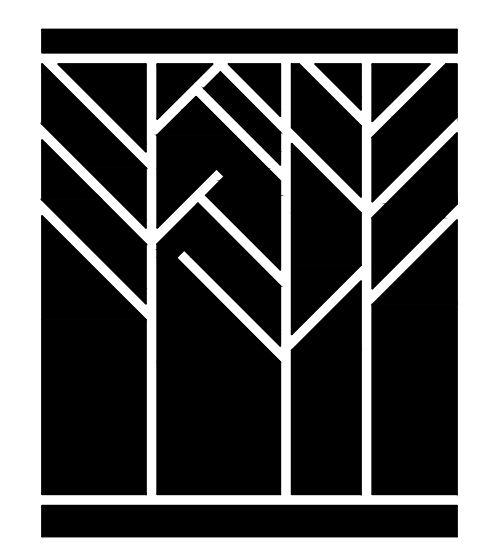
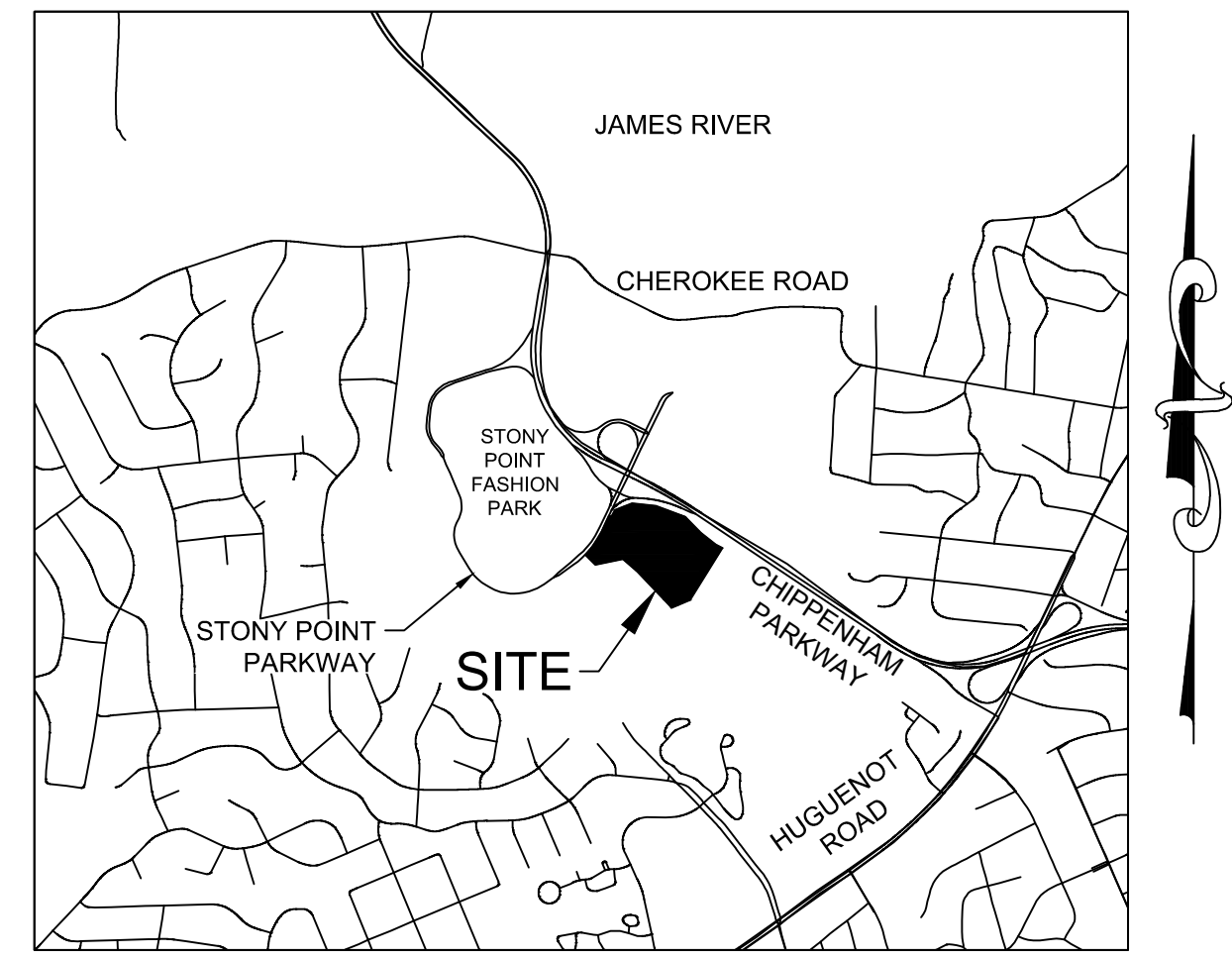


# STONY POINT MAP 'F' PHASE III - BUILDING A



**HIGHWOODS  
PROPERTIES**

**CITY OF RICHMOND, VIRGINIA**



**VICINITY MAP**  
SCALE: 1" = 2,000'

**SEPTEMBER 27, 2016**

Sheet List Table	
Sheet Number	Sheet Title
C0.0	COVER SHEET
C1.0	EXISTING CONDITIONS AND DEMOLITION PLAN
C1.1	OVERALL PLAN
C2.0	EROSION & SEDIMENT CONTROL PLAN
C2.1	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
C2.2	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
C2.3	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
C2.4	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
C3.0	LAYOUT PLAN
C3.1	SITE NOTES AND DETAILS
C3.2	SITE NOTES AND DETAILS
C4.0	UTILITY PLAN
C4.1	UTILITY PROFILES
C4.2	UTILITY NOTES AND DETAILS
C4.3	UTILITY NOTES AND DETAILS
C5.0	GRADING & DRAINAGE PLAN
C5.1	STORM SEWER PROFILES & CALCULATIONS
C5.2	STORM CALCULATIONS & DRAINAGE AREA MAP
L1.0	LANDSCAPE PLAN
L2.0	LANDSCAPE NOTES AND DETAILS
L3.0	LUMEN PLAN
L3.1	LUMEN PLAN NOTES & DETAILS
A1.1	ARCHITECTURAL 1ST FLOOR - PLAN
A1.2	ARCHITECTURAL 2ND FLOOR - PLAN
A1.3	ARCHITECTURAL 3RD FLOOR - PLAN
A2.1	ARCHITECTURAL EXTERIOR ELEVATIONS
A2.2	ARCHITECTURAL EXTERIOR ELEVATIONS
A1.1 DK	PARKING DECK 1ST LEVEL CONSTRUCTION & PARKING PLAN
A1.2 DK	PARKING DECK 2ND LEVEL CONSTRUCTION & PARKING PLAN
A2.1 DK	PARKING DECK EXTERIOR ELEVATIONS & DETAILS

**Exhibit D  
Stony Point Density Summary for Sections D, E and F  
Revised September 27, 2016 Based on "Gross Leasable Area"**

Map Section	Building	Square Footage	Status
<b>Section D:</b>	Highwoods Stony Point One, 9030 Stony Point Parkway	96,949 SF	Existing
	Highwoods Stony Point Two, 9020 Stony Point Parkway	114,770 SF	Existing
	Highwoods - Reserve	28,185 SF	Future
	<b>Subtotal of Existing Density</b>	<b>239,904 SF</b>	
	Maximum Allowable Density under CUP for Section D	261,000 SF	Rev. 7/12/99
<b>Section E:</b>	MCV	56,800 SF	Existing
	MCV - Reserve	29,200 SF	Future
	Ambulatory Surgery (Eye & Ear Center)	73,746 SF	Existing
	Ambulatory Surgery - Reserve	13,254 SF	Future
	Highwoods Stony Point Three, 8730 Stony Point Parkway	93,366 SF	Existing
	Highwoods Stony Point Four, 8720 Stony Point Parkway	94,730 SF	Existing
	<b>Subtotal of Existing and Reserve Density</b>	<b>361,096 SF</b>	
	Maximum Allowable Density under CUP for Section E	474,000 SF	Rev. 7/12/99
<b>Section F:</b>	Highwoods Building A, 9101 Stony Point Drive *	81,469 SF	Proposed
	Virginia Urology, 9105 Stony Point Drive **	55,000 SF	Existing
	Highwoods Building C, 9109 Stony Point Drive	59,841 SF	Approved
	Highwoods - Reserve	37,690 SF	Future
	<b>Subtotal of Existing and Approved Density</b>	<b>234,000 SF</b>	
	Maximum Allowable Density under CUP for Section F	234,000 SF	
<b>Total:</b>	Maximum Density under CUP for Sections D, E and F	<b>835,000 SF</b>	

\* Parcel F Master Plan approval by City of Richmond in 2002 included three buildings totaling 199,000 SF. The "Gross Leasable Area" of proposed Building A is 2,690 SF under the original Master Plan approval of 199,000 SF.

\*\* The existing Urology Building is being carried at the original approved SF. This building may be adjusted in the future to more accurately comply with definition of "Gross Leasable Area".

**Summary:**  
Total maximum Density allowed for all three Map Sections under the amended CUP is **835,000 SF**.  
Total Existing, Reserve, and Approved Density to Date is **835,000 SF** (239,904 SF + 361,096 SF + 234,000 SF).

## SITE STATISTICS

ADDRESS: 9101 STONY POINT DRIVE, RICHMOND, VA 23235  
 MAP REFERENCE NUMBER: C0010757065  
 GPIN: 7065  
 PLANNED LAND USE: ECONOMIC OPPORTUNITY AREA  
 COMMUNITY UNIT PLAN (ORDINANCE NO. 2015-23-40)  
 ZONING CODE: R-2 (CUP)  
 ENTERPRISE ZONE: EAST  
 TRAFFIC ZONE: 1142  
 PROPOSED USE: OFFICE  
 WATER: PUBLIC, CITY OF RICHMOND  
 SANITARY SEWER: PUBLIC, CITY OF RICHMOND  
 DRAINAGE: PRIVATE SITE  
 ACREAGE: 19.8 AC. (ENTIRE SITE)  
 DISTURBED ACREAGE: 5.35 AC.  
 PROJECT LOCATION: SE QUADRANT, STONY POINT PKWY & CHIPPENHAM PKWY  
 BUILDING FLOOR AREA: REFER TO EXHIBIT D ABOVE  
 FLOOR AREA RATIO: (55,000 SF + 60,693 SF + 90,000 SF) / 43560 SF = 4.77 AC  
 4.70 AC / 19.8 AC = 0.238  
 0.238 < 0.27  
 MAP F REQUIRED PARKING SUMMARY (4 SPACES PER 1,000 SF):  
 PROPOSED BUILDING A: 81,469 SF / 250 = 326 SPACES  
 (INCLUDES 9 HANDICAPPED ACCESSIBLE SPACES)  
 EXISTING BUILDING B: 55,000 SF / 250 = 220 SPACES  
 (INCLUDES 28 HANDICAPPED ACCESSIBLE SPACES)  
 EXISTING BUILDING C: 59,841 / 250 = 240 SPACES  
 (INCLUDES 7 HANDICAPPED ACCESSIBLE SPACES)  
 TOTAL PARKING REQUIRED = 786 SPACES  
 TOTAL PARKING PROVIDED = 1,058 SPACES  
 PHASE I: 276 EXISTING  
 PHASE II: 306 EXISTING  
 PHASE III: 477 PROPOSED  
 MINIMUM GROSS OPEN SPACE (% OF SITE): 85% REQUIRED  
 92% PROVIDED (18.2 AC)  
 BUILDING A + BUILDING B + BUILDING C FOOTPRINT = 1.6 AC  
 (19.8 AC - 1.6 AC = 18.2 AC)  
 MINIMUM LIVABILITY SPACE (% OF SITE): 45% REQUIRED  
 46% PROVIDED (9.1 AC)  
 GREEN SPACE + UNDISTURBED LAND = 9.1 AC  
 (5.2 AC + 3.9 AC = 9.1 AC)  
 MINIMUM UNDISTURBED LAND (% OF SITE): 20% REQUIRED  
 20% PROVIDED (3.9 AC)

### OWNER / DEVELOPER:

HIGHWOODS REALTY LIMITED PARTNERSHIP 4501  
 HIGHWOODS PARKWAY  
 SUITE 400  
 GLEN ALLEN, VIRGINIA 23060  
 CONTACT: HANK ROBERTSON  
 PHONE: (804) 747-7800  
 FAX: (804) 346-4265  
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### CIVIL ENGINEER:

TIMMONS GROUP  
 1001 BOULDERS PARKWAY  
 SUITE 300  
 RICHMOND, VIRGINIA 23225  
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 PHONE: (804) 200-6416  
 FAX: (804) 560-1016  
 EMAIL: RYAN.RITTERSKAMP@TIMMONS.COM

### ARCHITECT:

BASKERVILL  
 101 S. 15TH ST.  
 SUITE 200  
 RICHMOND, VA 23219  
 CONTACT: JAY WOODBURN, AIA  
 PHONE: (804) 343-1010  
 FAX: (804) 343-0909

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REVISION DESCRIPTION

DATE	DESCRIPTION
09/27/16	

DRAWN BY  
**B. SHAMLIN**

CHECKED BY  
**R. RITTERSKAMP**

SCALE  
AS SHOWN

**TIMMONS GROUP**

STONY POINT MAP 'F' - PHASE III - BUILDING A  
 HUGUENOT DISTRICT - CITY OF RICHMOND - VIRGINIA  
 COVER SHEET

JOB NO.  
**37723**

SHEET NO.  
**C0.0**

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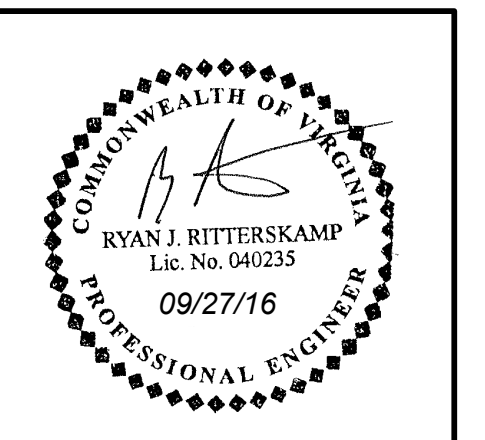
**EROSION CONTROL LEGEND:**

- CE [Symbol] CONSTRUCTION ENTRANCE
- SF [Symbol] SILT FENCE
- SSF [Symbol] SUPER SILT FENCE
- IP [Symbol] INLET PROTECTION
- TP [Symbol] TREE PROTECTION TAPE LIMITS OF DISTURBANCE
- L0D [Symbol] LIMITS OF DISTURBANCE \*\*

\*VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK\* SPECIFICATION NUMBER  
 \*\* THE LIMITS OF DISTURBANCE IS ALSO REPRESENTED BY SILT FENCE AND TREE PROTECTION.

**PHASE I CONSTRUCTION SEQUENCE**

1. A PRE-CONSTRUCTION CONFERENCE IS MANDATORY BEFORE ANY WORK IS DONE AT THE SITE WITH THE OWNER, CONTRACTOR, AND CITY EROSION CONTROL INSPECTOR. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED.
2. THE CONTRACTOR MUST VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE START OF CONSTRUCTION. NOTIFY "MISS UTILITY" AT 1-800-552-7001 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION ACTIVITIES. ALSO NOTIFY THE ENGINEER IF THERE IS A CONFLICT.
3. CONTRACTOR TO COORDINATE WORK AROUND EXISTING UTILITIES WITH THE CORRESPONDING UTILITY COMPANIES. ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE CURRENT EDITION OF THE VESCH HANDBOOK AND VIRGINIA EROSION AND SEDIMENT CONTROL REGULATION 9VAC25-840.
5. INSTALL CONSTRUCTION ENTRANCES OFF OF STONY POINT DRIVE
6. INSTALL PERIMETER SILT FENCE AND TREE PROTECTION FENCE AS SHOWN ON PLAN. CLEAR ONLY THE MINIMUM AMOUNT NECESSARY TO INSTALL THE PHASE I PERIMETER MEASURES.
7. BEGIN CLEARING AND GRUBBING OPERATIONS TO LIMITS OF CLEARING. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE INSPECTOR.
9. BEFORE LAND DISTURBANCE CAN COMMENCE, THE INSTALLATION OF THE ESC MEASURES MUST BE APPROVED BY THE CITY OF RICHMOND ENVIRONMENTAL INSPECTOR.
10. NO LAND DISTURBANCE OUTSIDE THE LIMITS OF CONSTRUCTION IS TO TAKE PLACE UNTIL AUTHORIZED BY THE CITY OF RICHMOND ENVIRONMENTAL INSPECTOR.
11. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
12. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.
13. ANY SOIL STOCKPILES ARE TO BE SURROUNDED BY SILT FENCE AND SEEDED FOR STABILIZATION IF TO BE LEFT UNDISTURBED FOR MORE THAN 7 DAYS.
14. NO EROSION AND SEDIMENT CONTROLS CAN BE REMOVED WITHOUT APPROVAL OF THE ENVIRONMENTAL INSPECTOR FOR THE PROJECT.



THIS DRAWING PREPARED AT THE  
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DATE	REVISION DESCRIPTION
09/27/16 <td></td>	

YOUR VISION ACHIEVED THROUGH OURS.

DATE: 09/27/16  
 DRAWN BY: B. SHAMLIN  
 DESIGNED BY: R. RITTERSKAMP  
 CHECKED BY: R. RITTERSKAMP  
 SCALE: 1" = 30'

**TIMMONS GROUP**

**STONY POINT MAP 'F' - PHASE III - BUILDING A**  
 HUGUENOT DISTRICT - CITY OF RICHMOND - VIRGINIA  
**EROSION & SEDIMENT CONTROL PLAN**

JOB NO. 37723  
 SHEET NO. C2.0

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**EROSION AND SEDIMENT CONTROL NARRATIVE:**

**PROJECT DESCRIPTION:**

THE PROJECT IS PHASE III OF A THREE PHASE PROJECT. PHASE III INVOLVES THE CONSTRUCTION OF AN OFFICE BUILDING WITH ASSOCIATED DRIVES, PARKING DECK AND PARKING AREAS. PLEASE REFER TO SHEET C1.1 FOR PROJECT PHASE LINES. A TIMELINE FOR THIS PROJECT HAS NOT YET BEEN ESTABLISHED. UNLESS OTHERWISE NOTED, THIS NARRATIVE REFERS TO THE DISTURBED AREA WITHIN PHASE III.

**EXISTING SITE CONDITIONS:**

THE EXISTING 19.80 ACRE SITE IS MASTER PLANNED FOR THREE PHASES OF DEVELOPMENT. PHASE I & II OF THE PROJECT (VIRGINIA UROLOGY CENTER 7 HIGHWOODS BUILDING C) ARE COMPLETELY CONSTRUCTED AND STABILIZED. AFTER PHASE I COMPLETION OF THE PROJECT, THE ENTIRE 19.80 ACRES WAS SUBDIVIDED INTO TWO PARCELS. THE PHASE I PARCEL MAKES UP 5.45 ± ACRES OF THE ORIGINAL 19.80 ACRES, LEAVING THE RESIDUAL 14.35 ACRE AREA FOR PHASES II AND PHASE III (THIS PLAN; 5.3 ACRES BEING DISTURBED DURING PHASE III). PHASE II CONSISTS OF 4.0 ACRES OF DISTURBED AREA. THE EXISTING TOPOGRAPHY IN THE PHASE III DISTURBED AREA RANGES FROM 1.5% TO 50% SLOPES AND THERE ARE MINIMAL IF ANY EXISTING DRAINAGE AND EROSION CONTROL ISSUES. THE MAJORITY OF THE EXISTING SITE DRAINS TO A SINGLE 36" CULVERT UNDER CHIPPENHAM PARKWAY. THE PROPOSED DEVELOPMENT DISCHARGES STORMWATER RUNOFF THROUGH STORM SEWER TO THIS SAME POINT. VEGETATION TO BE PRESERVED WILL BE THOSE OUTSIDE THE LIMITS OF DISTURBANCE. THE LIMITS OF DISTURBANCE SHALL BE MARKED PRIOR TO CONSTRUCTION IN A MANNER ACCEPTABLE TO THE CITY OF RICHMOND EROSION CONTROL INSPECTOR. THE PROPOSED LIMITS OF DISTURBANCE ARE SHOWN ON SHEET C2.0.

**ADJACENT AREAS:**

THE SITE IS BOUNDED ON THE NORTHEAST BY CHIPPENHAM PARKWAY (STATE ROUTE 150), ON THE NORTHWEST BY STONY POINT PARKWAY, TO THE SOUTH BY STONY POINT DRIVE AND TO THE EAST BY BUILDING B. STONY POINT FASHION PARK REGIONAL SHOPPING MALL IS LOCATED ACROSS STONY POINT PARKWAY. A SINGLE SEDIMENT TRAP AND SILT FENCE WILL BE USED ON THE DOWNHILL SIDE OF THE SITE TO CONTROL AND RETAIN SEDIMENT RUNOFF DURING CONSTRUCTION. THE SITE WILL BE FULLY STABILIZED AFTER COMPLETION OF THE PROJECT.

**OFF-SITE AREAS:**

NO OFFSITE LAND DISTURBANCE IS PROPOSED WITH THIS PLAN. EXCESS MATERIALS THAT ARE NOT REUSED ONSITE WILL BE TRANSPORTED TO AN APPROVED DESIGNATED SITE (TO BE DETERMINED).

**SOILS:**

A SOIL SURVEY OF THE CITY OF RICHMOND WAS COMPLETED BY THE USDA IN 2009. SOILS MAPPING INFORMATION APPEARS ON SHEET C7.0. THE FOLLOWING FOUR SOIL TYPES ARE THE PREDOMINANT SOILS PRESENT ON THE SITE:

- APPLYING SANDY LOAM, 12% TO 20% SLOPES (MAPPING UNIT 3D; HYDROLOGIC SOIL GROUP B)— THE EROSION HAZARD IS MODERATE (K<sub>w</sub>=0.24 AND K<sub>f</sub>=0.28 AT A DEPTH OF 0"-10"). DEPTH TO A ROOT RESTRICTIVE LAYER IS GREATER THAN 60 INCHES. THE NATURAL DRAINAGE CLASS IS WELL DRAINED. WATER MOVEMENT IN THE MOST RESTRICTIVE LAYER IS MODERATELY HIGH. AVAILABLE WATER TO A DEPTH OF 60 INCHES IS MODERATE. SHRINK-SWELL POTENTIAL IS LOW. THIS SOIL IS NOT FLOODED. IT IS NOT PONDED. THERE IS NO ZONE OF WATER SATURATION WITHIN A DEPTH OF 72 INCHES. ORGANIC MATTER CONTENT IN THE SURFACE HORIZON IS ABOUT 1 PERCENT. THE ERODABILITY IS MODERATE.

- CECIL-URBAN LAND COMPLEX, 6% TO 12% SLOPES (MAPPING UNIT 8C; HYDROLOGIC GROUP B)—THE CECIL COMPONENT MAKES UP 70 PERCENT OF THE MAP UNIT. THE EROSION HAZARD IS MODERATE (K<sub>w</sub>=0.28 AND K<sub>f</sub>=0.28 AT A DEPTH OF 0"-9"). DEPTH TO A ROOT RESTRICTIVE LAYER IS GREATER THAN 60 INCHES. THE NATURAL DRAINAGE CLASS IS WELL DRAINED. WATER MOVEMENT IN THE MOST RESTRICTIVE LAYER IS MODERATELY HIGH. AVAILABLE WATER TO A DEPTH OF 60 INCHES IS MODERATE. SHRINK-SWELL POTENTIAL IS LOW. THIS SOIL IS NOT FLOODED. IT IS NOT PONDED. THERE IS NO ZONE OF WATER SATURATION WITHIN A DEPTH OF 72 INCHES. ORGANIC MATTER CONTENT IN THE SURFACE HORIZON IS ABOUT 1 PERCENT. THE URBAN LAND COMPONENT MAKES UP 15 PERCENT OF THE MAP UNIT. THE URBAN LAND IS A MISCELLANEOUS AREA. THE ERODABILITY IS MODERATE.

- GROVER FINE SANDY LOAM, 20% TO 35% SLOPES (MAPPING UNIT 19E; HYDROLOGIC SOIL GROUP B)—THE EROSION HAZARD IS MODERATE (K<sub>w</sub>=0.24 AND K<sub>f</sub>=0.24 AT A DEPTH OF 0"-12"). DEPTH TO A ROOT RESTRICTIVE LAYER IS GREATER THAN 60 INCHES. THE NATURAL DRAINAGE CLASS IS WELL DRAINED. WATER MOVEMENT IN THE MOST RESTRICTIVE LAYER IS MODERATELY HIGH. AVAILABLE WATER TO A DEPTH OF 60 INCHES IS MODERATE. SHRINK-SWELL POTENTIAL IS LOW. THIS SOIL IS NOT FLOODED. IT IS NOT PONDED. THERE IS NO ZONE OF WATER SATURATION WITHIN A DEPTH OF 72 INCHES. ORGANIC MATTER CONTENT IN THE SURFACE HORIZON IS ABOUT 1 PERCENT. THE WATEREE COMPONENT MAKES UP 35 PERCENT OF THE MAP UNIT. THE EROSION HAZARD IS MODERATE (K<sub>w</sub>=0.24 AND K<sub>f</sub>=0.24 AT A DEPTH OF 0"-9"). DEPTH TO A ROOT RESTRICTIVE LAYER, BEDROCK, PARALITHIC, IS 20 TO 40 INCHES. THE NATURAL DRAINAGE CLASS IS WELL DRAINED. WATER MOVEMENT IN THE MOST RESTRICTIVE LAYER IS HIGH. AVAILABLE WATER TO A DEPTH OF 60 INCHES IS VERY LOW. SHRINK-SWELL POTENTIAL IS LOW. THIS SOIL IS NOT FLOODED. IT IS NOT PONDED. THERE IS NO ZONE OF WATER SATURATION WITHIN A DEPTH OF 72 INCHES. ORGANIC MATTER CONTENT IN THE SURFACE HORIZON IS ABOUT 1 PERCENT. THE URBAN LAND COMPONENT MAKES UP 15 PERCENT OF THE MAP UNIT. THE URBAN LAND IS A MISCELLANEOUS AREA. THE ERODABILITY IS MODERATE.

- GROVER-WATEREE-URBAN LAND COMPLEX, 6% TO 20% SLOPES (MAPPING UNIT 20C; HYDROLOGIC GROUP B)— THE GROVER COMPONENT MAKES UP 40 PERCENT OF THE MAP UNIT. THE EROSION HAZARD IS MODERATE (K<sub>w</sub>=0.24 AND K<sub>f</sub>=0.24 AT A DEPTH OF 0"-12"). DEPTH TO A ROOT RESTRICTIVE LAYER IS GREATER THAN 60 INCHES. THE NATURAL DRAINAGE CLASS IS WELL DRAINED. WATER MOVEMENT IN THE MOST RESTRICTIVE LAYER IS MODERATELY HIGH. AVAILABLE WATER TO A DEPTH OF 60 INCHES IS MODERATE. SHRINK-SWELL POTENTIAL IS LOW. THIS SOIL IS NOT FLOODED. IT IS NOT PONDED. THERE IS NO ZONE OF WATER SATURATION WITHIN A DEPTH OF 72 INCHES. ORGANIC MATTER CONTENT IN THE SURFACE HORIZON IS ABOUT 1 PERCENT. THE WATEREE COMPONENT MAKES UP 35 PERCENT OF THE MAP UNIT. THE EROSION HAZARD IS MODERATE (K<sub>w</sub>=0.24 AND K<sub>f</sub>=0.24 AT A DEPTH OF 0"-9"). DEPTH TO A ROOT RESTRICTIVE LAYER, BEDROCK, PARALITHIC, IS 20 TO 40 INCHES. THE NATURAL DRAINAGE CLASS IS WELL DRAINED. WATER MOVEMENT IN THE MOST RESTRICTIVE LAYER IS HIGH. AVAILABLE WATER TO A DEPTH OF 60 INCHES IS VERY LOW. SHRINK-SWELL POTENTIAL IS LOW. THIS SOIL IS NOT FLOODED. IT IS NOT PONDED. THERE IS NO ZONE OF WATER SATURATION WITHIN A DEPTH OF 72 INCHES. ORGANIC MATTER CONTENT IN THE SURFACE HORIZON IS ABOUT 1 PERCENT. THE URBAN LAND COMPONENT MAKES UP 15 PERCENT OF THE MAP UNIT. THE URBAN LAND IS A MISCELLANEOUS AREA. THE ERODABILITY IS MODERATE.

THE PROPOSED LIMITS OF DISTURBANCE ARE SHOWN ON SHEET C2.0. PERIMETER EROSION CONTROL MEASURES WILL CAPTURE SEDIMENT RUNOFF FROM ALL DISTURBED AREAS.

**CRITICAL AREAS:**

ALL AREAS WITH EXISTING OR PROPOSED STEEP SLOPES (>20%) ARE CRITICAL. ALL EXISTING STEEP SLOPES WITHIN THE LIMITS OF DISTURBANCE HAVE BEEN HIGHLIGHTED ON SHEET C2.0. ALL PROPOSED STEEP SLOPES SHALL BE TREATED WITH BLANKET MATTING AND PERMANENT SEEDING TO ENSURE PROPER STABILIZATION. REFER TO SHEET C2.0 FOR AREAS WHERE BLANKET MATTING AND PERMANENT SEEDING ARE REQUIRED FOR PERMANENT STABILIZATION. TEMPORARY SLOPE DRAINS SHALL BE INSTALLED AS SHOWN ON SHEET C2.0 TO DIVERT STORMWATER RUNOFF AWAY FROM PROPOSED STEEP SLOPES UNTIL THEY ARE FULLY STABILIZED.

**EROSION & SEDIMENT CONTROL METHODS:**

THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL MEASURES NECESSARY TO PREVENT SOIL FROM ERODING OR BEING TRACKED ONTO ADJACENT PROPERTY, STREETS, DRAINAGE SYSTEMS, AND WATERWAYS. UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSIONS AND SEDIMENTS CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE "VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK 1992 EDITION". THE MINIMUM STANDARDS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR

APPROVED BY A VARIANCE FROM THE CITY OF RICHMOND.

PHASED CONSTRUCTION – CONSTRUCTION SHALL BE PHASED TO MINIMIZE THE EXTENT OF DISTURBED AREA AT ANY GIVEN TIME.

TEMPORARY CONSTRUCTION ENTRANCE (3.02) – A TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS SHOWN ON THE PLAN

SILT FENCE BARRIER (3.05) – SILT FENCE SEDIMENT BARRIERS SHALL BE INSTALLED DOWNSLOPE OF DISTURBED AREAS TO FILTER SEDIMENT-LADEN RUNOFF TO FROM SHEET FLOWS AND SHALLOW CONCENTRATED FLOWS. ADDITIONALLY, SILT FENCE SHALL BE INSTALLED AROUND ALL STOCKPILES.

INLET PROTECTION (3.07)– INLET PROTECTION SHALL BE INSTALLED TO PREVENT SEDIMENT FROM ENTERING STORM DRAINS OR STRUCTURES.

PERMANENT SEEDING (3.32) – ALL DISTURBED AREAS NOT OTHERWISE STABILIZED SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISH GRADING. SEEDING SHALL BE IN CONFORMANCE WITH STANDARD AND SPECIFICATION 3.32 OF THE HANDBOOK.

BLANKET MATTING (3.36) – ALL DISTURBED CRITICAL AREAS SHALL BE STABILIZED WITH BLANKET MATTING AND PERMANENT SEEDING (3.32) IMMEDIATELY FOLLOWING FINISH GRADING. BLANKET MATTING SHALL BE INSTALLED AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN.

STORMWATER RUNOFF CONSIDERATIONS : STORMWATER RUNOFF IS BEING DISCHARGED INTO AN EXISTING DRAINAGE SYSTEM ONSITE. THE EXISTING SYSTEM HAS BEEN DESIGNED TO ACCEPT ADDITIONAL FLOW FROM THE PROPOSED DEVELOPMENT. AN EXISTING SWM BASIN LOCATED ON THE NORTH SIDE OF CHIPPENHAM PARKWAY WAS DESIGNED TO HANDLE THE STORMWATER MANAGEMENT NEEDS OF THIS DEVELOPMENT. THE OVERALL STORMWATER MANAGEMENT PLAN IS SHOWN ON SHEET C11.3.

**MANAGEMENT STRATEGIES:**

- CONSTRUCTION SHALL BE PHASED TO REDUCE THE OVERALL AREA THAT IS NOT STABILIZED AT A GIVEN TIME DURING CONSTRUCTION.
- CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
- EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED AS A FIRST STEP IN ANY LAND DISTURBING OPERATIONS.
- TEMPORARY SEEDING OR OTHER STABILIZATION WILL FOLLOW IMMEDIATELY AFTER GRADING.
- AREAS THAT ARE NOT TO BE DISTURBED WILL BE CLEARLY MARKED BY FLAGS, SIGNS, ETC.
- THE CRLD SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES.
- AFTER ADEQUATE STABILIZATION IS ACHIEVED, THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURED WILL BE CLEANED UP AND REMOVED.

**MAINTENANCE OF CONTROLS:**

ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED DAILY AND AFTER EACH SIGNIFICANT RAINFALL. THE FOLLOWING ITEMS SHALL BE CHECKED IN PARTICULAR:

- THE SILT FENCE BARRIERS WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT DEPOSITION REACHES HALF WAY TO THE TOP OF THE BARRIER.
- INLET PROTECTION DEVICES SHALL BE CHECKED REGULARLY AND SHALL BE CLEANED OR REPLACED IF CLOGGING OR EXCESSIVE PONDING IS OBSERVED.
- THE SEEDED AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND OF GRASS IS MAINTAINED. AREAS SHALL BE FERTILIZED AND RESEEDD AS NEEDED.
- THE CHANNEL DOWNSTREAM OF THE CULVERT INLET PROTECTION SEDIMENT TRAP SHALL BE CHECKED FOR SEDIMENT BUILDUP.

**NOTES:**

- THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL APPROVED MEASURES AS SHOWN ON THE DRAWINGS. ANY ADDITIONAL MEASURES REQUIRED BY THE CITY OF RICHMOND DUE TO FIELD CONDITIONS SHALL BECOME PART OF THE EROSION AND SEDIMENT CONTROL PLAN FOR THE PROPERTY. ALL FIELD CHANGES MUST BE APPROVED BY THE CITY'S INSPECTOR PRIOR TO INSTALLATION.
- THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL MEASURES TO PREVENT SOIL FROM ERODING OR BEING TRACKED ONTO ADJACENT PROPERTY, STREETS, DRAINAGE SYSTEM AND WATERWAYS. THE CONTRACTOR SHALL ALSO PROVIDE SATISFACTORY MEASURES FOR PREVENTING SOIL FROM ACCUMULATING ON THE WASHTRACKS IF NECESSARY. ALL DEVICES SHALL BE CLEANED OF MUD, DEBRIS AND OTHER ERODED MATERIAL DURING THE OPERATION. INSPECTION OF DEVICES SHALL BE A DAILY ROUTINE AND REQUIRED AFTER EVERY RAINFALL EVENT.
- THE CONTRACTOR SHALL MONITOR AND TAKE PRECAUTIONS TO CONTROL DUST, INCLUDING BUT NOT LIMITED TO USING WATER OR CHEMICALS, LIMITING THE NUMBER OF VEHICLES ALLOWED ONSITE, MINIMIZING THE OPERATING SPEED OF ALL VEHICLES, ETC. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE DAILY SWEEPING OF PUBLIC RIGHT-OF-WAY SHOULD SEDIMENT ACCUMULATE ON PAVED SURFACES.
- UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS VR 625-02-00 EROSION AND SEDIMENT CONTROL REGULATIONS.
- THE CITY OF RICHMOND ENVIRONMENTAL OFFICE SHALL BE NOTIFIED 24 HOURS IN ADVANCE OF ANY PLANS TO BEGIN CLEARING AND GRADING OPERATIONS.
- ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.
- A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE ENVIRONMENTAL ENGINEERING DEPARTMENT.
- ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
- DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.
- UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:
  - NO MORE THAN 500 LINER FEET OF TRENCH MAY BE OPENED AT ONE TIME.
  - EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF

- TRENCHES.
- EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
- RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
- APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.

12. ALL DISTURBED AREAS TO BE SEEDED WITHIN SEVEN (7) DAYS AFTER ROUGH GRADING IS COMPLETED, WITH EROSION CONTROL SEEDING WHICH IS NOT FINAL SEEDING. ANY AREA WHICH WILL BE DEVENED FOR THIRTY (30) DAYS MUST BE SEEDED OR TEMPORARILY STABILIZED. (PERMANENT SEEDING SHALL BE INCLUDED AS PART OF THE LANDSCAPE CONTRACTORS RESPONSIBILITIES).

13. THE ENVIRONMENTAL DEPARTMENT OF THE CITY OF RICHMOND AND OTHER INTERESTED CITY AGENCIES SHALL MAKE A CONTINUING REVIEW AND EVALUATION OF THE METHOD USED AND THE OVERALL EFFECTIVENESS OF THE EROSION AND SEDIMENT CONTROL PROGRAM. AN APPROVED EROSION AND SEDIMENT CONTROL PLAN MAY BE AMENDED BY THE PLAN APPROVING AUTHORITY IF ON-SITE INSPECTIONS INDICATE THAT CONTROLLING EROSION AND SEDIMENTATION OR, IF BECAUSE OF CHANGED CIRCUMSTANCE, THE APPROVED PLAN CANNOT BE CARRIED OUT.

