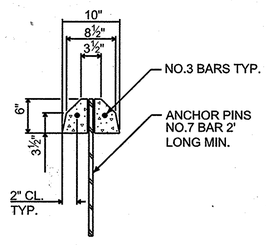
NOTES:
1. MUTCD STANDARD SIGN DESIGNATION: R1-1
2. MOUNTING HEIGHT - 84" FROM BOTTOM OF SIGN TO PAVEMENT.
3. ALL SIGNS SHALL BE MOUNTED ON BREAKAWAY TUBULAR STEEL SIGN SUPPORTS. AND DRIVEN A MINIMUM OF 4' INTO THE GROUND.

4 STOP SIGN

SCALE: NONE



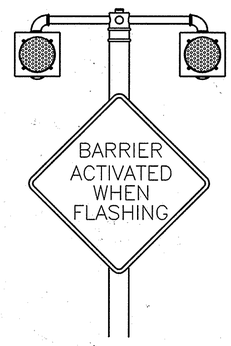
ELEVATION



TYPICAL SECTION

5 CONCRETE WHEEL STOP

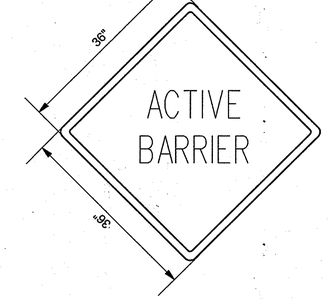
SCALE: NONE



NOTES:
1. 1. SIGN SHALL BE IN ACCORDANCE WITH MUTCD "MODIFIED W3-3A" REQUIREMENTS
2. MOUNTING HEIGHT - 84" FROM BOTTOM OF SIGN TO PAVEMENT.
3. INSTALL MUTCD STANDARD 24"x18" BLK/FY W16-13 "WHEN FLASHING" SIGN BELOW BARRIER ACTIVATED SIGN.
4. 8" FLASHING YELLOW BEACONS ON SUPPORTS IN ACCORDANCE W/ UFGS SPECIFICATION 34 41 26.00 10 ACCESS CONTROL POINT CONTROL SYSTEM SECTION 2.12 "WARNING BEACONS" AND SECTION 2.13 "TRAFFIC SIGNAL SUPPORTS".

6 BARRIER ACTIVATED SIGN

SCALE: NONE



NOTES:
1. SIGN SHALL BE IN ACCORDANCE WITH MUTCD "MODIFIED W3-3A" REQUIREMENTS
2. MOUNTING HEIGHT - 84" FROM BOTTOM OF SIGN TO PAVEMENT.
3. ALL SIGNS SHALL BE MOUNTED TO U CHANNEL POSTS 2.0 WT/FT MIN., AND DRIVEN A MINIMUM OF 4' INTO THE GROUND.
4. INSTALL MUTCD STANDARD 24"x12" BLK/FY W16-9p "AHEAD" SIGN BELOW ACTIVE BARRIER SIGN.

7 ACTIVE BARRIER SIGN

SCALE: NONE

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. 45292 EXPIRATION DATE: 05/21/2016

STATE OF MARYLAND — ROBERT A. CROWLEY — 45292 — REGISTERED PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-4-16

DIRECTOR — DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

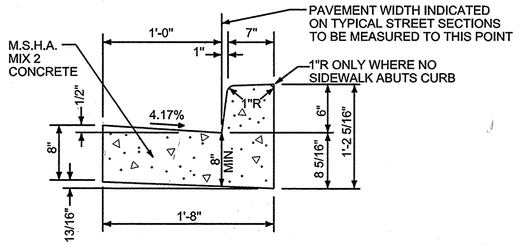
SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

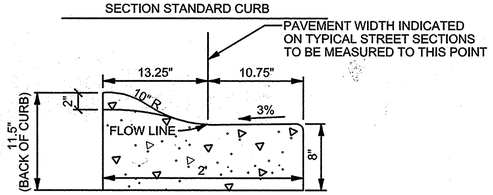
TITLE: SITE DETAILS

DES. BY	SCALE	PROJ. No.
M. WERDER	NTS	
DRN. BY M. WERDER	DATE 04/04/2016	52 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005



SECTION STANDARD CURB



SECTION MOUNTABLE CURB

NOTE:

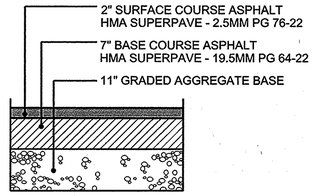
1.A REVERSE GUTTER PAN SHALL HAVE A GUTTER SLOPE OF 4.17% AWAY FROM THE FLOW LINE, AND SHALL NOT BE USED WHERE THIS DRAINAGE CREATES A HAZARDOUS CONDITION.

2.GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPER ELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON THE LOW SIDE OF SUPER ELEVATED SECTION AND THE RATE OF SUPER ELEVATION IS GREATER THAN 3% FOR MOUNTABLE CURB AND GUTTER.

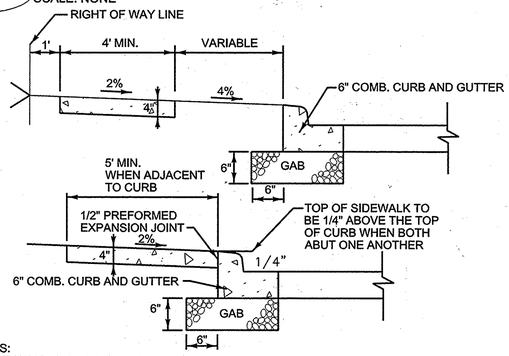
3.A MINIMUM OF TWO (2) FEET OF COMPACTED STABILIZED EARTH, OR EQUIVALENT, SHALL SUPPORT THE ENTIRE BACK OF CURB.

4.POSITIVE DRAINAGE SHALL BE PROVIDED BOTH BEHIND THE CURB AND ALONG THE GUTTER AND FLOW LINE.

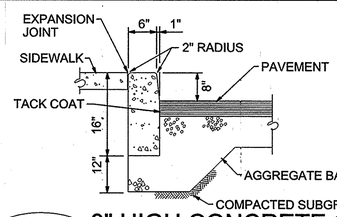
1 CONCRETE CURB AND GUTTER
SCALE: NONE



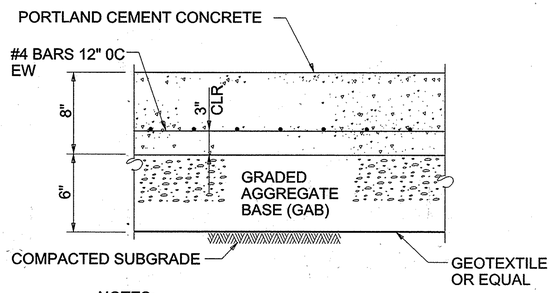
2 ASPHALT PAVEMENT SECTIONS
SCALE: NONE



NOTES:
1. SIDEWALK TO BE SCRIBED IN 5'-0" MAXIMUM SQUARES.
2. EXPANSION JOINTS ACROSS SIDEWALK NOT TO BE MORE THAN 15' APART.
3. ½" PREFORMED EXPANSION MATERIAL IN EXPANSION JOINTS TO BE KEPT ¼" BELOW SURFACE OF SIDEWALK.
4. CONCRETE TO BE MIX NO.3.
5. WHEN SIDEWALK ABUTS CURB, SIDEWALK SHALL BE ¼" ABOVE CURB WITH ½" PERFORMED EXPANSION JOINT BETWEEN SIDEWALK AND CURB.
6. ON LONGITUDINAL SIDEWALK GRADES OF 5% OR GREATER, A CONCRETE HEADER, 6" THICK AND 6" DEEP BELOW THE NORMAL 4" SIDEWALK THICKNESS SHALL BE CONSTRUCTED FOR THE FULL WIDTH OF THE SIDEWALK AT INTERVALS OF 48 FEET. THE HEADERS SHALL BE PLACED AT THE EXPANSION JOINT LOCATIONS AND SHALL BE MONOLITHIC WITH THE SIDEWALK.
7. 4' SIDEWALK REQUIRES A PASSING AREA (SEE HO.CO.STD. DETAIL R-4.01)
8. SEE SITE PLAN FOR PROPOSED SIDEWALK WIDTHS.

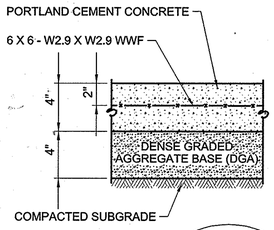


4 8" HIGH CONCRETE CURB
SCALE: NONE



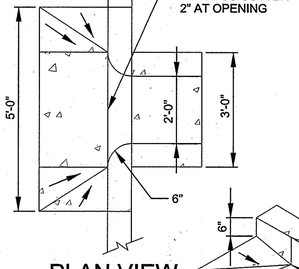
NOTES:
1. SERVICE YARD/MOTORCYCLE PARKING AREAS - TRANSVERSE FALSE JOINTS AT 15' INTERVALS, LONGITUDINAL FALSE JOINTS AT 15' INTERVALS
2. EXPANSION JOINTS TO BE PLACED BETWEEN ADJACENT SLABS, AT BUILDING LINE, AT CURBS, OR AT PENETRATING STRUCTURES.

5 CONCRETE PAVEMENT SECTION
SCALE: NONE

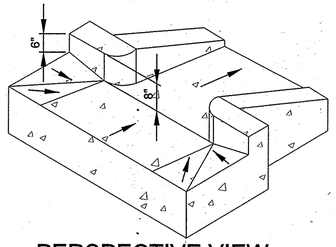


NOTES:
1. 6' WIDE SIDEWALK - TRANSVERSE FALSE JOINTS AT 5' INTERVALS, NO LONGITUDINAL JOINTS
2. 15' WIDE SIDEWALK/PLAZA AREAS - TRANSVERSE FALSE JOINTS AT 5' INTERVALS, LONGITUDINAL FALSE JOINTS AT 5' INTERVALS
3. EXPANSION JOINTS TO BE PLACED BETWEEN ADJACENT SLABS, AT BUILDING LINE, AT CURBS, OR AT PENETRATING STRUCTURES.

3 CONCRETE SIDEWALK SECTION
SCALE: NONE

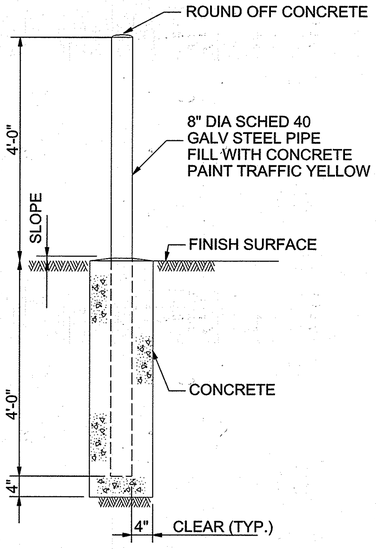


PLAN VIEW

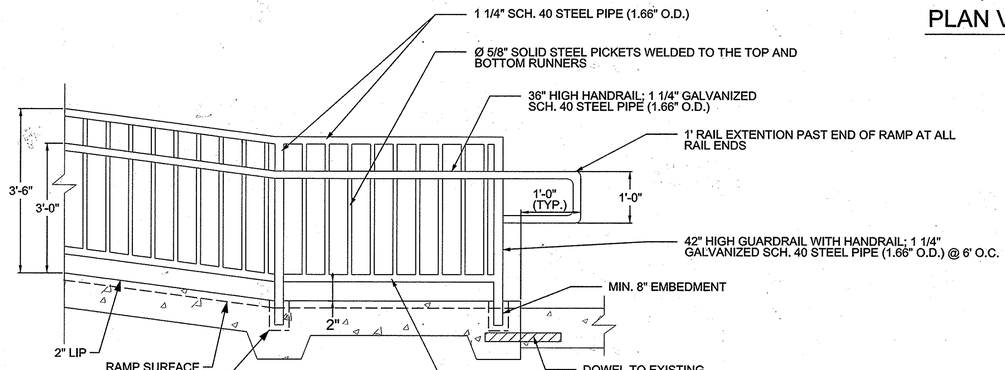


PERSPECTIVE VIEW

8 CURB CUT
SCALE: NONE



6 NON-RATED BOLLARD
SCALE: NONE



7 HANDRAIL
SCALE: NONE

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STATE OF MARYLAND — ROBERT A. CROWLEY — 45292 — PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5-16-16
DIRECTOR	DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
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SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
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TITLE: SITE DETAILS

DES. BY	SCALE	PROJ. No.
M. WERDER	NTS	
DRN. BY M. WERDER	DATE 04/04/2016	53 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005

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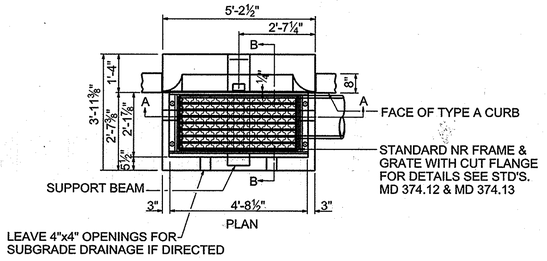
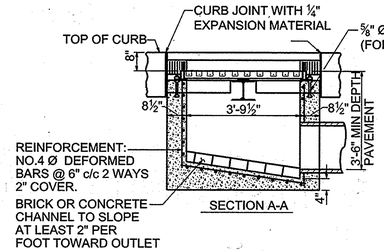
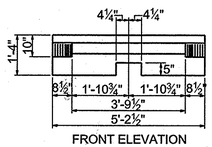
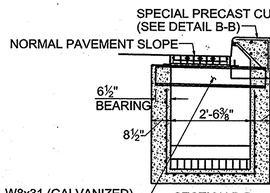
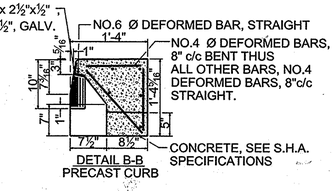






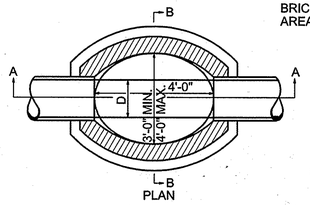




NOTES: INLET SHALL BE CONSTRUCTED OF REINFORCED CONCRETE (MIX NO.2). SIZE, TYPE AND DIRECTION OF OUTLET PIPE WILL VARY TO SUIT EACH CASE AND THE INVERT WILL BE ALTERED ACCORDINGLY. BRICK FOR MASONRY, TO COMPLY WITH THE LATEST S.H.A. SPECIFICATIONS. IF LADDER RUNGS ARE REQUIRED SEE STD. MD 383.91 OR MD 383.92.

1 STANDARD CURB INLET
SCALE: NONE

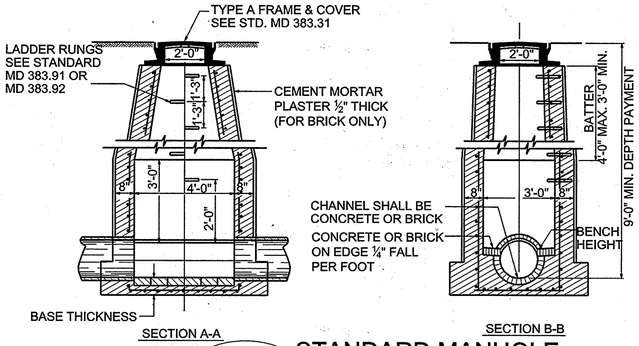
NOTE MANHOLE SHALL BE CONSTRUCTED OF REINFORCED CONCRETE (MIX NO.2). REINFORCING TO BE NO.4 DEFORMED BARS @ 6" C/C 2 WAYS, 2" COVER. BRICK AND MORTAR MAY BE USED IN NON-TRAFFIC AREAS ONLY.