14. EROSION CONTROL STRUCTURES SHALL REMAIN IN PLACE UNTIL GRASS HAS BEEN ESTABLISHED ON THE EXPOSED SOIL SURFACES.

**SEQUENCE OF CONSTRUCTION:**

**PHASE I:**

- A PRE-CONSTRUCTION CONFERENCE IS MANDATORY BEFORE ANY WORK IS DONE AT THE SITE. ARRANGE A MEETING WITH THE OWNER, ENGINEER AND CITY E&S INSPECTOR. 48 HOUR NOTICE IS REQUIRED.
- INSTALL PHASE I EROSION AND SEDIMENT CONTROL DEVICES ACCORDING TO THE APPROVED PLANS SET, ONLY DISTURBING AREAS REQUIRED TO INSTALL THE PHASE I MEASURES.
- INSTALL CONSTRUCTION ENTRANCE, SILT FENCE, DIVERSION DIKES AND SEDIMENT BASIN AS SHOWN ON SHEETS C7.0 AND C7.1. ALL ESC MEASURES SHALL BE INSTALLED PER THE VESCH, 1992 EDITION AND PER DETAILS ON SHEETS C7.3-C7.7.

**PHASE II:**

- AFTER APPROVAL FROM THE CITY ENVIRONMENTAL INSPECTOR, COMMENCE CLEARING, GRUBBING, AND GRADING OPERATIONS. ALL SLOPES SHALL BE STABILIZED IMMEDIATELY UPON INSTALLATION. EXCESS MATERIAL IS TO BE STORED IN AN APPROVED STOCKPILE LOCATIONS ONLY.
- INSTALL THE STORMWATER COLLECTION SYSTEM. INSTALL INLET PROTECTION IMMEDIATELY UPON INSTALLATION OF INLETS ACCORDING TO THE APPROVED PLANS.
- COMMENCE INSTALLATION OF THE UNDERGROUND UTILITIES ONCE PLANNED SUBGRADE ELEVATIONS ARE ACHIEVED.
- FINE GRADE ROADWAY AREAS AND PLACE SUBBASE AND AGGREGATE BASE.
- INSTALL CURB AND GUTTER AND COMMENCE ASPHALT PAVING.
- TOPSOIL, SEED, AND MULCH THE DISTURBED AREAS. INSTALL LANDSCAPING.
- INSTALL PAVEMENT MARKINGS AND SIGNAGE.
- REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AFTER FINAL STABILIZATION OF THE SITE AND APPROVAL FROM THE CITY ENVIRONMENTAL INSPECTOR.

**EROSION CONTROL ONLY- SEEDING AND FERTILIZING**

- SEEDING SHALL BE DONE IN CONFORMANCE WITH SECTION 604.03 THROUGH 604.06 OF V.D.O.T. SPECIFICATIONS.
- THE AREA TO BE SEEDED SHALL FIRST BE FERTILIZED WITH COMMERCIAL 10-10-10 FERTILIZER AT THE RATE OF 30 LBS. PER THOUSAND SQUARE FEET AND TREATED WITH AGRICULTURAL LIME AT THE RATE OF 100 LBS. PER THOUSAND SQUARE FEET. THESE SHALL BE UNIFORMLY WORKED INTO SURFACE TO A MINIMUM DEPTH OF ONE INCH.
- SEEDING SHALL BE DONE ONLY BETWEEN THE DATES OF FEB. 15 AND APRIL 15 OR BETWEEN SEPT. 15 AND NOV. 15, EXCEPT AS MAY BE OTHERWISE DIRECTED BY THE ENGINEER.
- SURFACE SHALL BE RAKED AND SMOOTHED TO ELIMINATE RIDGES AND DEPRESSIONS.
- AFTER PRELIMINARY RAKING, THE SEED SHALL BE SOWN AT THE RATE OF FOUR LBS. PER THOUSAND SQUARE FEET AS FOLLOWS: 20% PERENNIAL RYE 35% KENTUCKY 31 FESCUE 30% CREEPING RED FESCUE 15% REDTOP (ALL PERCENTAGES ARE BY WEIGHT)
- SURFACE SHALL THEN BE LIGHTLY RAKED IN ORDER TO COVER SEED NO DEEPER THAN 1/4 INCH AND THEN SPRINKLE WITH WATER. THE SEEDED SURFACE SHALL BE COVERED WITH STRAW OR HAY TO PREVENT EROSION AND TO PROTECT SEEDING. THE ENTIRE SEEDED SURFACE SHALL BE ROLLED WITH A CORRUGATED ROLLER AFTER SEEDING AND BEFORE COVERING WITH STRAW. CONTRACTOR SHALL PROTECT SEEDED SURFACES UNTIL A GOOD STAND OF GRASS IS OBTAINED.
- THE "HYDRO-SEEDING" METHOD OF SEED APPLICATION MAY BE USED, PROVIDED THE SEED RATE PER SQUARE FOOT IS THE SAME AS HEREIN BEFORE SPECIFIED. THE MULCH RATE SHALL BE SUCH AS TO PROVIDE PROPER SEED PROTECTION AND PREVENT EROSION. IF, IN THE OPINION OF THE INSPECTOR OR ENGINEER, THE MULCH RATE USED (AS EVIDENCED BY SLOPES AFTER SPRAYING) IS NOT SUFFICIENT, THE CONTRACTOR SHALL BE REQUIRED TO INCREASE THE AMOUNT OF MULCH IN THE MIX. NO EXTRA WILL BE ALLOWED FOR ANY REQUESTED INCREASE.

**PERMANENT SEEDING STD. & SPEC.**

**3.32**

**PLANT SELECTION**  
REFER TO TABLE 3.32-D FOR SEEDING MIXTURES FOR THE PIEDMONT AREA.  
**SEEDBED PREPARATION**

- LIMING IN THE PIEDMONT REGION, APPLY 2 TONS/ACRE PULVERIZED AGRICULTURAL GRADE LIMESTONE (90 LBS./1,000 SQ. FT.).
  - FERTILIZER SHALL BE APPLIED AS 1000 LBS./ACRE OF 10-20-10 (23 LBS./SQ. FT.) OR EQUIVALENT NUTRIENTS. LIME AND FERTILIZER SHALL BE INCORPORATED INTO THE TOP 4-6 INCHES OF THE SOIL BY DISCING OR OTHER MEANS.
- SEEDING**  
1. CERTIFIED SEED WILL BE USED FOR ALL PERMANENT SEEDING WHENEVER POSSIBLE.

2. LEGUME SEED SHOULD BE INOCULATED WITH THE INOCULANT APPROPRIATE TO THE SPECIES. SEED OF THE LESPEDEZAS, THE CLOVERS AND THE CROWN VETCH SHOULD BE SCARIFIED TO PROMOTE UNIFORM GERMINATION.  
3. APPLY SEED UNIFORMLY WITH A BROADCAST SEEDER, DRILL, CULTI-PACKER FEEDER, OR HYDROSEEDER ON A FIRM, FRIABLE SEEDBED. SEEDING DEPTH SHOULD BE 1/4 TO 1/2 INCH. MULCHING ALL PERMANENT SEEDING MUST BE MULCHED IMMEDIATELY UPON COMPLETION OF SEED APPLICATION.

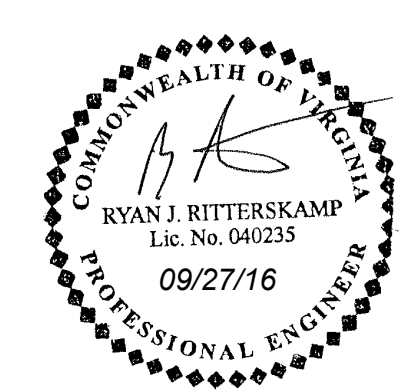
**IRRIGATION**  
NEW SEEDINGS SHOULD BE PROVIDED WITH ADEQUATE MOISTURE.  
**RE-SEEDING**  
INSPECT SEEDED AREAS FOR FAILURE AND MAKE NECESSARY REPAIRS AND RE-SEEDINGS WITHIN THE SAME SEASON, IF POSSIBLE.

TABLE 3.32-D SITE SPECIFIC SEEDING MIXTURES FOR PIEDMONT AREA

SITE CONDITIONS	SEEDING MIXTURES	RATES PER ACRE	*SEASONAL NURSE CROP - DATES			
			2/16 TO 4/30	5/1 TO 8/15	8/16 TO 10/31	11/1 TO 2/15
HIGH MAINTENANCE LAWNS	TURF-TYPE TALL FESCUE OR KENTUCKY 31 FESCUE	200-250 LBS.				
MINIMUM CARE LAWN	KENTUCKY 31 FESCUE OR TURF-TYPE TALL FESCUE > 95%-100% IMPROVED PERENNIAL RYEGRASS 0%-5% KENTUCKY BLUEGRASS 0%-5%	175-200 LBS.				
GENERAL SLOPE (3:1 OR LESS)	KENTUCKY 31 FESCUE OR RED TOP GRASS SEASONAL NURSE CROP *	128 LBS. 2 LBS. 20 LBS.	150 LBS.	ANNUAL RYE	FOXTAIL MILLET	ANNUAL RYE WINTER RYE
LOW-MAINTENANCE SLOPE (STEEPER THAN 3:1)	KENTUCKY 31 FESCUE OR RED TOP GRASS SEASONAL NURSE CROP* CROWN VETCH**	108 LBS. 2 LBS. 20 LBS.	150 LBS.	ANNUAL RYE	FOXTAIL MILLET	ANNUAL RYE WINTER RYE

\* USE SEASONAL NURSE CROP IN ACCORDANCE WITH SEEDING DATES A STATED BELOW:  
FEBRUARY 16th THROUGH APRIL.....ANNUAL RYE  
MAY 1st THROUGH AUGUST 15th.....FOXTAIL MILLET  
AUGUST 16th THROUGH OCTOBER.....ANNUAL RYE  
NOVEMBER THROUGH FEBRUARY 15th.....WINTER RYE

\*\* SUBSTITUTE SERICEA LESPEDEZA FOR CROWN VETCH EAST OF FARMVILLE, VA. (MAY THROUGH SEPTEMBER USE HULLED SERICEA, ALL OTHER PERIODS, USE UNHULLED SERICEA). IF FLATPEA IS USED IN LIEU OF CROWN VETCH, INCREASE RATE TO 30 LBS./ACRE. ALL LEGUME SEED MUST BE PROPERLY INOCULATED. WEEPING LOVEGRASS MAY BE ADDED TO ANY SLOPE OR LOW-MAINTENANCE MIX DURING WARMER SEEDING PERIODS; ADD 10-20 LBS./ACRE IN MIXES



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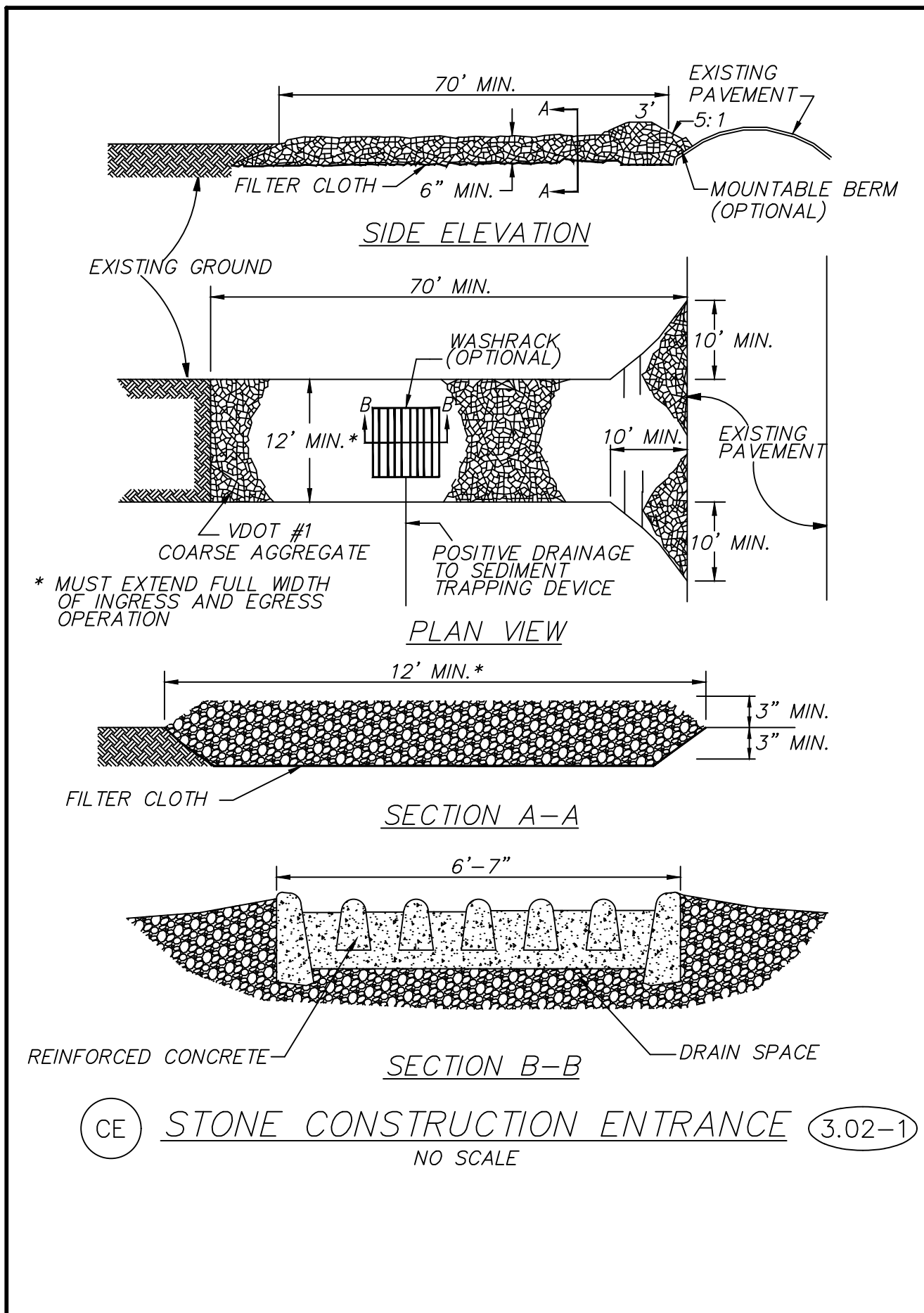
DATE: 09/27/16  
DRAWN BY: B. SHAMLIN  
DESIGNED BY: R. RITTERSKAMP  
CHECKED BY: R. RITTERSKAMP  
SCALE: N/A

**TIMMONS GROUP**  
STONY POINT MAP 'F' - PHASE III - BUILDING A  
HUGUENOT DISTRICT - CITY OF RICHMOND - VIRGINIA  
EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

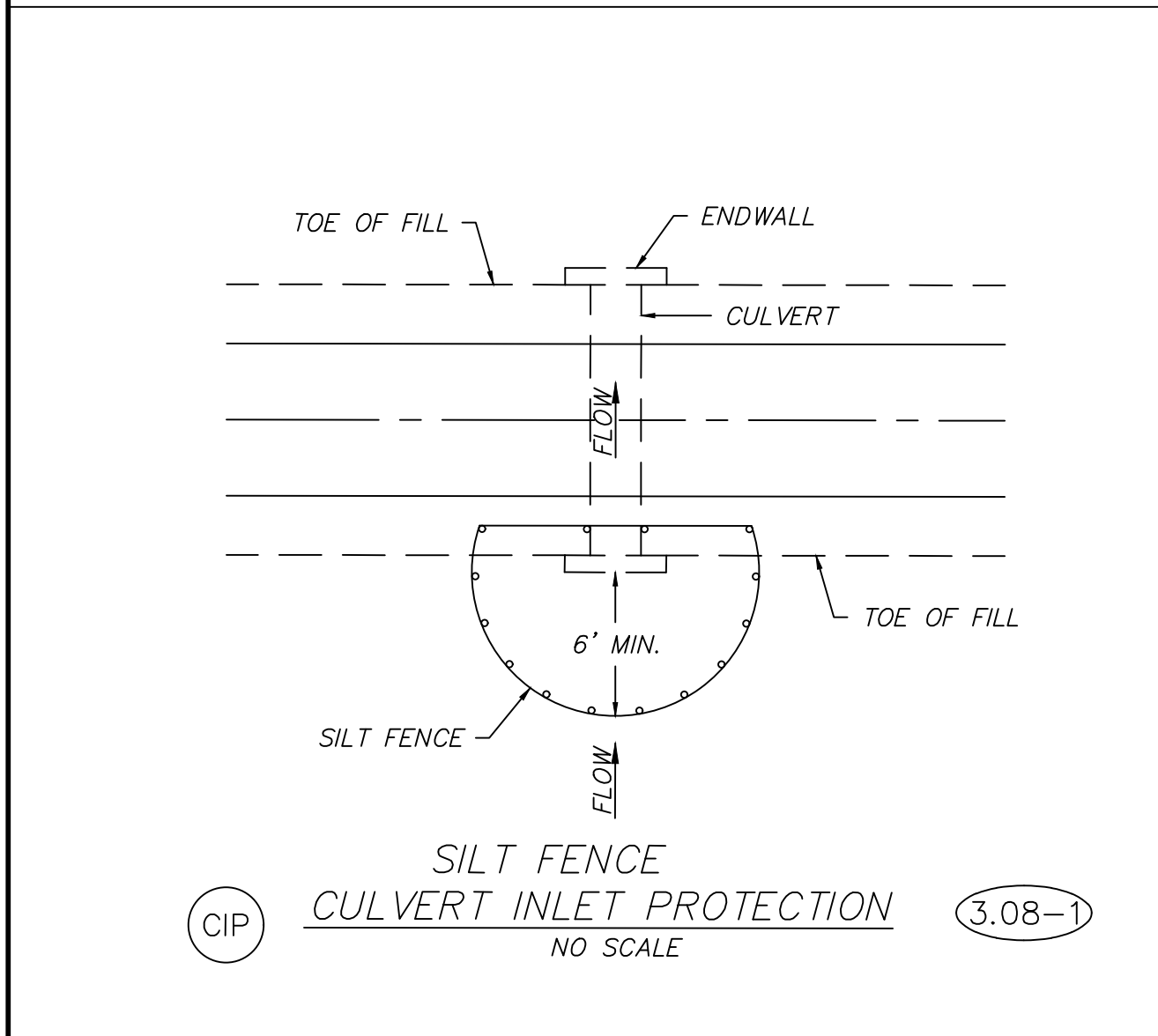
JOB NO. 37723  
SHEET NO. C2.1

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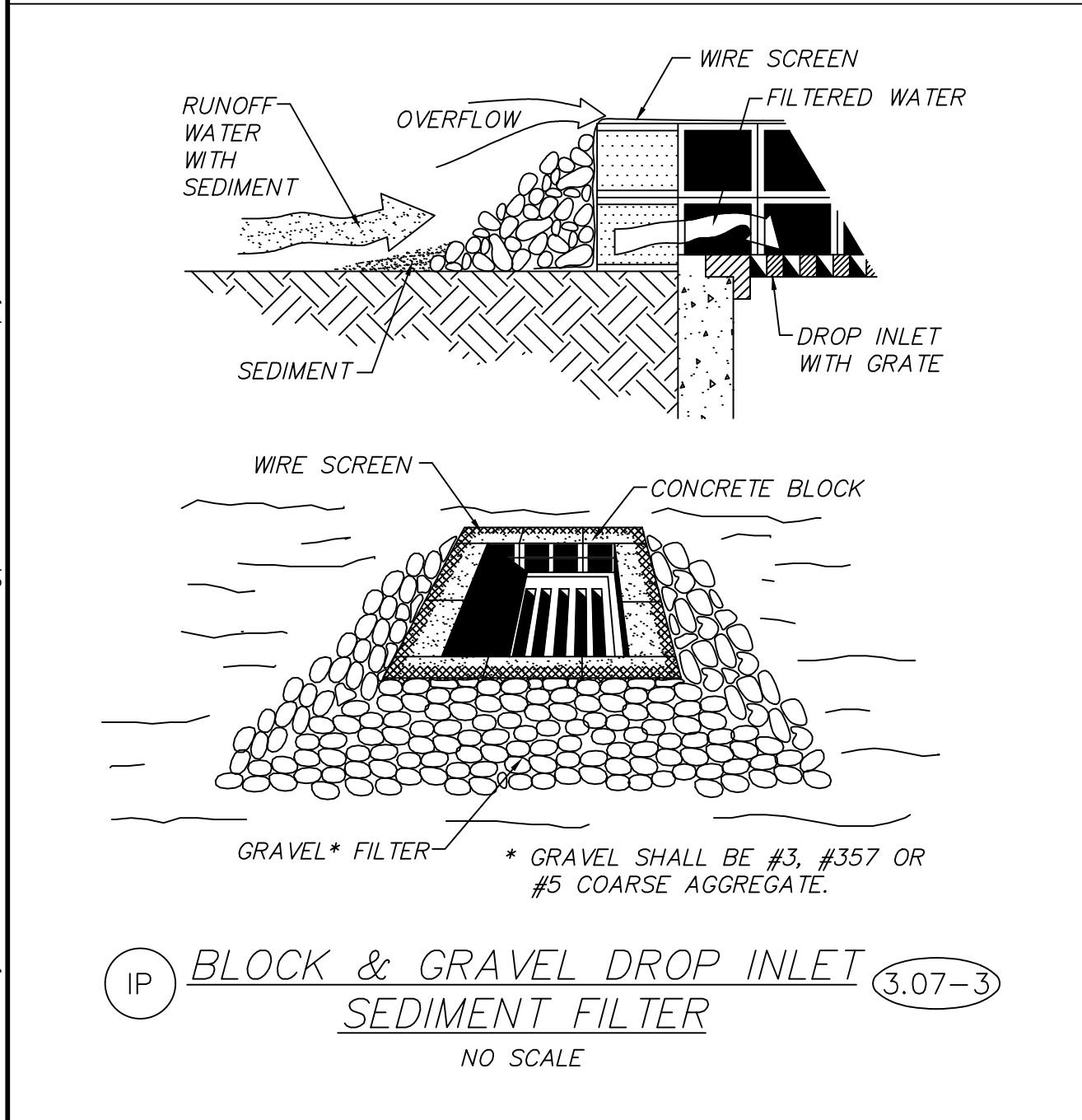




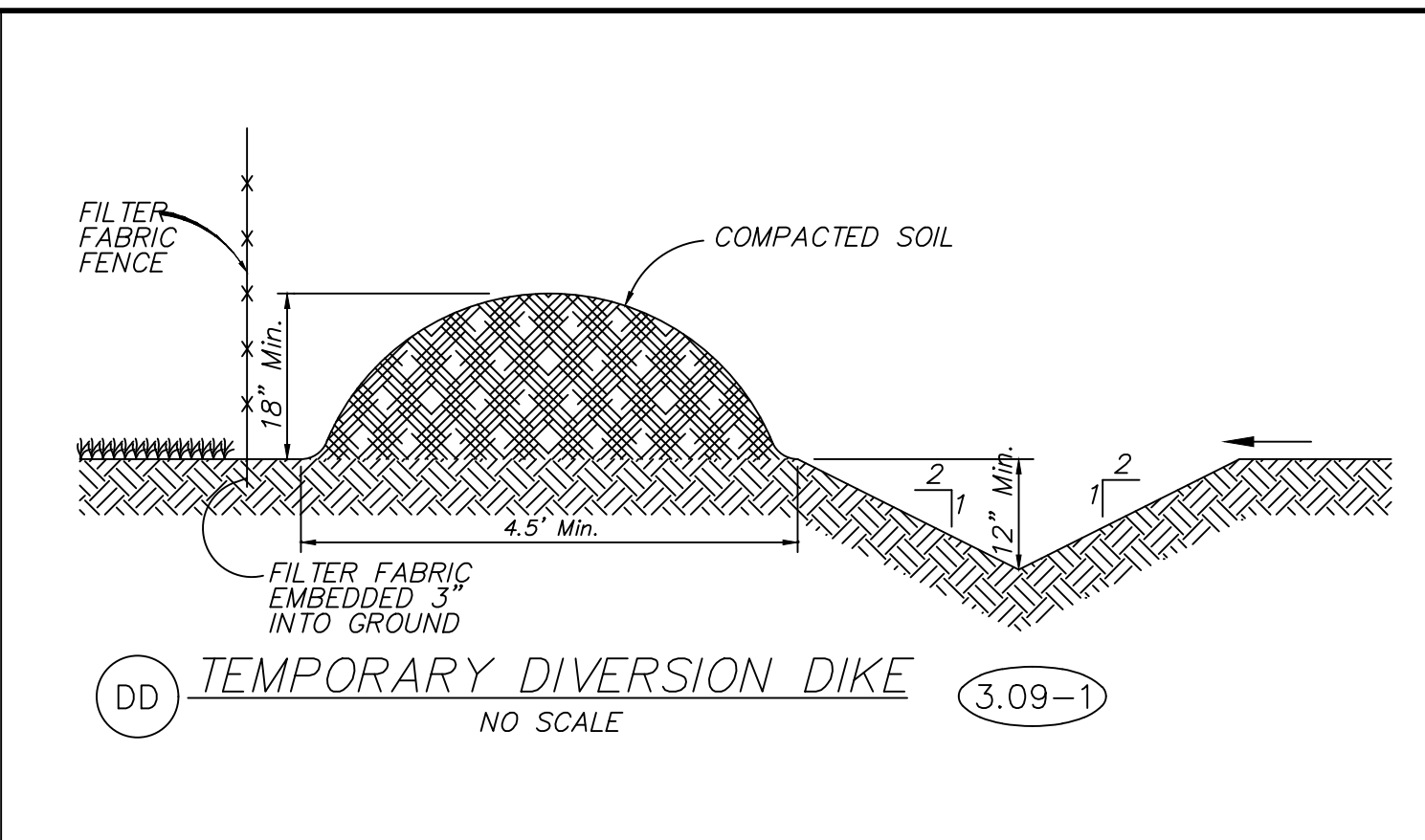
**(CE) STONE CONSTRUCTION ENTRANCE** (3.02-1)  
NO SCALE



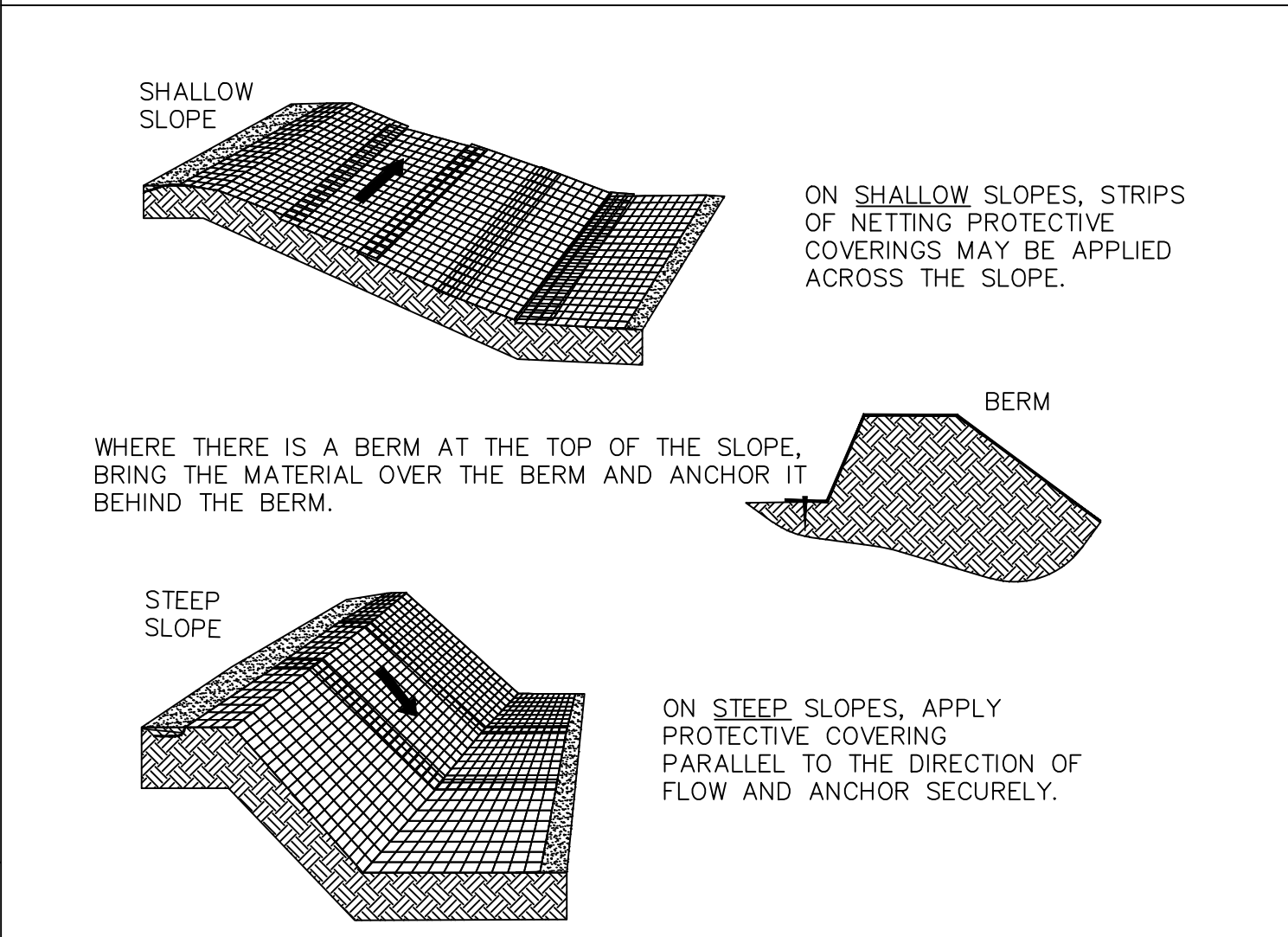
**(CIP) SILT FENCE CULVERT INLET PROTECTION** (3.08-1)  
NO SCALE



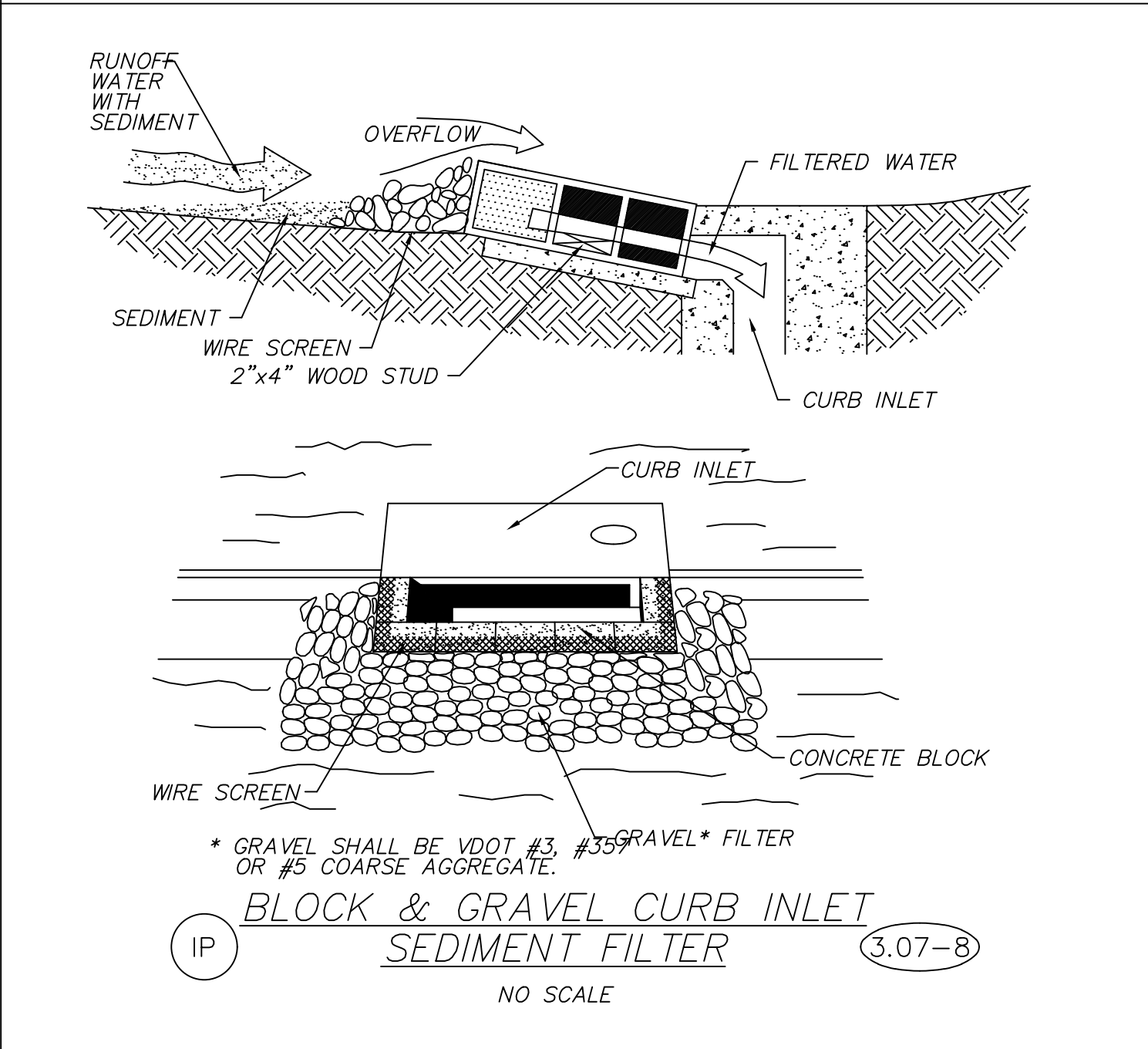
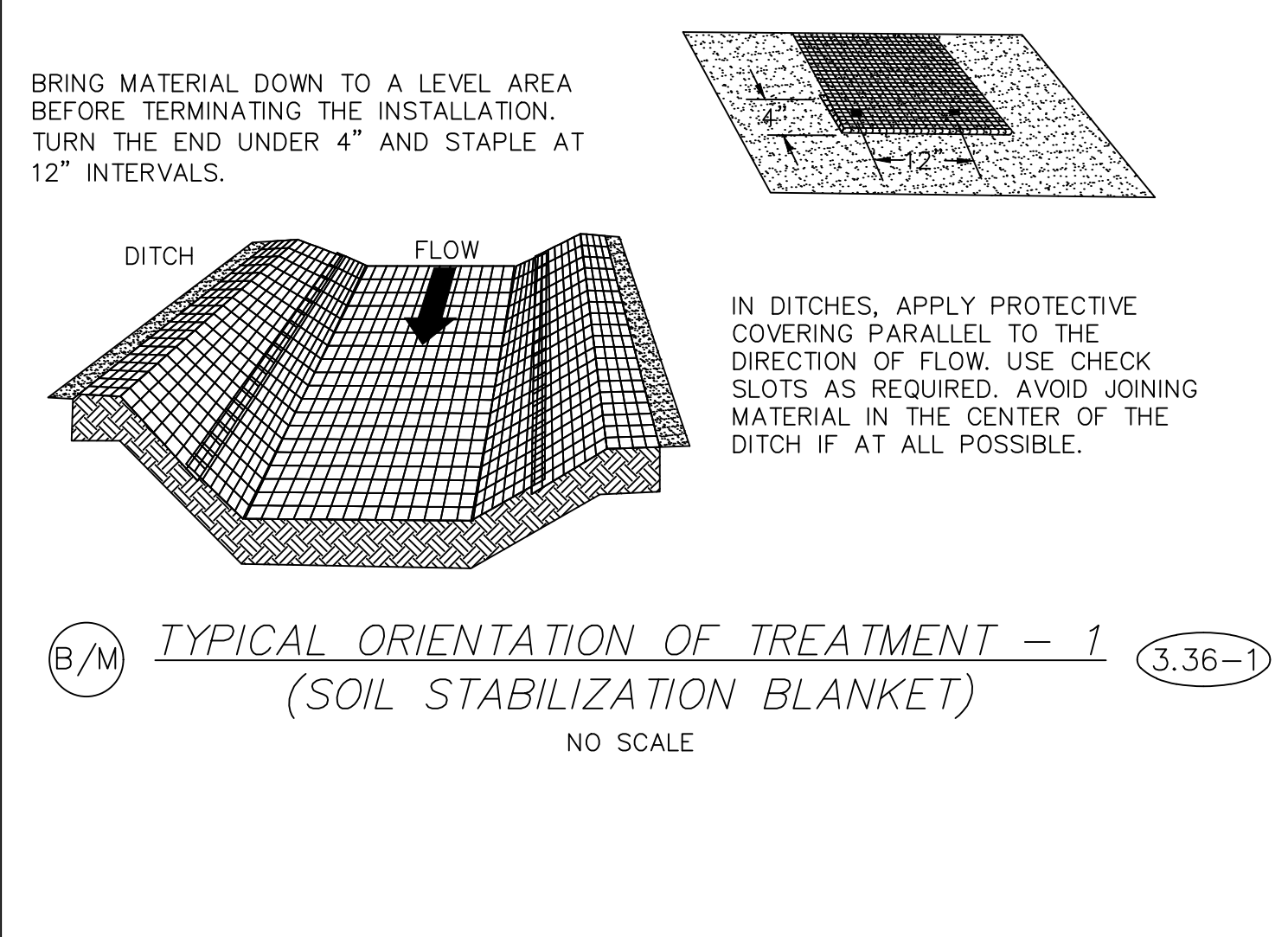
**(IP) BLOCK & GRAVEL DROP INLET SEDIMENT FILTER** (3.07-3)  
NO SCALE



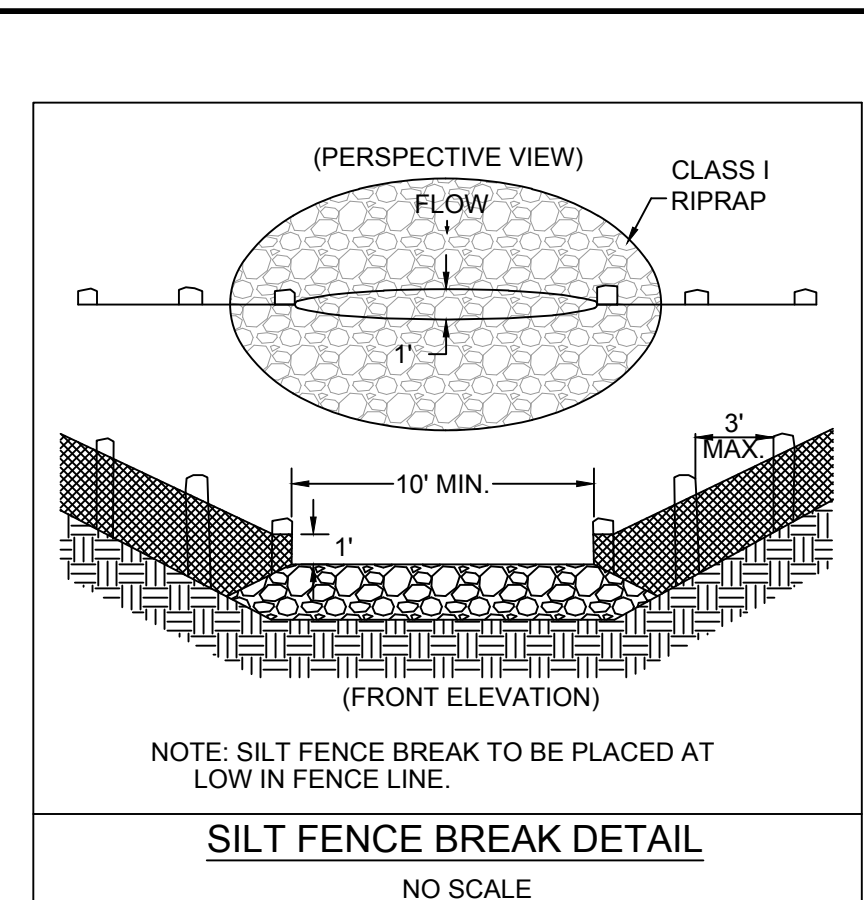
**(DD) TEMPORARY DIVERSION DIKE** (3.09-1)  
NO SCALE



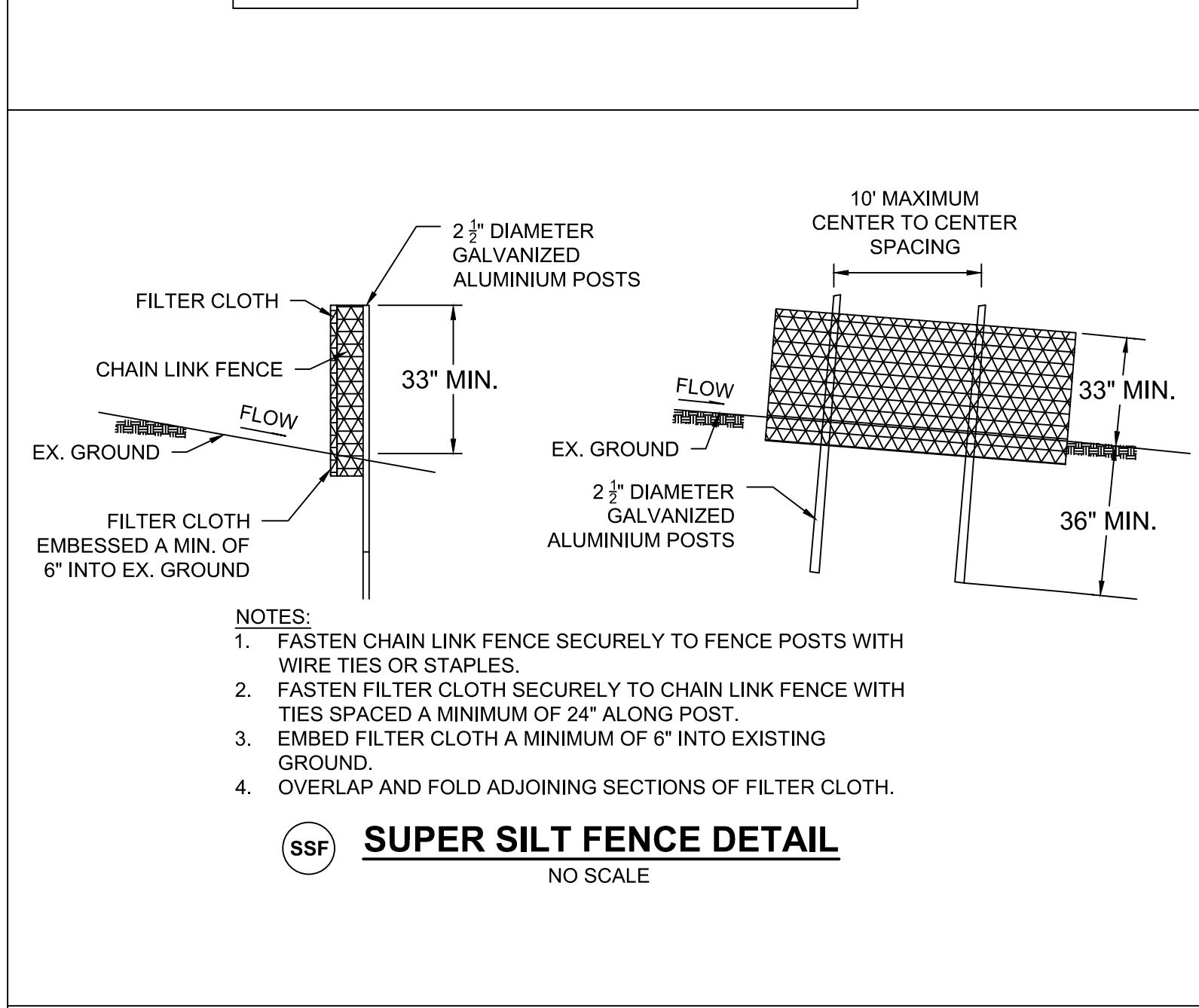
**(B/M) TYPICAL ORIENTATION OF TREATMENT - 1 (SOIL STABILIZATION BLANKET)** (3.36-1)  
NO SCALE



**(IP) BLOCK & GRAVEL CURB INLET SEDIMENT FILTER** (3.07-8)  
NO SCALE

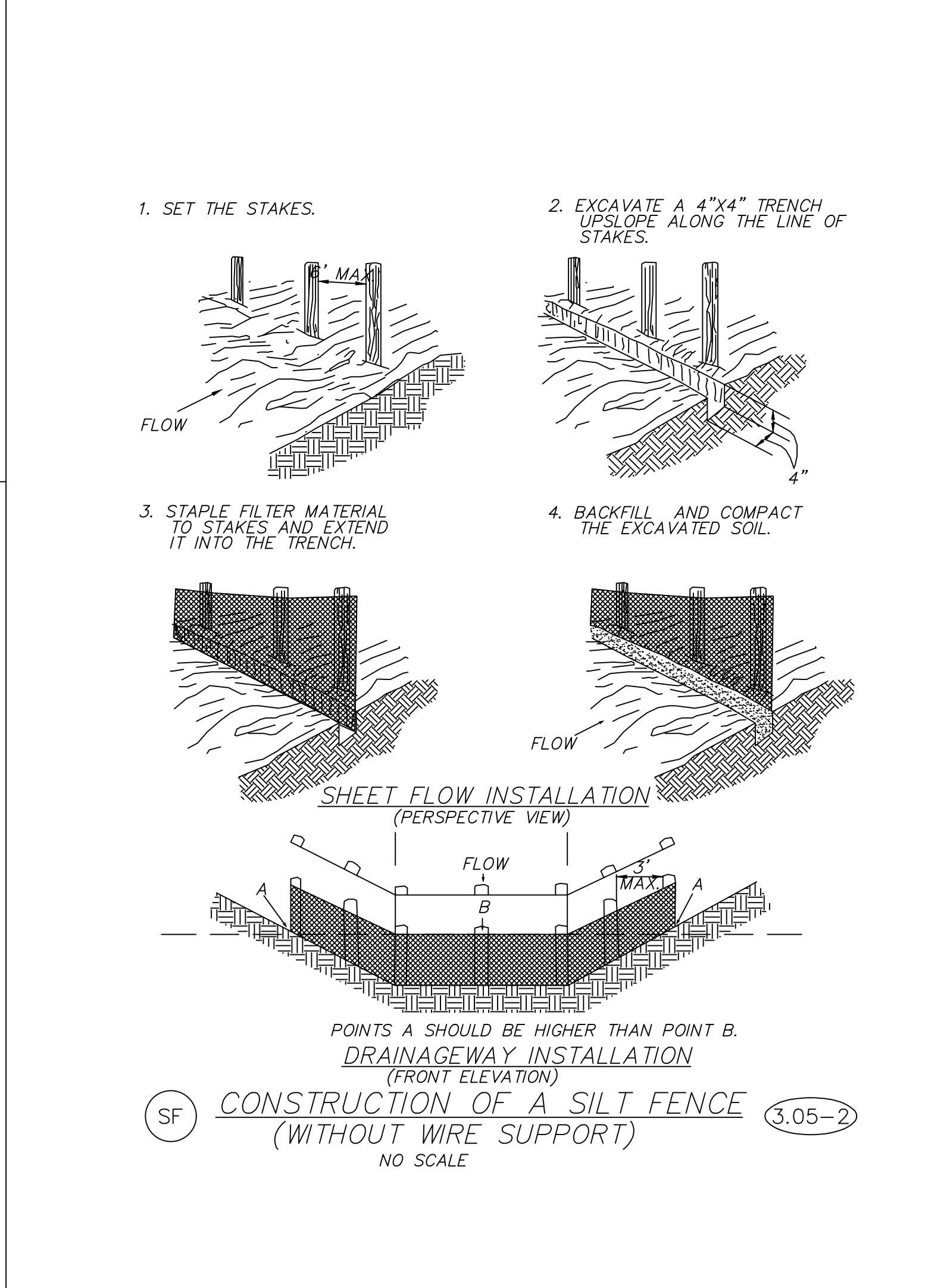


**SILT FENCE BREAK DETAIL**  
NO SCALE



- NOTES:**
1. FASTEN CHAIN LINK FENCE SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
  2. FASTEN FILTER CLOTH SECURELY TO CHAIN LINK FENCE WITH TIES SPACED A MINIMUM OF 24\"/>
  - 3. EMBED FILTER CLOTH A MINIMUM OF 6\"/>
  - 4. OVERLAP AND FOLD ADJOINING SECTIONS OF FILTER CLOTH.

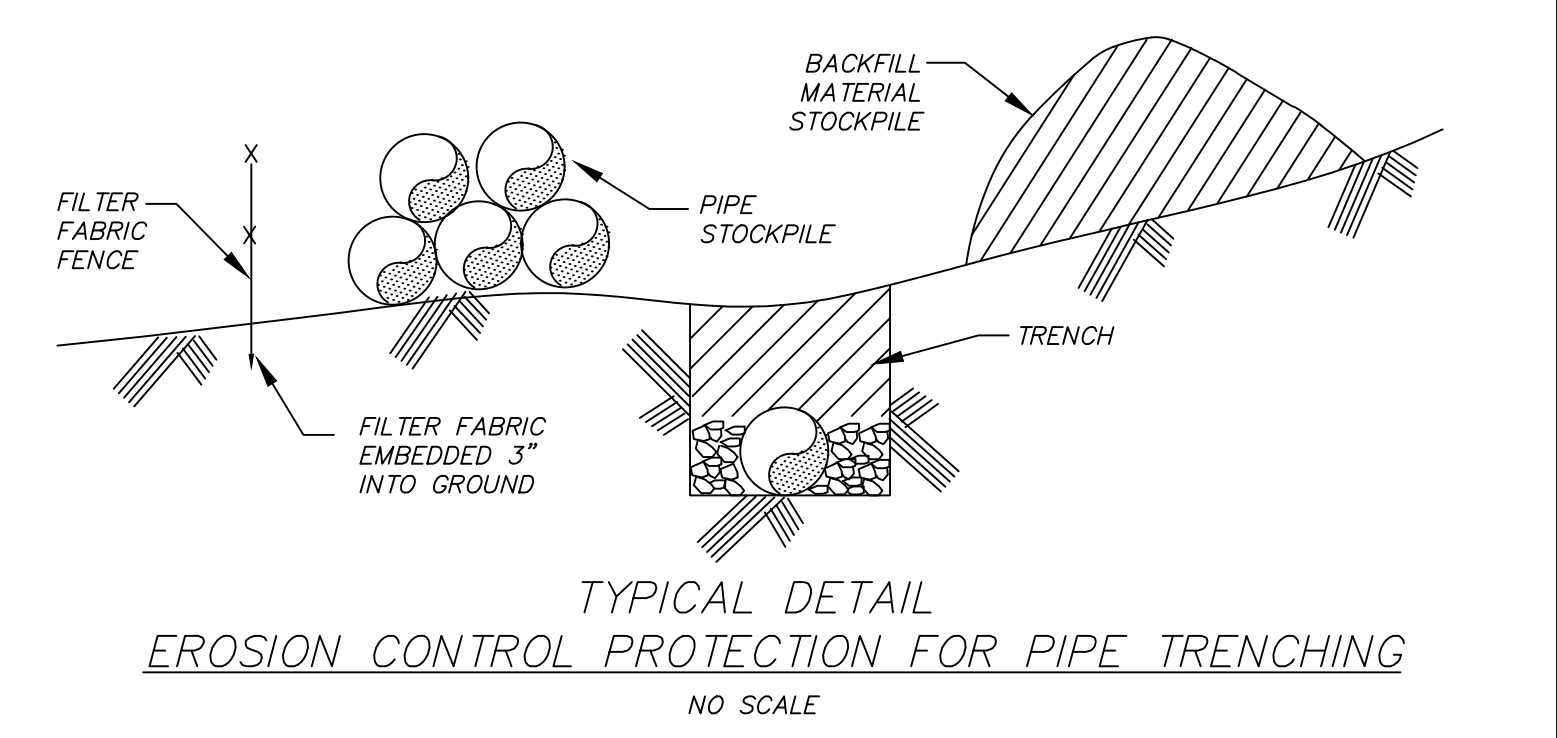
**(SSF) SUPER SILT FENCE DETAIL**  
NO SCALE



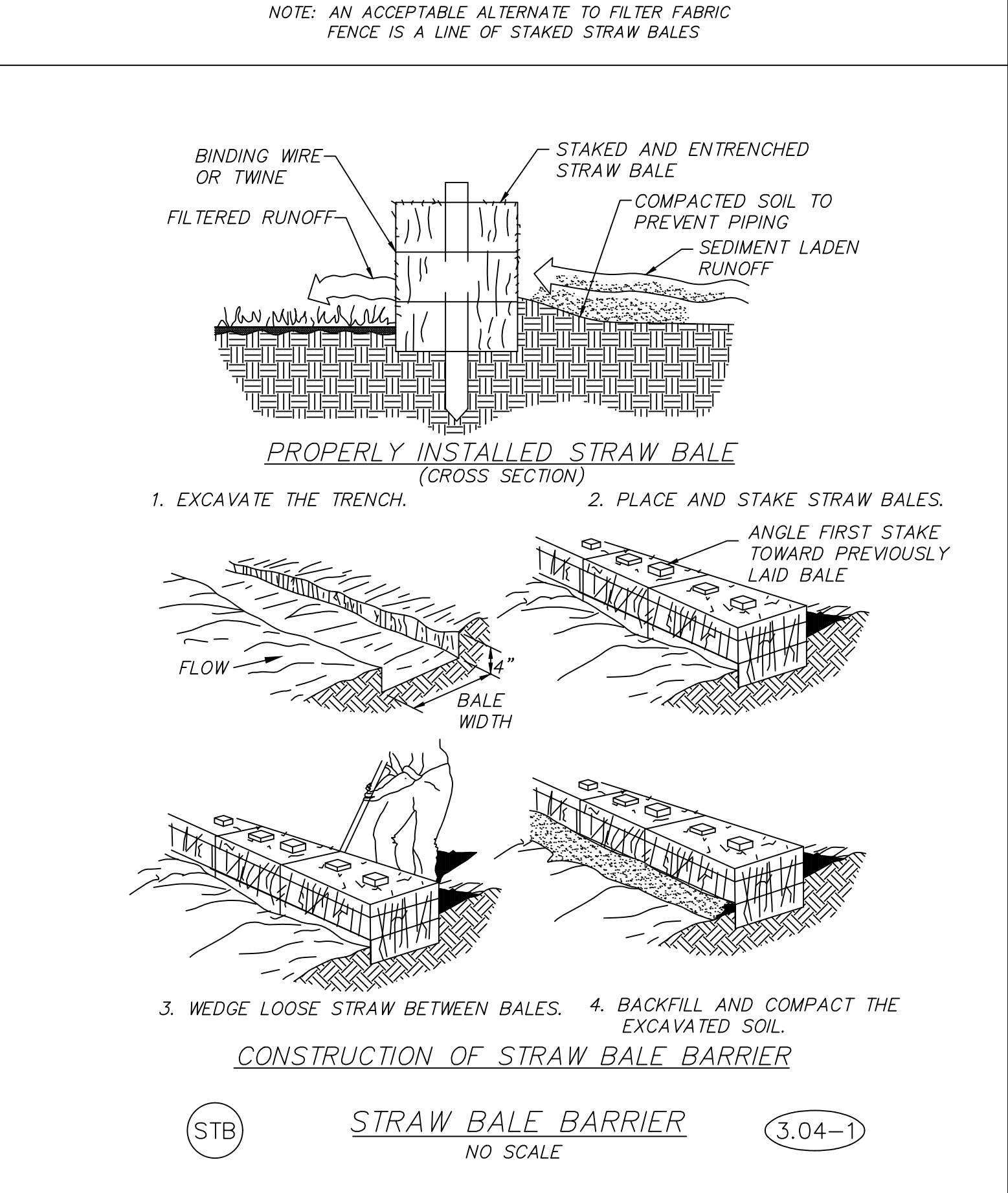
**(SF) CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)** (3.05-2)  
NO SCALE

EROSION CONTROL LEGEND				
LABEL	SYMBOL	STANDARD NAME	SPEC.#	QUANTITY
SAF	SAF	SAFETY FENCE	3.01	1984 LF.
CE	CE	CONSTRUCTION ENTRANCE	3.02	2 EA.
SSF	SSF	SUPER SILT FENCE	3.03	1120 LF.
SF	SF	SILT FENCE	3.05	861 LF.
IP	IP	INLET PROTECTION	3.07	4 EA.
TP	TP	TREE PROTECTION	3.38	335 LF.

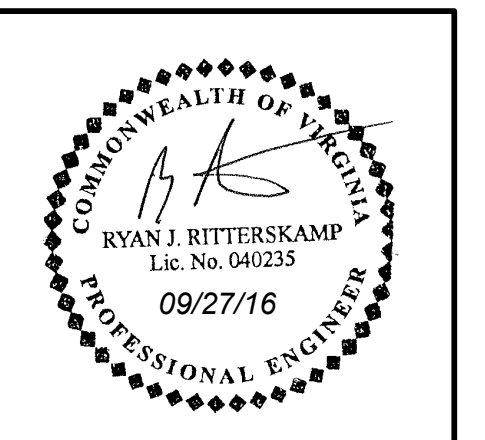
\*QUANTITIES FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR PERFORMING THEIR OWN QUANTITY TAKE OFF.



**TYPICAL DETAIL EROSION CONTROL PROTECTION FOR PIPE TRENCHING**  
NO SCALE



**(STB) STRAW BALE BARRIER** (3.04-1)  
NO SCALE



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CHECKED BY: R. RITTERSKAMP  
SCALE: N/A

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STONY POINT MAP 'F' - PHASE III - BUILDING A  
HUGUENOT DISTRICT - CITY OF RICHMOND - VIRGINIA

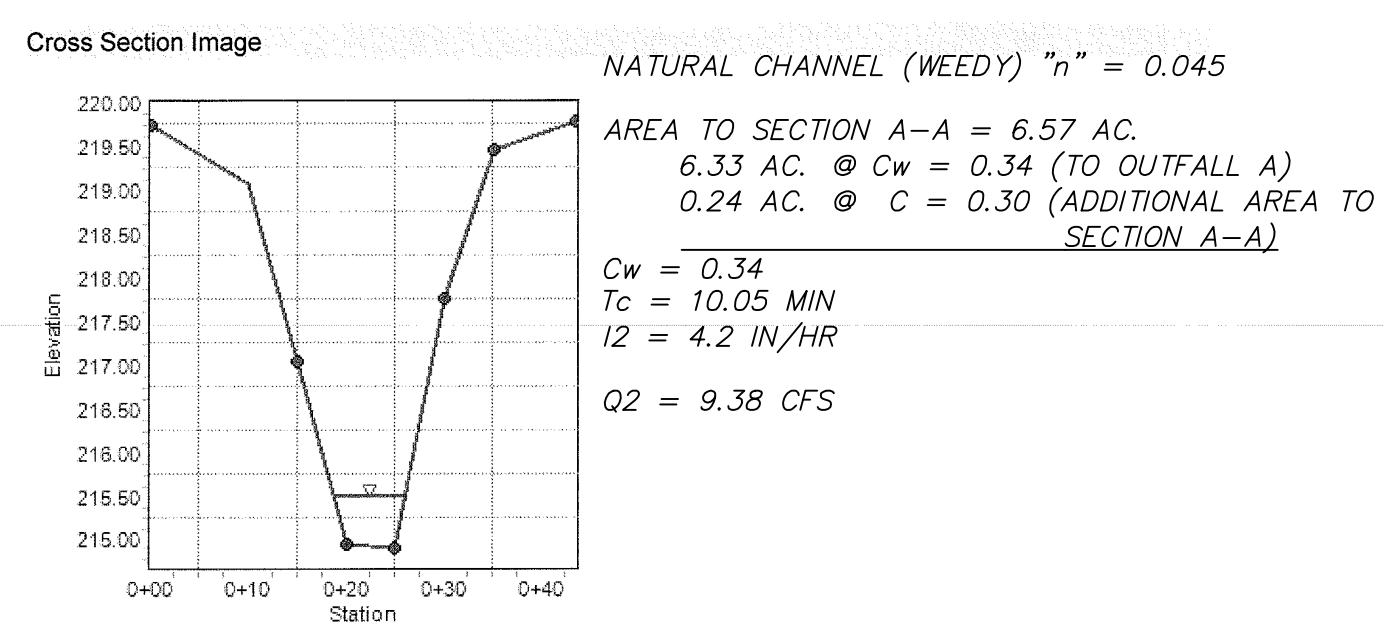
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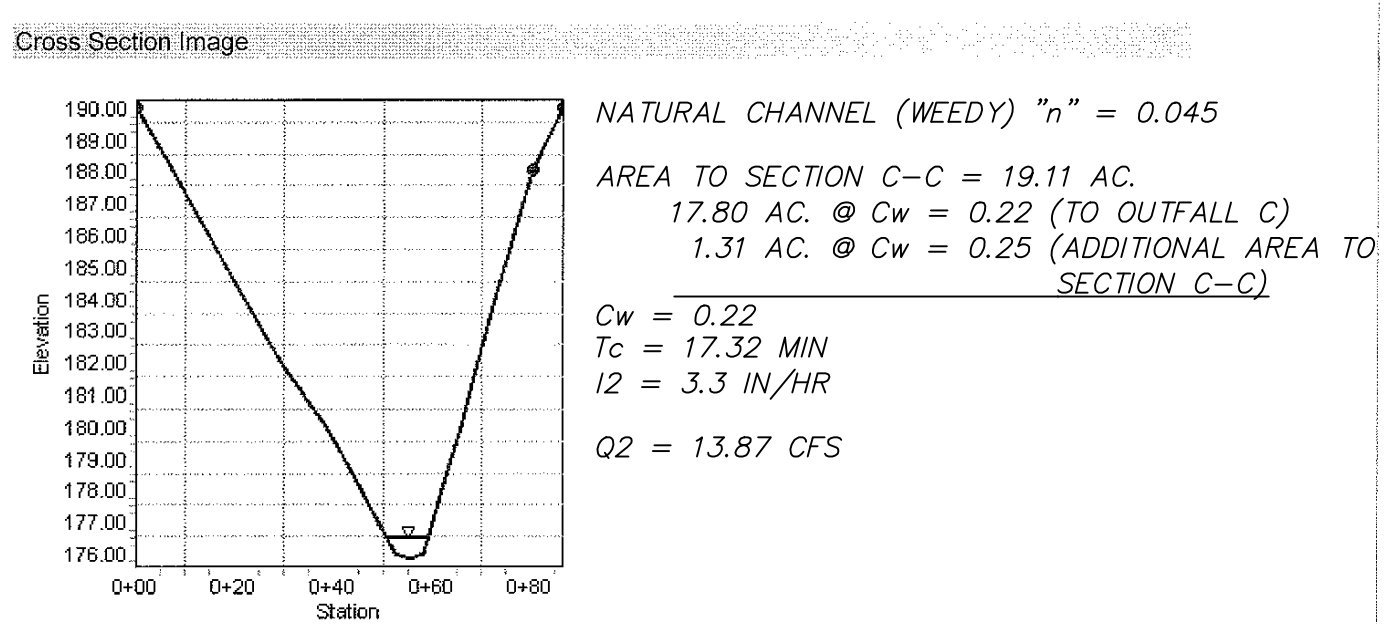
**Cross Section for Section A-A**

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth
Input Data	
Channel Slope	0.02000 ft/ft
Normal Depth	0.58 ft
Discharge	9.38 ft <sup>3</sup> /s



**Cross Section for Section C-C**

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth
Input Data	
Channel Slope	0.03500 ft/ft
Normal Depth	0.65 ft
Discharge	13.87 ft <sup>3</sup> /s

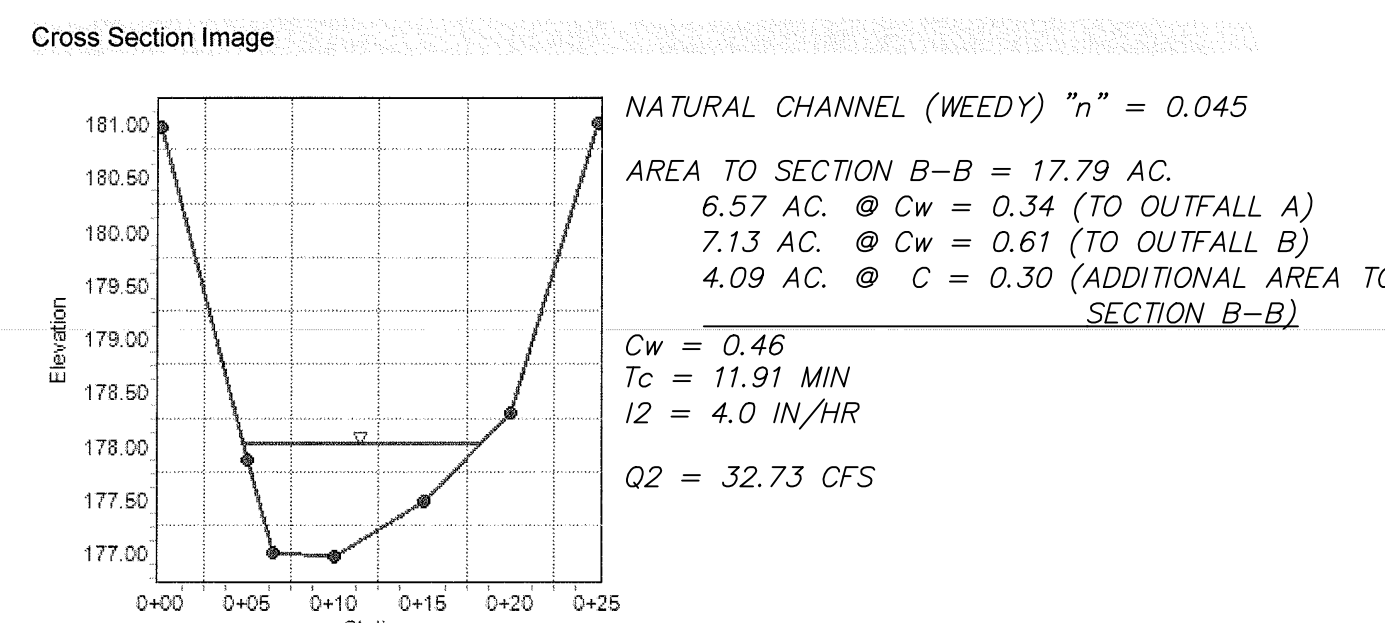


**VESCP MINIMUM STANDARDS:**

- 9VAC25-840-40. Minimum standards.
- A VESCP must be consistent with the following criteria, techniques and methods:
  - Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 14 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.
  - During construction of the project, soil stock piles and borrow areas shall be stabilized or protected with sediment trapping measures. The applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as borrow areas and soil intentionally transported from the project site.
  - A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform, mature enough to survive and will inhibit erosion.
  - Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.
  - Stabilization measures shall be applied to earthen structures such as dikes, ditches and diversions immediately after installation.
  - Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin.
  - The minimum storage capacity of a sediment trap shall be 134 cubic yards per acre of drainage area and the trap shall only control drainage areas less than three acres.
  - Surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or equal to three acres shall be controlled by a sediment basin. The minimum storage capacity of a sediment basin shall be 134 cubic yards per acre of drainage area. The outfall system shall, at a minimum, maintain the structural integrity of the basins for a 25-year storm of 24-hour duration. Runoff coefficients used in runoff calculations shall correspond to a bare earth condition or those conditions expected to exist while the sediment basin is utilized.
  - Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.
  - Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.
  - All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.
  - Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any

**Cross Section for Section B-B**

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth
Input Data	
Channel Slope	0.02000 ft/ft
Normal Depth	1.04 ft
Discharge	32.73 ft <sup>3</sup> /s



**Cross Section for Section D-D**

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth
Input Data	
Channel Slope	0.03500 ft/ft
Normal Depth	0.65 ft
Discharge	13.87 ft <sup>3</sup> /s



- Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or man-made receiving channel, pipe or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system, downstream stability analyses at the outlet of the pipe or pipe system shall be performed.
- Adequacy of all channels and pipes shall be verified in the following manner:
  - The applicant shall demonstrate that the total drainage area to the point of analysis within the channel is one hundred times greater than the contributing drainage area of the project in question; or
  - (a) Natural channels shall be analyzed by the use of a two-year storm to verify that stormwater will not overtop channel banks nor cause erosion of channel bed or banks.
    - All previously constructed man-made channels shall be analyzed by the use of a ten-year storm to verify that stormwater will not overtop its banks and by the use of a two-year storm to demonstrate that stormwater will not cause erosion of channel bed or banks; and
    - Pipes and storm sewer systems shall be analyzed by the use of a ten-year storm to verify that stormwater will be contained within the pipe or system.
  - If existing natural receiving channels or previously constructed man-made channels or pipes are not adequate, the applicant shall:
    - Improve the channels to a condition where a ten-year storm will not overtop the banks and a two-year storm will not cause erosion to the channel, the bed, or the banks; or
    - Improve the pipe or pipe system to a condition where the ten-year storm is contained within the appurtenances;
    - Develop a site design that will not cause the pre-development peak runoff rate from a two-year storm to increase when runoff outfalls into a natural channel or will not cause the pre-development peak runoff rate from a ten-year storm to increase when runoff outfalls into a man-made channel; or
    - Provide a combination of channel improvement, stormwater detention or other measures which is satisfactory to the VESCP authority to prevent downstream erosion.
- The applicant shall provide evidence of permission to make the improvements.
- All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development condition of the subject project.
  - Former 4VAC50-30-40, derived from VR625-02-00 § 4, eff. September 13, 1990; amended, Virginia Register Volume 11, Issue 11, eff. March 22, 1995; Volume 23, Issue 4, eff. November 21, 2012; amended and renumbered, Virginia Register Volume 30, Issue 2, eff. October 23, 2013.
  - If the applicant chooses an option that includes stormwater detention, he shall obtain approval from the VESCP of a plan for maintenance of the detention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance.
- Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipators shall be placed at the outfall of all detention facilities as necessary to provide a stabilized transition from the facility to the receiving channel.
- All on-site channels must be verified to be adequate.

**MS-19 ANALYSIS:**

IN ACCORDANCE WITH MINIMUM STANDARD 19 OF THE EROSION AND SEDIMENT CONTROL REGULATIONS, ADEQUACY OF RECEIVING CHANNELS OF PIPES MUST BE VERIFIED BY ADDRESSING ONE OF THE FOLLOWING ADEQUACY SITUATIONS:

- THE DRAINAGE AREA FROM THE PROJECT AT THE DISCHARGE POINT IS LESS THAN OR EQUAL TO ONE PERCENT (1%) OF THE TOTAL DRAINAGE AREA AT THE DISCHARGE POINT (PROJECT DRAINAGE AREA AND TOTAL DRAINAGE AREA ARE REQUIRED),  
OR
- NATURAL CHANNELS MUST BE ANALYZED TO DEMONSTRATE THAT (1) THE TWO-YEAR STORM WILL NOT OVERTOP THE CHANNEL BANKS AND (2) THE TWO-YEAR STORM WILL NOT CAUSE EROSION OF THE CHANNEL BED OR BANKS (Q-CAPACITY, Q-2 AND V-2 ARE REQUIRED), (EXCEPT Q-CAPACITY AND Q-2 ARE NOT APPLICABLE IF THE CHANNEL IS IN THE 100-YEAR FLOODPLAIN, RPA, OR WETLANDS),  
OR
- MAN-MADE CHANNELS MUST BE ANALYZED TO DEMONSTRATE THAT (1) THE TEN-YEAR STORM WILL NOT OVERTOP THE CHANNEL BANKS AND (2) THE TWO-YEAR STORM WILL NOT CAUSE EROSION OF THE CHANNEL BED OR BANKS, OR (3) THE 10-YEAR STORM WILL NOT CAUSE EROSION OF THE CHANNEL BED OR BANKS FOR IMPROVEMENTS WITHIN COUNTY DRAINAGE EASEMENTS (Q-CAPACITY, Q-10, AND V-2/V-10 ARE REQUIRED),  
OR
- PIPES AND STORM SEWER SYSTEMS MUST BE ANALYZED TO DEMONSTRATE THAT THE 10-YEAR STORM WILL BE CONTAINED WITHIN THE SYSTEM (Q-CAPACITY, Q-10, AND HYDRAULIC GRADE LINE CALCULATIONS ARE REQUIRED),  
OR
- RUNOFF IS DISCHARGED THROUGH AN ENERGY DISSIPATOR WHERE FLAT POORLY DRAINED TOPOGRAPHY EXISTS WITHIN THE LIMITS OF THE 100-YEAR FLOODPLAIN, RPA, OR WETLAND AND WHEN ACCEPTABLE VELOCITIES ARE DEMONSTRATED PER ITEM B, (A FORMAL WRITTEN VARIANCE REQUEST MUST BE SUBMITTED TO AND APPROVED BY CITY OF RICHMOND ENVIRONMENTAL ENGINEERING),  
OR
- THE PRE-DEVELOPMENT RUNOFF RATE IS MAINTAINED FOR THE Q-2(NATURAL) OR Q-10(MAN-MADE) STORM EVENT DURING THE SAME POST-DEVELOPED STORM EVENT DISCHARGING INTO A NATURAL OR MAN-MADE CONVEYANCE SYSTEM,  
OR
- A COMBINATION OF THE ABOVE METHODS TO INCLUDE DETENTION AND DRAINAGE IMPROVEMENTS, OR OTHER MEASURES ACCEPTABLE TO THE CITY OF RICHMOND DEPARTMENT OF ENVIRONMENTAL ENGINEERING TO PREVENT DOWNSTREAM EROSION (A FORMAL WRITTEN VARIANCE REQUEST MUST BE SUBMITTED TO AND APPROVED BY CITY OF RICHMOND ENVIRONMENTAL ENGINEERING).

**MS-19 SUMMARY**

DISCHARGE POINT	ADEQUACY SITUATION	PROJECT DRAINAGE AREA (AC)	TOTAL DRAINAGE AREA (AC)	Q-CAPACITY	Q-2	V-2	CROSS SECTION, PROFILE, DA MAP AND CALCULATIONS SHOWN ON SHEET
A	B	1.71	4.25	936	6.07	2.01	C7.5, C11.0, C11.2
B	B	4.41	15.23	963	28.02	4.66	C7.5, C11.0, C11.2
C	B	1.56	19.11	14,204	13.87	3.61	C7.5, C11.0, C11.2, C11.3
D-D	C	0.19	0.19	4.29	0.8/1.0	1.14/1.25	C7.6, C11.1
E-E	C	0.24	0.24	4.29	1.1/1.5	1.28/1.40	C7.6, C11.1
F-F	C	0.09	0.09	4.18	0.4/0.6	0.92/1.02	C7.6, C11.1
G-G	C	0.12	0.12	4.18	0.6/0.8	1.01/1.11	C7.6, C11.1

**TIME OF CONCENTRATION TO SECTION "A-A"**

ID	Ground Character	Length (ft)	Slope (ft/ft)	C	H (ft)	Tc (min)
Overland Flow, $T_c = 0.225 L^{0.42} S^{-0.19} C^{-1.0}$						
1	FOREST	50.00	0.1300	0.25		6.86
Channel Flow, $T_c = 0.00948 L^{0.38} L^{1.13}$						
2		465.00			84.00	1.82
Storm Sewer Flow Time (from Manning's Equation, Refer to Storm Sewer Calculations)						
3						0.41
Channel Flow, $T_c = 0.00948 L^{0.38} L^{1.13}$						
4		65.00			1.30	0.96
Total Tc =						10.05

**TIME OF CONCENTRATION TO SECTION "B-B"**

ID	Ground Character	Length (ft)	Slope (ft/ft)	C	H (ft)	Tc (min)
Overland Flow, $T_c = 0.225 L^{0.42} S^{-0.19} C^{-1.0}$						
1	FOREST	50.00	0.1200	0.25		6.96
Channel Flow, $T_c = 0.00948 L^{0.38} L^{1.13}$						
2		522.00			78.00	2.13
Storm Sewer Flow Time (from Manning's Equation, Refer to Storm Sewer Calculations)						
3						1.62
Channel Flow, $T_c = 0.00948 L^{0.38} L^{1.13}$						
4		165.00			11.60	1.20
Total Tc =						11.91

**TIME OF CONCENTRATION TO SECTION "C-C"**

ID	Ground Character	Length (ft)	Slope (ft/ft)	C	H (ft)	Tc (min)
Overland Flow, $T_c = 0.225 L^{0.42} S^{-0.19} C^{-1.0}$						
1	FOREST	100.00	0.0600	0.25		10.63
Channel Flow, $T_c = 0.00948 L^{0.38} L^{1.13}$						
2		1750.00			140.00	6.70
Total Tc =						17.32

**GENERAL EROSION AND SEDIMENT CONTROL NOTES:**

- (VESCP Control Handbook Table 6-1)
- Unless otherwise indicated, all vegetative and structural erosion and sediment control practices will be constructed and maintained according to minimum standards and specifications of the Virginia Erosion and Sediment Control Handbook and the Virginia Erosion and Sediment Control Regulations 9VAC25-840.
  - The plan approving authority must be notified one week prior to the pre-construction conference, one week prior to the commencement of land disturbing activity, and one week prior to the final inspection.
  - All erosion and sediment control measures are to be placed prior to or as the first step in clearing.
  - A copy of the approved erosion and sediment control plan shall be maintained on the site at all times.
  - Prior to commencing land disturbing activities in areas other than indicated on these plans (including but not limited to, off-site borrow or waste areas), the contractor shall submit a supplementary erosion control plan to the owner for review and approval by the plan approving authority.
  - The contractor is responsible for installation of any additional erosion control measures necessary to prevent erosion and sedimentation as determined by the plan approving authority.
  - All disturbed areas are to drain to approved sediment control measures at all times during land disturbing activities and during site development until final stabilization is achieved.
  - During dewatering operations, water will be pumped into an approved filtering device.
  - The contractor shall inspect all erosion control measures periodically and after each runoff-producing rainfall event. Any necessary repairs or cleanup to maintain the effectiveness of the erosion control devices shall be made immediately.