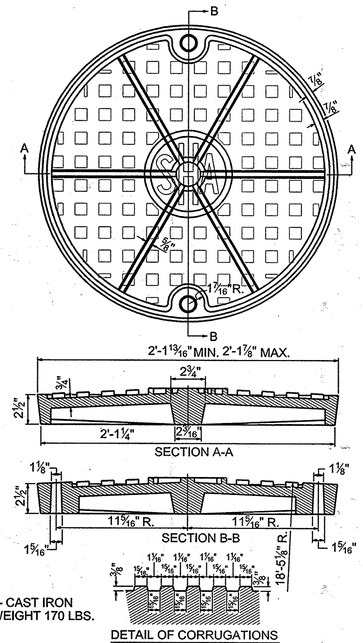
MANHOLE WALL THICKNESS
8" TO DEPTH OF 12'-0"
12" { BELOW DEPTH OF 12'-0"
TO DEPTH OF 24'-0"

MANHOLE BASE THICKNESS
8" WALL-USE 12" BASE
12" WALL-USE 15" BASE

BENCH HEIGHT ABOVE OUTGOING PIPE INVERT
STORM WATER 0.5 D
SANITARY 0.9 D

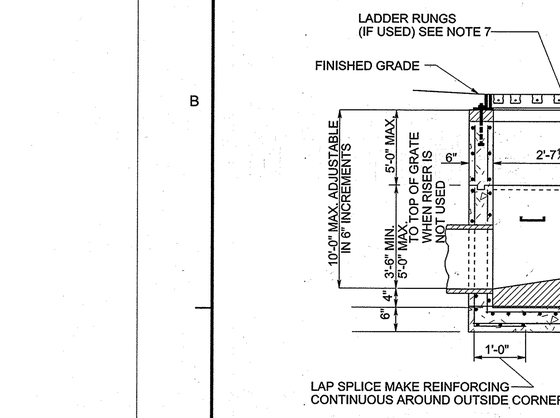


2 STANDARD MANHOLE
SCALE: NONE



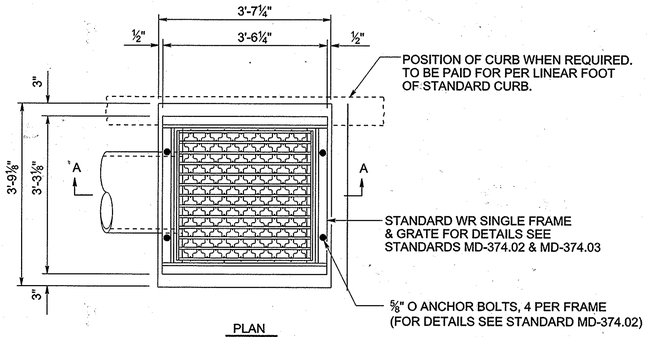
MATERIAL - CAST IRON
APPROX. WEIGHT 170 LBS.

3 STANDARD MANHOLE COVER
SCALE: NONE



NOTES:

1. CONCRETE TO BE MIX NO. 6 (4500 PSI) IN ACCORDANCE WITH SECTION 902.10.03 OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.
2. REINFORCING-2 LAYERS OF 4x4-W4.0xW4.0 WELDED WIRE FABRIC.
3. THREADED PLASTIC INSERTS TO BE PROVIDED FOR HANDLING.
4. GRADE AND SLOPE ADJUSTMENTS COMPLETED IN THE FIELD USING CONCRETE MIX NO.6.
5. PIPE OPENINGS TO BE PROVIDED AS REQUIRED, FOR SIZE, LOCATION, AND INVERT ELEVATIONS REFER TO CONSTRUCTION PLANS.
6. PLACEMENT OF SUBGRADE DRAINAGE WILL BE AS DIRECTED BY THE ENGINEER OR AS NOTED ON THE CONSTRUCTION PLANS.
7. LADDER RUNGS SHALL BE IN ACCORDANCE WITH STANDARD MD 383.91 AND MD 383.92 OR AS DIRECTED BY THE ENGINEER.
8. MINIMUM DEPTH PAYMENT PER "EACH" INLET INCLUDES DEPTHS UP TO 3'-6". VERTICAL DEPTH PAYMENT PER LINEAR FOOT FOR DEPTHS IN EXCESS OF 3'-6".

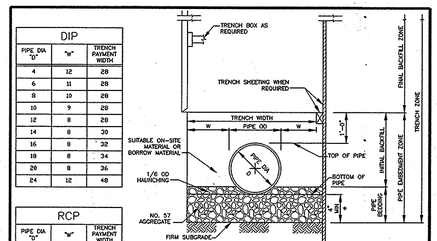


4 GRATE INLET
SCALE: NONE

DIP		
PIPE DIA "D"	"w"	TRENCH PAYMENT WIDTH
4	12	28
6	11	28
8	10	28
10	9	28
12	8	28
14	8	30
16	8	32
18	8	34
20	8	36
24	12	48

RCP		
PIPE DIA "D"	"w"	TRENCH PAYMENT WIDTH
4	12	28
6	11	28
12	8	28
15	8	31
18	8	34
21	8	37
24	12	48
27	12	51
30	12	54
33	15	63
36	15	66
42	15	72
48	18	84
54	18	90
60	18	96
66	18	102
72	18	108
78	18	114
84	18	120
90	18	126
96	18	132
102	18	138
108	18	144

ALL DIMENSIONS IN INCHES



* FOR TRENCHES IN ROCK, MINIMUM BEDDING DEPTH IS 6 INCHES. FOR RCP 96 INCHES AND GREATER, MINIMUM BEDDING DEPTH IS 12 INCHES.

NOTES:

1. THE "W" DIMENSION SHALL BE USED TO CALCULATE MAXIMUM TRENCH PAY WIDTH.
2. FOR TRENCHES WHERE TRENCH BOX OR TRENCH SHEETING IS NOT REQUIRED, MEASUREMENT FOR CONTINGENT BORROW MATERIALS WILL BE BASED ON THE TRENCH WIDTH SHOWN.
3. FOR TRENCHES WHERE TRENCH BOX OR TRENCH SHEETING IS REQUIRED, MEASUREMENT FOR CONTINGENT BORROW MATERIALS WILL BE BASED ON THE TRENCH WIDTH SHOWN PLUS 24 INCHES.
4. THE MAXIMUM WIDTH OF THE TRENCH EXCAVATED ON-SITE FOR RCP, SHALL NOT EXCEED THE TRENCH PAYMENT WIDTH PLUS 12 INCHES.
5. MINIMUM SPACING BETWEEN PARALLEL CULVERT PIPES SHALL BE TWICE THE "W" DIMENSION.
6. SPECIAL DESIGN IS REQUIRED AND SHALL BE SPECIFIED OR DETAILED IN THE CONTRACT DOCUMENTS FOR THE FOLLOWING PIPES:
   - RCP STORM DRAINS LARGER THAN 108 INCHES
   - RCP GRAVITY SANITARY SEWERS LARGER THAN 48 INCHES
   - DIP LARGER THAN 24 INCHES
   - STREAM CROSSINGS SEE S-3.11 AND S-3.12

△7. WATERMAIN SHALL BE SPECIAL THICKNESS CLASS 54 DIP MINIMUM.

Revised △ 6/20/2011 Revised △ 1/7/2002 Approved	Howard County, Maryland Department of Public Works Approved: Chief, Bureau of Engineering	Pipe Trench DIP & RCP	Detail G-2.11

5 TRENCHING DETAIL
SCALE: NONE

PROFESSIONAL CERTIFICATION
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STATE OF MARYLAND — ROBERT A. CROWLEY — 45292 — REGISTERED PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5-6-16
DIRECTOR	DATE 5-6-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT # 15786	ZONE PEC	GRID 20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

TITLE: SITE DETAILS

DES. BY M. WERDER	SCALE NTS	PROJ. No.
DRN. BY M. WERDER	DATE 04/04/2016	54 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005

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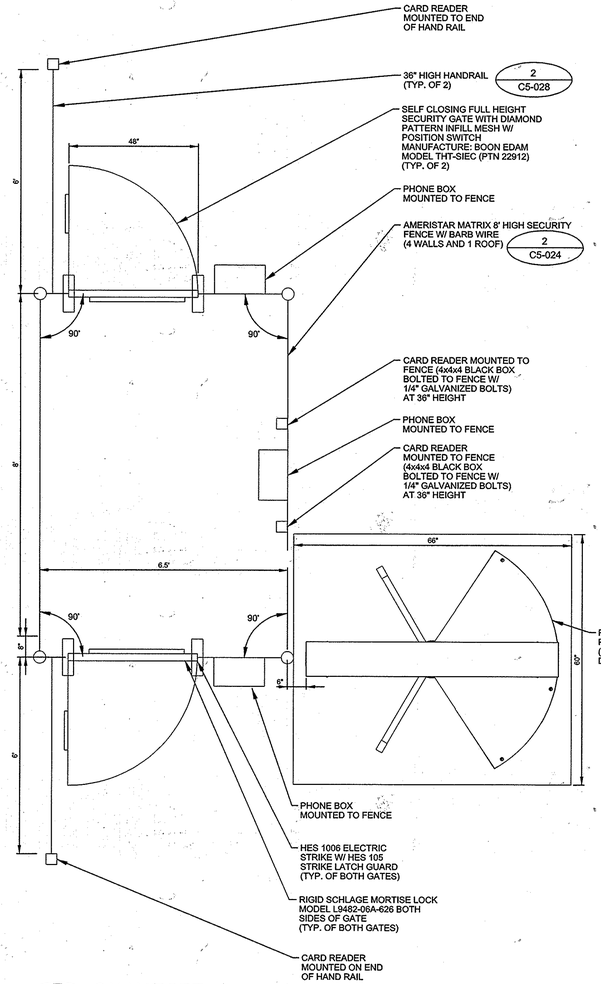
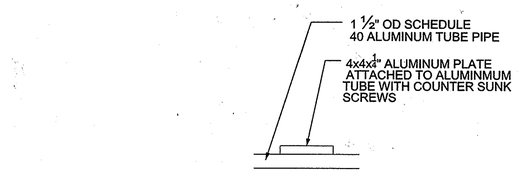
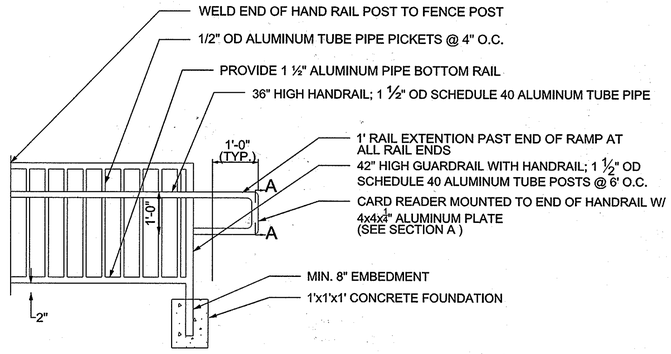


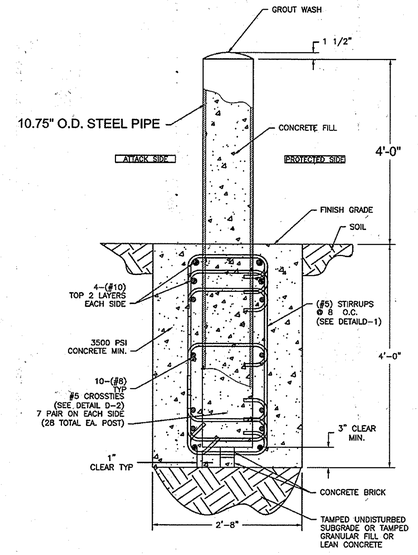
1 **SALLY PORT**
SCALE: NONE
DETAIL IS BASE DESIGN. CONCRACTOR MAY USE EQUIVALENT PRODUCT THAT MEETS PROJECT REQUIREMENTS AND SPECIFICATIONS AND AS APPROVED BY THE COR.



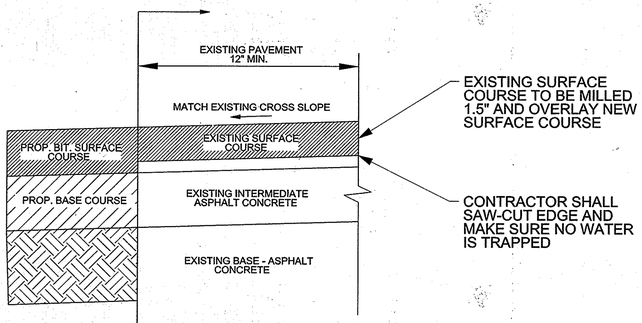
SECTION A-A



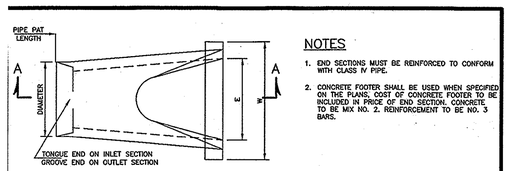
2 **HANDRAIL**
SCALE: NONE



3 **K12-RATED BOLLARD**
SCALE: NONE



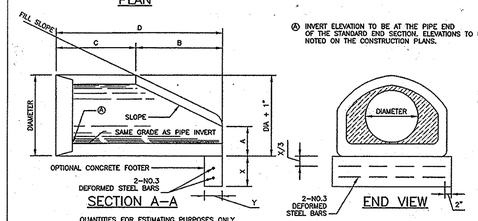
4 **PAVEMENT OVERLAY**
SCALE: NONE



PLAN

NOTES

1. END SECTIONS MUST BE REINFORCED TO CONFORM WITH CLASS IV PIPE.
2. CONCRETE FOOTER SHALL BE USED WHEN SPECIFIED ON THE PLANS. COST OF CONCRETE FOOTER TO BE INCLUDED IN PRICE OF END SECTION. CONCRETE TO BE MIX NO. 2. REINFORCEMENT TO BE NO. 3 BARS.



SECTION A-A

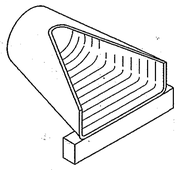
END VIEW

Ⓐ INVERT ELEVATION TO BE AT THE PIPE END OF THE STANDARD END SECTION. ELEVATIONS TO BE NOTED ON THE CONSTRUCTION PLANS.

QUANTITIES FOR ESTIMATING PURPOSES ONLY

DIMENSIONS										QUANTITIES	
CONCRETE END SECTION							CONCRETE FOOTER				
DIA	SLOPE	A	B	C	D	E	W	X	Y	CONC C.Y.	STEEL LBS
12"	3:1	4"	2'-0"	4'-0⅝"	6'-0⅝"	2'-0"	3'-0"	12"	9"	0.08	24.00
15"	3:1	6⅝"	2'-4"	3'-10"	6'-2"	2'-6"	3'-6"	12"	9"	0.10	28.50
18"	3:1	10⅛"	2'-2"	4'-0"	6'-2"	3'-0"	4'-0"	12"	9"	0.11	33.00
21"	3:1	9"	3'-0"	3'-10½"	6'-10½"	3'-6"	4'-6"	12"	9"	0.13	37.50
24"	3:1	11"	3'-7"	2'-8"	6'-3"	4'-0"	5'-0"	15"	9"	0.17	42.00
27"	3:1	10⅝"	4'-1½"	2'-0"	6'-10½"	4'-6"	5'-6"	15"	9"	0.19	46.50
30"	3:1	1'-1"	4'-5"	1'-10"	6'-3"	5'-0"	6'-0"	15"	9"	0.21	51.00
33"	3:1	1'-2"	4'-7"	2'-2"	6'-9"	5'-6"	6'-6"	15"	9"	0.23	55.50
36"	3:1	1'-3⅝"	5'-3"	3'-1"	6'-10½"	6'-0"	7'-3"	15"	9"	0.25	62.25
42"	3:1	1'-6⅛"	5'-5"	2'-10"	8'-3"	6'-6"	7'-9"	15"	9"	0.27	66.75
48"	3:1	2'-1"	6'-0"	2'-2"	8'-2"	7'-0"	8'-6"	18"	12"	0.47	73.50
54"	2.4:1	2'-5"	5'-2"	3'-10"	8'-0"	7'-6"	9'-0"	18"	12"	0.50	78.00
60"	3:1	2'-7"	6'-11"	3'-6⅝"	8'-7½"	8'-0"	9'-6"	18"	12"	0.53	82.50
66"	3:1	2'-4"	6'-6"	1'-9"	8'-3"	8'-6"	10'-0"	18"	12"	0.56	87.00
72"	3:1	2'-10"	6'-6"	1'-9"	8'-3"	9'-0"	10'-9"	18"	12"	0.60	93.75

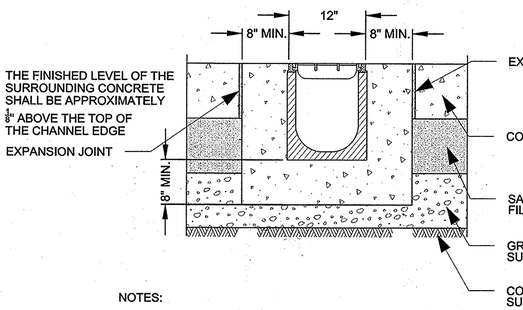
SEE NOTE 3 ABOVE FOR CONCRETE FOOTER



ISOMETRIC VIEW

Revised	Howard County, Maryland Department of Public Works	Concrete End Section Circular Concrete Pipe	Detail D-5.51
Revised 5/1/2002	Approved: Chief, Bureau of Engineering		
Approved			

6 **CONCRETE END SECTION**
SCALE: NONE



NOTES:

1. SURFACE DRAINAGE SYSTEM SHALL BE POLYMER CONCRETE CHANNEL SYSTEM WITH DUCTILE IRON RAIL AND GRATE.
2. THE CHANNEL SYSTEM SHALL BE CERTIFIED TO WITHSTAND LOADINGS TO LOAD CLASS F (DIN19580).
3. GRATES SHALL BE SECURED USING A BOLTLESS LOCKING SYSTEM. GRATE AND LOCKING SYSTEM SHALL BE FULLY REMOVABLE FROM THE CHANNEL.
4. TRENCH DRAIN CHANNEL SHALL BE SLOPED AT 0.60% ALONG ENTIRE LENGTH OF RUN.