**Richmond Standard E+S Notes**

- Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain, dormant (undisturbed) for longer than 14 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.
- Excess excavation disposed of off the site shall be disposed of in accordance with the Virginia Erosion and Sediment Control Handbook.
- Erosion and Sediment Controls shall be installed in accordance with Virginia Erosion and Sediment Control Handbook and shall be placed prior to or as the first step of the land disturbing activity.
- Erosion and Sediment Controls shall be maintained so that the sediment carrying runoff from the site will not enter storm drainage facilities.
- Erosion and Sediment Controls shall be maintained until the disturbed area is stabilized.
- Properties adjoining the site shall be kept clean of mud or silt carried from the site by vehicular traffic or runoff.
- The disposal of waste materials removed from erosion and sediment control facilities and the disposal of these facilities shall be in accordance with the Virginia Erosion and Sediment Control Handbook.
- Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation. During construction of the project, soil stockpiles shall be stabilized or protected with sediment trapping measures. The applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as soil intentionally transported from the project site.
- During construction of the project, soil stockpiles shall be stabilized or protected with sediment trapping measures. The applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as soil intentionally transported from the project site.



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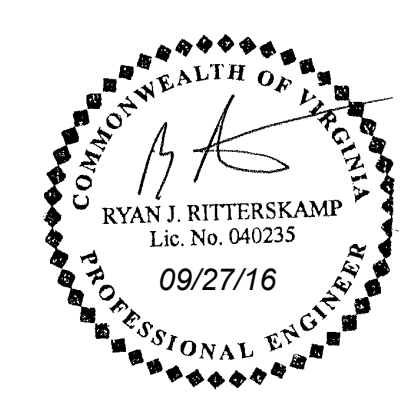
**TIMMONS GROUP**

STONY POINT MAP 'F' - PHASE III - BUILDING A  
HUGUENOT DISTRICT - CITY OF RICHMOND - VIRGINIA

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

JOB NO. 37723  
SHEET NO. C2.3





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09/27/16 <td></td>	
	DRAWN BY B. SHAMLIN
	DESIGNED BY R. RITTERSKAMP
	CHECKED BY R. RITTERSKAMP
	SCALE N/A

**TIMMONS GROUP**

STONY POINT MAP 'F' - PHASE III - BUILDING A  
 HUGENOT DISTRICT - CITY OF RICHMOND - VIRGINIA  
 EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

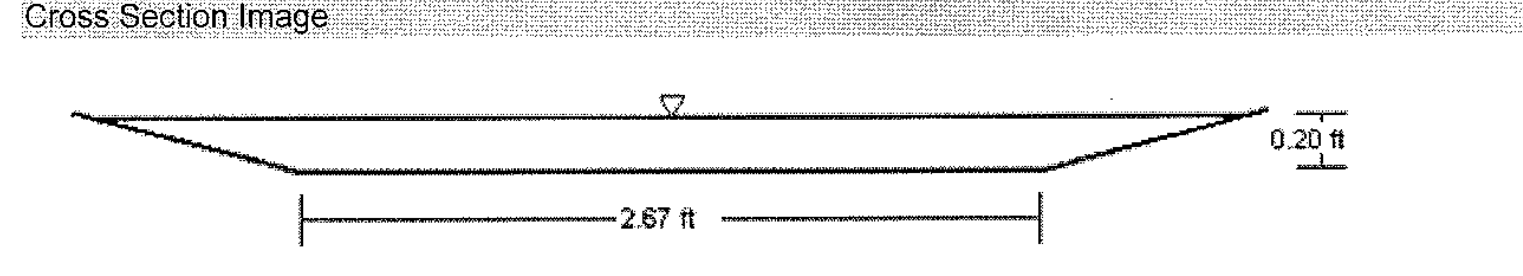
JOB NO.  
37723

SHEET NO.  
C2.4

**Cross Section for Section D-D-2-YR**

Project Description  
 Friction Method Manning Formula  
 Solve For Normal Depth

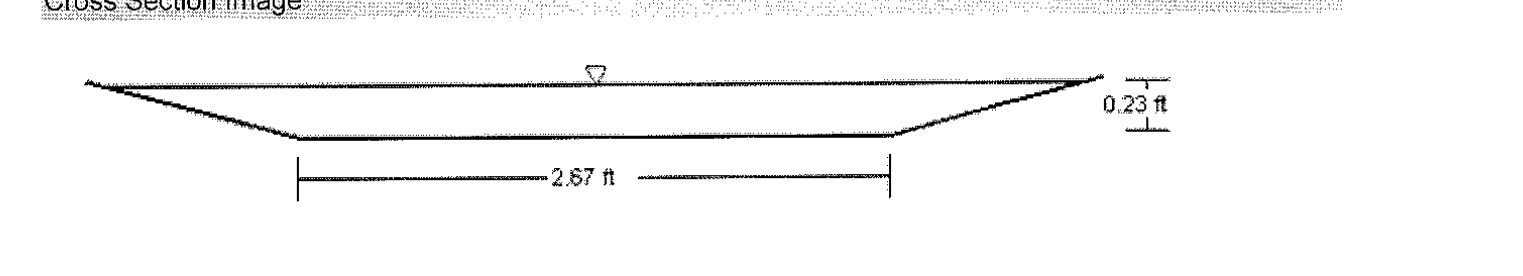
Input Data  
 Roughness Coefficient 0.069  
 Channel Slope 0.03160 ft/ft  
 Normal Depth 0.20 ft  
 Left Side Slope 3.75 ft/ft (H:V)  
 Right Side Slope 3.75 ft/ft (H:V)  
 Bottom Width 2.67 ft  
 Discharge 0.78 ft<sup>3</sup>/s



**Cross Section for Section D-D-10-YR**

Project Description  
 Friction Method Manning Formula  
 Solve For Normal Depth

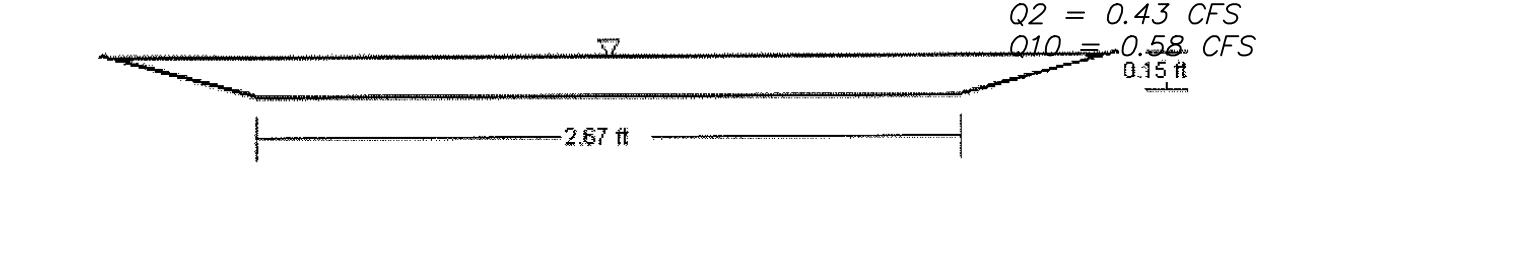
Input Data  
 Roughness Coefficient 0.069  
 Channel Slope 0.03160 ft/ft  
 Normal Depth 0.23 ft  
 Left Side Slope 3.75 ft/ft (H:V)  
 Right Side Slope 3.75 ft/ft (H:V)  
 Bottom Width 2.67 ft  
 Discharge 1.04 ft<sup>3</sup>/s



**Cross Section for Section F-F-2-YR**

Project Description  
 Friction Method Manning Formula  
 Solve For Normal Depth

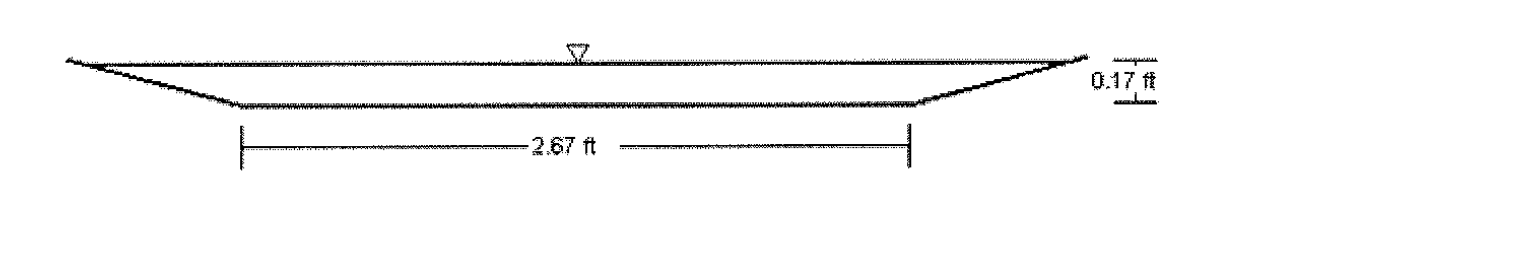
Input Data  
 Roughness Coefficient 0.069  
 Channel Slope 0.03000 ft/ft  
 Normal Depth 0.15 ft  
 Left Side Slope 3.75 ft/ft (H:V)  
 Right Side Slope 3.75 ft/ft (H:V)  
 Bottom Width 2.67 ft  
 Discharge 0.43 ft<sup>3</sup>/s



**Cross Section for Section F-F-10-YR**

Project Description  
 Friction Method Manning Formula  
 Solve For Normal Depth

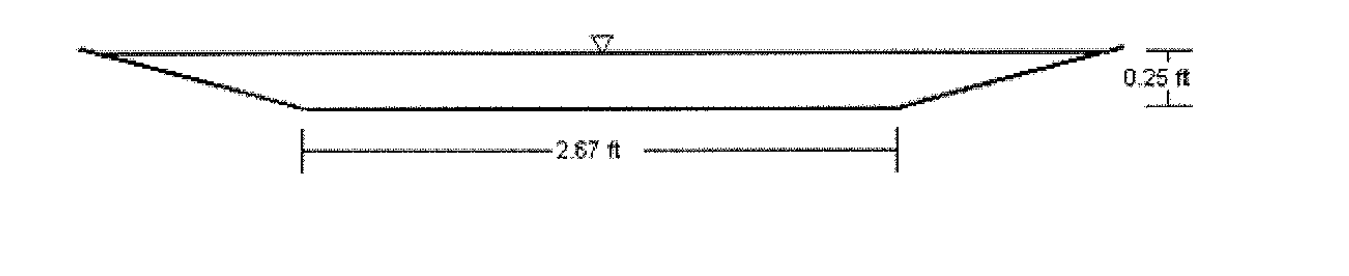
Input Data  
 Roughness Coefficient 0.069  
 Channel Slope 0.03000 ft/ft  
 Normal Depth 0.17 ft  
 Left Side Slope 3.75 ft/ft (H:V)  
 Right Side Slope 3.75 ft/ft (H:V)  
 Bottom Width 2.67 ft  
 Discharge 0.58 ft<sup>3</sup>/s



**Cross Section for Section E-E-2-YR**

Project Description  
 Friction Method Manning Formula  
 Solve For Normal Depth

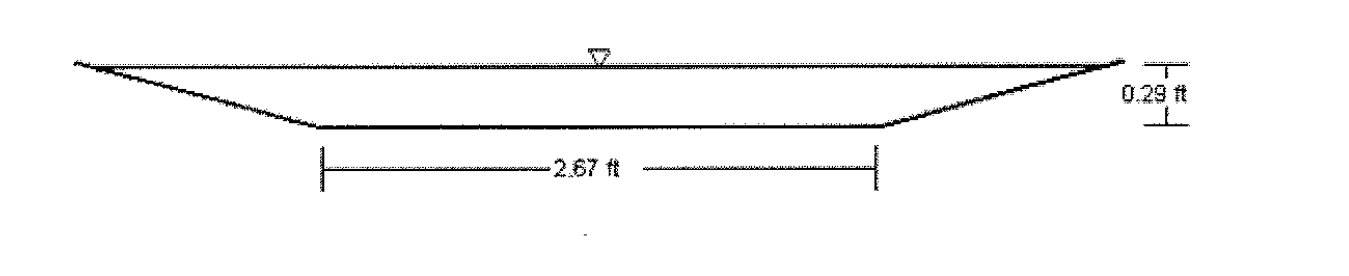
Input Data  
 Roughness Coefficient 0.069  
 Channel Slope 0.03160 ft/ft  
 Normal Depth 0.25 ft  
 Left Side Slope 3.75 ft/ft (H:V)  
 Right Side Slope 3.75 ft/ft (H:V)  
 Bottom Width 2.67 ft  
 Discharge 1.14 ft<sup>3</sup>/s



**Cross Section for Section E-E-10-YR**

Project Description  
 Friction Method Manning Formula  
 Solve For Normal Depth

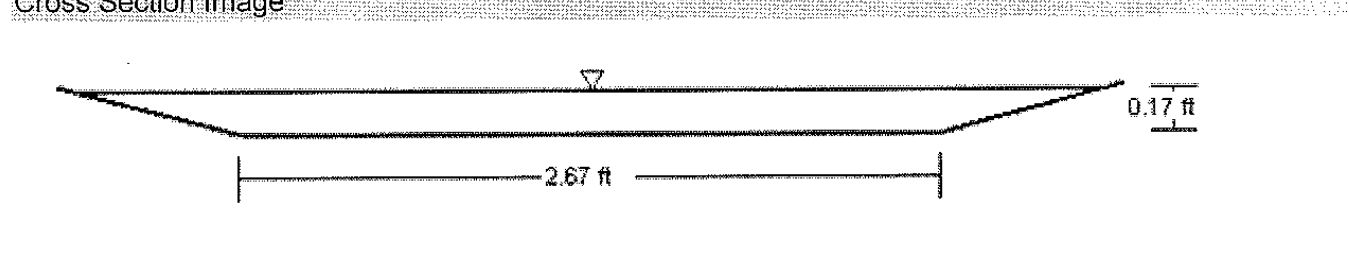
Input Data  
 Roughness Coefficient 0.069  
 Channel Slope 0.03160 ft/ft  
 Normal Depth 0.29 ft  
 Left Side Slope 3.75 ft/ft (H:V)  
 Right Side Slope 3.75 ft/ft (H:V)  
 Bottom Width 2.67 ft  
 Discharge 1.53 ft<sup>3</sup>/s



**Cross Section for Section G-G-2-YR**

Project Description  
 Friction Method Manning Formula  
 Solve For Normal Depth

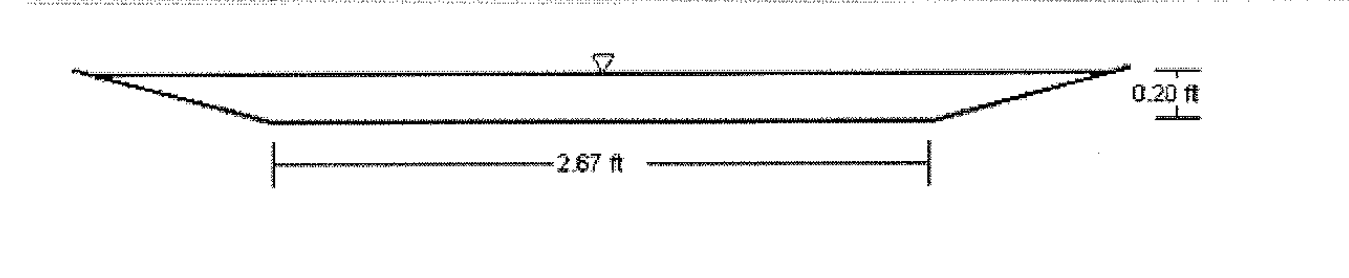
Input Data  
 Roughness Coefficient 0.069  
 Channel Slope 0.03000 ft/ft  
 Normal Depth 0.17 ft  
 Left Side Slope 3.75 ft/ft (H:V)  
 Right Side Slope 3.75 ft/ft (H:V)  
 Bottom Width 2.67 ft  
 Discharge 0.57 ft<sup>3</sup>/s



**Cross Section for Section G-G-10-YR**

Project Description  
 Friction Method Manning Formula  
 Solve For Normal Depth

Input Data  
 Roughness Coefficient 0.069  
 Channel Slope 0.03000 ft/ft  
 Normal Depth 0.20 ft  
 Left Side Slope 3.75 ft/ft (H:V)  
 Right Side Slope 3.75 ft/ft (H:V)  
 Bottom Width 2.67 ft  
 Discharge 0.77 ft<sup>3</sup>/s



**TIME OF CONCENTRATION TO EXISTING CULVERT UNDER CHIPPENHAM PARKWAY**

ID	Ground Character	Length (ft)	Slope (ft/ft)	C	H (ft)	Tc (min)
<b>Overland Flow, <math>T_c = 0.22SL^{0.42} S^{-0.19} C^{-1.0}</math></b>						
1	FOREST	50.00	0.1200	0.25		6.96
<b>Channel Flow, <math>T_c = 0.00948L^{0.38} L^{1.13}</math></b>						
2		522.00			78.00	2.13
<b>Storm Sewer Flow Time (from Manning's Equation, Refer to Storm Sewer Calculations)</b>						
3						1.74
<b>Channel Flow, <math>T_c = 0.00948L^{0.38} L^{1.13}</math></b>						
4		165.00			11.90	1.19
<b>Total Tc =</b>						<b>12.02</b>

AREA TO EXISTING CULVERT UNDER CHIPPENHAM = 16.50 AC.  
 4.01 AC. @ Cw = 0.34 (TO OUTFALL A)  
 7.13 AC. @ Cw = 0.61 (TO OUTFALL B)  
 5.36 AC. @ C = 0.30 (ADDITIONAL AREA TO CULVERT)

Cw = 0.44  
 Tc = 12.02 MIN  
 I2 = 3.9 IN/HR  
 I10 = 5.3 IN/HR  
 I25 = 6.0 IN/HR

Q2 = 28.31 CFS  
 Q10 = 38.49 CFS  
 Q25 = 43.56 CFS

PROJECT: STONY POINT PARCEL "F"  
 ROAD: CHIPPENHAM PARKWAY  
 COUNTY: Richmond (city)  
 SHEET: OF ENGLISH  
 CULVERT DESIGN FORM LD-269  
 DESIGNER: ACW DATE: 11/15/2010  
 REVIEWER: DATE:

HYDROLOGICAL DATA  
 Inlet: INPUT  
 Drainage Area: 0  
 Time of Concentration: 3

DESIGN FLOWS  

RT (years)	FLOW (cfs)
10 Design	38.48
2 Check	28.31
25 Max.	43.56

CULVERT DESCRIPTION:  
 TYPE: Single/Multiple Corrugating

Inlet Edge Description:  
 Square edge w/heads off

MATERIAL	SHAPE	Size (in)	N	Manning's n	TOTAL FLOW PER BARREL		HEADWATER CALCULATIONS										CONTROL ELEV.	OUTLET VELOCITY	MINIMUM SHOULDER ELEV.	COMMENTS
					Q	Q/N	HW/D	HW	FALL	ELHW	TW	dc	(dc+D)/2	ho	ke	H				
Concrete	Circular	36	1	0.01	38.48	38.5	1.06	3.18	0.00	179.82	1.32	2.02	2.31	2.51	0.30	1.84	174.35	179.82	13.03	
					28.31	28.3	0.82	2.56	0.00	179.19	1.20	1.72	2.36	2.56	0.30	1.11	173.47	179.19	12.02	
					43.56	43.6	1.16	3.49	0.00	180.13	1.41	2.15	2.88	2.58	0.30	2.26	174.84	180.13	13.48	

TAILWATER DATA:  
 Channel Shape: Triangular  
 Bottom Width: 6  
 Side Slope L1 (H:V): 4:00  
 Side Slope R1 (H:V): 4:00  
 Channel Slope: 0.0450

ROADWAY DATA:  
 Roadway Width: 6  
 Surface Type: PAVED  
 Top of Road Elevation: 202  
 Length of Road: 1000

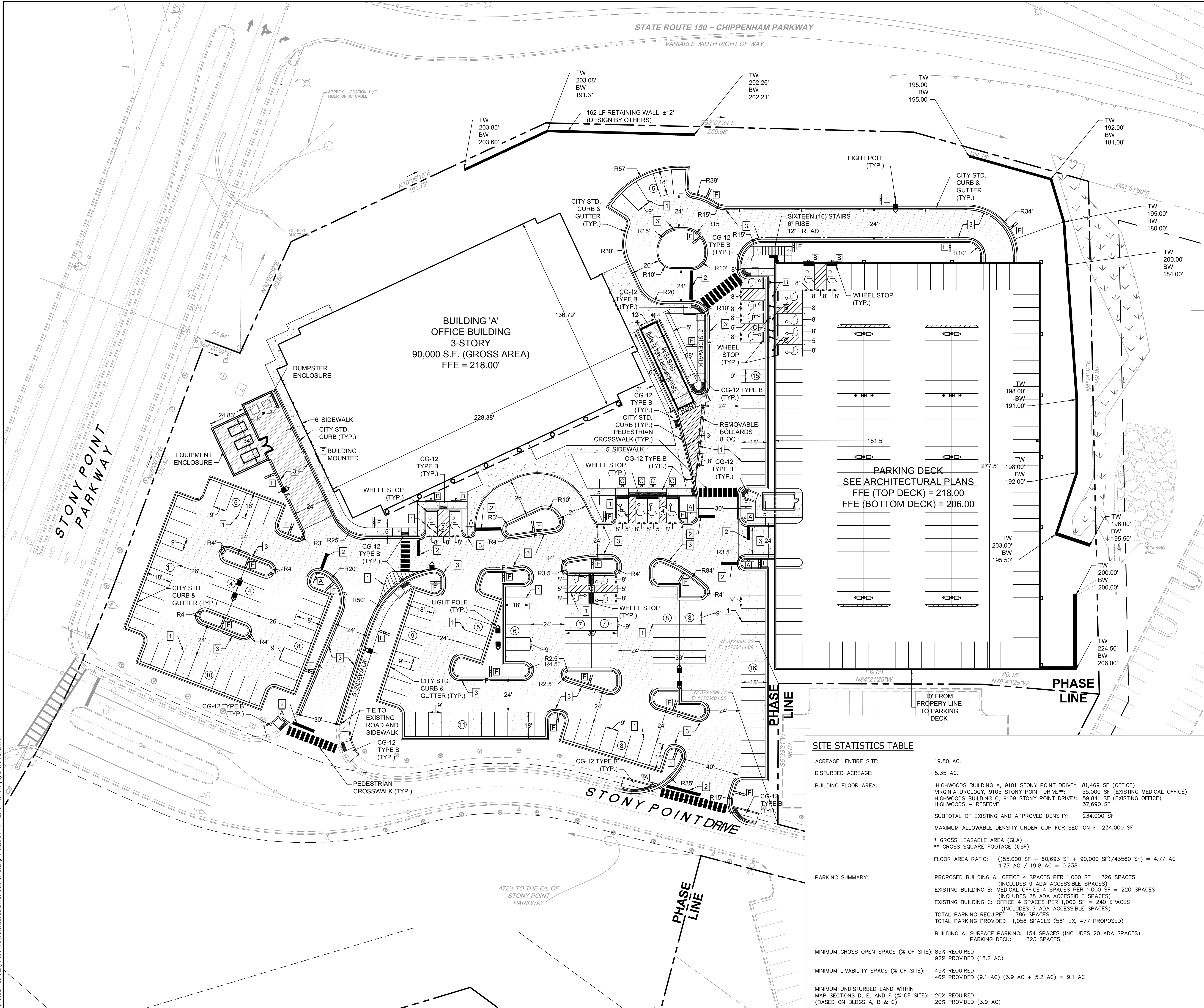
ROADWAY OVERTOPPING:  
 Discharge: 0  
 Overtopping Discharge: 0  
 Overtopping Elevation: 0

TECHNICAL FOOTNOTES:  
 (1) USE Q/NB FOR BOX CULVERTS  
 (2) HW/D = HW/D OR HW/D FROM DESIGN CHARTS  
 (3) FALL = HW1 - (ELHW1 - ELHW2) FALL IS ZERO FOR CULVERTS ON GRADE  
 (4) ELHW = HW1 + EL1 (INVERT OF INLET CONTROL SECTION)  
 (5) TW BASED ON DOWNSTREAM CONTROL OR FLOW DEPTH IN CHANNEL  
 (6) h0 = TW or (dc + D) (WHICHEVER IS GREATER)  
 (7) H = H1 + ke + (20h1^1.25)^0.2

SUBSCRIPT DEFINITIONS:  
 HW1 DESIGN HEADWATER  
 HW2 HW IN INLET CONTROL  
 HW3 HW IN OUTLET CONTROL

COMMENTS / DISCUSSION:  
 CULVERT BARREL SELECTED: 36" DIA. CONCRETE  
 SIZE: 36"  
 SHAPE: CIRCULAR  
 ENTRANCE: 1





**BUILDING 'A'  
OFFICE BUILDING  
3-STORY  
90,000 S.F. (GROSS AREA)  
FFE = 218.00'**

**PARKING DECK  
SEE ARCHITECTURAL PLANS  
FFE (TOP DECK) = 218.00  
FFE (BOTTOM DECK) = 206.00**

**SITE STATISTICS TABLE**

ACREAGE: ENTIRE SITE:	19.80 AC.
DISTURBED ACREAGE:	5.35 AC.
BUILDING FLOOR AREA:	HIGHWOODS BUILDING A, 9101 STONY POINT DRIVE*: 81,469 SF (OFFICE) VIRGINIA UROLOGY, 9105 STONY POINT DRIVE**: 55,000 SF (EXISTING MEDICAL OFFICE) HIGHWOODS BUILDING C, 9109 STONY POINT DRIVE*: 59,841 SF (EXISTING OFFICE) HIGHWOODS - RESERVE: 37,690 SF
	SUBTOTAL OF EXISTING AND APPROVED DENSITY: 234,000 SF
	MAXIMUM ALLOWABLE DENSITY UNDER CUP FOR SECTION F: 234,000 SF
	* GROSS LEASABLE AREA (GLA)
	** GROSS SQUARE FOOTAGE (GSF)
FLOOR AREA RATIO:	((55,000 SF + 60,693 SF + 90,000 SF)/43560 SF) = 4.77 AC 4.77 AC / 19.8 AC = 0.238
PARKING SUMMARY:	PROPOSED BUILDING A: OFFICE 4 SPACES PER 1,000 SF = 326 SPACES (INCLUDES 9 ADA ACCESSIBLE SPACES) EXISTING BUILDING B: MEDICAL OFFICE 4 SPACES PER 1,000 SF = 220 SPACES (INCLUDES 28 ADA ACCESSIBLE SPACES) EXISTING BUILDING C: OFFICE 4 SPACES PER 1,000 SF = 240 SPACES (INCLUDES 7 ADA ACCESSIBLE SPACES) TOTAL PARKING REQUIRED 786 SPACES TOTAL PARKING PROVIDED 1,058 SPACES (581 EX, 477 PROPOSED) BUILDING A: SURFACE PARKING: 154 SPACES (INCLUDES 20 ADA SPACES) PARKING DECK: 323 SPACES
MINIMUM GROSS OPEN SPACE (% OF SITE):	85% REQUIRED 92% PROVIDED (18.2 AC)
MINIMUM LIVABILITY SPACE (% OF SITE):	45% REQUIRED 46% PROVIDED (9.1 AC) (3.9 AC + 5.2 AC) = 9.1 AC
MINIMUM UNDISTURBED LAND WITHIN MAP SECTIONS D, E, AND F (% OF SITE):	20% REQUIRED 20% PROVIDED (3.9 AC)

**LAYOUT NOTES**

- ALL DIMENSIONS ARE FROM THE FACE OF CURB, UNLESS NOTED OTHERWISE.
- ALL PROPOSED UTILITIES ARE TO BE INSTALLED UNDERGROUND INCLUDING ELECTRIC, TELEPHONE, AND CATV.
- VDOT STANDARD DETAILS, AS REFERENCED, TO BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT VERSION OF VDOT ROAD AND BRIDGE STANDARDS.
- ALL CURB AND GUTTER IS TO BE CITY OF RICHMOND STANDARD CURB AND GUTTER.
- ALL INDEPENDENT CURB IS TO BE CITY OF RICHMOND STANDARD 9" INDEPENDENT CURB.
- ALL CURB RADII ARE 5' UNLESS OTHERWISE NOTED ON THE PLAN.
- THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL STOP SIGNS, DIRECTIONAL SIGNS, AND STRIPING SHOWN ON THE PLANS.
- MINIMUM CURB RADII IS 5'. UNLESS OTHERWISE NOTED.

**PAVEMENT LEGEND**

- DENOTES HEAVY DUTY PAVEMENT SECTION.
- DENOTES STANDARD DUTY PAVEMENT SECTION.
- DENOTES HEAVY DUTY CONCRETE SECTION.
- DENOTES CONCRETE SIDEWALK SECTION.
- DENOTES HEAVY DUTY REINFORCED MOBILE MRI CONCRETE SECTION.

NOTE: BUILDING FOOTPRINT IS BASED ON ARCHITECTURAL FILES FROM BASKERVILL DATED 09/26/16. PARKING DECK DIMENSIONS AND STRIPING LAYOUT ARE BASED ON ARCHITECTURAL FILES FROM 10/26/16.

**SIGNAGE LEGEND**

- VDOT STD. MUTCD: R1-1 STOP SIGN
- VDOT STD. MUTCD: R7-8 HC PARKING SIGN
- VDOT STD. MUTCD: R7-8a VAN ACCESSIBLE HC PARKING SIGN
- DOUBLE SIDED 'NO PARKING FIRE LANE' SIGN SEE DETAIL C3.1

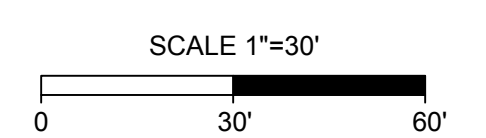
**STRIPING LEGEND**

- 4" SINGLE SOLID WHITE LINE
- 24" SOLID WHITE STOP BAR
- 4" SINGLE SOLID YELLOW LINE

NOTES:  
1. PAINT SHALL BE TYPE A, WATER EMULSION BASE, TRAFFIC PAINT CONFORMING TO THE REQUIREMENTS OF SECTION 704 OF THE VDOT ROAD AND BRIDGE SPECIFICATIONS AND FEDERAL SPECIFICATION TT-P-1952. COLOR SHALL BE WHITE UNLESS OTHERWISE INDICATED.  
2. ARROWS SHALL BE IN ACCORDANCE WITH THE FEDERAL MUTCD.  
3. SPACING BETWEEN DOUBLE SOLID YELLOW LINES SHALL BE 4'.  
4. DO NOT PAINT INSIDE OF THE GUTTER PAN IN ANY AREA.

**SITE FEATURES LEGEND**

- SIGN
- PROPOSED CITY STANDARD CURB & GUTTER
- PROPOSED CITY STANDARD CURB
- EXISTING CURB & GUTTER
- TRUNCATED DOMES
- PEDESTRIAN CROSSING



# TIMMONS GROUP

STONY POINT MAP 'F' - PHASE III - BUILDING A  
HUGENOT DISTRICT - CITY OF RICHMOND - VIRGINIA  
LAYOUT PLAN

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REVISION DESCRIPTION

NO.	DATE	DESCRIPTION

DATE  
09/27/16

DRAWN BY  
B. SHAMLIN

DESIGNED BY  
R. RITTERSKAMP

CHECKED BY  
R. RITTERSKAMP

SCALE  
1"=30'

JOB NO.  
37723

SHEET NO.  
C3.0

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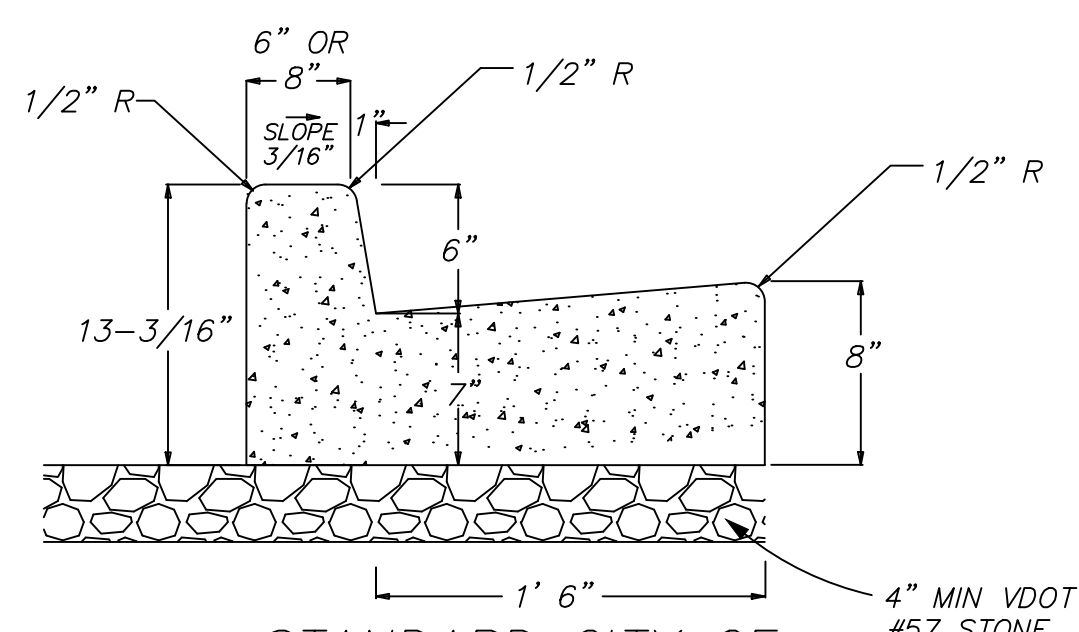


HANDICAPPED SPACES SHALL BE IDENTIFIED BY ABOVE GRADE SIGNS AS RESERVED FOR PHYSICALLY HANDICAPPED PERSONS. PROVIDE ONE (1) R-8 SIGN AT EACH HANDICAPPED PARKING SPACE INDICATED ON SITE PLAN. SIGN WILL BE ALUMINUM (PAINTED WHITE) WITH BLUE LETTERS AND INTERNATIONAL WHEELCHAIR SYMBOL. THE CENTER OF SIGN SHALL BE AT LEAST FIVE (5) FEET ABOVE GRADE, BUT NO HIGHER THAN SEVEN (7) FEET ABOVE GRADE. SIGNS SHALL BE PLACED ON BROWN METAL POST THAT CONFORMS TO THE SIGNAGE PROGRAM APPROVED BY THE CITY OF RICHMOND FOR THE PARK AT STONY POINT. CONTRACTOR TO MATCH EXISTING SIGNS LOCATED ON SITE. TYPICAL ACCESSIBLE SIGNS SHALL CONFORM TO ADA REQUIREMENTS.

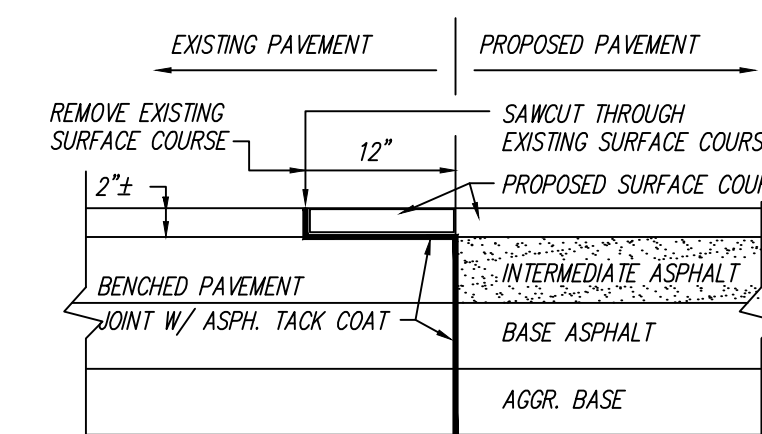


NOTE: SIGNS SHALL BE PLACED ON BROWN METAL POST THAT CONFORMS TO THE SIGNAGE PROGRAM APPROVED BY THE CITY OF RICHMOND FOR THE PARK AT STONY POINT. CONTRACTOR TO MATCH EXISTING SIGNS LOCATED ON SITE.

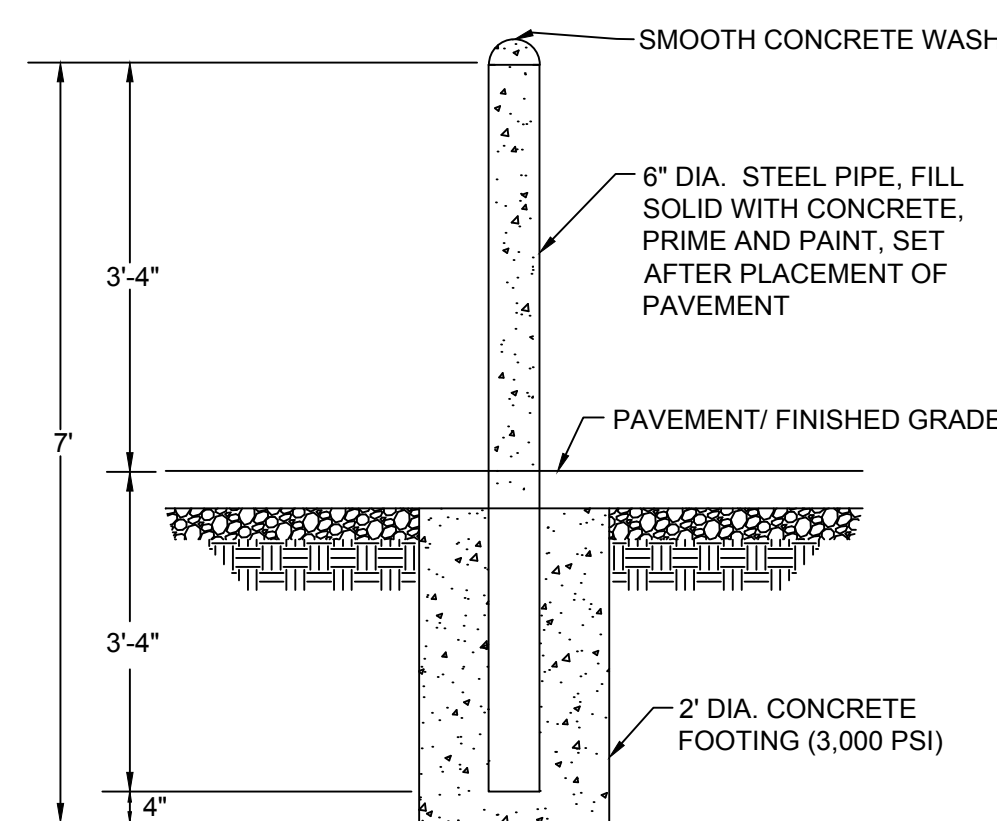
HANDICAPPED PARKING SIGNS  
NO SCALE



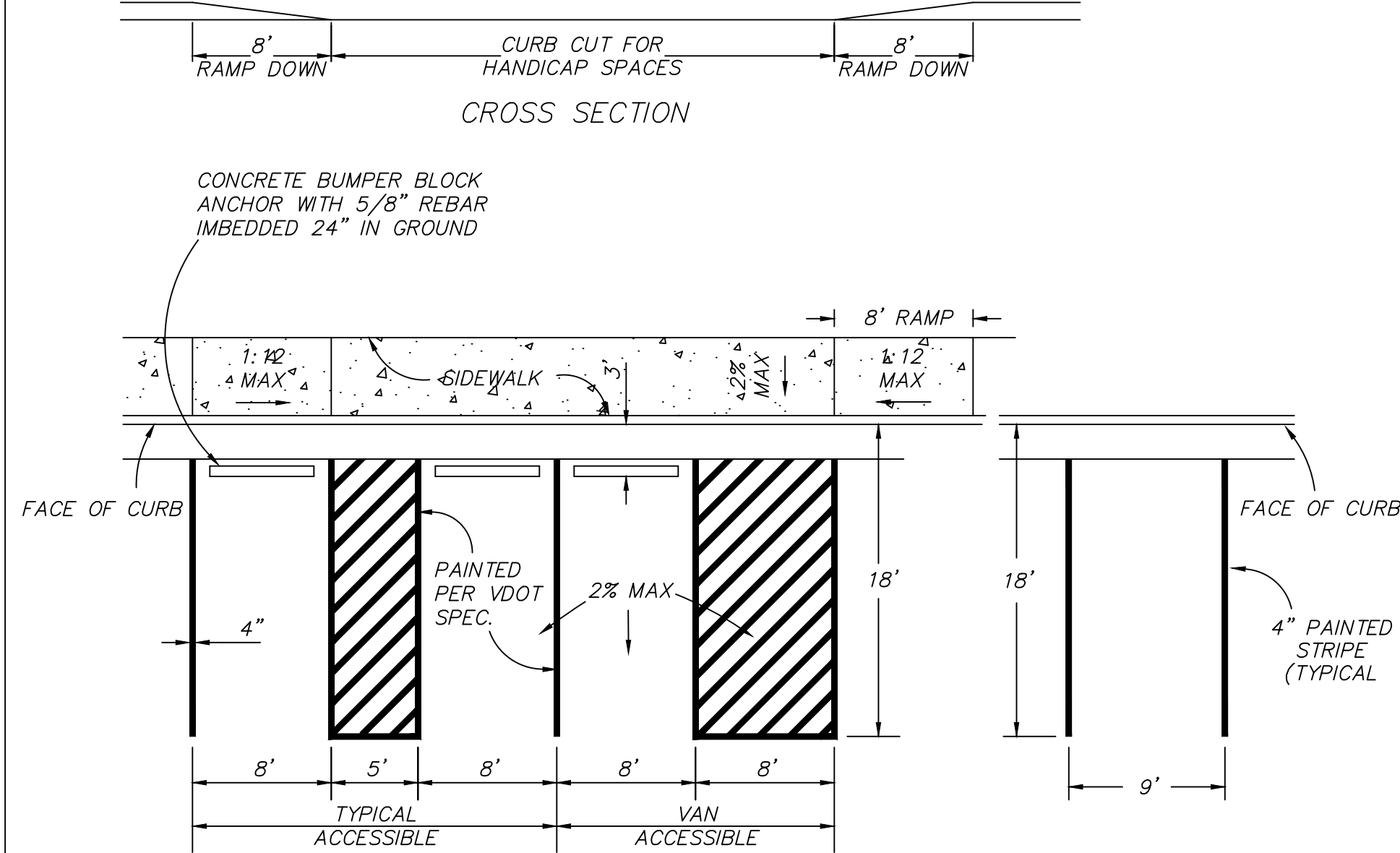
STANDARD CITY OF RICHMOND CURB & GUTTER  
NO SCALE



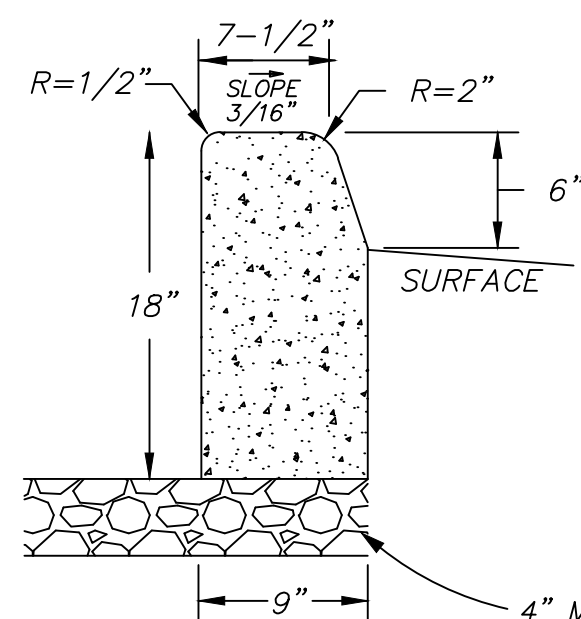
PAVEMENT JOINT DETAIL  
NOTE: PROPOSED PAVEMENT MUST TIE IN WITH EXISTING PAVEMENT  
NOT TO SCALE



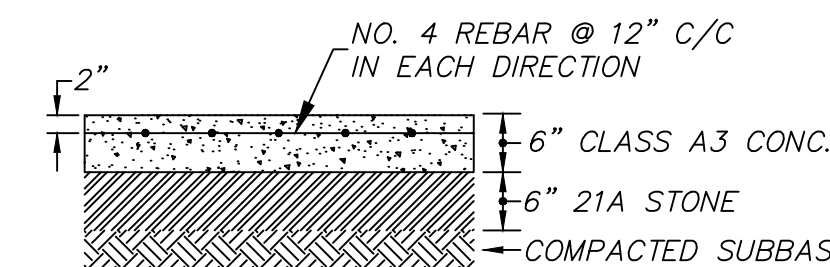
STEEL PIPE BOLLARD DETAIL  
NOTE TO SCALE



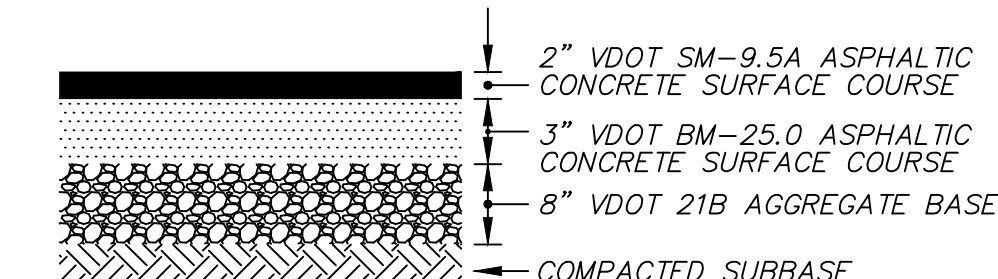
TYPICAL PARKING SPACE DETAILS  
NOTE: SIDEWALK IS EVEN WITH PAVEMENT BETWEEN HANDICAP RAMPS. RAMPS TRANSITION CURB FROM EVEN WITH PAVEMENT TO STANDARD HEIGHT ABOVE PAVEMENT.



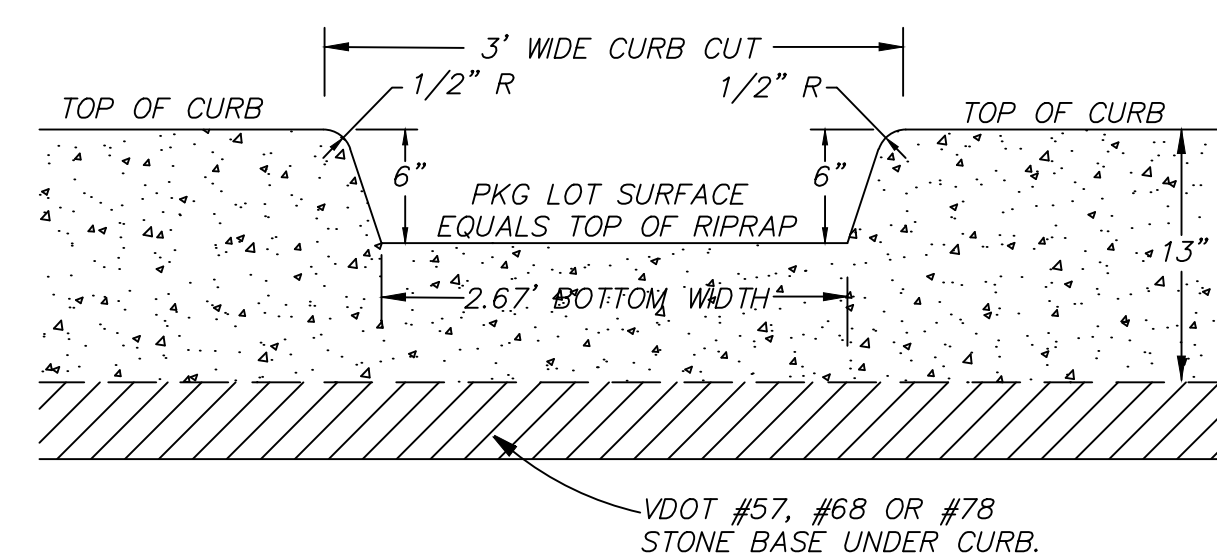
STANDARD CITY OF RICHMOND CURB  
NO SCALE



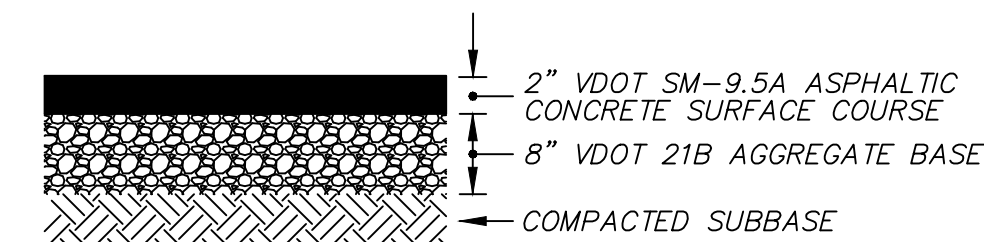
DETAIL ~ CONCRETE DUMPSTER, DRIVEWAY ELECT. TRANSFORMER & GENERATOR PADS  
NOT TO SCALE



HEAVY DUTY PAVEMENT DETAIL  
NO SCALE

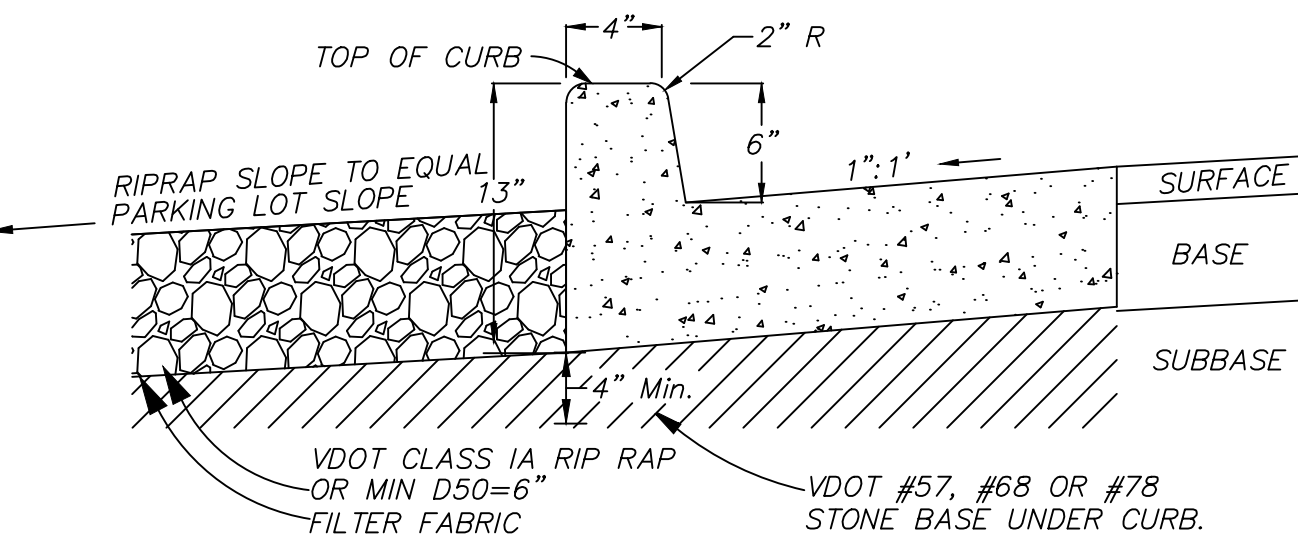


CURB CUT PROFILE (BEHIND BLDG. 'C')  
NO SCALE

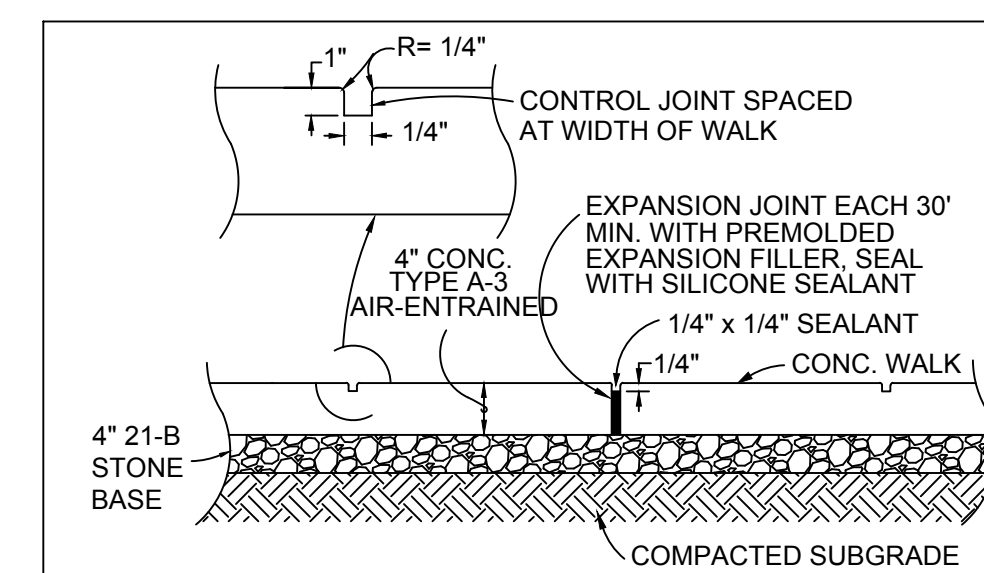


STANDARD DUTY PAVEMENT DETAIL  
NO SCALE

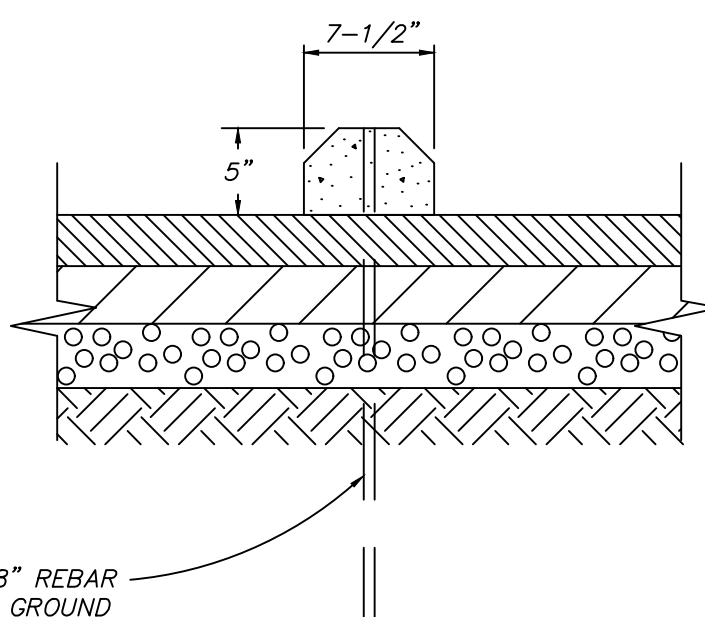
NOTE: THE PAVEMENT DETAIL, AS SHOWN IS THE RECOMMENDATION FROM A GEOTECHNICAL ENGINEERING STUDY OF STONY POINT SITE VI BY SCHNABEL ENGINEERING ASSOCIATES, INC. DATED JANUARY 28, 2016



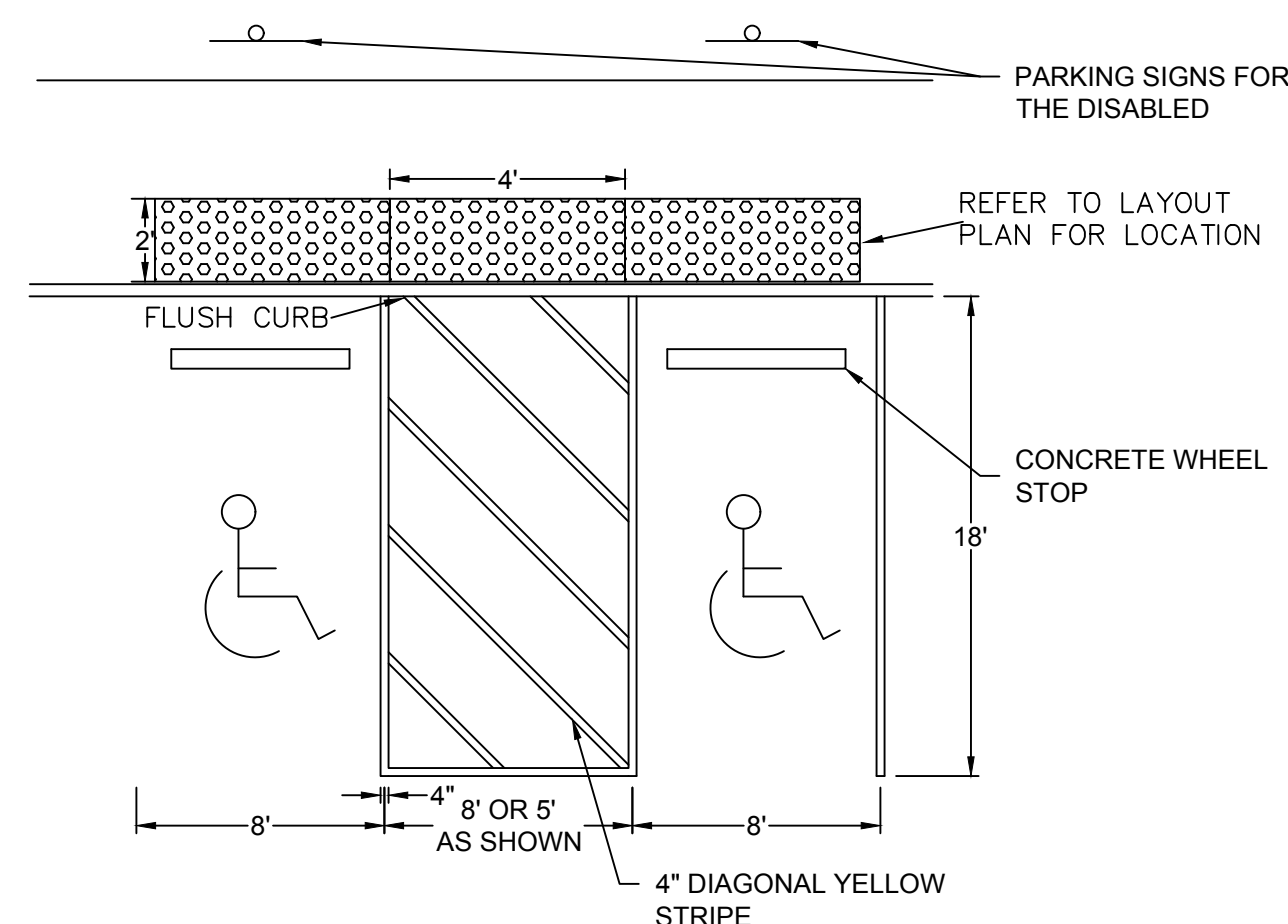
CURB CUT SECTION (BEHIND BLDG. 'C')  
NO SCALE



CONCRETE SIDEWALK DETAIL  
NO SCALE

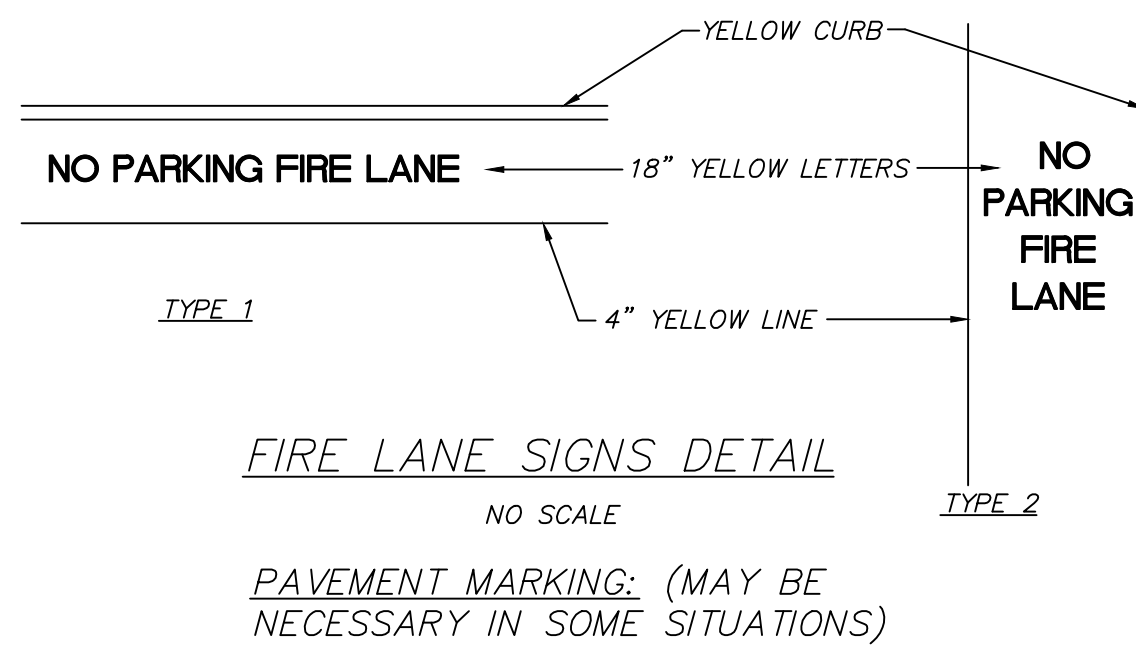
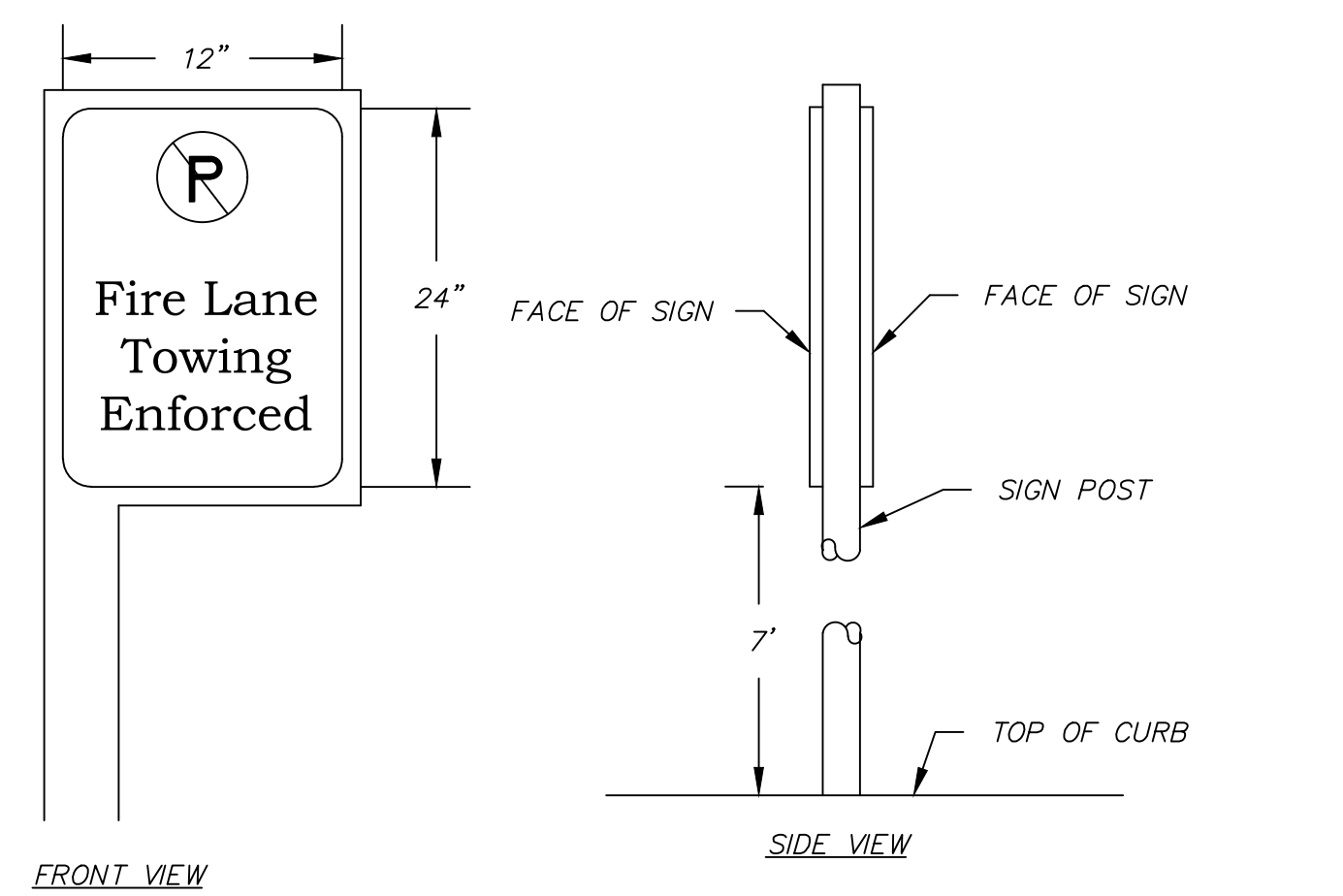


PRECAST BUMPER BLOCK  
AVAILABLE IN 4'-0" TO 8'-0" LENGTHS  
NO SCALE

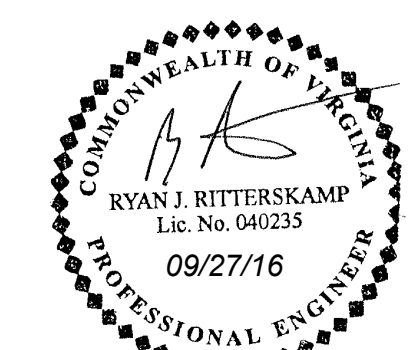


NOTE: FINISH GRADES SHALL NOT EXCEED 2.08% IN ANY DIRECTION WITHIN HANDICAP DESIGNATED PARKING SPACES AND LOADING AREAS

TYPICAL HANDICAP PARKING  
NO SCALE



FIRE LANE SIGNS DETAIL  
NO SCALE  
PAVEMENT MARKING: (MAY BE NECESSARY IN SOME SITUATIONS)



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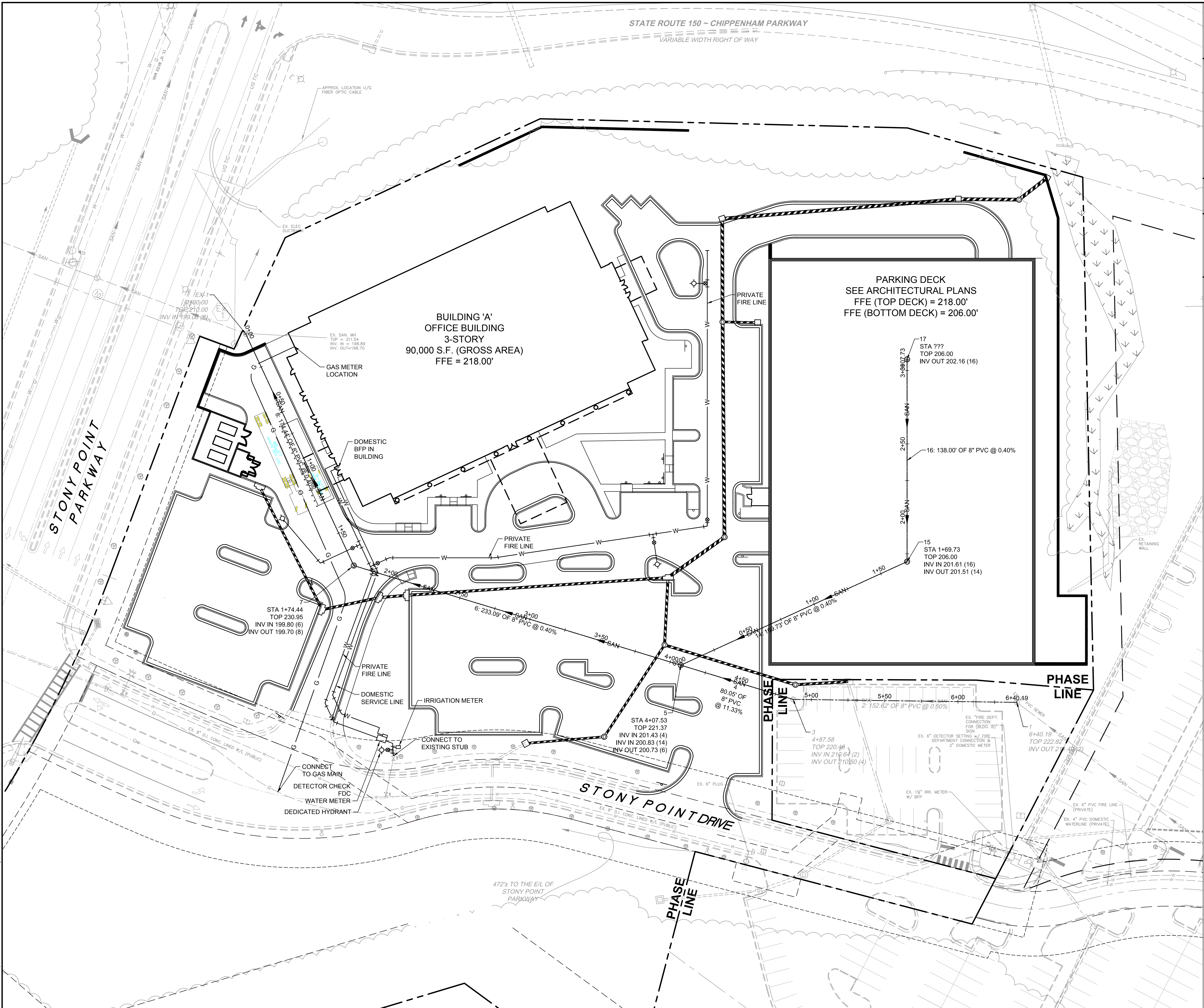
REVISION DESCRIPTION	DATE
	09/27/16
DATE	09/27/16
DRAWN BY	B. SHAMLIN
DESIGNED BY	R. RITTERSKAMP
CHECKED BY	R. RITTERSKAMP
SCALE	N/A

**TIMMONS GROUP**  
STONY POINT MAP 'F' - PHASE III - BUILDING A  
HUGUENOT DISTRICT - CITY OF RICHMOND - VIRGINIA  
SITE NOTES AND DETAILS

JOB NO.	37723
SHEET NO.	C3.1

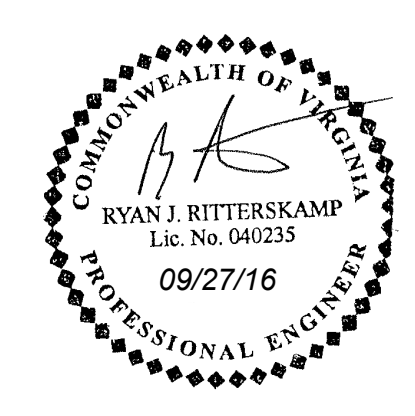
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- PROPOSED SANITARY SEWER LEGEND**
- ⊙ SANITARY MANHOLE
  - CLEANOUT
  - ▣ BACKFLOW PREVENTER
  - SANITARY SEWER
- PROPOSED WATER SUPPLY LEGEND**
- ⊙ GATE VALVE
  - ⊕ FIRE HYDRANT
  - ⊕ WATER METER
  - ⊕ PLUG
  - ⊕ TEE
  - ⊕ 45° BEND
  - ⊕ 90° BEND
  - ⊕ 22.5° BEND
  - WATER LINE
- EXIST SANITARY SEWER LEGEND**
- ⊙ SANITARY MANHOLE
  - SANITARY SEWER
- EXISTING WATER SUPPLY LEGEND**
- ⊕ GATE VALVE
  - ⊕ FIRE HYDRANT
  - ⊕ WATER METER
  - ⊕ TEE
  - WATER LINE

- NOTES:**
1. ALL PROPOSED UTILITIES ARE TO BE INSTALLED UNDERGROUND INCLUDING ELECTRIC, TELEPHONE, AND CATV.
  2. BEYOND THE WATER METER IT IS THE PLUMBER'S RESPONSIBILITY TO INSTALL WATER SERVICE AND THE WATER SERVICE WILL BE INSPECTED BY THE BUILDING INSPECTION OFFICE.
  3. BEYOND THE RIGHT OF WAY IT IS THE PLUMBER'S RESPONSIBILITY TO INSTALL THE SEWER LATERAL AND THE SEWER LATERAL WILL BE INSPECTED BY THE BUILDING INSPECTION OFFICE.
  4. CONNECTIONS TO EXISTING MANHOLES WITHOUT STUBS OR BRICKED OPENINGS SHALL BE THE EQUAL OF EITHER KOR-N-SEAL WITH STAINLESS STEEL EXPANDER RING OR PRESS-SEAL WITH NYLON EXPANDER SLEEVE INSTALLED BY CORE DRILLING MANHOLE AND IN STRICT ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
  5. 5' MINIMUM SEPARATION SHALL BE MAINTAINED BETWEEN SANITARY LATERALS AND DOMESTIC SERVICE LINES.
  6. ALL SANITARY MAINS ARE 8" SCHEDULE 40 PVC - ASTM F1488 AT MINIMUM 0.52% SLOPE UNLESS OTHERWISE NOTED.
  7. ALL WATER MAINS ARE 12" DUCTILE IRON CONCRETE (DIC) UNLESS OTHERWISE NOTED.
  8. ALL COMPLETE FIRE HYDRANT ASSEMBLIES ARE TO HAVE 12"x6" TEE AT MAIN, 6" GATE VALVE ON FIRE HYDRANT LEAD AND HYDRANT PER CITY OF RICHMOND DETAIL M-11.
  9. CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL UNDERGROUND UTILITIES BEFORE COMMENCING WITH WORK.
  10. THE LOWER LEVEL DECK DRAINS TO THE SANITARY SEWER SYSTEM AND THE UPPER LEVEL DECK DRAINS TO THE STORM SEWER SYSTEM.