7 **TRENCH DRAIN**
SCALE: NONE

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. 45292 EXPIRATION DATE: 05/21/2016

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION		5-6-16 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT		5-11-16 DATE
DIRECTOR		5-16-16 DATE

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REMTZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

TITLE: SITE DETAILS

DES. BY	SCALE	PROJ. No.
M. WERDER	NTS	
DRN. BY M. WERDER	DATE 04/04/2016	55 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005

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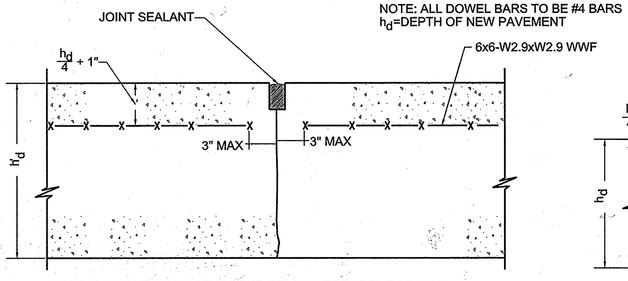
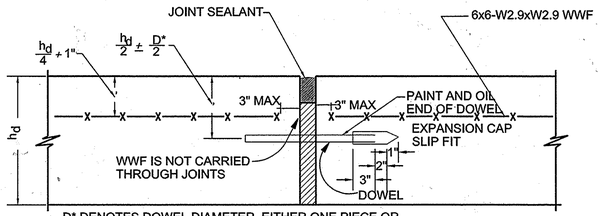


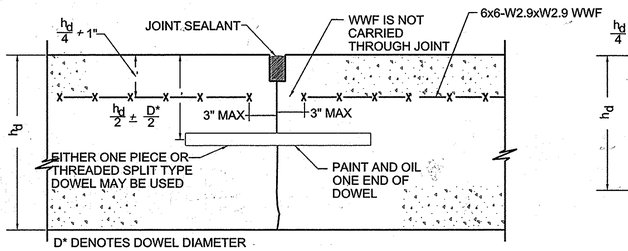
NOTE: SAW CUT WILL NOT EXTEND BELOW STEEL REINFORCING.

LONGITUDNAL



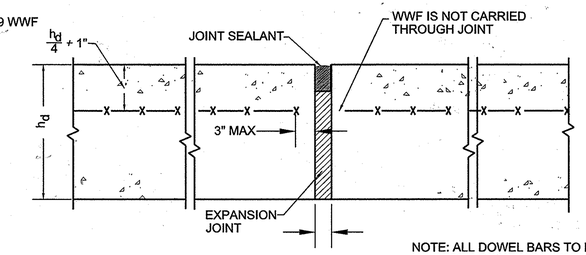
D* DENOTES DOWEL DIAMETER, EITHER ONE PIECE OR THREADED SPLIT-TYPE DOWELS MAY BE USED

TRANSVERSE



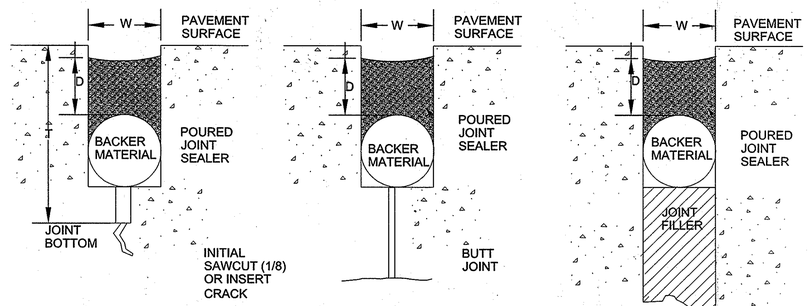
D* DENOTES DOWEL DIAMETER

TRANSVERSE



NOTE: ALL DOWEL BARS TO BE #4 BARS
h_d=DEPTH OF NEW PAVEMENT

LONGITUDNAL



CONTRACTION JOINT

CONSTRUCTION JOINT

EXPANSION JOINT

W = WIDTH OF SEALANT RESERVIOR (SEE TABLE)
D = DEPTH OF SEALANT (1.0 TO 1.5 X W)
T = DEPTH OF INITIAL SAWCUT OR INSERT TYPE JOINT FORMER (CONSTRUCTION JOINT)
a). ¼" SLAB THICKNESS FOR PAVEMENT LESS THAN 12 INCHES
b). 3 INCHES FOR PAVEMENT 12-18 INCHES
c). ⅛" SLAB THICKNESS FOR PAVEMENT MORE THAN 18 INCHES

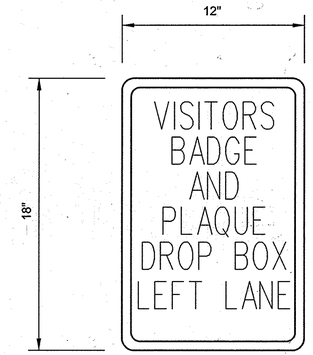
TABLE

JOINT SPACING FT.	WIDTH, IN.	
	MIN.	MAX.
<25	1/2	5/8
24 - 50	3/4	7/8
>50	1.0	1-1/8

1 CONCRETE CONTRACTION JOINT DETAIL
SCALE: NONE

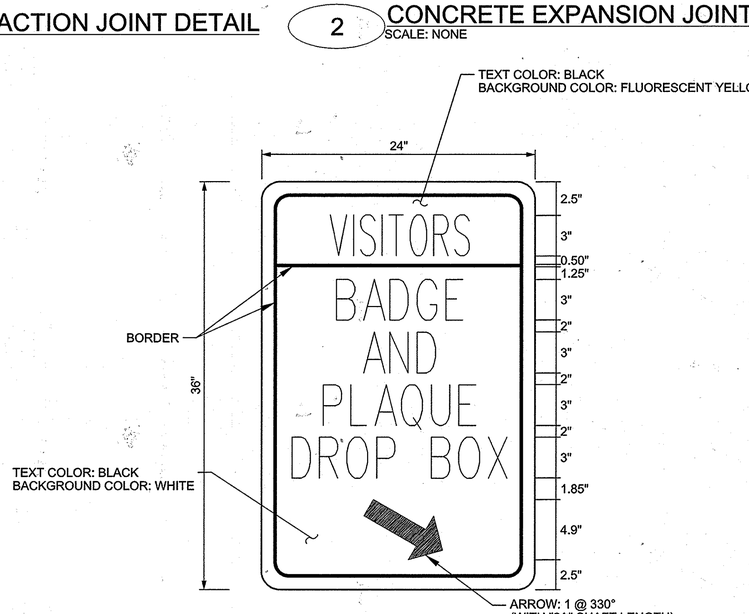
2 CONCRETE EXPANSION JOINT DETAIL
SCALE: NONE

3 JOINT SEALENT DETAIL
SCALE: NONE



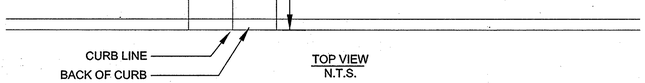
NOTES:
1. MOUNTING HEIGHT - 84" FROM BOTTOM OF SIGN TO PAVEMENT.
2. ALL SIGNS SHALL BE MOUNTED TO U CHANNEL POSTS 2.0 WT/FT MIN., AND DRIVEN A MINIMUM OF 4' INTO THE GROUND.

4 DROP BOX LEFT LANE SIGN
SCALE: NONE

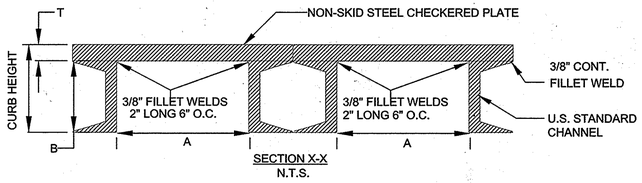


NOTES:
1. MOUNTING HEIGHT - 84" FROM BOTTOM OF SIGN TO PAVEMENT.
2. SIGN SHALL BE MOUNTED TO BREAKAWAY TUBULAR STEEL SIGN SUPPORT POST (SEE DETAIL 2 / SHEET 26), AND DRIVEN A MINIMUM OF 4' INTO THE GROUND.
3. BORDER:
   R = 1.875"
   TH = 0.75"
   IN = 0.5"

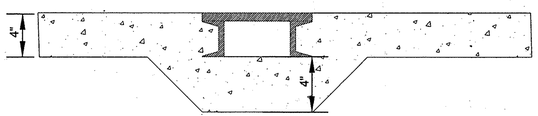
5 DROP BOX SIGN
SCALE: NONE



TOP VIEW
N.T.S.



SECTION X-X
N.T.S.



FLUME IN PLACE
N.T.S.

A	T	B
12"	0.375"	0.125"

NOTE:
1. ALL MATERIAL NEW STRUCTURAL STEEL.

6 CONCRETE FLUME UNDER SIDEWALK
SCALE: NONE

PROFESSIONAL CERTIFICATION
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CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/6/16
DIRECTOR — DATE 5/6/16

DATE	No.	REVISION DESCRIPTION

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PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
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SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

TITLE: SITE DETAILS

DES. BY	SCALE	PROJ. No.
M. WERDER	NTS	
DRN. BY M. WERDER	DATE 04/04/2016	56 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005

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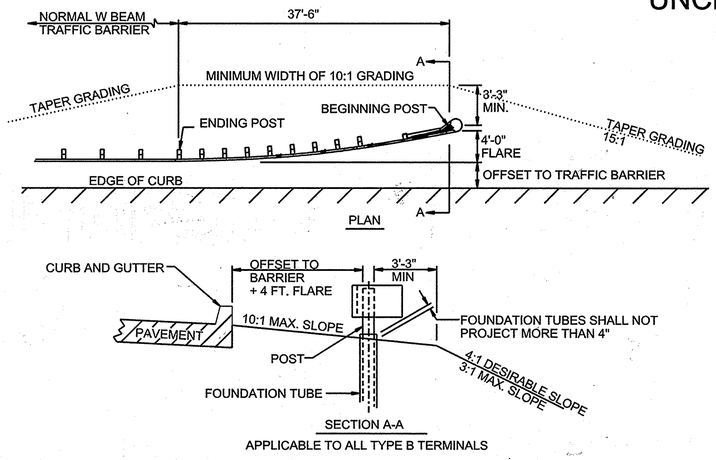
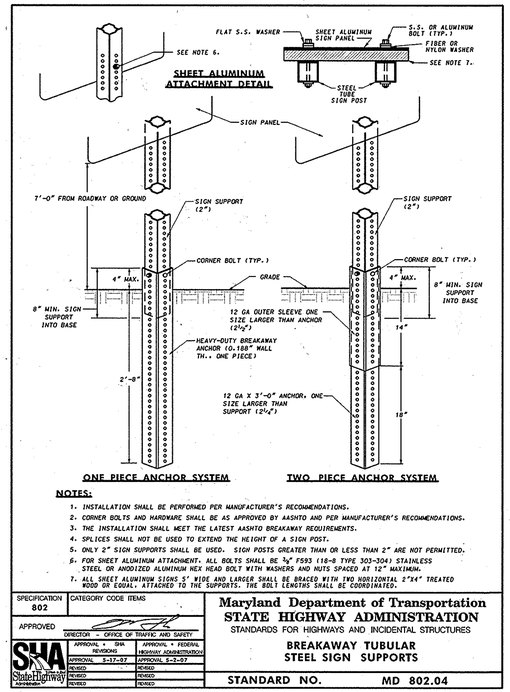


APPLICABLE TO ALL TYPE B TERMINALS

NOTES

1. 6:1 MAX GRADING IS ALLOWABLE WHEN THE BARRIER IS LOCATED 12 FT. OR MORE FROM THE OUTSIDE EDGE CURB.
2. END TREATMENT DELINEATION SHALL BE PLACED IN ACCORDANCE WITH STD. MD 605.02-01
3. 4' FLARE REQUIRED
4. TYPE B TERMINAL SHALL ONLY BE USED WHEN THE GRADING AS SHOWN AND THE REQUIRED LENGTH OF NEED IS PROVIDED.

1 TRAFFIC BARRIER
SCALE: NONE



NOTES:

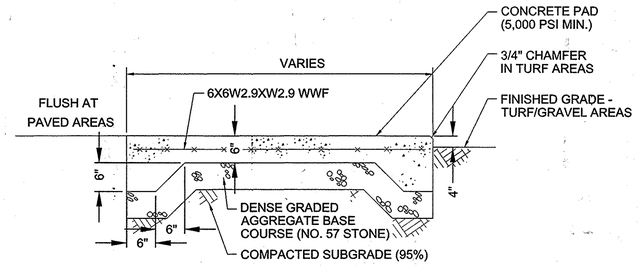
1. INSTALLATION SHALL BE PERFORMED PER MANUFACTURER'S RECOMMENDATIONS.
2. CORNER BOLTS AND HARDWARE SHALL BE AS APPROVED BY AASHTO AND PER MANUFACTURER'S RECOMMENDATIONS.
3. THE INSTALLATION SHALL MEET THE LATEST AASHTO BREAKAWAY REQUIREMENTS.
4. SPLICES SHALL NOT BE USED TO EXTEND THE HEIGHT OF A SIGN POST.
5. ONLY 2" SIGN SUPPORTS SHALL BE USED. SIGN POSTS GREATER THAN OR LESS THAN 2" ARE NOT PERMITTED.
6. FOR SHEET ALUMINUM ATTACHMENT, ALL BOLTS SHALL BE ¾" F593 (18-8 TYPE 303-304) STAINLESS STEEL OR ANODIZED ALUMINUM HEX HEAD BOLT WITH WASHERS AND NUTS SPACED AT 12" MAXIMUM.
7. ALL SHEET ALUMINUM SIGNS 5' WIDE AND LARGER SHALL BE BRACED WITH TWO HORIZONTAL 2"X4" TREATED WOOD OR EQUAL, ATTACHED TO THE SUPPORTS. THE BOLT LENGTHS SHALL BE COORDINATED.

SPECIFICATION 802	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF TRAFFIC AND SAFETY

SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
APPROVAL 5-17-07	APPROVAL 5-2-07
REVISED	REVISED
REVISED	REVISED
REVISED	REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
BREAKAWAY TUBULAR STEEL SIGN SUPPORTS
STANDARD NO. MD 802.04

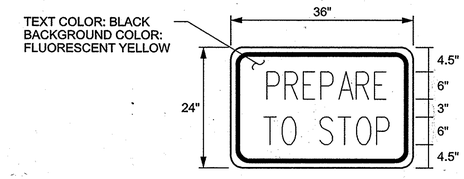
2 BREAKAWAY TUBULAR STEEL SIGN SUPPORT
SCALE: NONE



NOTES:

1. EXACT PAD DIMENSIONS AND LOCATIONS OF OPENINGS AND SLEEVES THROUGH PAD SHALL BE COORDINATED WITH EQUIPMENT SUPPLIERS. PAD TO BE A MIN. OF 1'-0" LARGER THAN EQUIPMENT ON ALL SIDES.