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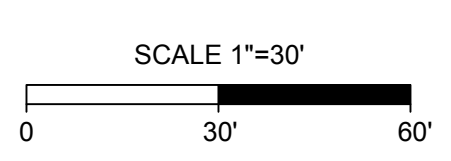
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**STONY POINT MAP 'F' - PHASE III - BUILDING A**  
 HUGUENOT DISTRICT - CITY OF RICHMOND - VIRGINIA  
 UTILITY PLAN

JOB NO.	37723
SHEET NO.	C4.0



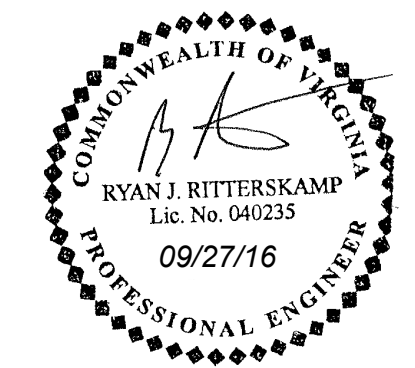
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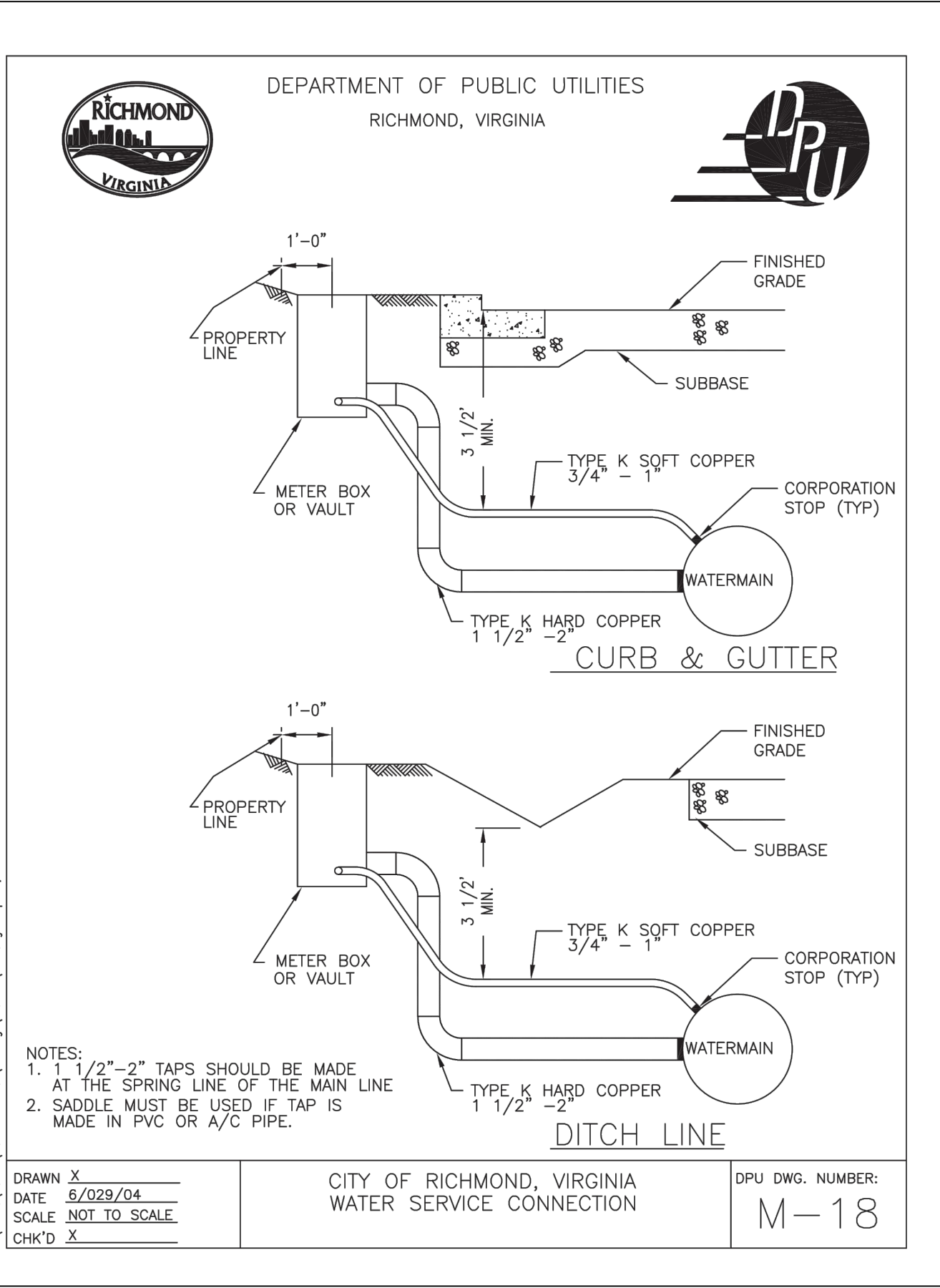
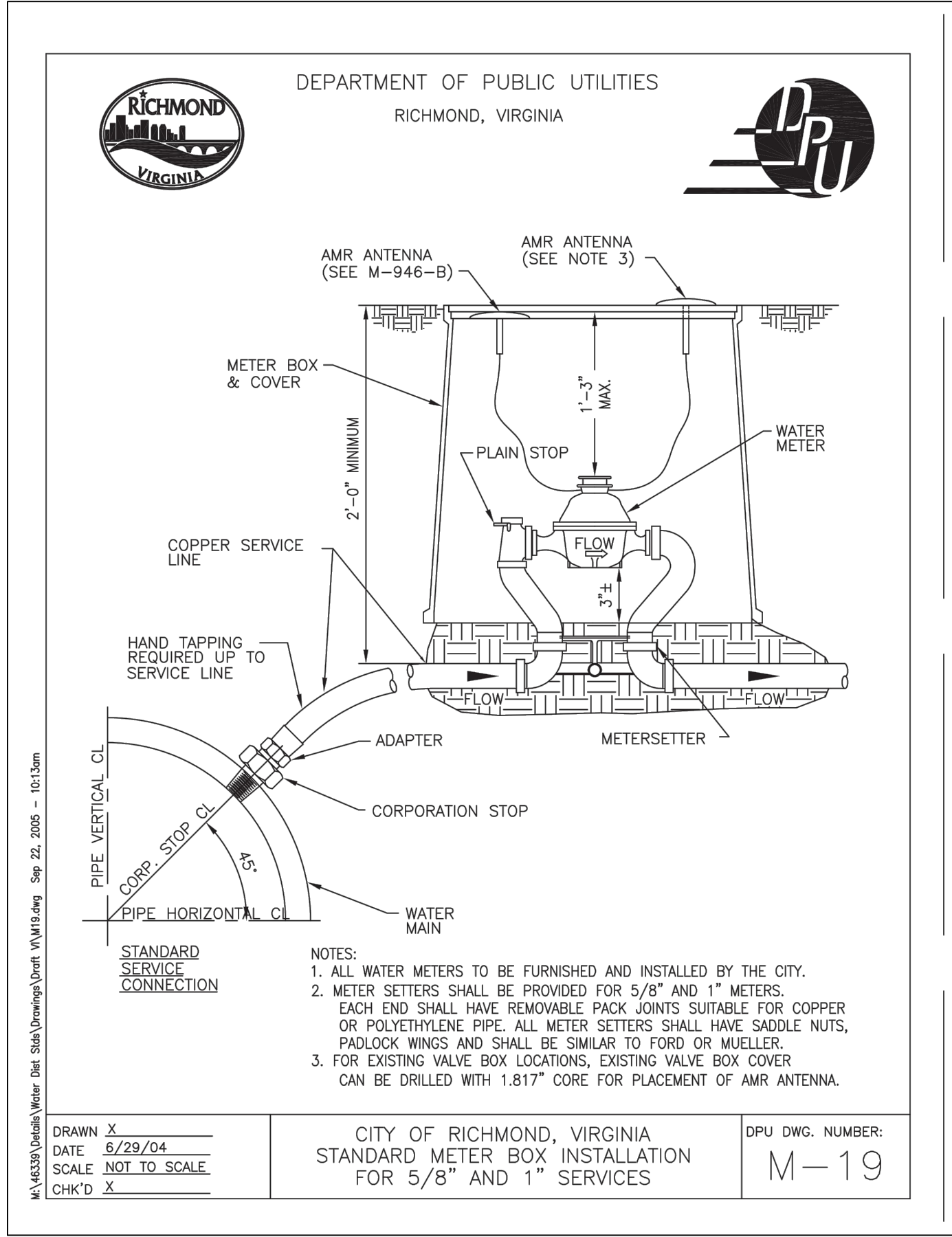
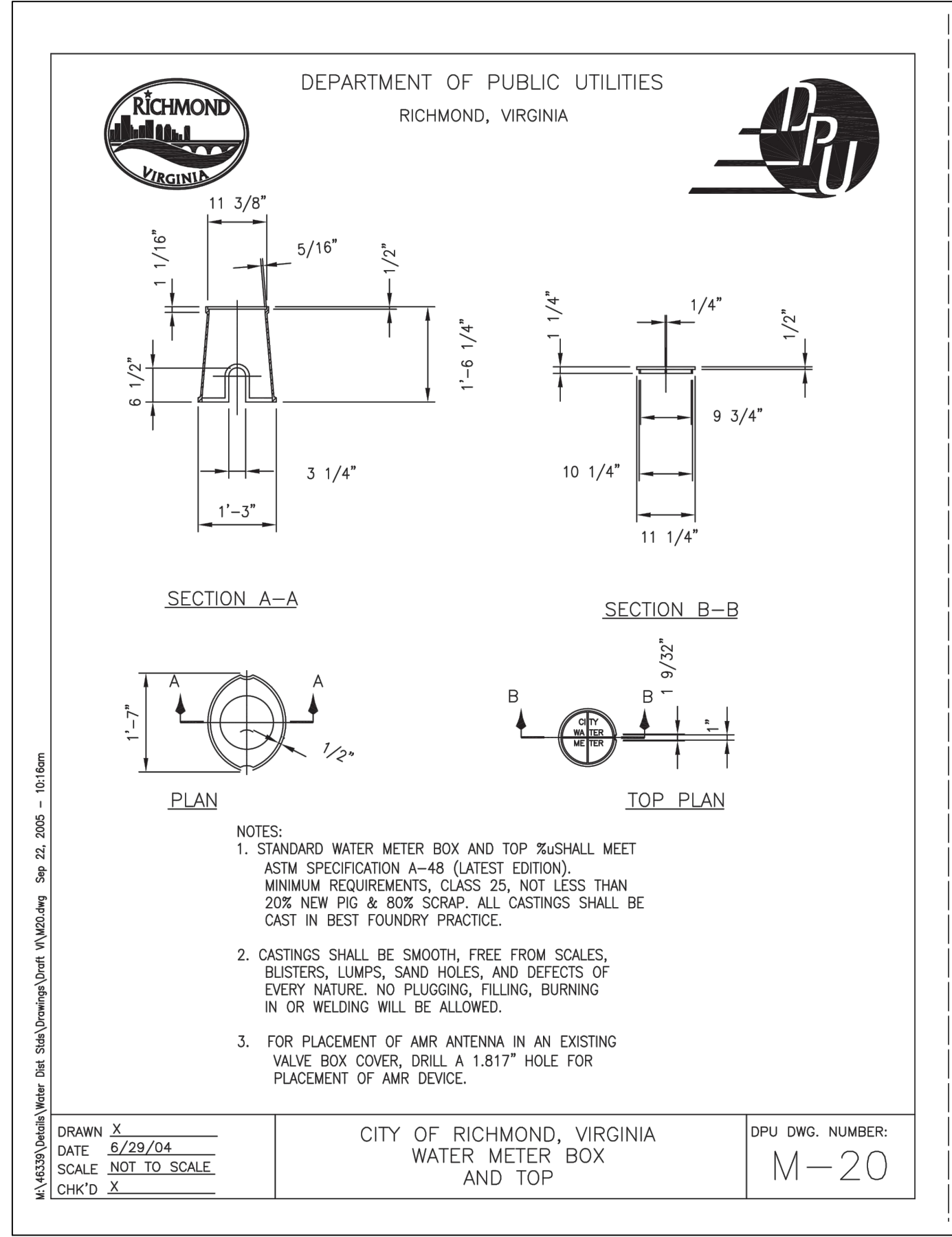
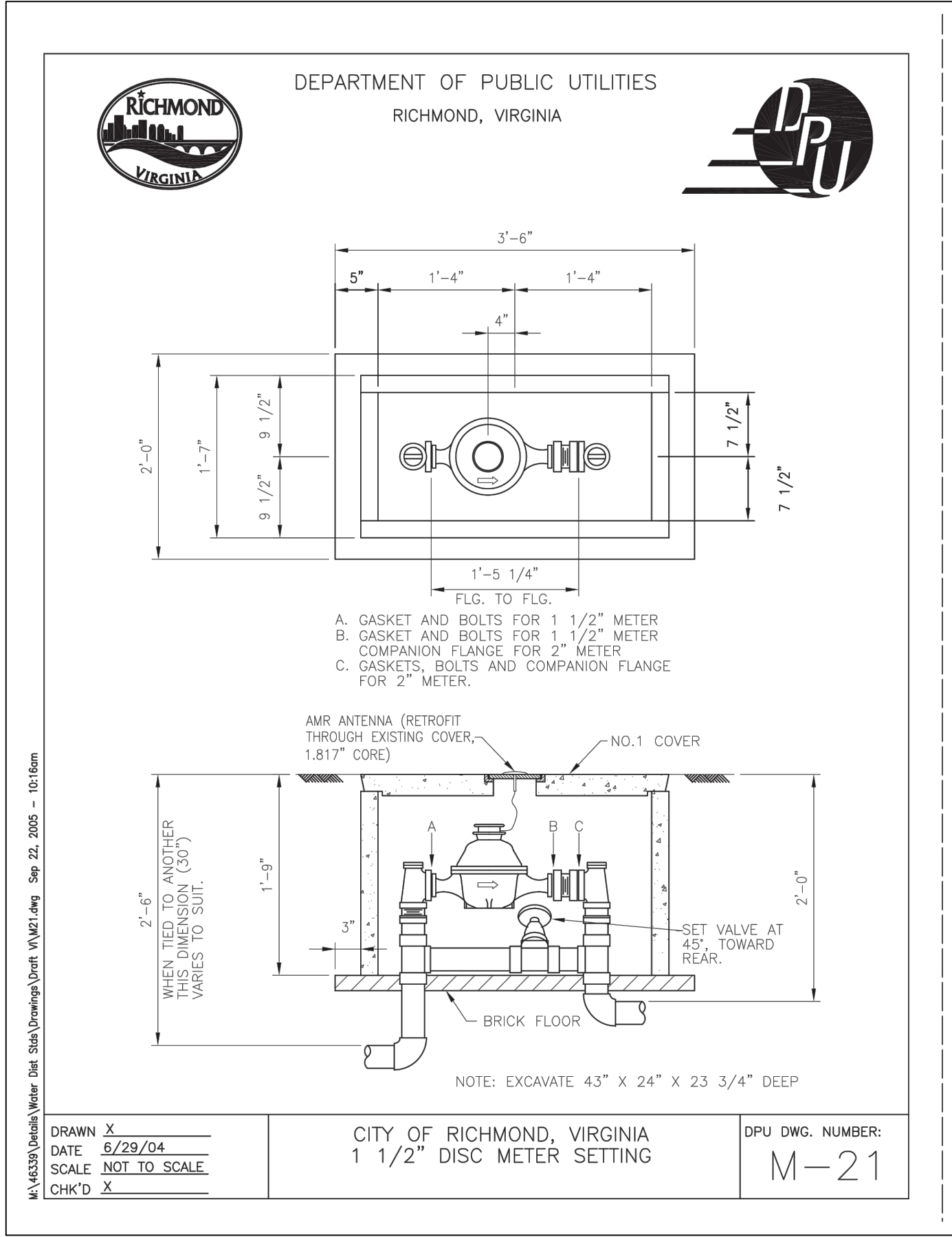
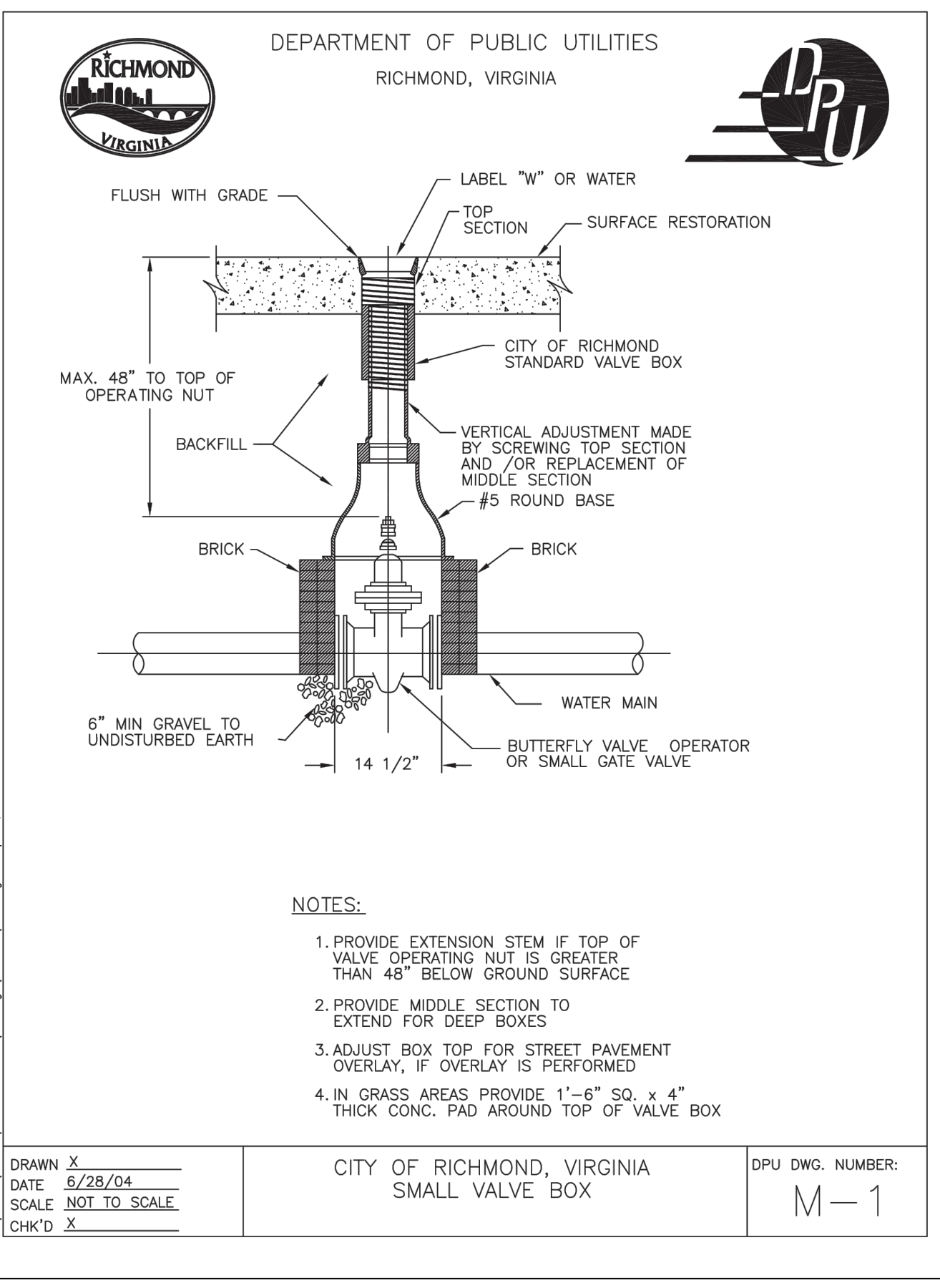
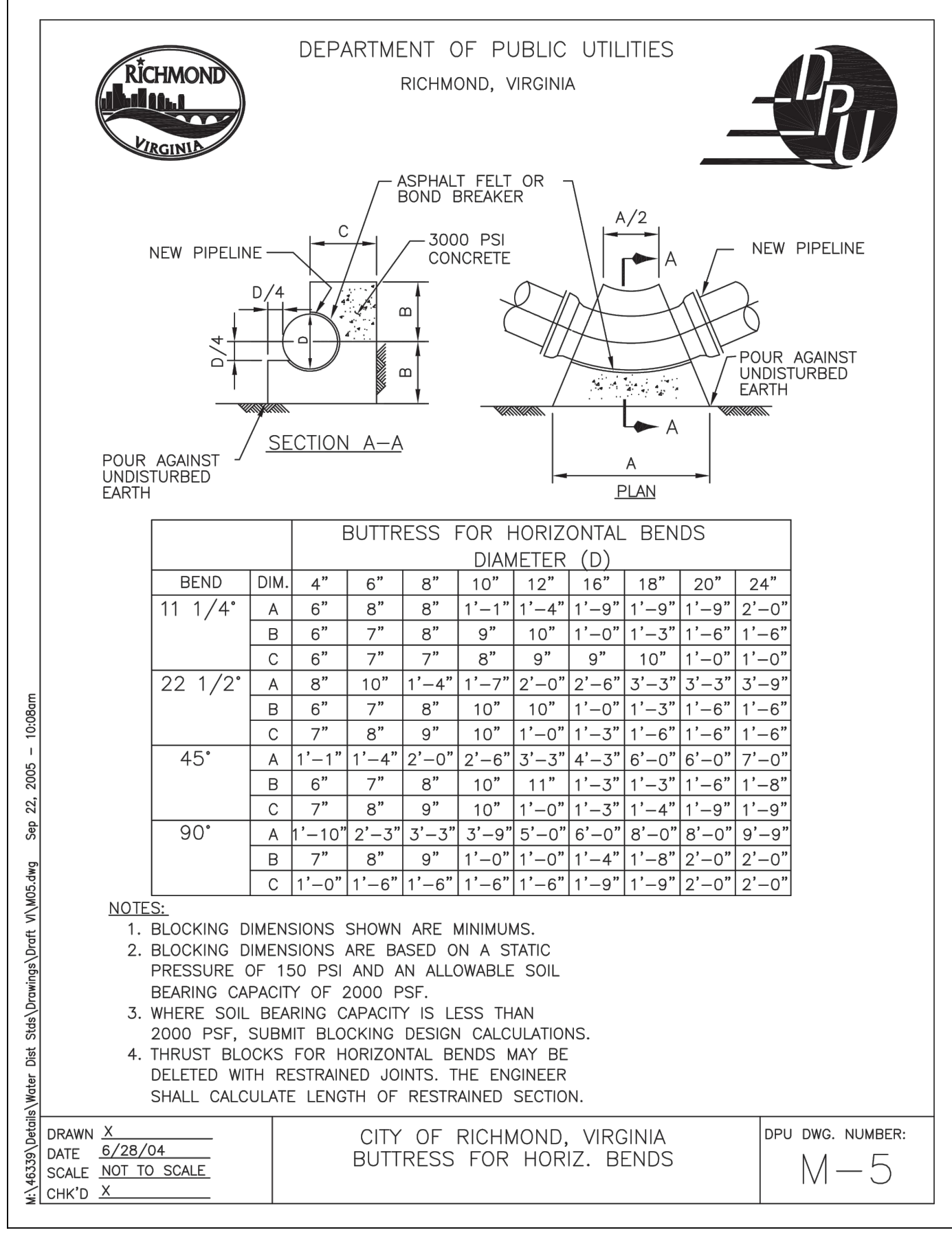
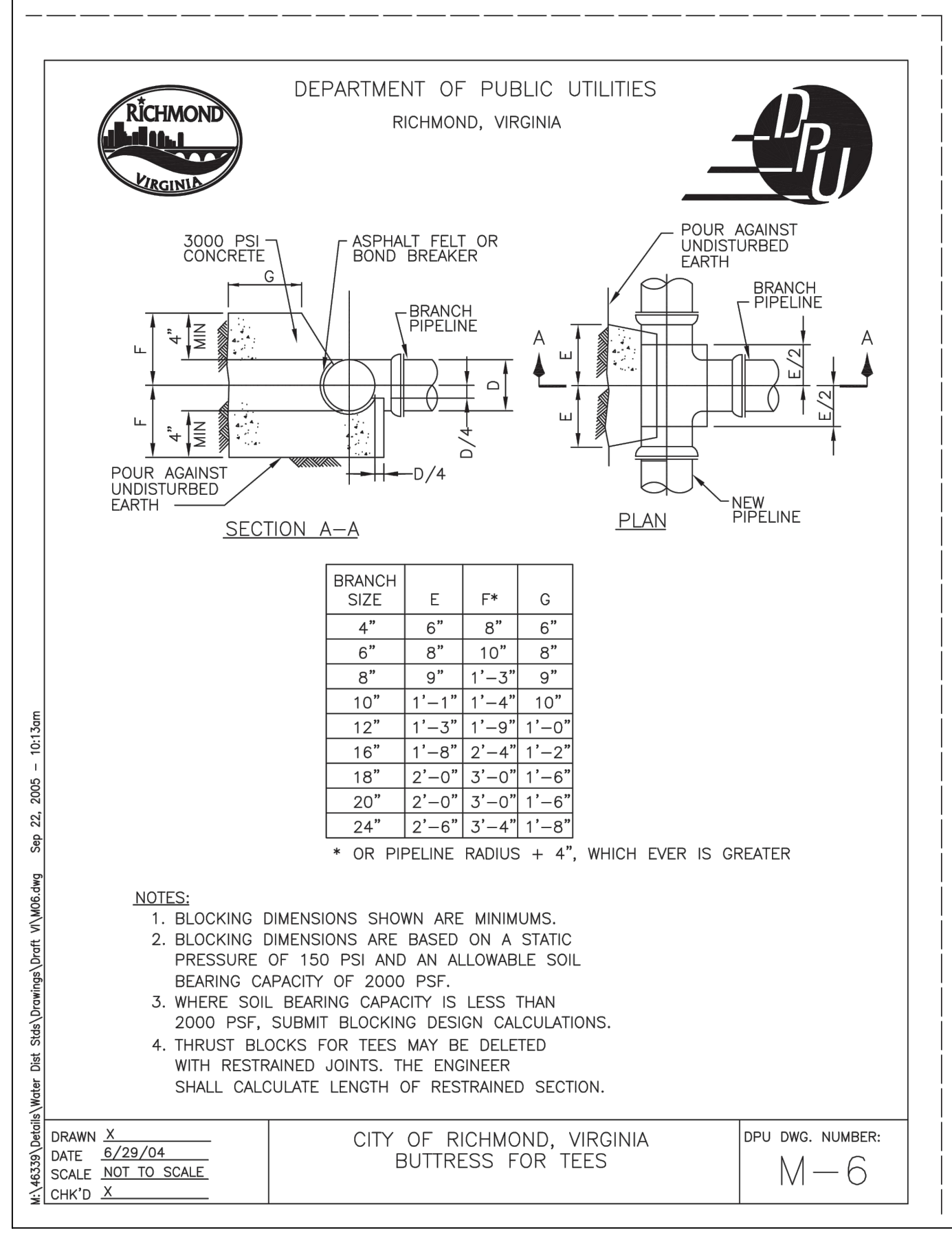
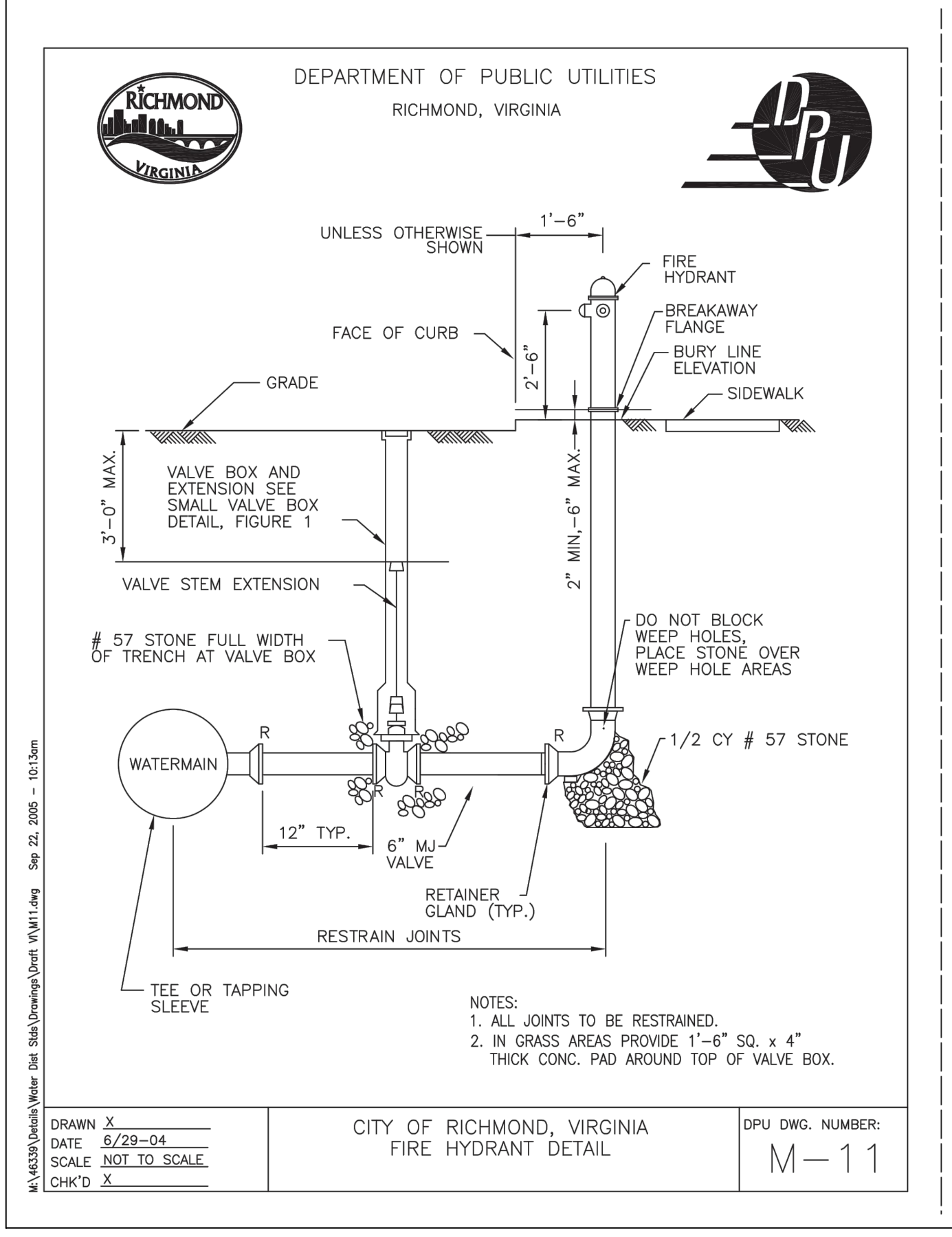
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DATE	REVISION DESCRIPTION
09/27/16 <td></td>	

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STONY POINT MAP 'F' - PHASE III - BUILDING A  
HUGENOT DISTRICT - CITY OF RICHMOND - VIRGINIA  
UTILITY NOTES AND DETAILS

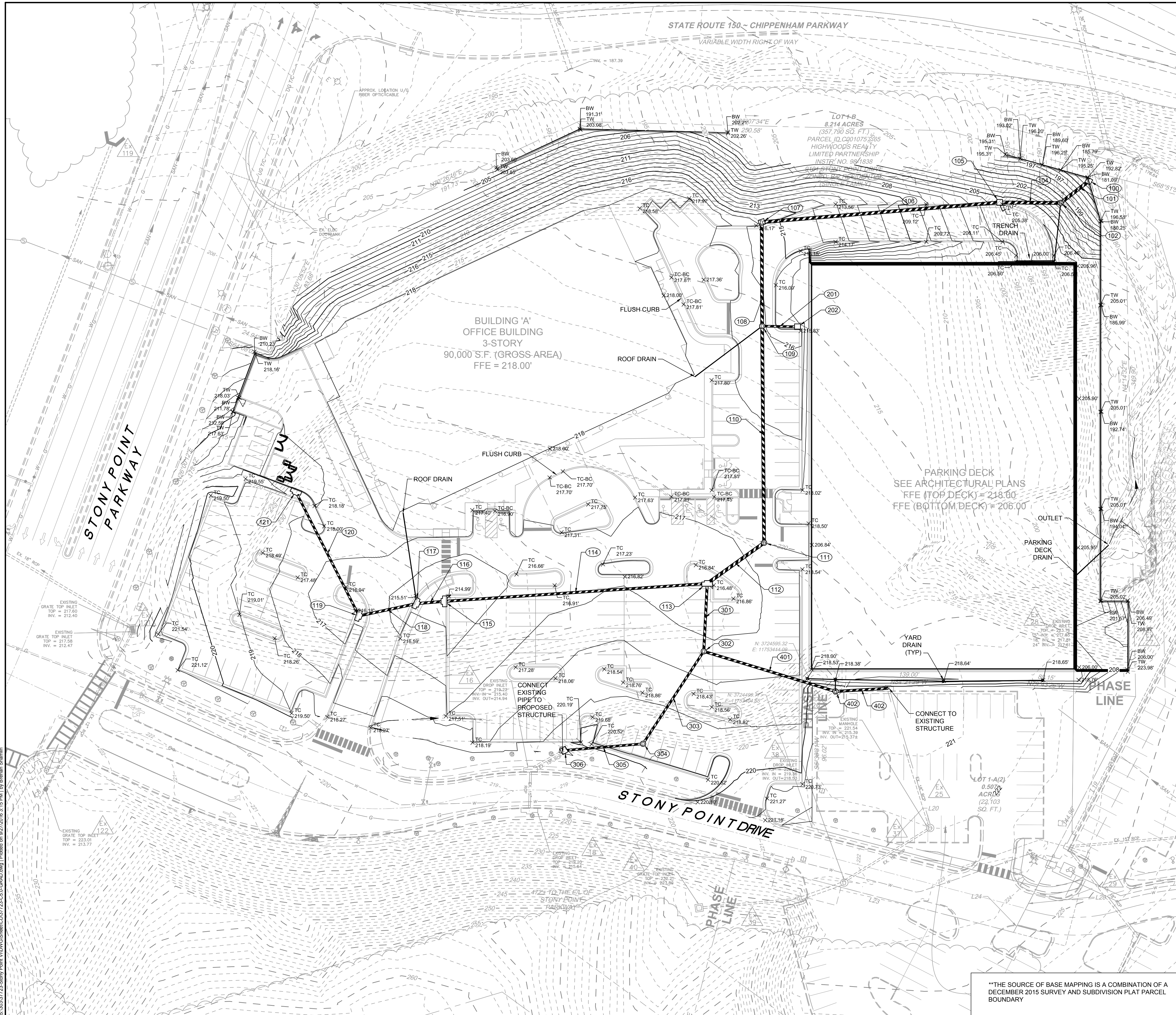
JOB NO. 37723  
SHEET NO. C4.2











STATE ROUTE 150 - CHIPPENHAM PARKWAY  
VARIABLE WIDTH RIGHTS OF WAY

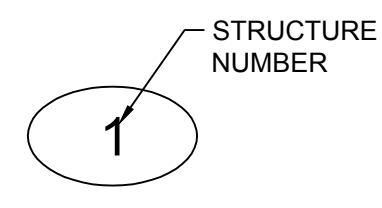
BUILDING 'A'  
OFFICE BUILDING  
3-STORY  
90,000 S.F. (GROSS AREA)  
FFE = 218.00'

PARKING DECK  
SEE ARCHITECTURAL PLANS  
FFE (TOP DECK) = 218.00'  
FFE (BOTTOM DECK) = 206.00'

GRADING LEGEND

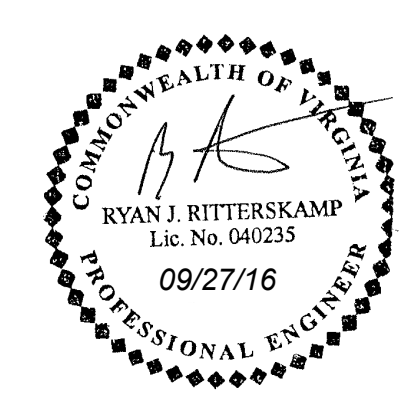
- 32 — EXISTING CONTOURS
- 34 — PROPOSED CONTOURS
- × 31.66 EXISTING SPOT GRADE
- × 34.25 PROPOSED SPOT GRADE
- × TC 34.25 PROPOSED TOP OF CURB
- × EP 34.25 PROPOSED EDGE OF PAVEMENT
- × TW 34.25 PROPOSED TOP OF WALL
- × BW 34.25 PROPOSED BOTTOM OF WALL

STORM SEWER LEGEND



NOTES

1. ON THE 3:1 SLOPES EROSION CONTROL MATTING IS REQUIRED DURING CONSTRUCTION. PERMANENT SLOPE STABILIZATION MEASURES MAY BE REQUIRED IF LANDSCAPING AND SEEDING FAIL TO STABILIZE SLOPE.
2. FINISHED GRADE OUTSIDE OF BUILDING SHALL BE A MINIMUM OF 8" BELOW FINISHED FLOOR ELEVATION OF BUILDING, UNLESS OTHERWISE NOTED.
3. PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDING FOUNDATION AT ALL TIMES.
4. ALL STORM PIPES ARE TO BE INSTALLED PER THE LATEST CITY OF RICHMOND STANDARD AND VDOT ROAD AND BRIDGE STANDARDS AND DETAILS.
5. ACCESSIBLE PARKING SPACES MUST MEET ADA STANDARDS AND HAVE A MAXIMUM SLOPE OF 2.00% IN ANY DIRECTIONS.
6. ACCESSIBLE ROUTES AND SIDEWALKS MUST MEET ADA STANDARDS AND HAVE A MAXIMUM CROSS SLOPE OF 2.00%.
7. BOTTOM OF WALL ELEVATIONS REPRESENT FINISHED GRADE ELEVATIONS. SEE RETAINING WALL PLANS FOR FOUNDATION DETAILS.