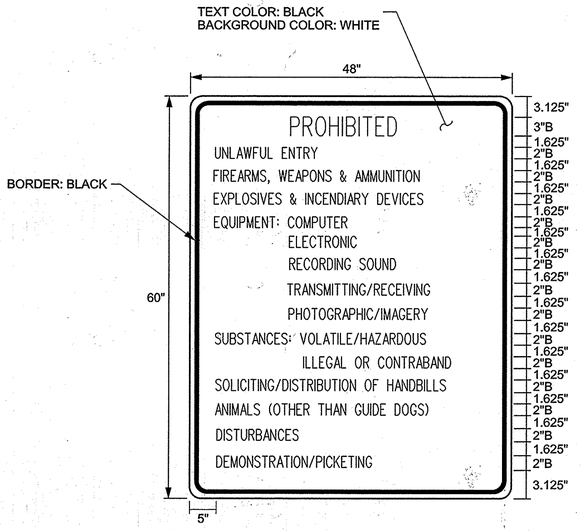
3 CONCRETE PAD
SCALE: NONE



NOTES:

1. BORDER: BLACK
   R=2.25"
   TH=0.875"
   IN=0.625"

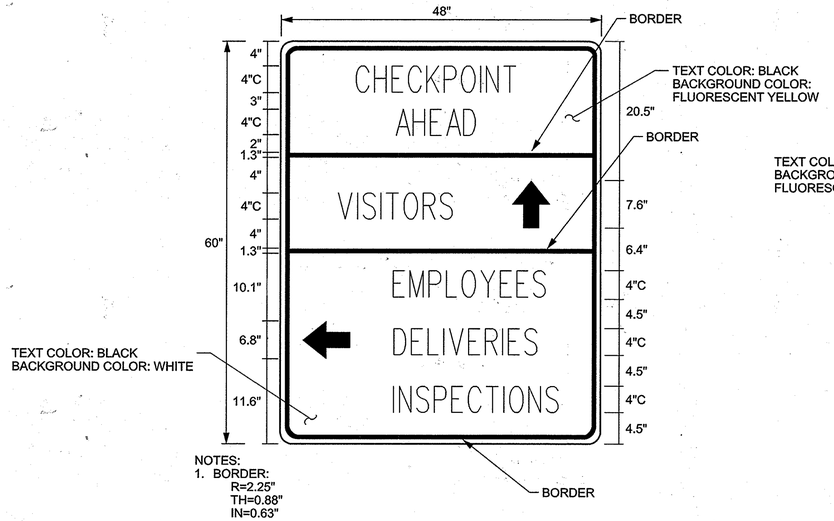
4 PREPARE TO STOP SIGN
SCALE: NONE



NOTES:

1. BORDER:
   R=3"
   TH=1.25"
   IN=0.75"

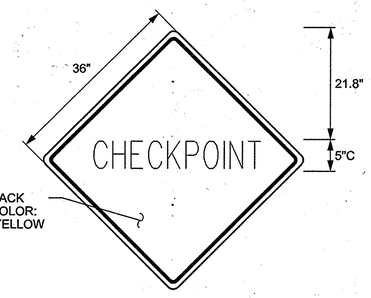
5 PROHIBITED SIGN
SCALE: NONE



NOTES:

1. BORDER:
   R=2.25"
   TH=0.88"
   IN=0.63"

6 CHECKPOINT AHEAD SIGN
SCALE: NONE



NOTES:

1. BORDER: BLACK
   R=2.25"
   TH=0.875"
   IN=0.625"

7 CHECKPOINT SIGN
SCALE: NONE

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. 45292 EXPIRATION DATE: 05/21/2016

STATE OF MARYLAND — ROBERT A. CROWLEY — 45292 — REGISTERED PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-11-16
DIRECTOR — DATE 5/16/16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

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OWNER/DEVELOPER:
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ONE TEXAS STATION, SUITE 200
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PLAT # 25184-25194	ZONE	GRID
15786	PEC	20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

TITLE: SITE DETAILS

DES. BY	SCALE	PROJ. No.
M. WERDER	NTS	
DRN. BY M. WERDER	DATE 04/04/2016	57 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005

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NOTES:
1. BORDER: BLACK
R=3"
TH=1.25"
IN=0.75"

1 WARNING RESTRICTED AREA SIGN
SCALE: NONE

NOTES
1. TO BE USED WHERE SIDEWALK IS ADJACENT TO THE CURB. THIS STANDARD MAY BE MODIFIED TO SUIT A PARTICULAR LOCATION.
2. WHERE 60" SIDEWALK CAN NOT BE PROVIDED, A DESIGN WAIVER MUST BE REQUESTED.
3. NO TRAVERSABLE SLOPE ON THE RAMP OR SIDEWALK SHALL EXCEED 12:1 IN THE DIRECTION OF PEDESTRIAN TRAVEL, OR 48:1 PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL.
4. EXPANSION JOINT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH STD. MD-655.01.
5. SIDEWALK RAMP SHALL BE INCLUDED IN PRICE BID FOR CONCRETE SIDEWALK. DEPRESSED CURB AND CURB TRANSITION SHALL BE INCLUDED IN PRICE BID FOR CURB OR CURB & GUTTER ADJACENT TO SIDEWALK RAMP. DETECTABLE WARNING SURFACE SHALL BE PAID FOR IN ACCORDANCE WITH SECTION 611 OF THE SPECIFICATIONS.
6. SIDEWALK RAMPS TO BE SHOWN ON PLANS SYMBOLICALLY AND REFERENCED WITH THE CENTER OF THE RAMP ALIGNED TO A STATION ON THE CONSTRUCTION CENTERLINE. SEPARATE DETAILS SHALL BE SHOWN WHERE PROPOSED RAMP VARIES FROM STANDARD CASES.

SPECIFICATION 603 & 611	CATEGORY CODE ITEMS	Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
APPROVED	DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT	SIDEWALK RAMPS PARALLEL
SHA State Highway Administration	APPROVAL • SHA REVISIONS: APPROVAL 2-10-04, REVISED 3-25-08, REVISED; APPROVAL • FEDERAL HIGHWAY ADMINISTRATION: APPROVAL 3-31-04, REVISED 4-5-06, REVISED	STANDARD NO. MD 655.12

2 SIDEWALK RAMP - PARALLEL
SCALE: NONE

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. A MINIMUM 4000 PSI STRENGTH CONCRETE TO BE USED FOR FOUNDATION.
3. REMOVABLE BOLLARD SHALL MATCH THE FOLLOWING, OR APPROVED EQUAL:
MANUFACTURER: NASATKA SECURITY
PRODUCT: NMSB VI-R (K4)

3 6" REMOVABLE BOLLARD- K4 RATED
SCALE: NONE

NOTES:
1. ALL RAMPS SHALL HAVE DETECTABLE WARNING SURFACES. SEE DETAIL R-4.07.
2. GRASS AREA ADJACENT TO SIDEWALK MUST BE SLOPED TO MEET RAMP.

4 SIDEWALK RAMP THROUGH MEDIAN
SCALE: NONE

NOTES:
1. TYPE C SIDEWALK RAMP IS TO BE USED AT LOCATIONS WHERE THE SIDEWALK MUST BE PLACED IMMEDIATELY ADJACENT TO THE BACK OF THE CURB. THE SIDEWALK SHALL BE AT LEAST 5'-0" IN WIDTH.
2. ALL RAMPS SHALL HAVE A WARNING TEXTURE EXTENDING THE FULL WIDTH AND DEPTH OF THE CURB RAMP.
3. 7" COMB. CURB AND GUTTER IS SHOWN. DETAILS TO BE SIMILAR FOR MOD. CURB AND GUTTER AND BIT. CURB.
4. 4'-0" SIDEWALK REQUIRES A PASSING AREA (SEE DETAIL R-4.01).

5 SIDEWALK RAMP TYPE C
SCALE: NONE

NOTE:
1. INLET TO BE USED IN A SWALE OR SUMP. MAX. CAPACITY UNDER .25'-3 C.F.S. TO BE USED WITH 15" CONN. OR SMALLER. NOT TO BE USED IN ROADWAY OR PARKING AREA.
2. TO BE USED ONLY WHEN APPROVED BY COUNTY.

Revised; Revised 5/7/2007; Approved	Howard County, Maryland Department of Public Works. Approved: Chief, Bureau of Engineering	Yard Inlet	Detail D-4.14

6 YARD INLET
SCALE: NONE

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. 45292 EXPIRATION DATE: 05/21/2016

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5-11-16
DIRECTOR	DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE
PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q
PLAT # 23732-23734 15786	ZONE PEC	GRID 20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

TITLE
SITE DETAILS

DES. BY M. WERDER	SCALE NTS	PROJ. No.
DRN. BY M. WERDER	DATE 04/04/2016	58 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005

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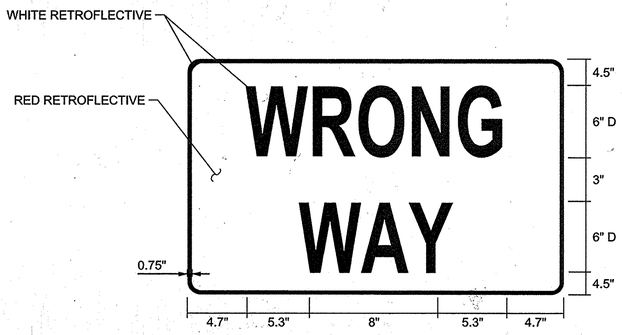
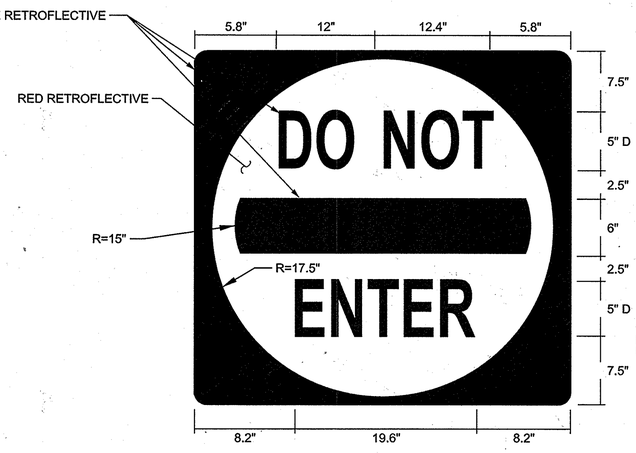
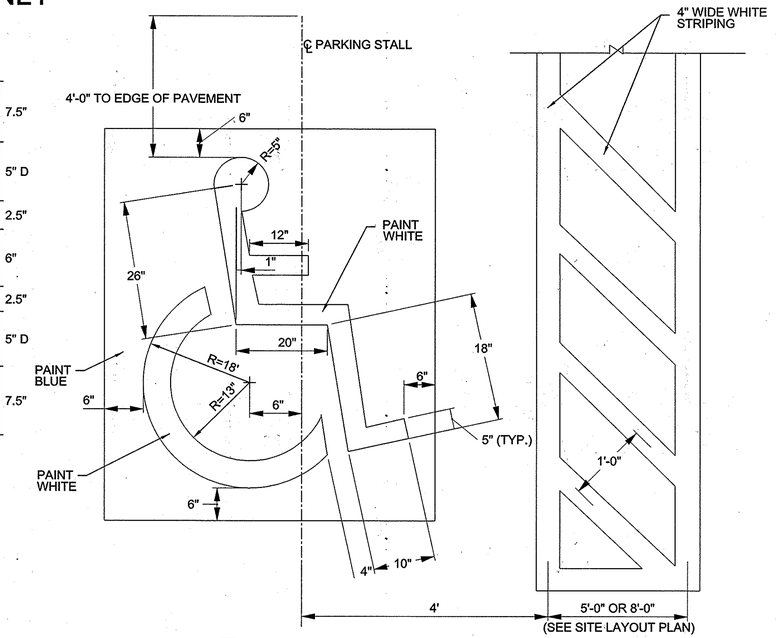


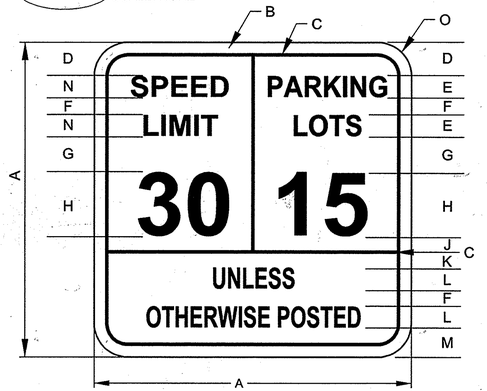
1 WRONG WAY SIGN
SCALE: NONE



2 DO NOT ENTER SIGN
SCALE: NONE

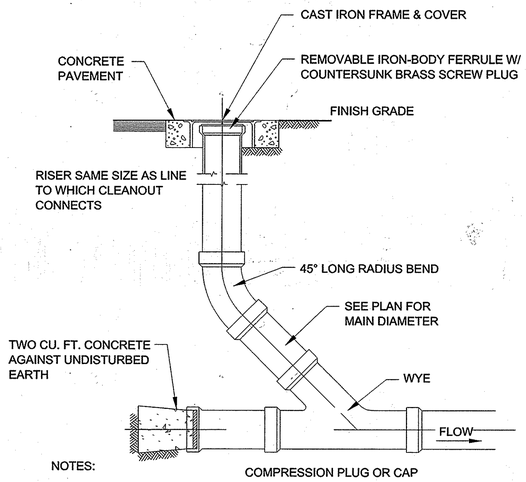


3 HANDICAP PARKING STALL
SCALE: NONE



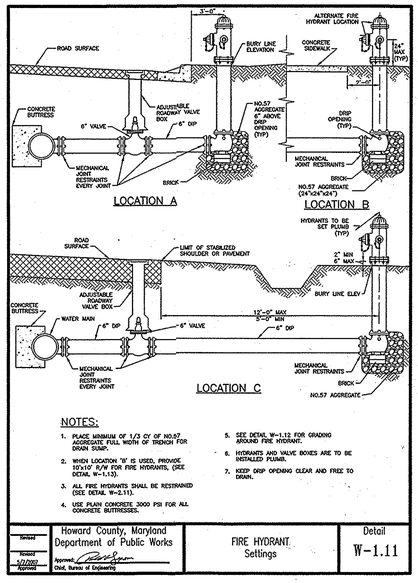
ID	A	B	C	D	E	F	G	H	J	K	L	M	N	O
INCHES	48	0.75	1.25	4	4C	2.5	3.5	10E	2	1.75	4B	4.5	4D	3

4 SPEED LIMIT SIGN
SCALE: NONE



NOTES:
1. FERRULE AS SHOWN IS APPLICABLE TO 4"-8" PIPE. FOR 10"-15" PIPE USE A BLIND PLUG.
2. SUBSTITUTE CONNECTION TO UPSTREAM LINE FOR PLUG, WHERE SHOWN ON PLANS.
3. COVER SHALL BE CAST WITH LETTERS "C.O." ON TOP.
4. CLEANOUTS SHALL BE STANDARD TYPE UNLESS NOTED ON PLANS.

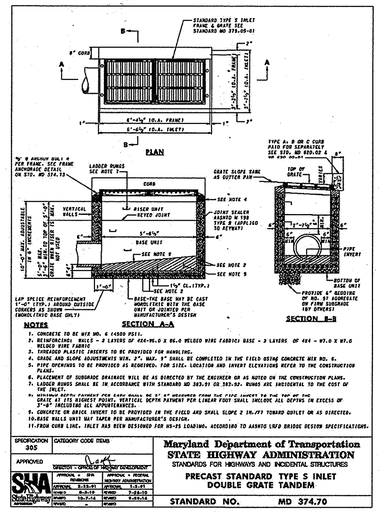
5 CLEANOUT
SCALE: NONE



NOTES:
1. PLACE MINIMUM OF 1/3 CY OF NO.57 AGGREGATE FULL WIDTH OF TRENCH FOR DRAIN SUMP.
2. WHEN LOCATION 'B' IS USED, PROVIDE 10'x10' R/W FOR FIRE HYDRANTS, (SEE DETAIL W-1.13).
3. ALL FIRE HYDRANTS SHALL BE RESTRAINED (SEE DETAIL W-2.11).
4. USE PLAIN CONCRETE 3000 PSI FOR ALL CONCRETE BUTTRESSES.
5. SEE DETAIL W-1.12 FOR GRADING AROUND FIRE HYDRANT.
6. HYDRANTS AND VALVE BOXES ARE TO BE INSTALLED PLUMB.
7. KEEP DRIP OPENING CLEAR AND FREE TO DRAIN.

Revised	Howard County, Maryland Department of Public Works	FIRE HYDRANT Settings	Detail W-1.11
Revised 1/1/2002	Approved: Chief, Bureau of Engineering		
Approved			

6 FIRE HYDRANT
SCALE: NONE



7 TYPE S INLET
SCALE: NONE

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CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-4-16
DIRECTOR — DATE 5-16-16

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PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

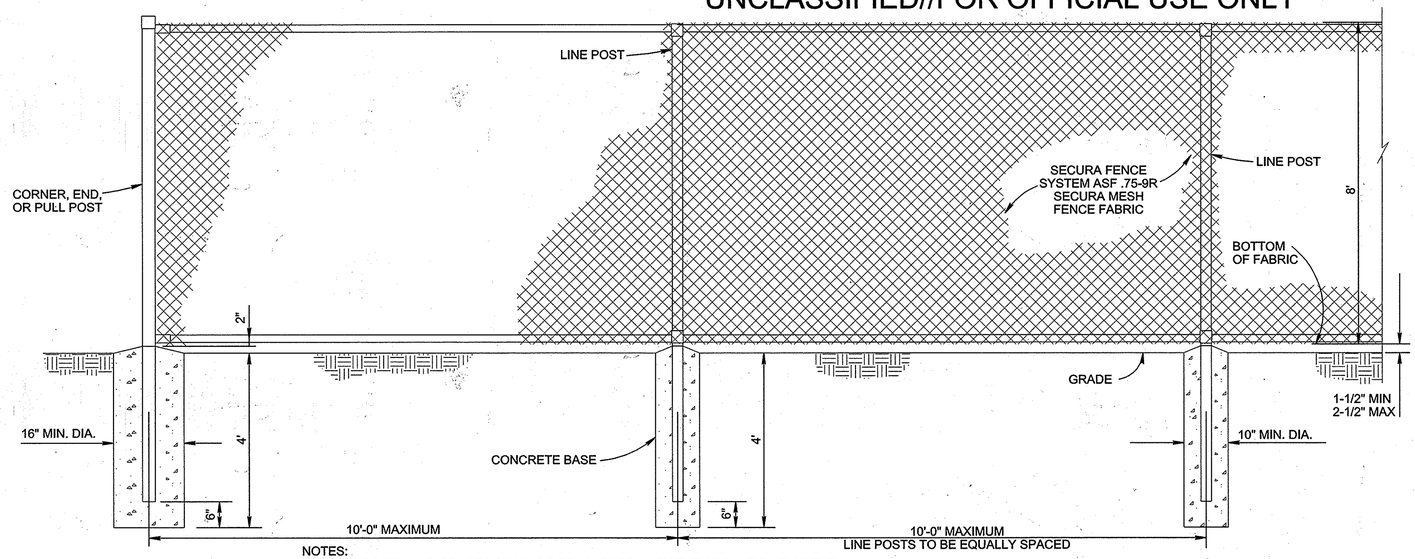
PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE: SITE DETAILS

DES. BY	SCALE	PROJ. No.
M. WERDER	NTS	
DRN. BY	DATE	
M. WERDER	04/04/2016	
CHK. BY	APPROVED	
R. CROWLEY		

59 OF 70

SDP-16-005

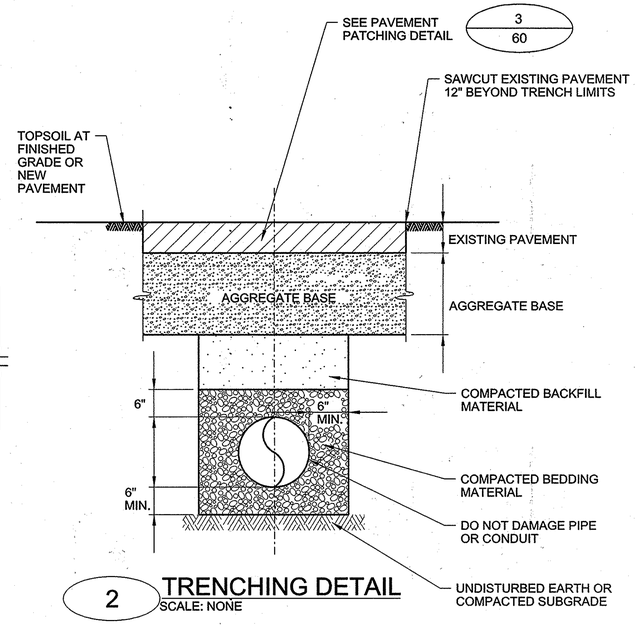


NOTES:
1. RAILS, POSTS, AND BRACES SHALL BE CONSTRUCTED ON THE SECURE SIDE OF THE FENCE ALIGNMENT. SECURA MESH FABRIC SHALL BE PLACED ON THE SIDE OPPOSITE THE SECURE AREA. FABRIC SHALL BE ATTACHED TO THE FENCE PER SECURA FENCE SYSTEM ASF .75-9R REQUIREMENTS.

1 8' AMERISTAR MATRIX FENCE FRAME

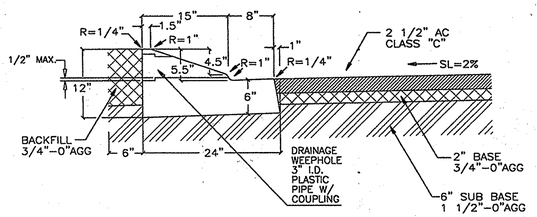
SCALE: NONE

DETAIL IS BASE DESIGN. CONCRACTOR MAY USE EQUIVALENT PRODUCT THAT MEETS PROJECT REQUIREMENTS AND SPECIFICATIONS AND AS APPROVED BY THE COR.



2 TRENCHING DETAIL

SCALE: NONE



MOUNTABLE CURB

APPROVED FOR CUL-DE-SACS

MAY BE USED WITH PREAPPROVAL IN OTHER LOCATIONS

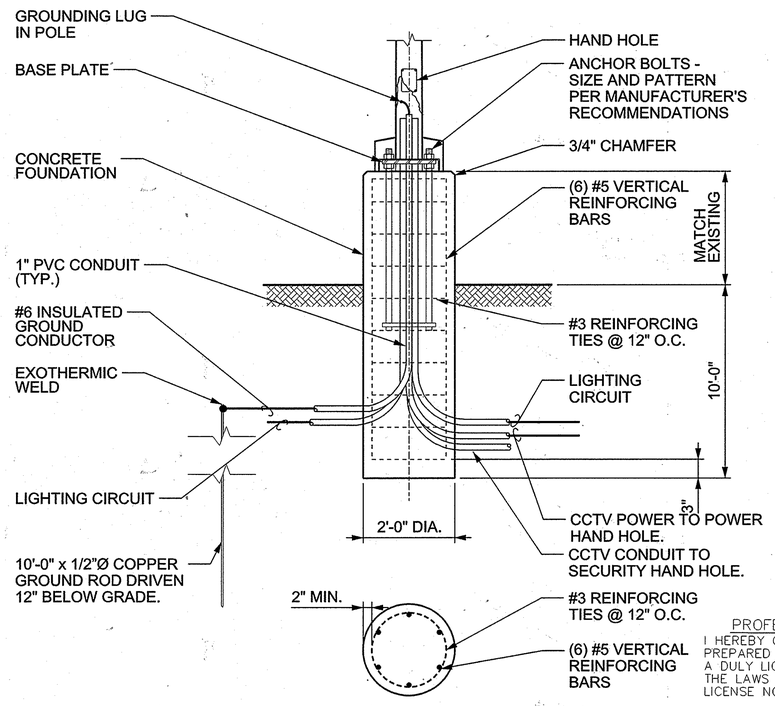
STANDARD ROAD CROSS SECTION

NOTES

1. CONCRETE TO HAVE A COMPRESSIVE STRENGTH OF 3300 P.S.I. AT 28 DAYS.
2. CONTRACTION JOINTS
   A. SPACING TO BE NOT MORE THAN 15 FEET.
   B. THE DEPTH OF THE JOINT SHALL BE AT LEAST 1-1/2 INCHES.
   C. WEEPHOLES TO BE CENTERED WITH CONTRACTION JOINTS.
3. BASE ROCK 1 1/2"-0 OR 3/4"-0, 95% (AASHTO T-180) COMPACTION. BASE ROCK SHALL BE TO SUBGRADE OF STREET STRUCTURE OR 4 INCHES, WHICHEVER IS GREATER, AND SHALL EXTEND 12" BEHIND THE CURB.
4. DRAINAGE WEEPHOLE -3" DIAMETER PLASTIC PIPE
   A. I.D. PLASTIC PIPE WITH COUPLING.
   B. DRAINAGE ACCESS THROUGH EXISTING CURBS SHALL BE CORE DRILLED.
5. WHEN USING MOUNTABLE CURB 6" S/W SHALL BE USED.

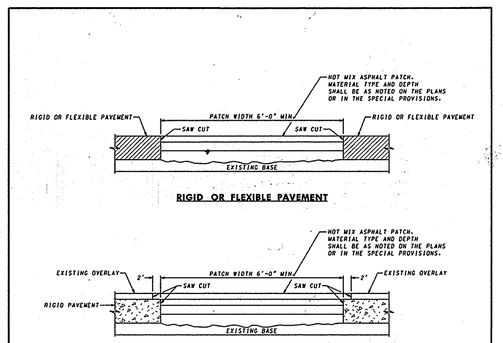
5 MOUNTABLE CURB DETAIL

SCALE: NONE



4 SITE LIGHTING POLE FOUNDATION DETAIL

SCALE: NTS



RIGID OR FLEXIBLE PAVEMENT

RIGID PAVEMENT WITH FLEXIBLE OVERLAY

NOTES

1. REFER TO SECTION 505 OF THE SPECIFICATIONS FOR FLEXIBLE PAVEMENT AND TO SECTION 522 OF THE SPECIFICATIONS FOR RIGID PAVEMENT.
2. TACK COAT TO BE APPLIED TO THE PATCH. APPLY EVENLY WITH PRESSURIZED SPRAY WAND.
3. REFER TO APPLICABLE PLAIN AND REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT TYPE 1 AND TYPE 2 REPAIR STANDARDS FOR PERMANENT RIGID REPAIRS.

SPECIFICATION	CATEGORY CODE ITEMS
505	

APPROVED: Kirk G. Mallard, DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT

REVISIONS	APPROVAL + SHA	APPROVAL + FEDERAL HIGHWAY ADMINISTRATION
APPROVAL	3-6-86	APPROVAL 3-18-86
REVISED	10-1-01	REVISED
REVISED		REVISED
REVISED		REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
PERMANENT PATCHING FOR RIGID OR FLEXIBLE PAVEMENT USING HOT MIX ASPHALT
STANDARD NO. MD 578.03

3 PAVEMENT PATCHING DETAIL

SCALE: NONE

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CHIEF, DIVISION OF LAND DEVELOPMENT	5-11-16 DATE
DIRECTOR	5-16-16 DATE

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
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ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

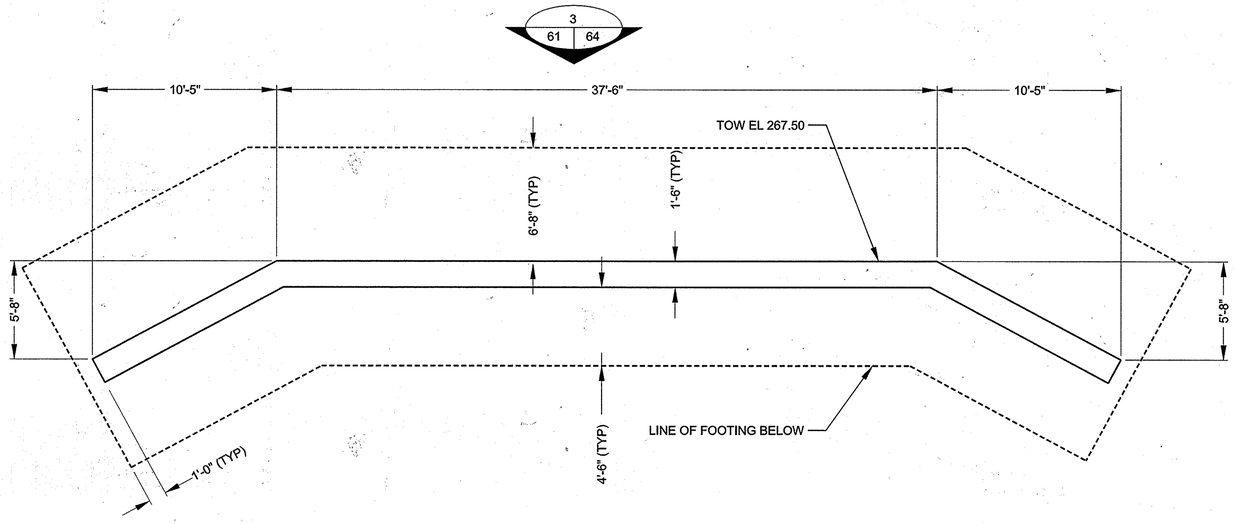
SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED 11479 / 005	ELEC. DISTRICT 6TH	
WATER CODE	SEWER CODE	

TITLE: SITE DETAILS

DES. BY	SCALE	PROJ. No.
M. WERDER	NTS	
DRN. BY M. WERDER	DATE 04/04/2016	60 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005



1 RETAINING WALL #3
SCALE: 1/4"=1'-0"

1/4"=1'-0" 0 1' 2' 4' 8' 12'

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STATE OF MARYLAND ROBERT A. CROWLEY 45292 REGISTERED PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

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DIRECTOR — DATE 5-16-16

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PLAT #	ZONE	GRID
15788	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE: SITE DETAILS

DES. BY	SCALE	PROJ. No.
M. WERDER	NTS	
DRN. BY: M. WERDER	DATE: 04/04/2016	61 OF 70
CHK. BY: R. CROWLEY	APPROVED	

SDP-16-005

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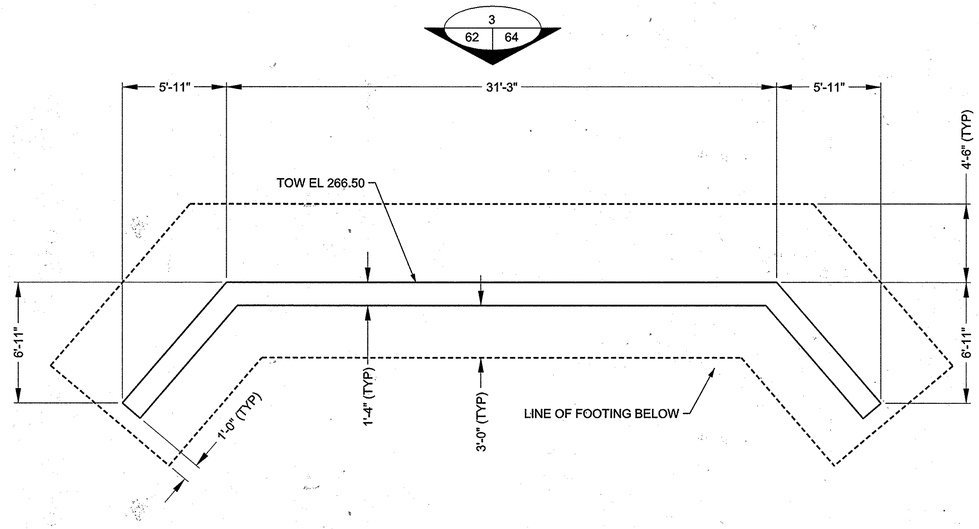

1 RETAINING WALL #2
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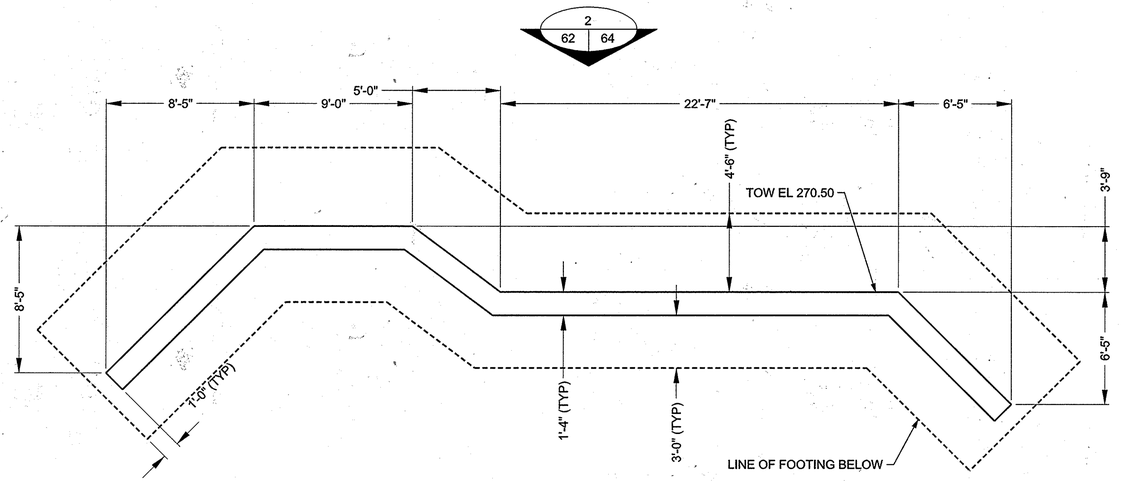

2 RETAINING WALL #2
SCALE: 1/4"=1'-0"

1/4"=1'-0" 0 1' 2' 4' 8' 12'