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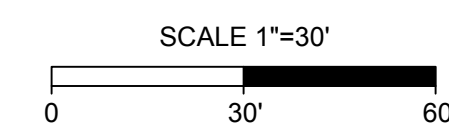
DATE	DESCRIPTION
09/27/16	DRAWN BY R. HEWITT
	DESIGNED BY R. RITTERSKAMP
	CHECKED BY R. RITTERSKAMP
	SCALE 1" = 30'

# TIMMONS GROUP

STONY POINT MAP 'F' - PHASE III - BUILDING A  
HUGUENOT DISTRICT - CITY OF RICHMOND - VIRGINIA  
GRADING & DRAINAGE PLAN

JOB NO.	37723
SHEET NO.	C5.0

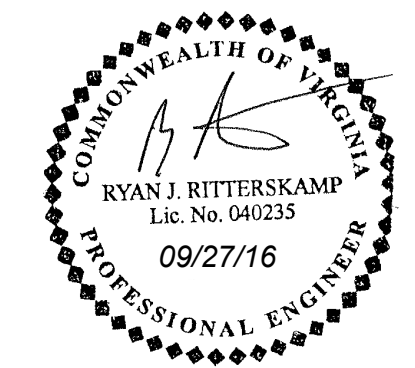
\*\*THE SOURCE OF BASE MAPPING IS A COMBINATION OF A DECEMBER 2015 SURVEY AND SUBDIVISION PLAT PARCEL BOUNDARY



S:\03037723-Stony Point VTDWG\Sheets\C5.0-GRAD.dwg | Plotted on 09/27/2016 8:15 PM | by Brian Shamlin

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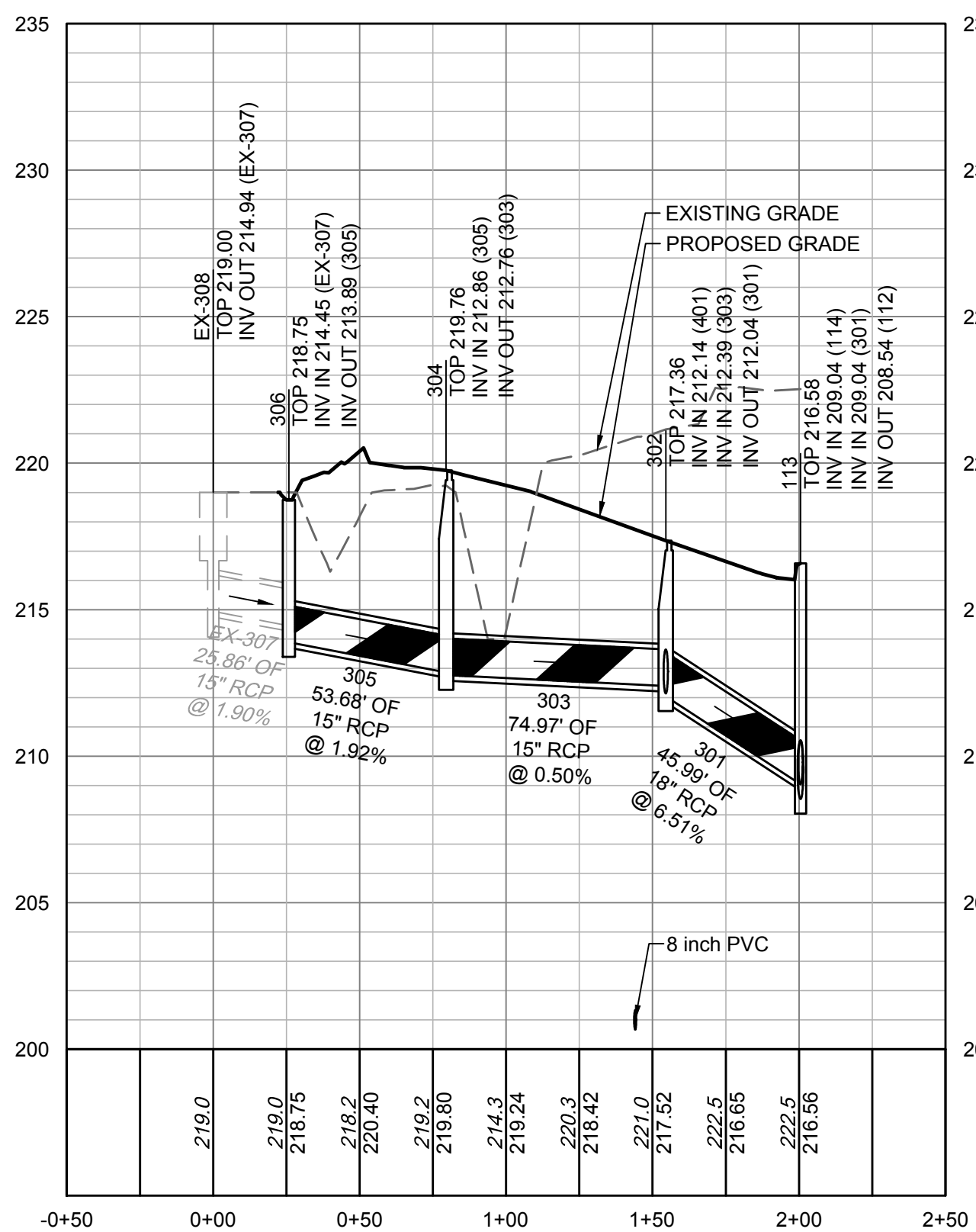
SCALE:  
 H: 1" = 50'  
 V: 1" = 5'

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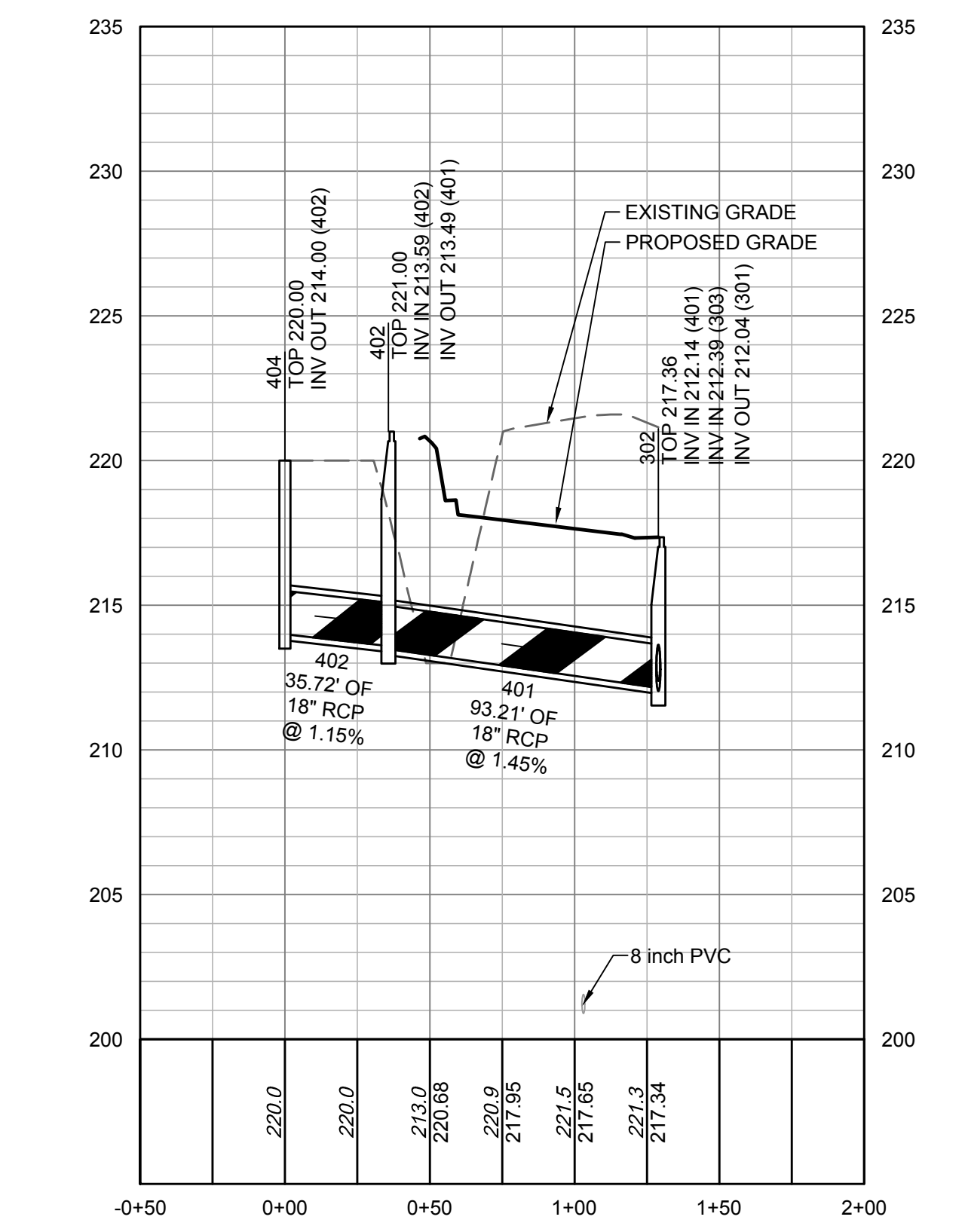
STONY POINT MAP 'F' - PHASE III - BUILDING A  
 HUGUENOT DISTRICT - CITY OF RICHMOND - VIRGINIA  
 STORM SEWER PROFILES & CALCULATIONS

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 SHEET NO. C5.1

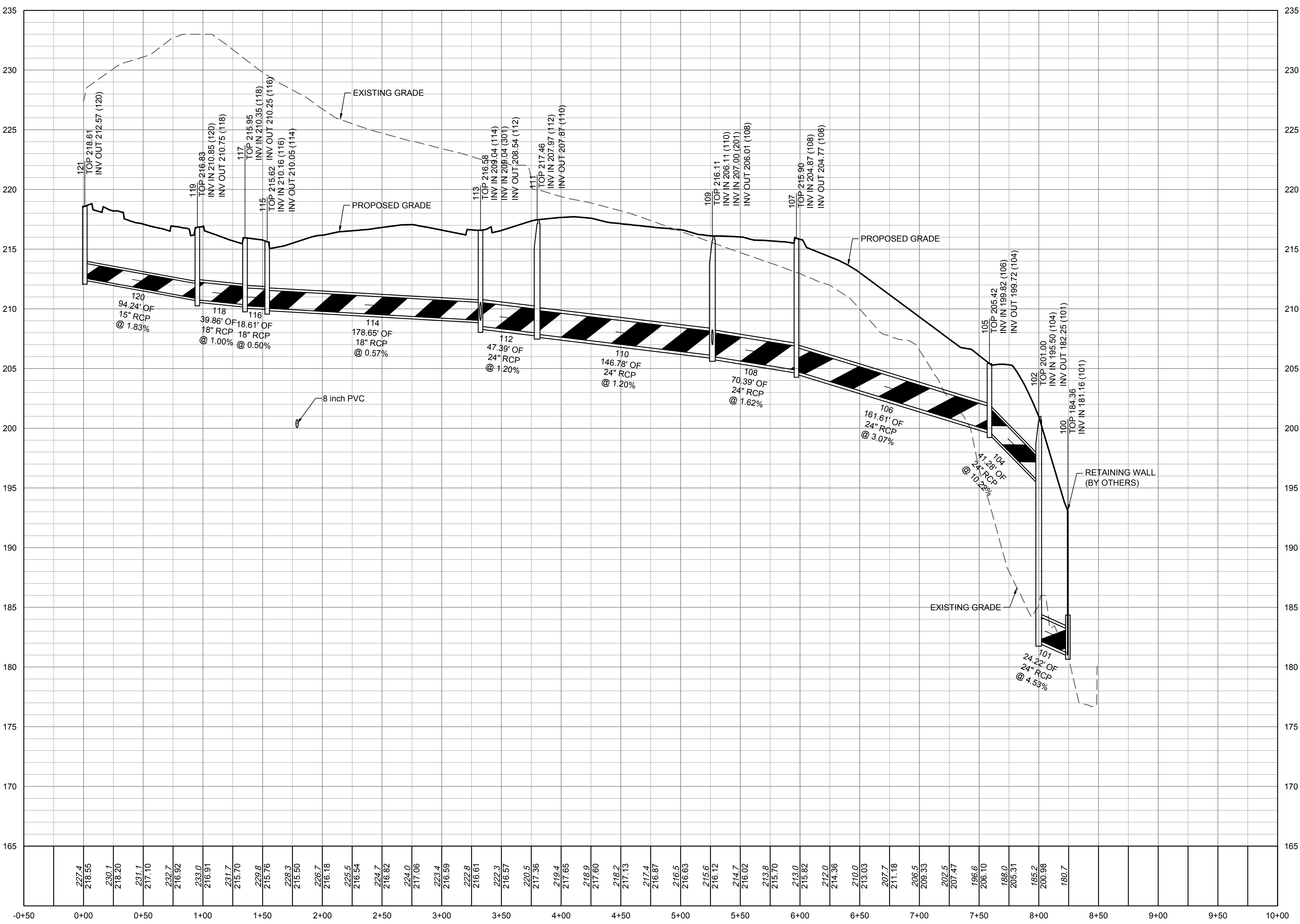
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**STORM SEWER EX 308 TO 113**  
 HORIZ SCALE: 1"=50'  
 VERT SCALE: 1"=5'



**STORM SEWER 404 TO 302**  
 HORIZ SCALE: 1"=50'  
 VERT SCALE: 1"=5'



**STORM SEWER 121 TO 100**  
 HORIZ SCALE: 1"=50'  
 VERT SCALE: 1"=5'

**37723-Storm Sewer**  
**STORM SEWER DESIGN COMPUTATIONS**

STORM FREQUENCY **10**

PROJECT: STONY POINT MAP 'F' PHASE III - BUILDING A  
 LOCATION: CITY OF RICHMOND, VIRGINIA  
 Designed by: B. PULSIFER  
 Checked by: R. RITTERSKAMP

UNITS **ENGLISH**

PIPE NO	FROM POINT REFERENCE	TO POINT REFERENCE STA.	DRAIN AREA (Ac)	COEFF (C)	INCRE (In)	ACCUM (In)	CA (CA)	ADDTL (CA)	TOTAL INLET TIME (Mins)	RAIN FALL (In)	RUNOFF Q (CFS)	INVERT ELEVATIONS		LENGTH (ft)	SLOPE (ft/ft)	SIZE (Dia. Or Span)	SHAPE	Capacity (CFS)	Friction Slope (ft/ft)	VEL (ft/s)	FLOW TIME (Sec)
												UPPER END (10)	LOWER END (11)								
EX-307	EX-308	306	1.250	0.400	0.500	0.500	0.000	14.000	4.973	2.487	214.940	214.449	25.859	0.019	15.000	Circular	8.902	0.001	6.231	0.069	
305	306	304	0.060	0.630	0.038	0.538	0.000	14.069	4.973	2.674	213.888	212.860	53.678	0.019	15.000	Circular	8.939	0.002	6.376	0.140	
303	304	302	0.000	0.000	0.000	0.538	0.000	14.209	4.942	2.658	212.765	212.390	74.969	0.005	15.000	Circular	4.566	0.002	3.870	0.323	
402	404	402	0.590	0.780	0.460	2.006	1.546	14.280	4.942	9.913	214.000	213.589	35.718	0.011	18.000	Circular	11.262	0.009	7.209	0.083	
401	402	302	0.000	0.000	0.000	2.006	0.000	14.363	4.927	9.883	213.490	212.140	93.213	0.014	18.000	Circular	12.639	0.009	7.931	0.196	
301	302	113	0.000	0.000	0.000	2.544	0.000	14.558	4.897	12.456	212.035	209.040	45.990	0.065	18.000	Circular	26.801	0.014	14.921	0.051	
120	121	119	0.190	0.900	0.171	0.171	0.000	5.000	7.074	1.210	212.570	210.850	94.242	0.018	15.000	Circular	8.725	0.000	5.010	0.314	
118	119	117	0.400	0.790	0.316	0.487	0.000	5.314	6.979	3.399	210.749	210.350	39.860	0.010	18.000	Circular	10.502	0.001	5.314	0.125	
116	117	115	0.820	0.650	0.533	1.020	0.000	14.000	4.973	5.072	210.253	210.160	18.609	0.005	18.000	Circular	7.426	0.002	4.533	0.068	
114	115	113	0.550	0.740	0.407	1.427	0.000	14.068	4.973	7.096	210.054	209.036	178.650	0.006	18.000	Circular	7.929	0.005	5.087	0.585	
112	113	111	0.820	0.900	0.738	4.709	0.000	14.654	4.882	22.988	208.536	207.967	47.395	0.012	24.000	Circular	24.779	0.010	8.979	0.088	
110	111	109	0.000	0.000	0.000	4.709	0.000	14.742	4.868	22.922	207.870	206.109	146.779	0.012	24.000	Circular	24.779	0.010	8.977	0.273	
201	202	109	0.130	0.900	0.117	0.117	0.000	5.000	7.074	0.828	209.370	207.000	23.940	0.099	15.000	Circular	20.318	0.000	8.134	0.049	
108	109	107	0.000	0.000	0.000	5.492	0.666	15.014	4.824	26.492	206.010	204.870	70.387	0.016	24.000	Circular	28.790	0.014	10.424	0.113	
106	107	105	0.030	0.900	0.027	5.519	0.000	15.127	4.810	26.545	204.770	199.816	161.613	0.031	24.000	Circular	39.601	0.014	13.541	0.199	
104	105	102	0.310	0.800	0.248	6.856	1.089	15.326	4.782	32.784	199.720	195.500	41.282	0.102	24.000	Circular	72.317	0.021	22.502	0.031	
101	102	100	0.020	0.350	0.007	6.863	0.000	15.356	4.782	32.817	182.253	181.156	24.217	0.045	24.000	Circular	48.142	0.021	16.523	0.024	

**37723-Storm Sewer**  
**HYDRAULIC GRADE LINE ANALYSIS**

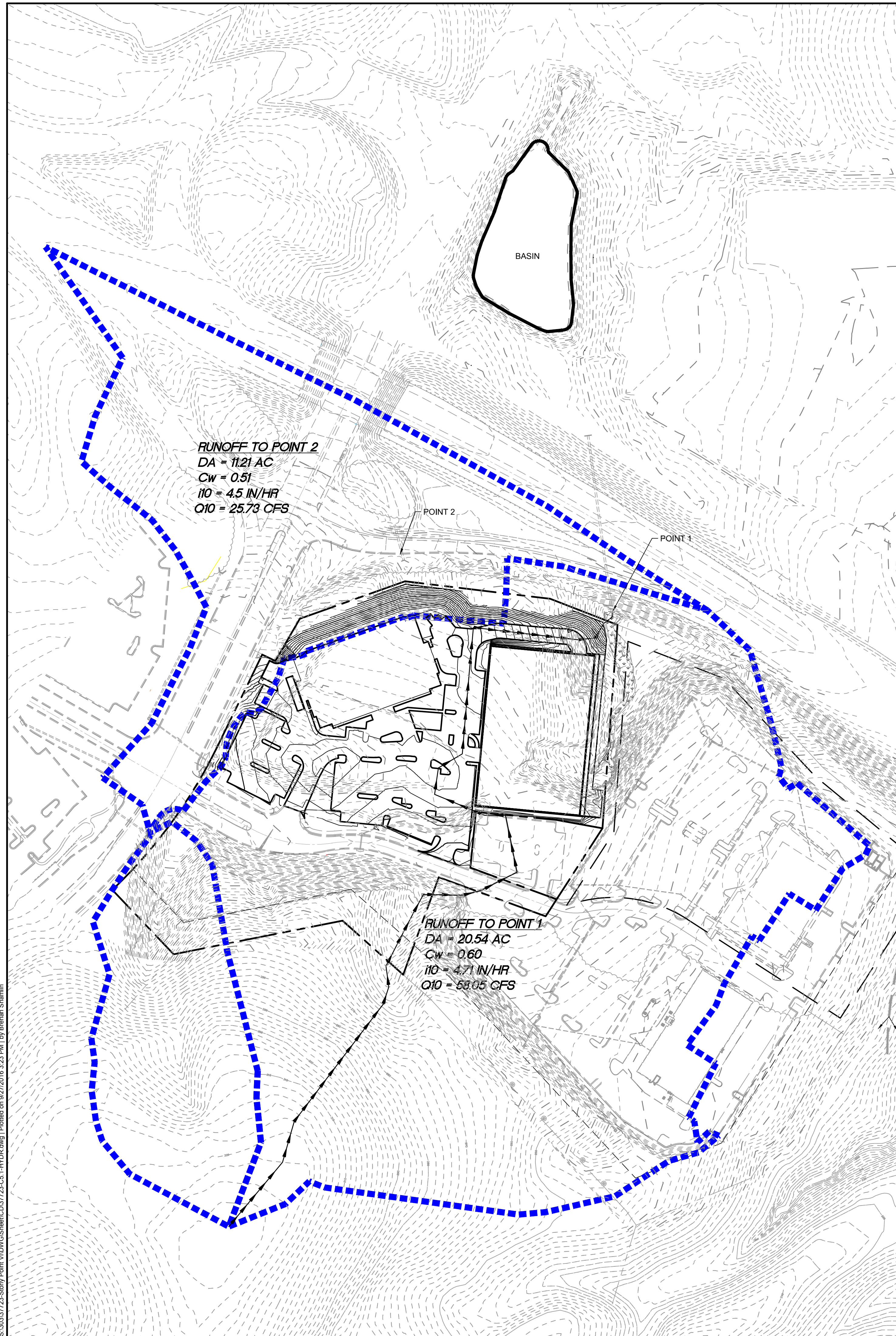
PROJECT: STONY POINT MAP 'F' PHASE III - BUILDING A

DESIGNED BY: B. PULSIFER  
 Checked: R. RITTERSKAMP

INCIDENCE PROBABILITY **10** Year

INLET OR JUNCTION	OUTLET WATER SURFACE ELEV (ft)	DIA PIPE (In)	DESIGN DISCH (CFS)	LENGTH (ft)	FRICTION LOSS (ft/ft)	FRICTION LOSS (ft)	JUNCTION LOSS										Inlet Surface Elevation (ft)	Rim Elev (ft)	Comments				
							Vo	Hb	Qi	Vi	GVI	Vf2g2	H	Angle	H5	Ht				Ht	HE	FRAL	
102	182.78	24	32.82	24.22	2.10%	0.51	16.52	1.06	32.78	22.5	737.71	7.86	2.75	38.47	3.38	7.19	0	TRUE	4.11	188.87	201	OK	-14.13
105	197.1	24	32.78	41.28	2.10%	0.87	22.5	1.97	26.54	13.54	359.45	2.85	1	5.26	0.17	3.13	0	TRUE	2.43	199.53	205.42	OK	-5.88
107	201.42	24	26.54	161.61	1.38%	2.23	13.54	0.71	26.49	10.42	276.15	1.69	0.59	94.56	1.18	2.48	0	TRUE	3.47	204.88	215.9	OK	-11.01
109	206.47	24	26.49	70.39	1.37%	0.97	10.42	0.42	22.92	8.98	205.76	1.25	0.44	0	0	0.86	0	TRUE	1.4	207.86	216.11	OK	-8.24
111	207.86	24	22.92	146.78	1.03%	1.51	8.98	0.31	22.99	8.98	206.42	1.25	0.44	54.86	0.63	1.38	0	TRUE	2.2	210.06	217.46	OK	-7.4
113	210.06	24	22.99	47.39	1.03%	0.49	8.98	0.31	12.46	14.92	185.87	3.46	1.21	51.43	1.73	3.25	0	FALSE	3.74	213.8	216.58	OK	-2.78
302	213.8	18	12.46	45.99	1.41%	0.65	14.92	0.86	9.88	7.93	78.39	0.98	0.34	75.97	0.64	1.85	0	FALSE	2.5	216.3	217.36	OK	-1.06
304	216.3	15	2.66	74.97	0.17%	0.13	3.87	0.06	2.67	6.38	17.05	0.63	0.22	51.85	0.32	0.59	0	TRUE	0.42	216.72	219.76	OK	-3.03
306	216.72	15	2.67	53.88	0.17%	0.09	6.38	0.16	2.49	8.23	15.49	0.6	0.21	24.42	0.18	0.55	0	TRUE	0.37	217.09	218.75	OK	-1.66
EX-308	217.09	15	2.49	25.86	0.15%	0.04	6.23	0.15	0	0	0	0	0	0	0.15	0.2	FALSE	0.23	217.32	219	OK	-1.68	
202	208	15	0.83	23.94	0.02%	0	8.13	0.26	0	0	0	0	0	0	0	0.26	0.33	FALSE	0.34	208.34	216.53	OK	-8.19
115	213.8	18	7.1	178.65	0.46%	0.82	5.09	0.1	5.07	4.53	22.99	0.32	0.11	0.73	0	0.21	0.28	TRUE	0.95	214.75	215.62	OK	-0.86
117	214.75	18	5.07	18.61	0.23%	0.04	4.53	0.08	3.4	5.31	18.06	0.44	0.15	7.46	0.03	0.26	0.34	TRUE	0.21	214.97	215.95	OK	-0.98
119	214.97	18	3.4	39.86	0.10%	0.04	5.31	0.11	1.21	5.01	6.06	0.39	0.14	75.09	0.26	0.5	0.65	TRUE	0.37	215.34	216.83	OK	-1.5
121	215.34	15	1.21	94.24	0.04%	0.03	5.01	0.1	0	0	0	0	0	0	0.1	0.13	FALSE	0.16	215.5	218.61	OK	-3.11	
402	216.3	18	9.88	93.21	0.89%	0.83	7.93	0.24	9.91	7.21	71.47	0.81	0.28	20.43	0.2	0.73	0	FALSE	1.55	217.85	221	OK	-3.15
404	217.85	18	9.91	35.72	0.89%	0.32	7.21	0.2	0	0	0	0	0	0	0.2	0.26	FALSE	0.58	218.43	220	OK	-1.57	





**EXISTING SWM/BMP RETENTION BASIN (4 times WQV with 50% Removal Efficiency) - STONY POINT PARCEL E - STORMWATER QUALITY LEDGER**

	IMPERVIOUS COVER WITHIN CBPA RMA **SEE NOTE 1** (ACRES)	IMPERVIOUS COVER WITHIN VSMP AREA *SEE NOTE 2** (ACRES)	POLLUTANT REMOVAL REQUIREMENT (LBS PER YEAR)	IMPERVIOUS COVER DRAINING TO RETENTION BASIN (ACRES)	PERVIOUS COVER DRAINING TO RETENTION BASIN (ACRES)	TP REMOVAL CREDIT FROM IMPERVIOUS COVER (LBS PER YEAR)	TP REMOVAL CREDIT FROM PERVIOUS COVER (LBS PER YEAR)
<b>MAP PARCEL E</b>							
MCV Oncology Expansion	0	N/A	0	1.00	1.96	1.08	0.11
Richmond Medical Commons	2.54	N/A	4.3	4.64	0.97	5.03	0.06
Stony Point III and IV	0.62	N/A	1.1	9.08	7.16	9.83	0.41
<b>MAP PARCEL F</b>							
Phase I (Bldg B)	0	N/A	0	2.29	1.12	2.48	0.06
Phase II (Bldg C)	N/A	3.86	5.9	3.18	1.19	3.44	0.07
Phase III (Bldg A)	N/A	3.92	6.2	3.92	1.05	4.25	0.06
			sum:	17.5	sum:	26.1	0.8

**TP Removal Requirement = 17.5**      **Potential TP Removal Credit = 26.88**

**NOTES:**

- 1) City of Richmond's CBPA Ordinance applies to projects constructed prior to January 2005.
- 2) VA DEQ's VSMP Part IIC Technical Criteria applies to projects constructed after January 2005.
- 3) In order to utilize the entire potential TP removal credit of 26.88 lbs. per year, the actual water quality volume within the existing retention basin was field verified and increased as necessary. (See Stony Point Parcel 'F' - Phase II plans for reference)

**PERFORMANCE-BASED WATER QUALITY CALCULATIONS - APPENDIX 5D**

**Worksheet 2: Situation 2**  
 Page 1 of 4

Summary of Situation 2 criteria: from calculation procedure STEP 1 thru STEP 3, Worksheet 1:

Applicable area (A)\* = 5.6 acres

$$I_{post} = (\text{total post-development impervious cover} \div A) \times 100 = \frac{70}{5.6} \%$$

$$I_{existing} = \frac{16}{5.6} \%$$

$$I_{existing} = (\text{total existing impervious cover} \div A) \times 100 = \frac{16}{5.6} \%$$

$$I_{post} - I_{existing} = \frac{70}{5.6} \% - \frac{16}{5.6} \% = 16.43 \%$$

$$I_{post} - I_{existing} = 16.43 \%$$

**STEP 4 Determine the relative pre-development pollutant load (L<sub>pre</sub>).**

$$L_{pre} = [0.05 + (0.009 \times I_{existing})] \times A \times 2.28 \text{ (Equation 5-16)}$$

where:  $L_{pre}$  = relative pre-development total phosphorous load (pounds per year)  
 $I_{existing}$  = average land cover condition for specific watershed or locality or the Chesapeake Bay default value of 16% (percent expressed in whole numbers)  
 A = applicable area (acres)

$$L_{pre} = [0.05 + (0.009 \times 16)] \times 5.6 \times 2.28 = 2.5 \text{ pounds per year}$$

SD-9

**PERFORMANCE-BASED WATER QUALITY CALCULATIONS - APPENDIX 5D**

**Worksheet 2: Situation 2**  
 Page 2 of 4

**STEP 5 Determine the relative post-development pollutant load (L<sub>post</sub>).**

$$L_{post} = [0.05 + (0.009 \times I_{post})] \times A \times 2.28 \text{ (Equation 5-21)}$$

where:  $L_{post}$  = relative post-development total phosphorous load (pounds per year)  
 $I_{post}$  = post-development percent impervious cover (percent expressed in whole numbers)  
 A = applicable area (acres)

$$L_{post} = [0.05 + (0.009 \times 70)] \times 5.6 \times 2.28 = 8.7 \text{ pounds per year}$$

**STEP 6 Determine the relative pollutant removal requirement (RR).**

$$RR = \frac{L_{post} - L_{pre}}{L_{pre}}$$

$$RR = \frac{8.7 - 2.5}{2.5} = 2.48$$

$$RR = 2.48 \text{ pounds per year}$$

**STEP 7 Identify best management practice (BMP) for the site.**

**1. Determine the required pollutant removal efficiency for the site:**

$$EFF = (RR + 1) \times 100 \text{ (Equation 5-22)}$$

where: EFF = required pollutant removal efficiency (percent expressed in whole numbers)  
 RR = pollutant removal requirement (pounds per year)  
 $L_{pre}$  = relative pre-development total phosphorous load (pounds per year)

$$EFF = (2.48 + 1) \times 100 = 348 \%$$

SD-10

Stony Point Parcel F Phase III Building A      September 27, 2016  
 VSMP Stormwater Quality Compliance

**Overview**

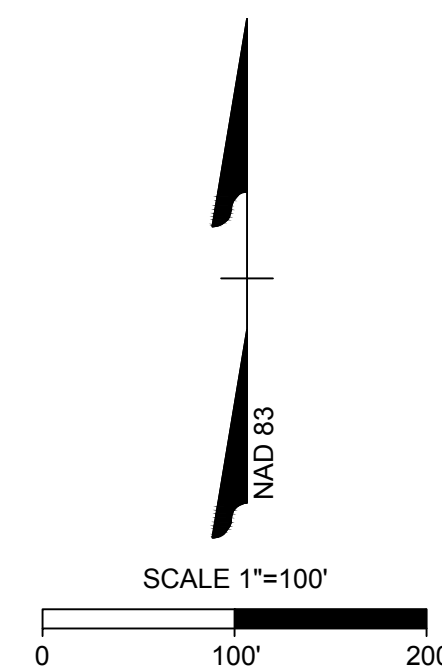
Stony Point Parcel F is part of the overall Stony Point Community Unit Plan and the Parcel F Master Plan was originally approved around 2002. Parcel F Phase I was constructed soon thereafter and was developed under the City's CBPA Regulations that only required water quality treatment in areas designated as RMAs. Parcel F Phase III (Building A) meets the Grandfathering criteria outlined in 9VAZ5-870-48 and is subject to Part IIC of the VSMP technical criteria.

Under the Part II C water quality criteria, Phase II is required to limit the post-developed pollutant discharge to a level that does not exceed the pre-developed pollutant discharge based on an average land cover condition of 16% imperviousness. Phase II will achieve the Part II C pollutant removal requirements by utilizing the excess water quality volume contained in the existing stormwater retention pond located on Parcel E (Stony Point III). The vast majority of Parcel F Phase III drains directly into the Stony Point III retention pond via an existing culvert under Chippenham Parkway and the calculations show that there is enough water quality volume for this existing pond to function as a Retention Basin II (4 times WQV with 50% removal efficiency) per section 3.06 of the VA Stormwater Management Handbook.

Our calculations indicate that the existing Stony Point III SWM retention basin should be removing at least 26.88 lbs. of pollutant per year. Applicable water quality regulations require Parcel F Phases II and III and a portion of Parcel E to remove 17.5 lbs. per year so no additional on-site water quality treatment is required on Parcel F Phase III.

**Summary of Calculations**

1. Pond volumes from Existing BMP/SWM Retention Pond Plan by Timmons Group dated 2-11-2016 indicate the existing Stony Point III SWM retention basin contains 6 feet of water below the normal pool elevation and the permanent pool volume is approximately 146,270 cubic feet. In accordance with Appendix 5D worksheets of the VA Stormwater Management Handbook, this permanent pool results in 36,567 cu. ft. of WQV that will treat the first 0.5 inch of stormwater runoff on 20.14 acres of impervious cover. Assuming a 50% pollutant removal efficiency, the existing retention basin is removing 22.57 lbs. of pollutant per year.
2. There are 3.16 acres of impervious cover within the RMA on Parcel F that currently drains into the existing Stony Point III SWM retention basin. The pollutant removal requirement (RR) for this 3.16 acres is to 5.4 lbs. per year.
3. There are 3.86 acres of impervious cover proposed on Parcel F Phase II (building C) with 3.28 acres draining directly into the Stony Point III basin and 0.58 acres bypassing it. The RR for this 3.86 acres is 5.9 lbs. per year.
4. There are 3.92 acres of impervious cover proposed on Parcel F Phase III (building A) draining directly into the Stony Point III basin. The RR for this 3.92 acres is 6.2 lbs. per year.
5. We estimate 20.0 acres of impervious cover currently drains into the existing Stony Point III SWM retention basin. If applicable, the RR for this 20.0 acres would be 26.5 lbs. per year which would require a permanent pool (4WQV) of 145,200 cu. ft.



THIS DRAWING PREPARED AT THE  
**CORPORATE OFFICE**  
 1001 Boulders Parkway, Suite 300 | Richmond, VA 23225  
 TEL 804.200.6500 FAX 804.560.1016 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

DATE: 09/27/16  
 DRAWN BY: R. HEWITT  
 DESIGNED BY: R. RITTERSKAMP  
 CHECKED BY: R. RITTERSKAMP  
 SCALE: AS SHOWN

**TIMMONS GROUP**

**STONY POINT MAP 'F' - PHASE III - BUILDING A**  
 HUGUENOT DISTRICT - CITY OF RICHMOND - VIRGINIA  
 STORM CALCULATIONS & DRAINAGE AREA MAP

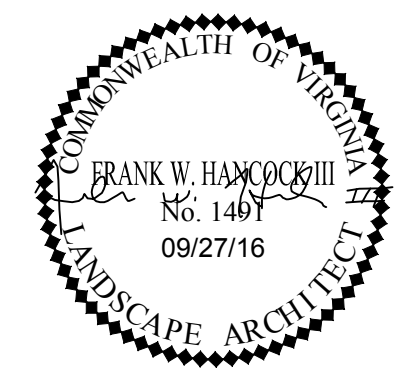
JOB NO. 37723  
 SHEET NO. C5.2

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DATE	REVISION DESCRIPTION
09/27/16	
	DRAWN BY F. HANCOCK
	DESIGNED BY F. HANCOCK
	CHECKED BY F. HANCOCK
	SCALE 1" = 30'

**TIMMONS GROUP**

STONY POINT MAP 'F' - PHASE III - BUILDING A  
 HUGUENOT DISTRICT - CITY OF RICHMOND - VIRGINIA  
 LANDSCAPE NOTES AND DETAILS

JOB NO.	37723
SHEET NO.	L2.0

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**PLANT SCHEDULE**

TREES	QTY	BOTANICAL NAME	COMMON NAME	MINIMUM INSTALLED SIZE	ROOT	REMARKS
AME ARB	6	AMELANCHIER ARBOREA 'AUTUMN BRILLIANCE'	DOWNY SERVICEBERRY	2.5" CAL	B&B	3 STEMS ONLY, LIMBED UP TO 4'
BET NIG	6	BETULA NIGRA 'DURAHEAT'	RIVER BIRCH	2.5" CAL	B&B	3-5 STEM ONLY
CAR BET	3	CARPINUS BETULUS 'FASTIGIATA'	PYRAMIDAL EUROPEAN HORNBEAN	2.5" CAL	B&B	
COR MIL	3	CORNUS KOUSA 'MILKY WAY'	MILKY WAY KOUSA DOGWOOD	2.5" CAL	B&B	
JUN VIR	9	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	7'-8" HT.	B&B	
MAG GLA	3	MAGNOLIA VIRGINIANA GLAUCA	SWEET BAY	7'-8" HT.	B&B	
QUE PHE	6	QUERCUS PHELLOS	WILLOW OAK	2.5" CAL	B&B	
TIL GRE	5	TILIA CORDATA 'GREENSPIRE'	GREENSPIRE LITTLELEAF LINDEN	2.5" CAL	B&B	
ULM PAR	6	ULMUS PARVIFOLIA 'ALLEE'	ALLEE LACEBARK ELM	2.5" CAL.	B&B	

SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	MIN. INSTALLED SIZE	ROOT	REMARKS
ABE LIT	230	ABELIA X GRANDIFLORA 'LITTLE RICHARD'	LITTLE RICHARD ABELIA	24" HT/SPRD	CONTAINER	36" O.C.
CEP HAR	51	CEPHALOTAXUS HARRINGTONIA 'DUKE GARDENS'	DUKE GARDENS PLUM YEW	24" HT/SPRD	CONTAINER	36" O.C.
ILE HOO	170	ILEX CRENATA 'HOOGENDOORN'	HOOGENDOORN JAPANESE HOLLY	18" HT	CONTAINER	36" O.C.
ITE LIT	134	ITEA VIRGINICA 'LITTLE HENRY' TM	VIRGINIA SWEETSPIRE	24" HT/SPRD	CONTAINER	36" O.C.
PRU MAJ	31	PRUNUS LAUROCERASUS 'MAJESTIC JADE'	MAJESTIC JADE LAUREL	36" HT	CONTAINER	5" O.C.
RHO DEL	92	RHODODENDRON X 'DELAWARE VALLEY WHITE'	AZALEA	24" HT/SPRD	CONTAINER	36" O.C.