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PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE: SITE DETAILS

DES. BY	SCALE	PROJ. No.
M. WERDER	NTS	
DRN. BY	DATE	62 OF 70
M. WERDER	04/04/2016	
CHK. BY	APPROVED	
R. CROWLEY		

SDP-16-005

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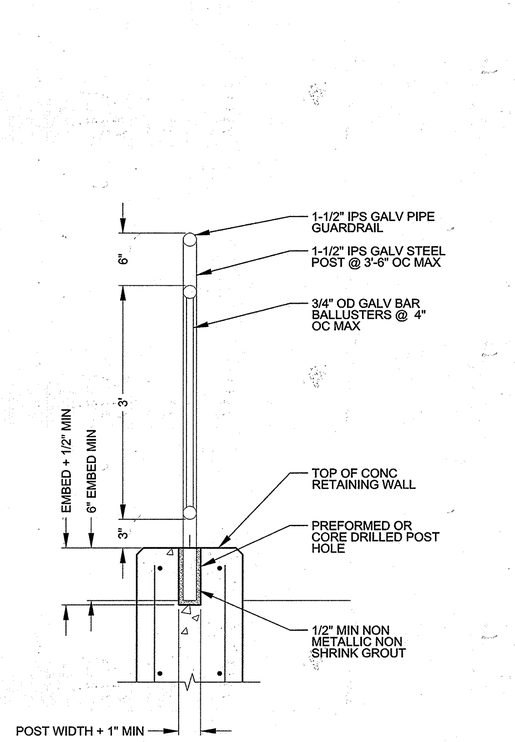
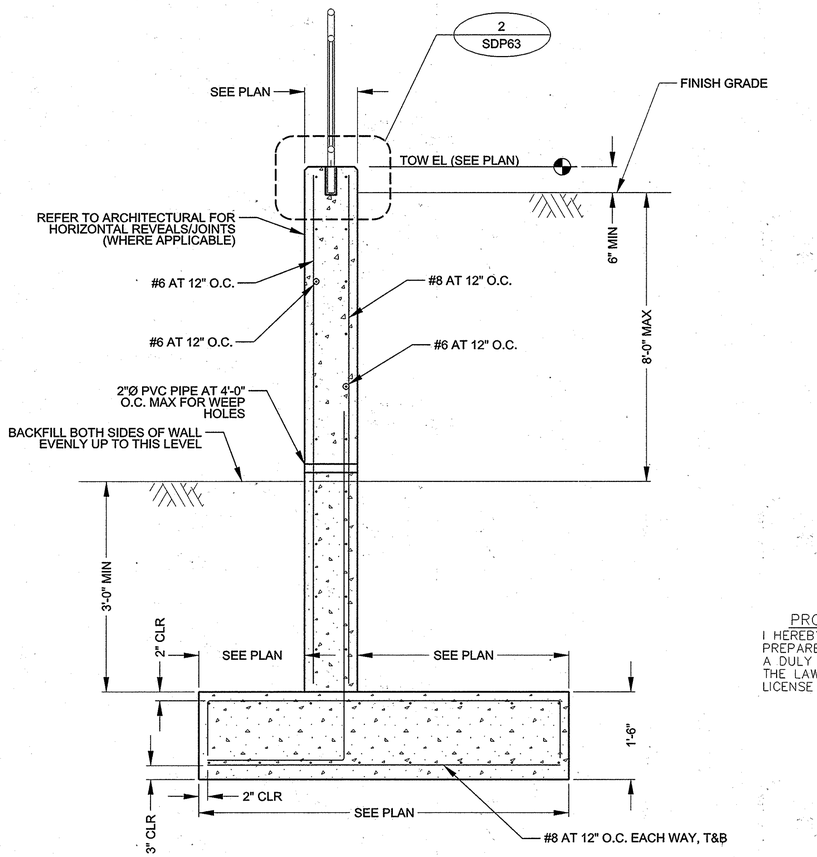


2 RAILING EMBEDMENT DETAIL
SCALE: 1-1/2"=1'-0"

1 1/2"=1'-0" 0 3" 6" 1' 2'



1 RETAINING WALL SECTION
SCALE: 3/4"=1'-0"

3/4"=1'-0" 0 6" 1' 2' 4'

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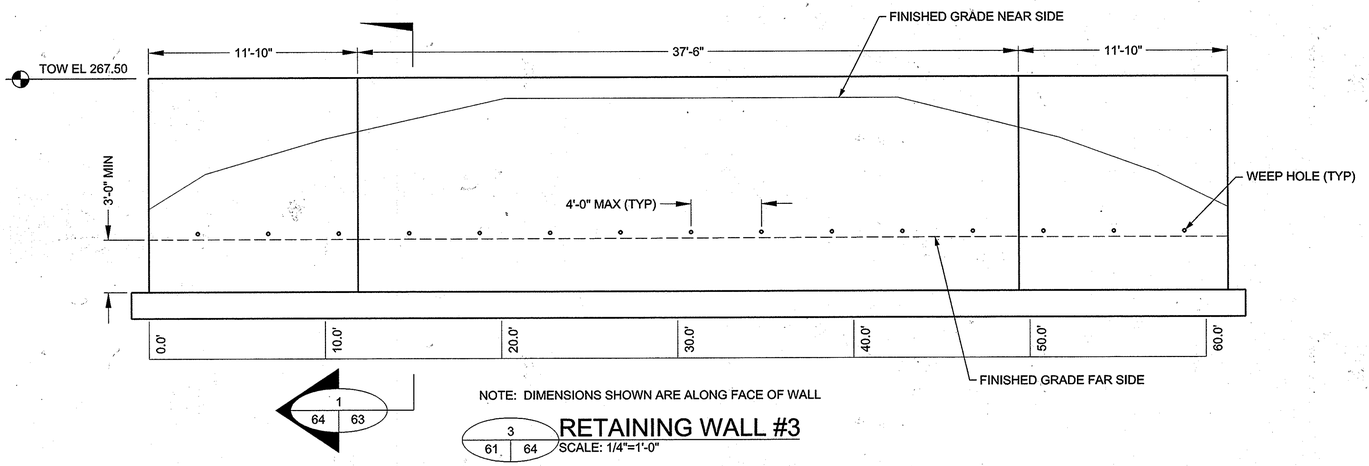


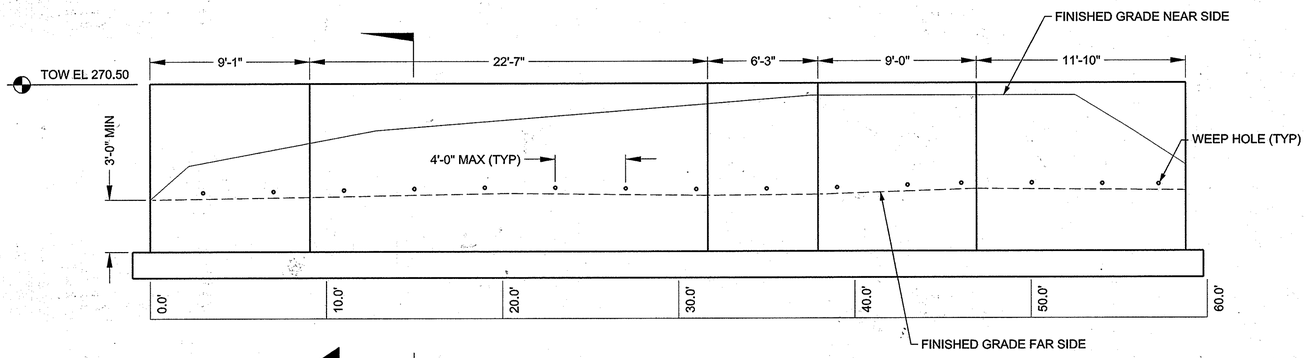
1
64 | 63

NOTE: DIMENSIONS SHOWN ARE ALONG FACE OF WALL

3
61 | 64

RETAINING WALL #3

SCALE: 1/4"=1'-0"



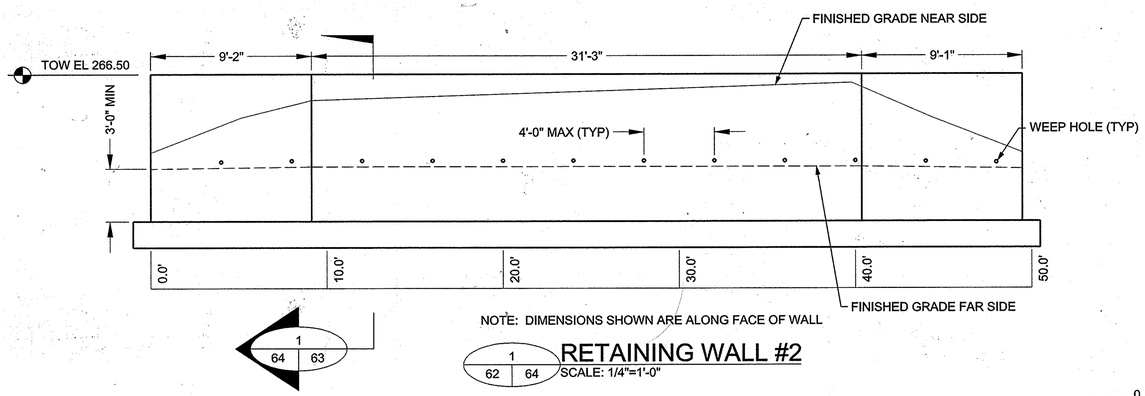
1
64 | 63

NOTE: DIMENSIONS SHOWN ARE ALONG FACE OF WALL

2
62 | 64

RETAINING WALL #1

SCALE: 1/4"=1'-0"



1
64 | 63

NOTE: DIMENSIONS SHOWN ARE ALONG FACE OF WALL

1
62 | 64

RETAINING WALL #2

SCALE: 1/4"=1'-0"

1/4"=1'-0" 0 1' 2' 4' 8' 12'

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. 45292 EXPIRATION DATE: 05/21/2016

STATE OF MARYLAND — ROBERT A. CROWLEY — 45292 — REGISTERED PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5-11-16
DIRECTOR	DATE 5-10-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20

DEED	ELEC. DISTRICT	
11479 / 005	6TH	

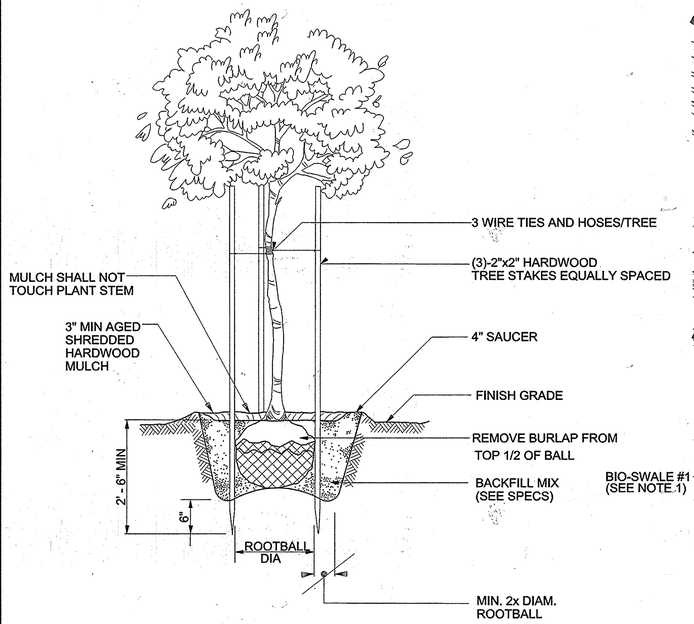
WATER CODE	SEWER CODE

TITLE: SITE DETAILS

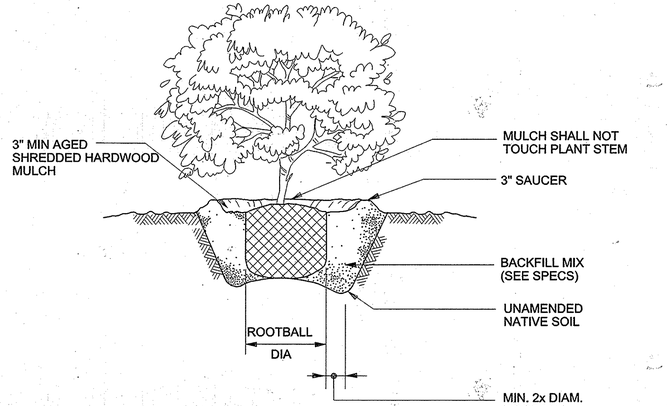
DES. BY	SCALE	PROJ. No.
M. WERDER	NTS	
DRN. BY: M. WERDER	DATE: 04/04/2016	64 OF 70
CHK. BY: R. CROWLEY	APPROVED	

SDP-16-005

UNCLASSIFIED//FOR OFFICIAL USE ONLY



2 DECIDUOUS TREE PLANTING
SCALE: NONE



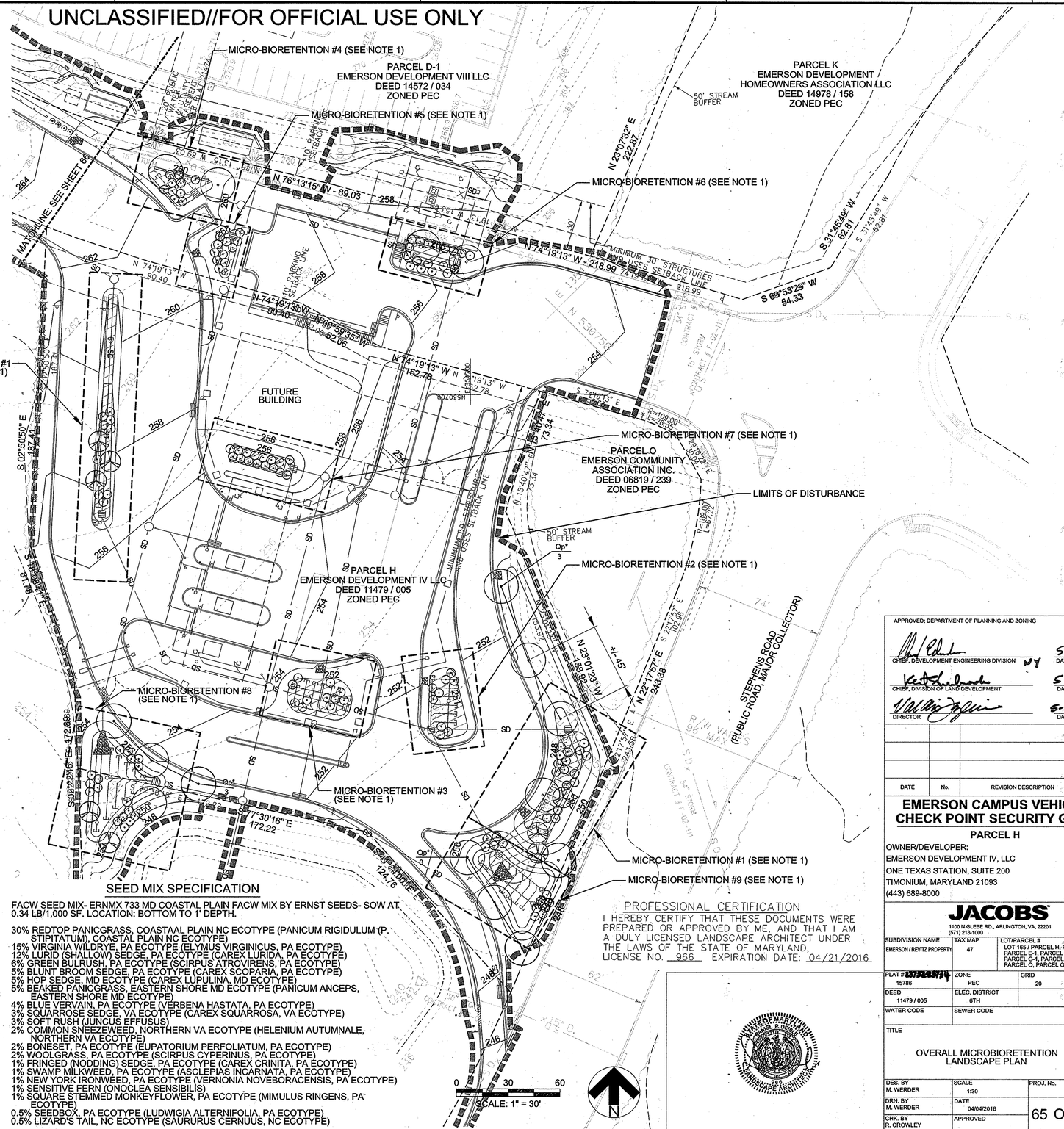
1 SHRUB PLANTING
SCALE: NONE

PLANT LIST

		TREES				
Key	Quantity	Botanical Name	Common Name	Size	Condition	Notes
Ar	7	Acer rubrum 'October Glory'	October Glory Red Maple	2.5" cal. min	B & B	
Qp	27	Quercus phellos	Willow Oak	2.5" cal. min	B & B	
Bn	6	Betula nigra 'Heritage'	Heritage River Birch	2.5" cal. min	B & B	
Mv	3	Magnolia virginiana	Sweetbay Magnolia	8' ht	B & B	
		SHRUBS				
Key	Quantity	Botanical Name	Common Name	Size	Condition	
Vd	28	Viburnum dentatum	Arrowwood Virburnum	36" min.	B & B	
It	28	Itea virginica 'Henry's Garnet'	Virginia Sweetspire	30" Min.	B & B	
Iv	34	Ilex verticillata 'Winter Red'	Winterberry 'Winter Red'	36" min.	B & B	Provide 1 male plant per group
Cl	28	Cethra alnifolia	Summerwseet	36" min.	B & B	
Ig	18	Ilex glabra	Inkberry	36" min.	B & B	

* DENOTES STREET TREE REPLACEMENT

SHEET NOTES:
1. FOR ENLARGED VIEWS OF THE MICRO-BIORETENTION FACILITIES AND BIO-SWALE SEE SHEETS 67-68 OF THE LANDSCAPING PLANS.
2. FOR MICRO-BIORETENTION AND BIO-SWALE DETAILS SEE SHEET 34.



SEED MIX SPECIFICATION

FACW SEED MIX- ERNMX 733 MD COASTAL PLAIN FACW MIX BY ERNST SEEDS- SOW AT 0.34 LB/1,000 SF. LOCATION: BOTTOM TO 1' DEPTH.

30% REDTOP PANICGRASS, COASTAAL PLAIN NC ECOTYPE (PANICUM RIGIDULUM (P. STIPITATUM), COASTAL PLAIN NC ECOTYPE)
15% VIRGINIA WILDRYE, PA ECOTYPE (ELYMUS VIRGINICUS, PA ECOTYPE)
12% LURID (SHALLOW) SEDGE, PA ECOTYPE (CAREX LURIDA, PA ECOTYPE)
6% GREEN BULRUSH, PA ECOTYPE (SCIRPUS ATROVIRENS, PA ECOTYPE)
5% BLUNT BROOM SEDGE, PA ECOTYPE (CAREX SCOPARIA, PA ECOTYPE)
5% HOP SEDGE, MD ECOTYPE (CAREX LUPULINA, MD ECOTYPE)
5% BEAKED PANICGRASS, EASTERN SHORE MD ECOTYPE (PANICUM ANCEPS, EASTERN SHORE MD ECOTYPE)
4% BLUE VERVAIN, PA ECOTYPE (VERBENA HASTATA, PA ECOTYPE)
3% SQUARROSE SEDGE, VA ECOTYPE (CAREX SQUARROSA, VA ECOTYPE)
3% SOFT RUSH (JUNCUS EFFUSUS)
2% COMMON SNEEZEWEED, NORTHERN VA ECOTYPE (HELENIUM AUTUMNALE, NORTHERN VA ECOTYPE)
2% BONESET, PA ECOTYPE (EUPATORIUM PERFOLIATUM, PA ECOTYPE)
2% WOOLGRASS, PA ECOTYPE (SCIRPUS CYPERINUS, PA ECOTYPE)
1% FRINGED (NODDING) SEDGE, PA ECOTYPE (CAREX CRINITA, PA ECOTYPE)
1% SWAMP MILKWEED, PA ECOTYPE (ASCLEPIAS INCARNATA, PA ECOTYPE)
1% NEW YORK IRONWEED, PA ECOTYPE (VERNONIA NOVEBORACENSIS, PA ECOTYPE)
1% SENSITIVE FERN (ONOCLEA SENSIBILIS)
1% SQUARE STEMMED MONKEYFLOWER, PA ECOTYPE (MIMULUS RINGENS, PA ECOTYPE)
0.5% SEEDBOX, PA ECOTYPE (LUDWIGIA ALTERNIFOLIA, PA ECOTYPE)
0.5% LIZARD'S TAIL, NC ECOTYPE (SAURURUS CERNUUS, NC ECOTYPE)

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 5-11-16
DIRECTOR	DATE 5-10-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

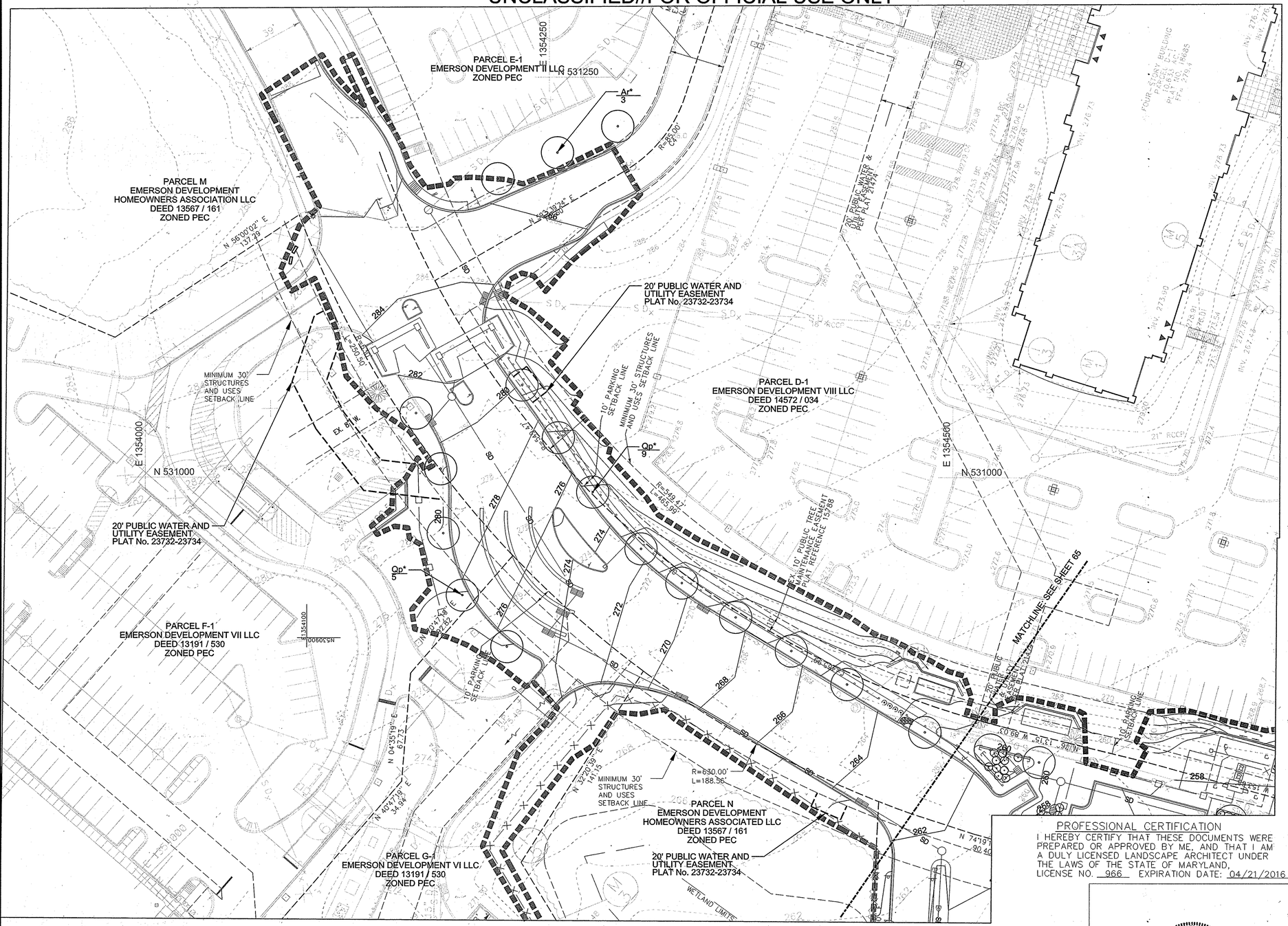
PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 966 EXPIRATION DATE: 04/21/2016

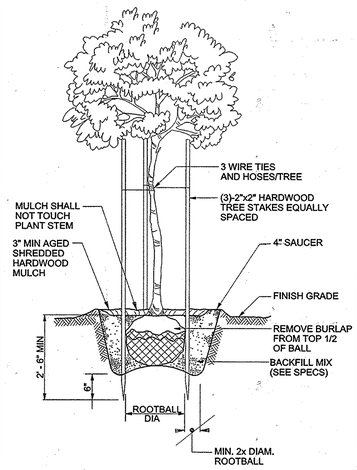
SUBDIVISION NAME: EMERSON / REVITZ PROPERTY	TAX MAP: 47	LOT/PARCEL #: LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q
PLAT #: 15786	ZONE: PEC	GRID: 20
DEED: 11479 / 005	ELEC. DISTRICT: 6TH	
WATER CODE	SEWER CODE	

TITLE
OVERALL MICROBIORETENTION LANDSCAPE PLAN

DES. BY M. WERDER	SCALE 1:30	PROJ. No.
DRN. BY M. WERDER	DATE 04/04/2016	65 OF 70
CHK. BY R. CROWLEY	APPROVED	

SDP-16-005





1 DECIDUOUS TREE PLANTING
SCALE: NONE

PLANT LIST

		TREES			
KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION
AR	3	Acer rubrum "October Glory"	October Glory Red Maple	2.5" cal. Min	B&B
QP	14	Quercus phellos	Willow Oak	2.5" cal. Min	B&B

* INDICATES TREE REPLACEMENT

NOTES:
1. TREES SHOWN ARE REPLACEMENT OF TREES PREVIOUSLY ADDRESSED UNDER F-02-111.

SCALE: 1" = 30'

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-4-16
DIRECTOR — DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

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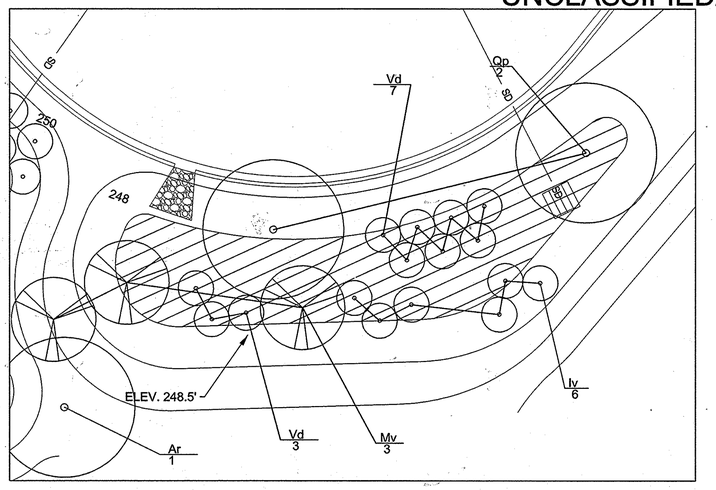
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 966 EXPIRATION DATE: 04/21/2016

SUBDIVISION NAME: EMERSON / REVITZ PROPERTY	TAX MAP: 47	LOT/PARCEL #: LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q
PLAT #: 15788	ZONE: PEC	GRID: 20
DEED: 11479 / 005	ELEC. DISTRICT: 6TH	
WATER CODE	SEWER CODE	

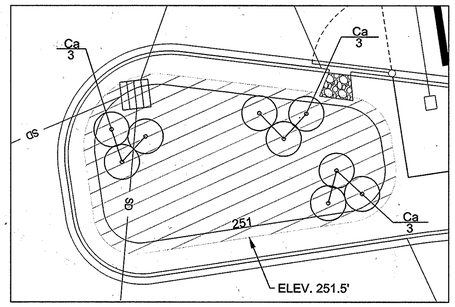
TITLE: STREET TREE PLAN

DES. BY: M. WERDER	SCALE: 1:30	PROJ. No.
DRN. BY: M. WERDER	DATE: 04/04/2016	66 OF 70
CHK. BY: R. CROWLEY	APPROVED	

SDP-16-005



MICRO-BIORETENTION #1



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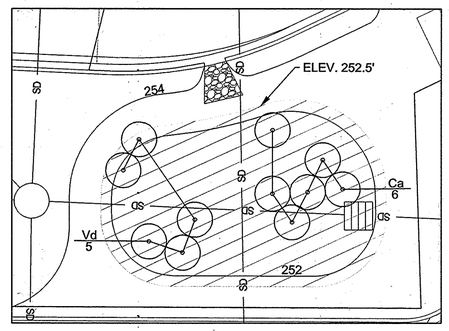
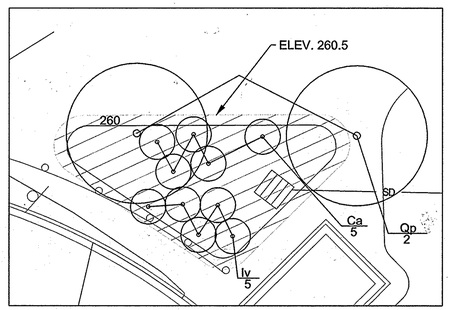
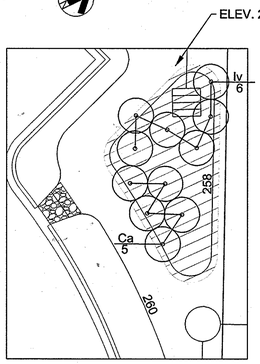


MICRO-BIORETENTION #3



MICRO-BIORETENTION #4



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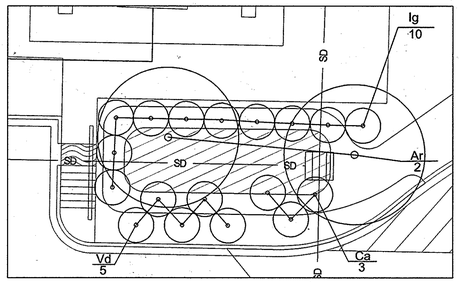
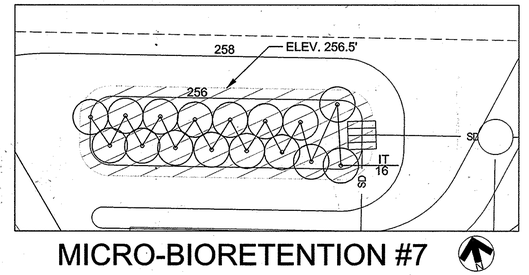
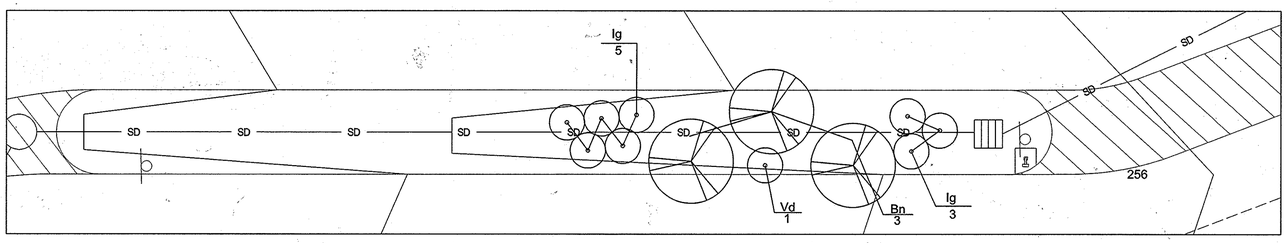


MICRO-BIORETENTION #6



MICRO-BIORETENTION #7



BIO-SWALE #1

LEGEND:

ERNST SEED MIX OR EQUIVALENT

CANOPY TREE

ORNAMENTAL TREE

SHRUB

SHEET NOTES:

1. SEE SHEET 37 FOR PLANT AND SEED MIX LISTS AND PLANTING DETAILS.
2. ADJUST PLANT LOCATIONS TO AVOID CONFLICTS WITH CLEANOUTS AND DRAINAGE INLETS.

PROFESSIONAL CERTIFICATION

I 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. 966 EXPIRATION DATE: 04/21/2016

0 10 20

SCALE: 1" = 10'

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5.6.16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-6-16

DIRECTOR — DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT # 23732-23731	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE

ENLARGED LANDSCAPING PLAN

DES. BY	SCALE	PROJ. No.
M. WERDER	NTS	
DRN. BY	DATE	67 OF 70
M. WERDER	04/04/2016	
CHK. BY	APPROVED	
R. CROWLEY		

SDP-16-005

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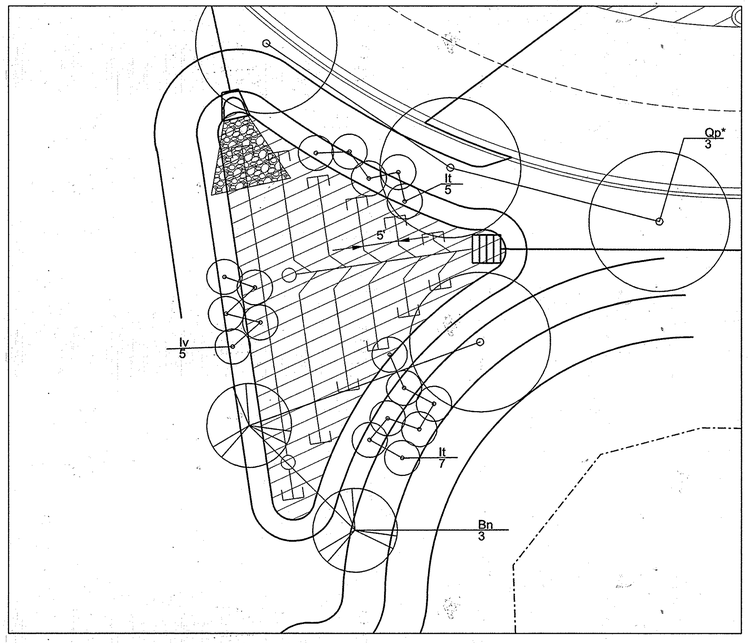
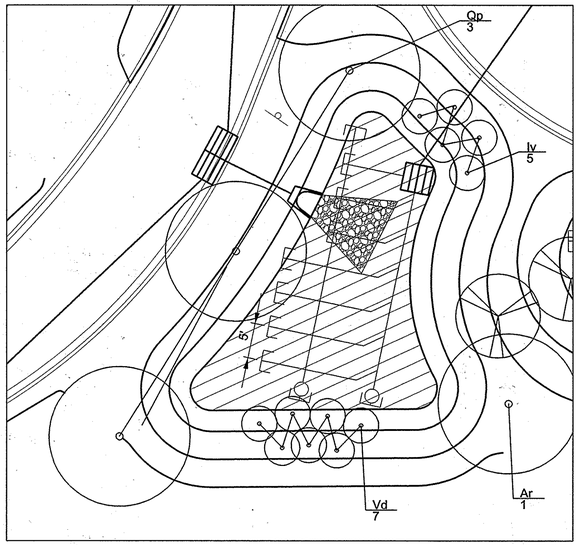


MICRO-BIORETENTION #8



MICRO-BIORETENTION #9

MBR ID	SURFACE ELEV.	PONDING ELEV.	SURFACE AREA (SF)
#8	251.00'	252.00'	1092
#9	245.00'	246.00'	848

LEGEND

PERFORATED PVC UNDERDRAIN

SURFACE PONDING ELEVATION

0 10 20
SCALE: 1" = 10'

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. 45292 EXPIRATION DATE: 05/21/2016

STATE OF MARYLAND
DANIEL P. DEMARCO
LICENSED PROFESSIONAL ENGINEER
LANDSCAPE ARCHITECT
988

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-6-16

DIRECTOR — DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT # 23732-23734	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE
ENLARGED MICROBIORETENTION FACILITIES

DES. BY	SCALE	PROJ. No.
M. WERDER	1:10	
DRN. BY	DATE	
M. WERDER	04/04/2016	68 OF 70
CHK. BY	APPROVED	
R. CROWLEY		

SDP-16-005

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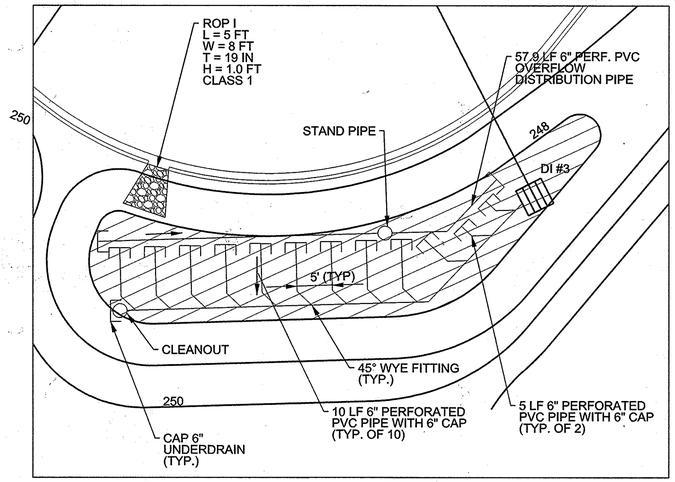
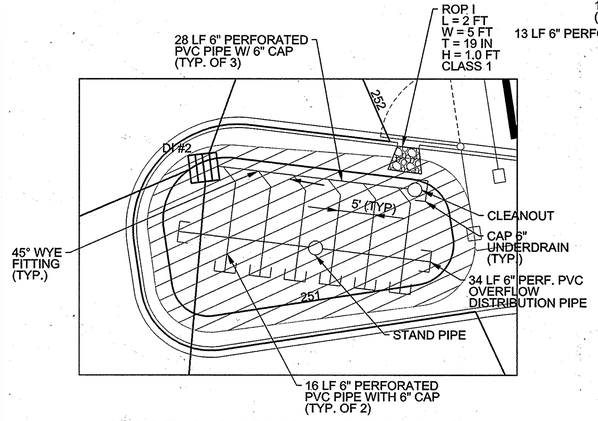


MICRO-BIORETENTION #1



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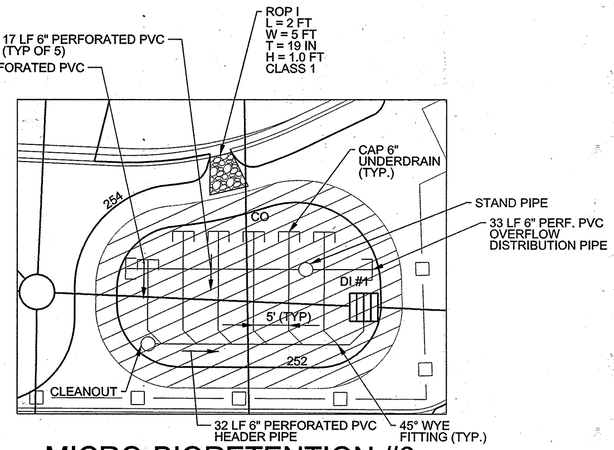
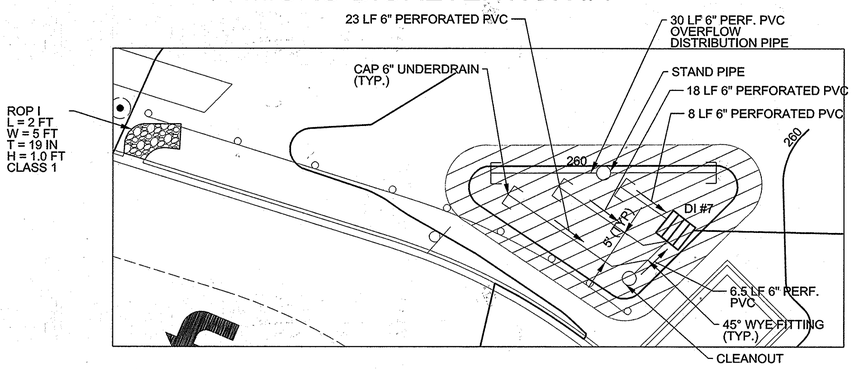


MICRO-BIORETENTION #3



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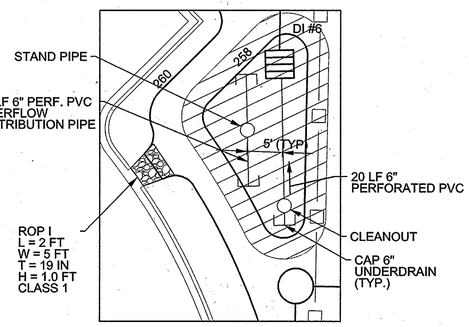

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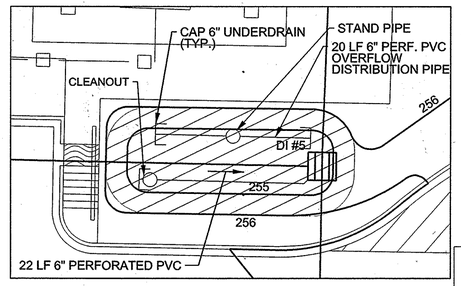

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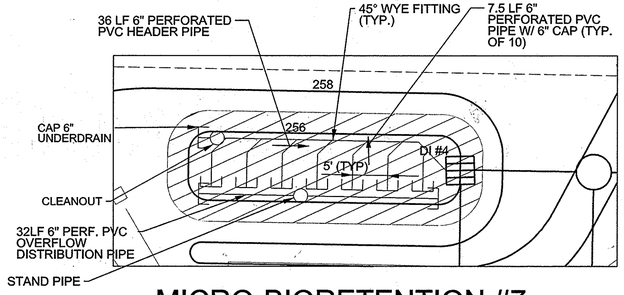
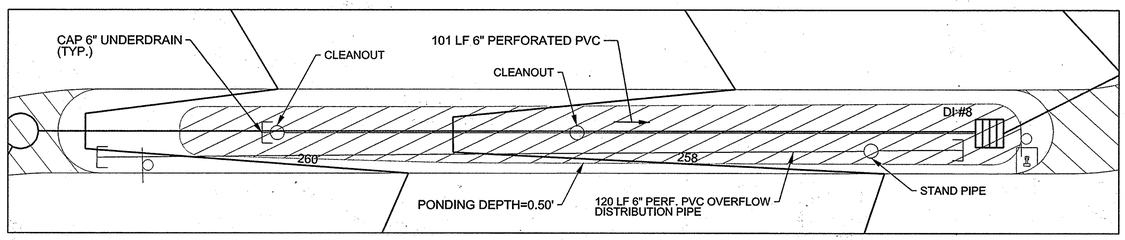


MICRO-BIORETENTION #7



BIO-SWALE #1

MBR ID	SURFACE ELEV.	PONDING ELEV.	SURFACE AREA (SF)
#1	248.00'	249.00'	963
#2	251.00'	252.00'	738
#3	252.00'	253.00'	742
#4	260.00'	261.00'	460
#5	258.00'	259.00'	352
#6	255.00'	256.00'	320
#7	256.00'	257.00'	370

LEGEND

D — PERFORATED PVC UNDERDRAIN

SURFACE PONDING ELEVATION

0 10 20
SCALE: 1" = 10'

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. 45292 EXPIRATION DATE: 05/21/2016

STATE OF MARYLAND · ROBERT A. CROWLEY · 45292 · PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-6-16

DIRECTOR — DATE 5-10-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

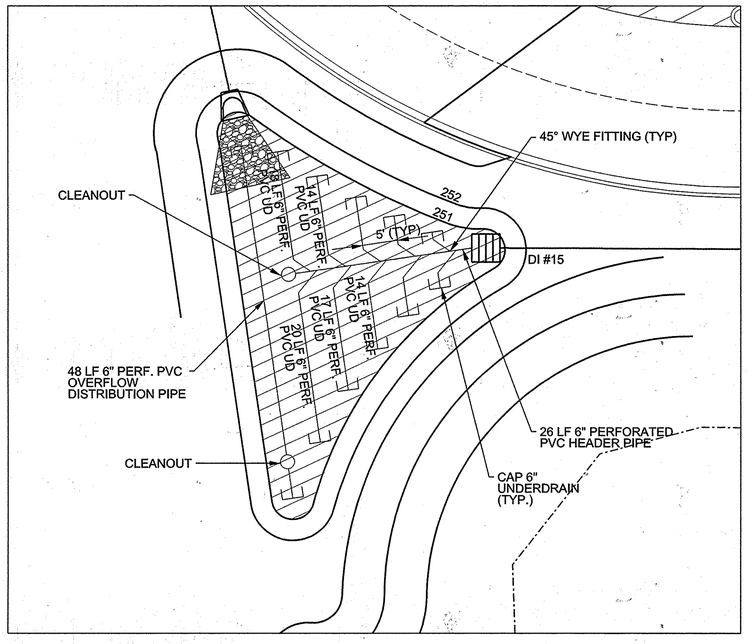
PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE

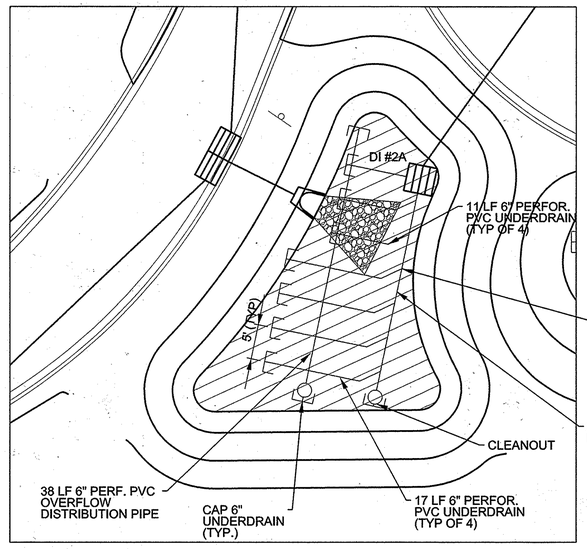
ENLARGED MICROBIORETENTION FACILITIES

DES. BY	SCALE	PROJ. No.
M. WERDER	1:10	
DRN. BY	DATE	69 OF 70
M. WERDER	04/04/2016	
CHK. BY	APPROVED	
R. CROWLEY		

SDP-16-005



MICRO-BIORETENTION #8



MICRO-BIORETENTION #9

MBR ID	SURFACE ELEV.	PONDING ELEV.	SURFACE AREA (SF)
#8	251.00'	252.00'	1092
#9	245.00'	246.00'	848

LEGEND

D — PERFORATED PVC UNDERDRAIN

SURFACE PONDING ELEVATION

0 10 20
SCALE: 1" = 10'

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. 45292 EXPIRATION DATE: 05/21/2016

STATE OF MARYLAND — ROBERT A. CROWLEY — 45292 — REGISTERED PROFESSIONAL ENGINEER

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5-6-16

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5-11-16

DIRECTOR — DATE 5-16-16

DATE	No.	REVISION DESCRIPTION

EMERSON CAMPUS VEHICLE CHECK POINT SECURITY GATE

PARCEL H

OWNER/DEVELOPER:
EMERSON DEVELOPMENT IV, LLC
ONE TEXAS STATION, SUITE 200
TIMONIUM, MARYLAND 21093
(443) 689-8000

JACOBS
1100 N.GLEBE RD., ARLINGTON, VA, 22201
(571) 218-1000

SUBDIVISION NAME	TAX MAP	LOT/PARCEL #
EMERSON / REVITZ PROPERTY	47	LOT 165 / PARCEL H, PARCEL D-1, PARCEL E-1, PARCEL F-1, PARCEL G-1, PARCEL N, PARCEL O, PARCEL Q

PLAT #	ZONE	GRID
15786	PEC	20
DEED	ELEC. DISTRICT	
11479 / 005	6TH	
WATER CODE	SEWER CODE	

TITLE

ENLARGED MICROBIORETENTION FACILITIES

DES. BY	SCALE	PROJ. No.
M. WERDER	1:10	
DRN. BY	DATE	
M. WERDER	04/04/2016	70 OF 70
CHK. BY	APPROVED	
R. CROWLEY		

SDP-16-005

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