GRASSES	QTY	BOTANICAL NAME	COMMON NAME	MIN. INSTALLED SIZE	ROOT	REMARKS
CAL KAR	41	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	FEATHER REED GRASS	1 GAL	CONTAINER	18" OC.
PEN CAS	106	PENNISSETUM ALOPECUROIDES 'CASSIAN'	FOUNTAIN GRASS	24" HT/SPRD	CONTAINER	36" O.C.

GROUND COVERS	QTY	BOTANICAL NAME	COMMON NAME	MINIMUM INSTALLED SIZE	ROOT	SPACING
CAR ELA	88	CAREX ELATA 'BOWLES GOLDEN'	BOWLES GOLDEN SEDGE	6" POT	CONTAINER	18" O.C.
HEM HAP	80	HEMEROCALLIS X 'HAPPY RETURNS'	HAPPY RETURNS DAYLILY	6" POT	CONTAINER	18" O.C.
HYP CAL	379	HYPERICUM CALYCIUM	AARONS BEARD	1 GAL	CONTAINER	18" O.C.
LIR BIG	528	LIRIOPE MUSCARI 'BIG BLUE'	BIG BLUE LILYTURF	1 GAL	CONTAINER	18" O.C.
NAR KIN	180	NARCISSUS X 'KING ALFRED'	KING ALFRED DAFFODIL	3 BULBS	BULBS	3 PER SF
SAL XAL	238	SALVIA XALAPENSIS 'MAYNIGHT'	SALVIA MAYNIGHT	1 GAL	CONTAINER	18" O.C.

**GENERAL NOTES**

**PRE-CONSTRUCTION**

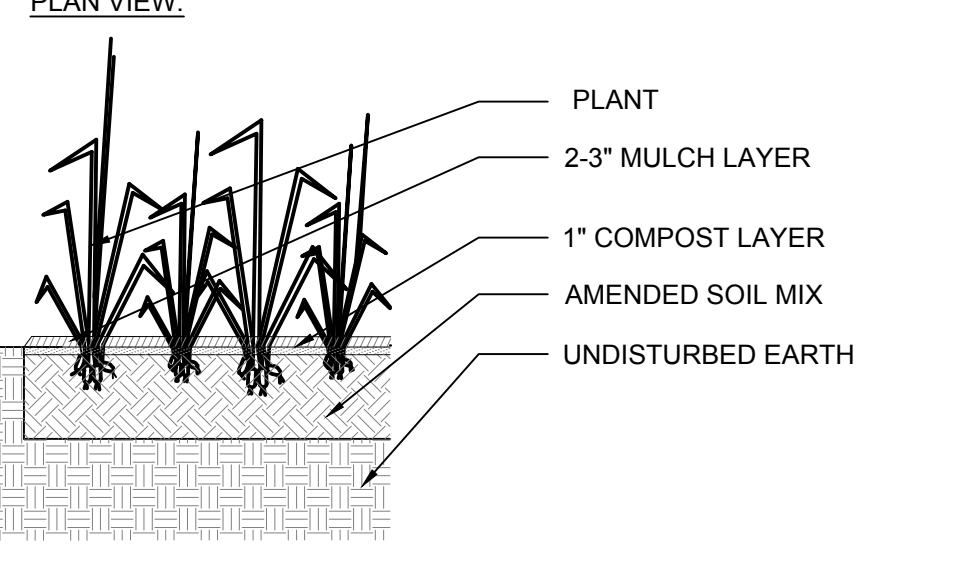
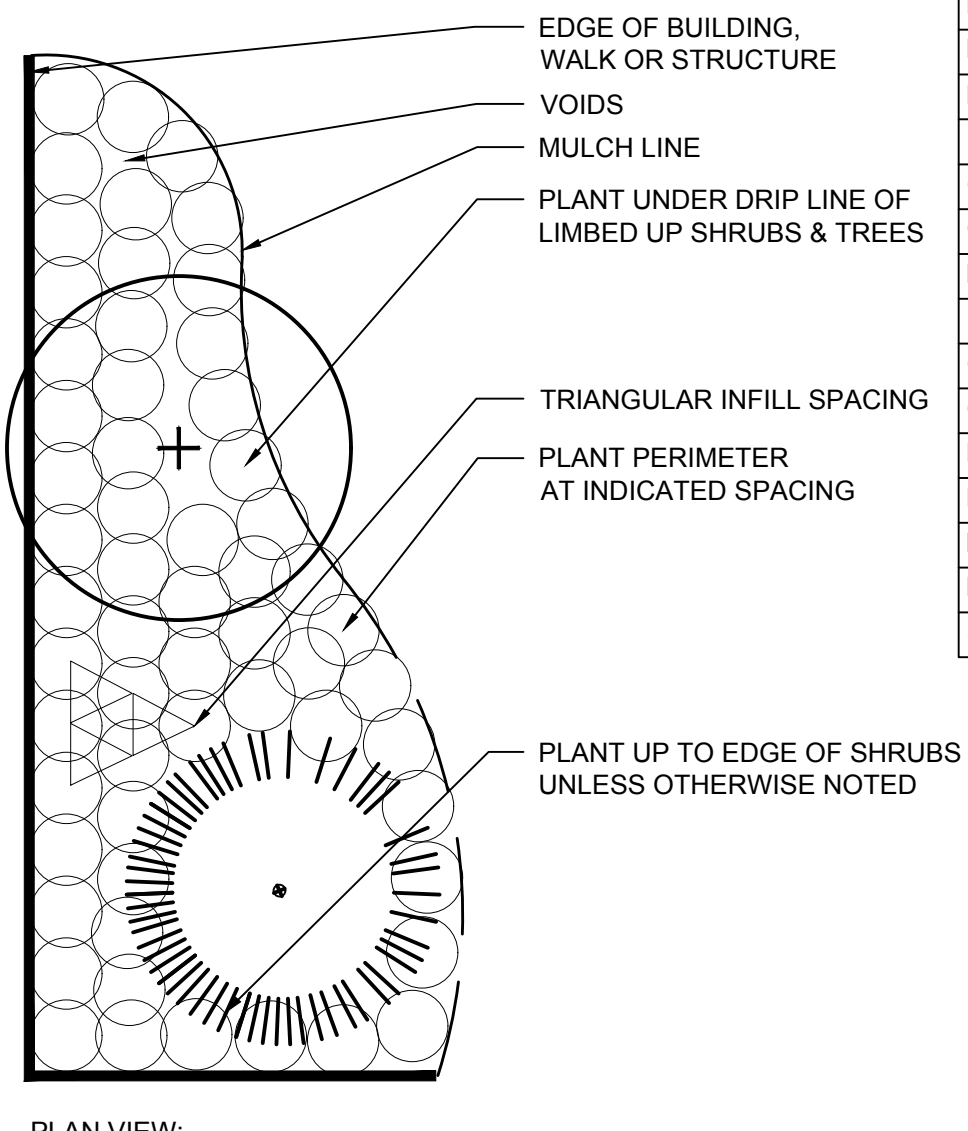
- CONTRACTOR IS RESPONSIBLE FOR CONTACTING "MISS UTILITY" AT 1.800.552.7001 FOR LOCATION OF ALL UTILITY LINES. TREES SHALL BE LOCATED A MINIMUM OF 5 FEET FROM SEWER/WATER CONNECTIONS. NOTIFY LANDSCAPE ARCHITECT OF CONFLICTS.
- VERIFY ALL PLANT MATERIAL QUANTITIES ON THE PLAN PRIOR TO BIDDING. PLANT LIST TOTALS ARE FOR CONVENIENCE ONLY AND SHALL BE VERIFIED PRIOR TO BIDDING.
- PROVIDE PLANT MATERIALS OF QUANTITY, SIZE, GENUS, SPECIES, AND VARIETY INDICATED ON PLANS. ALL PLANT MATERIALS AND INSTALLATION SHALL COMPLY WITH RECOMMENDATIONS AND REQUIREMENTS OF ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK". IF SPECIFIED PLANT MATERIAL IS NOT OBTAINABLE, SUBMIT PROOF OF NON AVAILABILITY TO THE ARCHITECTS, TOGETHER WITH PROPOSAL FOR USE OF EQUIVALENT MATERIAL.
- PROVIDE AND INSTALL ALL PLANTS AS IN ACCORDANCE WITH DETAILS AND CONTRACT SPECIFICATIONS

**CONSTRUCTION/INSTALLATION**

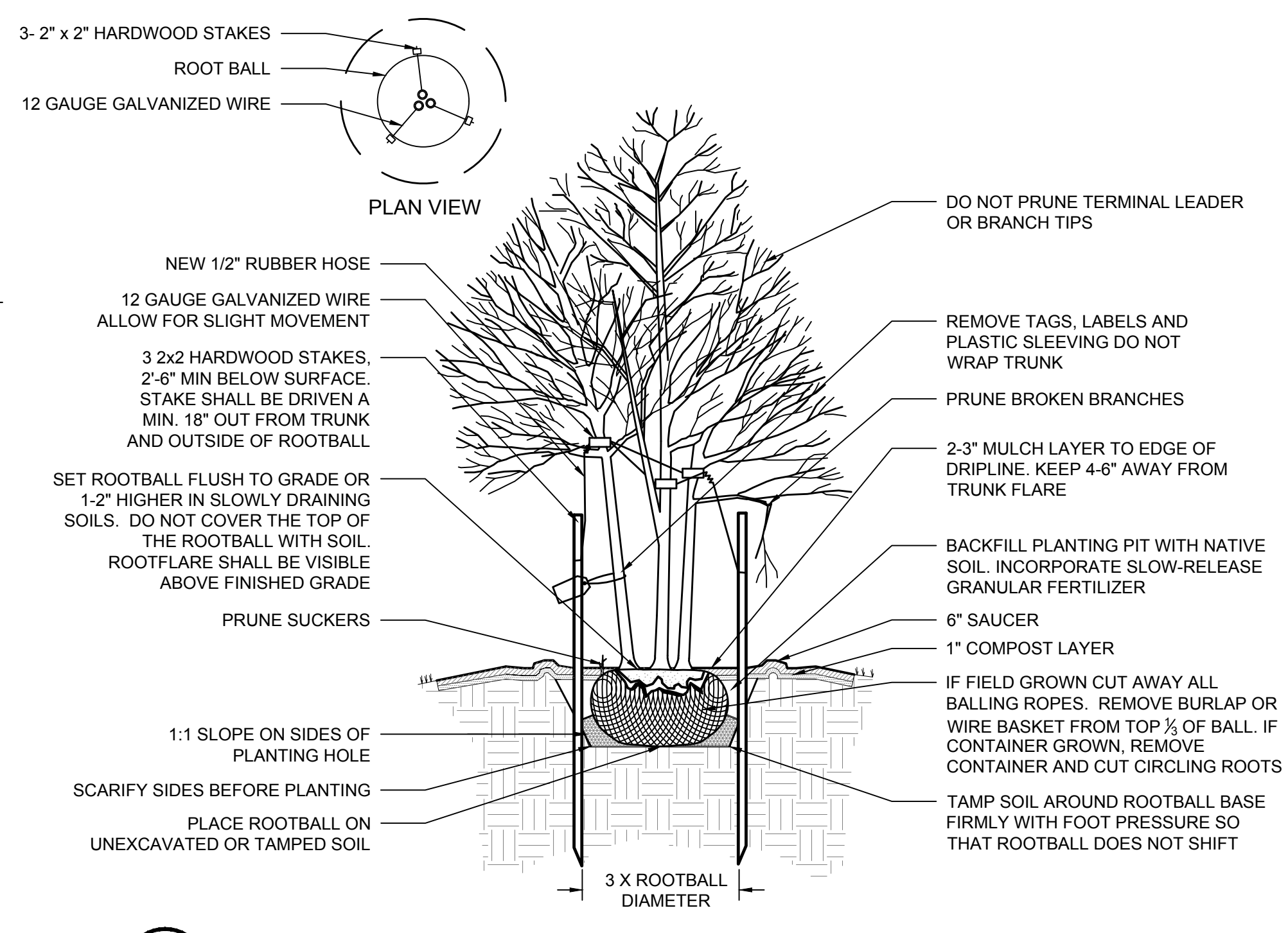
- LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANTS AND MATERIALS THAT ARE IN AN UNHEALTHY OR UNSIGHTLY CONDITION, AS WELL AS PLANTS AND MATERIALS THAT DO NOT CONFORM TO ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK"
- LABEL AT LEAST ONE TREE AND ONE SHRUB OF EACH VARIETY AND CALIPER WITH A SECURELY ATTACHED, WATERPROOF TAG BEARING THE DESIGNATION OF BOTANICAL AND COMMON NAME.
- INSTALL LANDSCAPE PLANTINGS AT ENTRANCES/EXITS AND PARKING AREAS ACCORDING TO PLANS SO THAT MATERIALS WILL NOT INTERFERE WITH SIGHT DISTANCES.
- CONTRACTOR IS RESPONSIBLE FOR WATERING ALL PLANT MATERIAL DURING INSTALLATION AND UNTIL FINAL INSPECTION AND ACCEPTANCE BY OWNER. CONTRACTOR SHALL NOTIFY OWNER OF CONDITIONS WHICH AFFECTS THE GUARANTEE.

**INSPECTIONS/GUARANTEE**

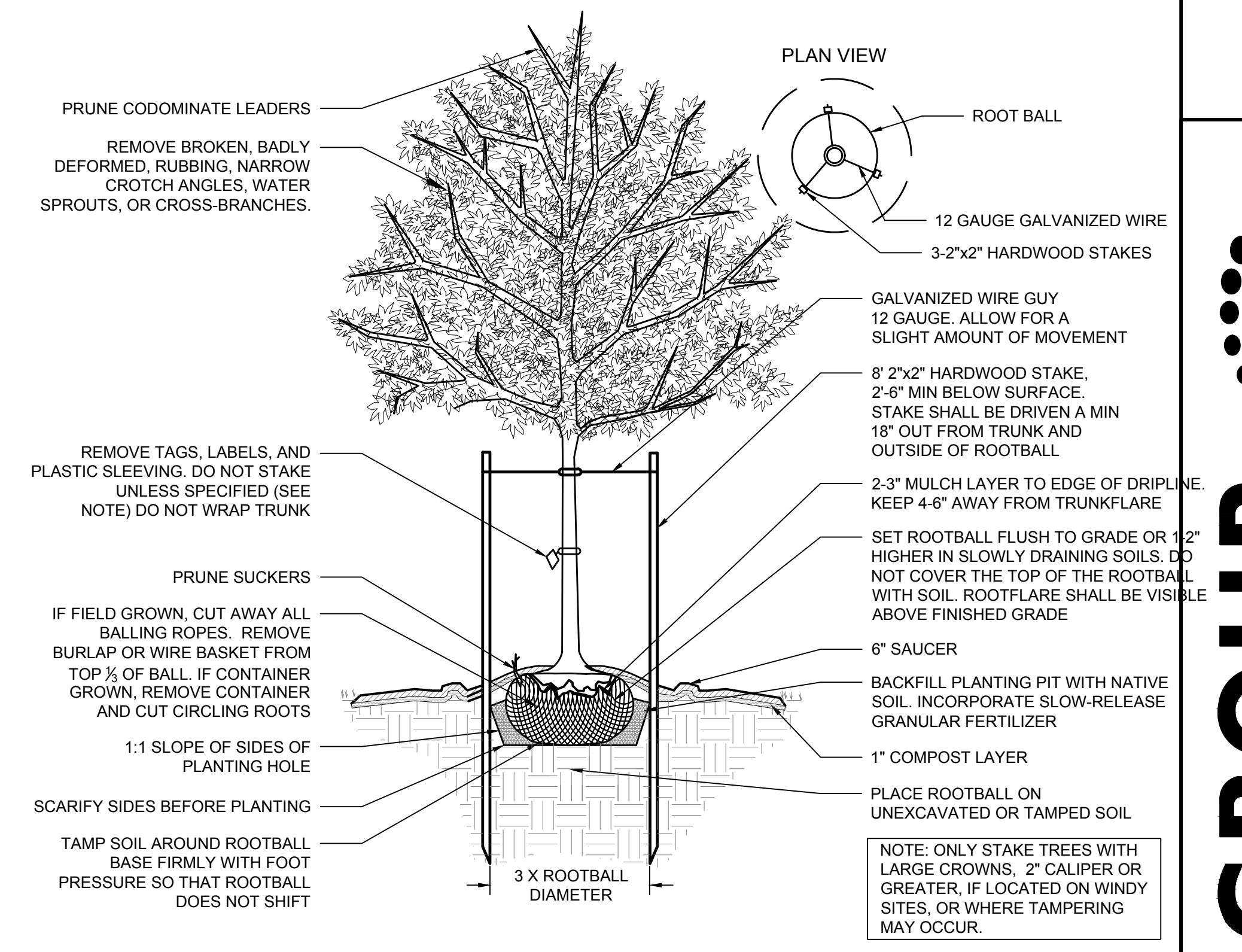
- UPON COMPLETION OF LANDSCAPE INSTALLATION, THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR WHO WILL VERIFY COMPLETENESS, INCLUDING THE REPLACEMENT OF ALL DEAD PLANT MATERIAL. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING A FINAL INSPECTION BY THE LANDSCAPE ARCHITECT.
- ALL EXTERIOR PLANT MATERIALS SHALL BE GUARANTEED FOR ONE FULL YEAR AFTER DATE OF FINAL INSPECTION AGAINST DEFECTS INCLUDING DEATH AND UNSATISFACTORY GROWTH. DEFECTS RESULTING FROM NEGLIGENCE BY THE OWNER, ABUSE OR DAMAGE BY OTHERS, OR UNUSUAL PHENOMENA OR INCIDENTS WHICH ARE BEYOND THE CONTRACTORS CONTROL ARE NOT THE RESPONSIBILITY OF THE CONTRACTOR
- PLANT MATERIAL QUANTITIES AND SIZES WILL BE INSPECTED FOR COMPLIANCE WITH APPROVED PLANS BY A SITE PLAN REVIEW AGENT OF THE PLANNING DEPARTMENT PRIOR TO THE RELEASE OF THE CERTIFICATE OF OCCUPANCY.
- REMOVE ALL GUY WIRES AND STAKES 12 MONTHS AFTER INSTALLATION.



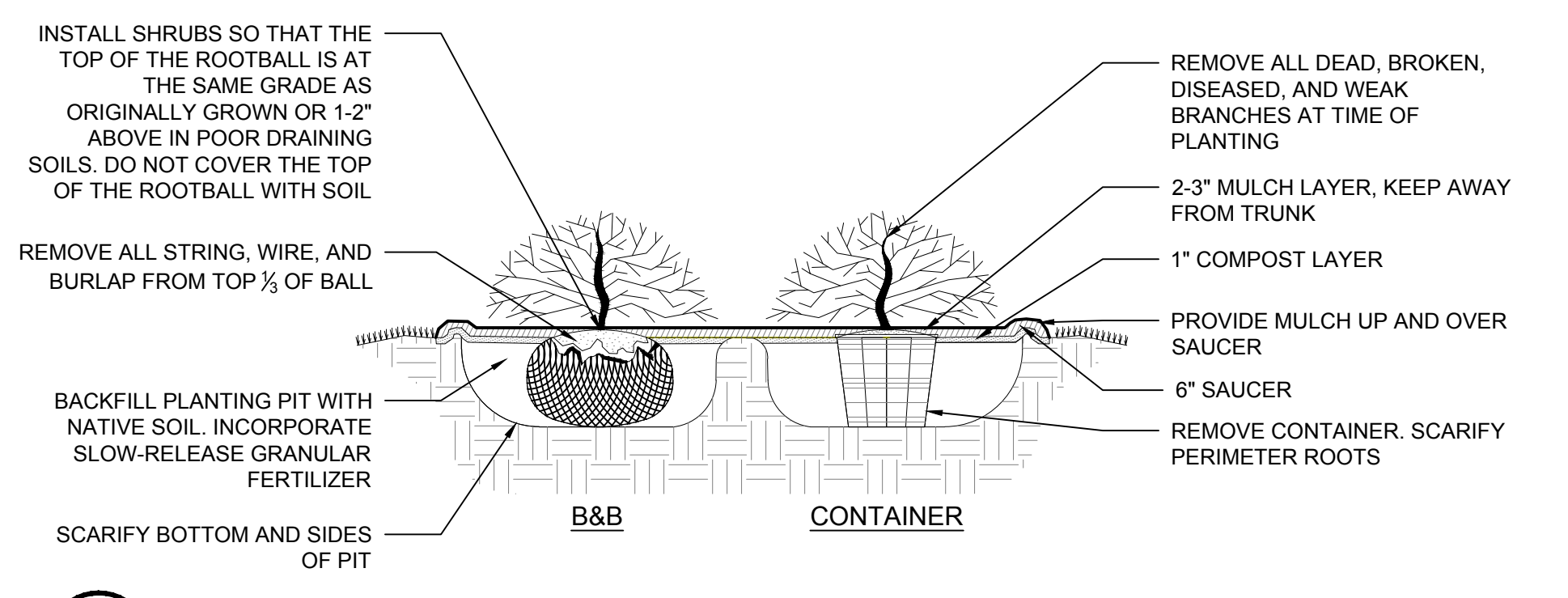
**2 MULTI-STEM TREE - STAKING SPECIFIED**  
 NOT TO SCALE



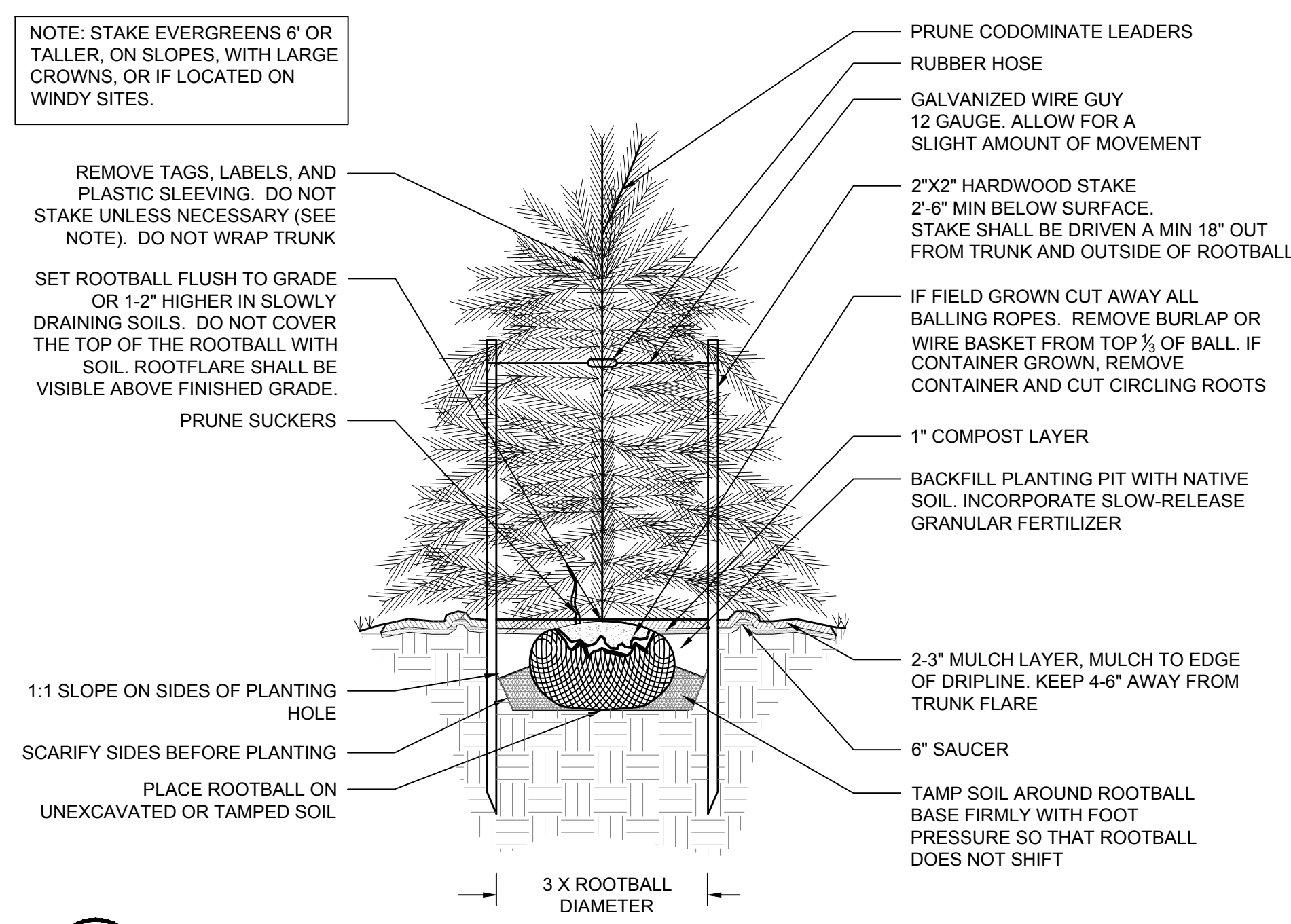
**4 MULTI-STEM TREE - STAKING SPECIFIED**  
 NOT TO SCALE



**1 DECIDUOUS TREE - STAKING SPECIFIED**  
 NOT TO SCALE



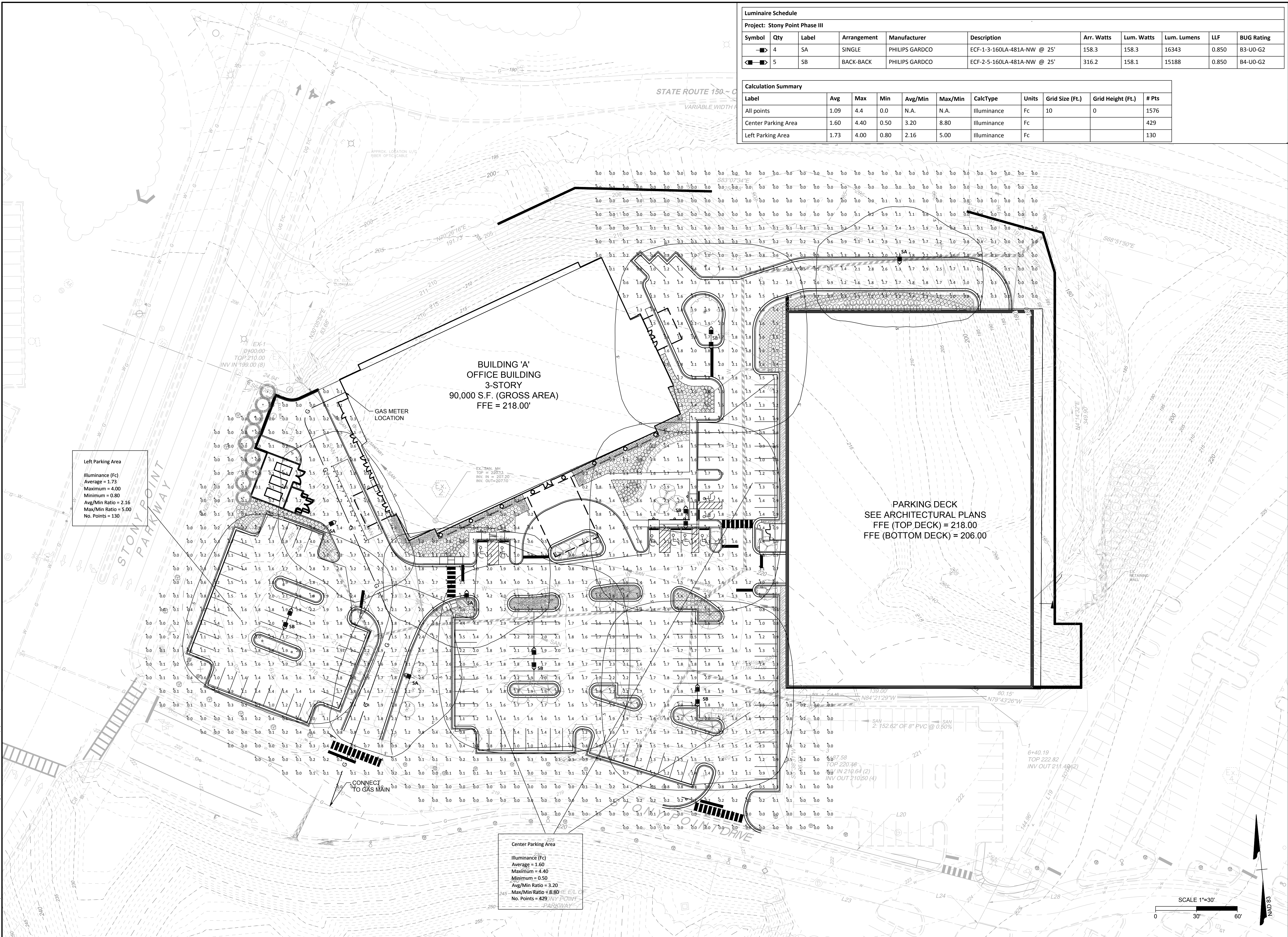
**5 SHRUB PLANTING**  
 NOT TO SCALE



**3 CONIFEROUS TREE - STAKING SPECIFIED**  
 NOT TO SCALE

S:\03033723-Stony Point VTDWG\Sheer\CD37723.L2.0 LANDSCAPE NOTES AND DETAILS.dwg | Printed on 9/27/2016 4:58 PM by Bradley Davis





Luminaire Schedule										
Project: Stony Point Phase III										
Symbol	Qty	Label	Arrangement	Manufacturer	Description	Arr. Watts	Lum. Watts	Lum. Lumens	LLF	BUG Rating
SA	4	SA	SINGLE	PHILIPS GARDCO	ECF-1-3-160LA-481A-NW @ 25'	158.3	158.3	16343	0.850	B3-U0-G2
SB	5	SB	BACK-BACK	PHILIPS GARDCO	ECF-2-5-160LA-481A-NW @ 25'	316.2	158.1	15188	0.850	B4-U0-G2

Calculation Summary										
Label	Avg	Max	Min	Avg/Min	Max/Min	CalcType	Units	Grid Size (Ft.)	Grid Height (Ft.)	# Pts
All points	1.09	4.4	0.0	N.A.	N.A.	Illuminance	Fc	10	0	1576
Center Parking Area	1.60	4.40	0.50	3.20	8.80	Illuminance	Fc			429
Left Parking Area	1.73	4.00	0.80	2.16	5.00	Illuminance	Fc			130

**Left Parking Area**  
 Illuminance (Fc)  
 Average = 1.73  
 Maximum = 4.00  
 Minimum = 0.80  
 Avg/Min Ratio = 2.16  
 Max/Min Ratio = 5.00  
 No. Points = 130

**Center Parking Area**  
 Illuminance (Fc)  
 Average = 1.60  
 Maximum = 4.40  
 Minimum = 0.50  
 Avg/Min Ratio = 3.20  
 Max/Min Ratio = 8.80  
 No. Points = 429

THIS DRAWING PREPARED AT THE  
**CORPORATE OFFICE**  
 1001 Boulders Parkway, Suite 300 | Richmond, VA 23225  
 TEL 804.200.6500 FAX 804.580.1016 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

DATE  
 09/27/16

DRAWN BY  
 OLD DOMINION LIGHTING

DESIGNED BY  
 OLD DOMINION LIGHTING

CHECKED BY  
 OLD DOMINION LIGHTING

SCALE  
 1" = 30'

JOB NO.  
**37723**

SHEET NO.  
**L3.0**

# TIMMONS GROUP

## STONY POINT MAP 'F' - PHASE III - BUILDING A HUGUENOT DISTRICT - CITY OF RICHMOND - VIRGINIA LUMEN PLAN

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### Specifications

The Philips Gardco EcoForm combines economy with performance in an LED area luminaire. Capable of delivering up to 20,000 lumens or more in a compact, low profile LED luminaire, EcoForm offers a new level of customer value. Integral control systems including motion response are available for further energy savings.



#### Housing

One piece die cast aluminum housing with integral arm and separate, self retained hinges, one piece die cast door frame.

#### IP Rating

LED light engineered IP66.

#### Vibration Resistance

EcoForm with the Standard Arm carries a 3G vibration rating that conforms to standards set forth by ANSI C136.31. Testing includes vibration to 5G acceleration in three axes, all performed on the same luminaire.

#### Electrical

Driver efficiency (90% standard), 120-480V available (restrictions apply). Open/short circuit protection. Optional 100V dimming to 10% power. RoHS compliant. Surge protector standard. 10MA per ANSI/IEEE C82-A12.

#### LED Board and Array

32, 48, or 64 LEDs. Color temperatures: 3000K, 4000K, 5000K or 5500K. Minimum CRI of 70. Aluminum metal clad board. RoHS compliant.

#### LED Thermal Management

The one piece housing design provides excellent thermal management critical to long LED system life.

#### Optical Systems

Type 2, 3, 4, and 5 distributions available. Internal Shield option mounts to LED optics and is available with Type 2, 3, and 4 distributions to control backlight.

#### Mounting

Standard luminaire arm mounts to 4" round poles. Square pole adapter included with every luminaire. Round Pole Adapter (RPA) required for 2-3/8" poles.

#### Retrofit Arm Mount

EcoForm features an innovative retrofit arm kit. When specified with the retrofit arm (RAM) option, EcoForm seamlessly simplifies site conversions to LED by eliminating the need for additional pole drilling on most existing poles. RAM will be based separately.

#### Energy Saving Benefits

System efficiency up to 95 lum/W with significant energy savings over Pulse Start Metal Halide luminaires. Optional control options provide added energy savings during unoccupied periods.

#### Finish

Each standard color luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidyl isocyanurate (TIG) textured polyester powdercoat finish. Standard colors include bronze (BRP), black (BLP), white (WP), and natural aluminum (NP). Consult factory for specs on optional or custom colors.

#### Motion Sensors

ECF-MR50, ECF-APD-MRO, ECF-MR, ECF-APD-MRI luminaires may be specified for additional energy savings during unoccupied periods.

#### Listings

ETL LISTED, listed for the UL 1598 standard, suitable for Wet Locations. Suitable for use in ambients from -20° to 40°C (-2° to 104°F). The quality systems of this facility have been registered by UL to the ISO 9001 series standards.

#### Warranty

EcoForm luminaires feature a 5 year limited warranty. Philips Gardco LED luminaires with LED arrays feature a 5 year limited warranty. The LED Drivers carry a 5 year limited warranty. Motion sensors are covered by warranty for 5 years by the motion sensor manufacturer.

#### Ordering guide

example: ECF-APD-MRO-1-4-75LA-NW-120-NP-LF

Prefix	Controls	Mounting	Optics	LED Wattage	Color Temp	Voltage	Finish	Options
ECF	Standard luminaire (leave blank)	1 Standard	2 Type 2	330 mA	CW Cool White 5000K	120	BRP Bronze Paint	TL Tool-Less entry and driver removal hardware
ECF	Standard luminaire (leave blank)	2 Standard	3 Type 3	55LA-3253	5000K	120V	BLP Black Paint	TB1 Terminal Block
ECF	Standard luminaire (leave blank)	3 Standard	4 Type 4	70LA-4853	70CRI	208V	WP White Paint	ISF Internal Shield
ECF	Standard luminaire (leave blank)	4 Standard	5 Type 5	100LA-6453	100CRI	240V	NP Natural Paint	LF1 Line Fusing
ECF	Standard luminaire (leave blank)	5 Standard	6 Type 6	150LA-8053	150CRI	277V	OC Optional Color	LFC1 Line Fusing for Canada
ECF	Standard luminaire (leave blank)	6 Standard	7 Type 7	200LA-10653	200CRI	347V	PC514 Photocell Receptacle with Photocell (includes PC6)	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	7 Standard	8 Type 8	270LA-14653	270CRI	480V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	8 Standard	9 Type 9	330LA-18653	330CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	9 Standard	10 Type 10	400LA-22653	400CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	10 Standard	11 Type 11	480LA-27653	480CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	11 Standard	12 Type 12	550LA-32653	550CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	12 Standard	13 Type 13	650LA-38653	650CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	13 Standard	14 Type 14	750LA-44653	750CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	14 Standard	15 Type 15	850LA-50653	850CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	15 Standard	16 Type 16	950LA-56653	950CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	16 Standard	17 Type 17	1050LA-62653	1050CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	17 Standard	18 Type 18	1150LA-68653	1150CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	18 Standard	19 Type 19	1250LA-74653	1250CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	19 Standard	20 Type 20	1350LA-80653	1350CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	20 Standard	21 Type 21	1450LA-86653	1450CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	21 Standard	22 Type 22	1550LA-92653	1550CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	22 Standard	23 Type 23	1650LA-98653	1650CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	23 Standard	24 Type 24	1750LA-104653	1750CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	24 Standard	25 Type 25	1850LA-110653	1850CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	25 Standard	26 Type 26	1950LA-116653	1950CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	26 Standard	27 Type 27	2050LA-122653	2050CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	27 Standard	28 Type 28	2150LA-128653	2150CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	28 Standard	29 Type 29	2250LA-134653	2250CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	29 Standard	30 Type 30	2350LA-140653	2350CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	30 Standard	31 Type 31	2450LA-146653	2450CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	31 Standard	32 Type 32	2550LA-152653	2550CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	32 Standard	33 Type 33	2650LA-158653	2650CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	33 Standard	34 Type 34	2750LA-164653	2750CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	34 Standard	35 Type 35	2850LA-170653	2850CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	35 Standard	36 Type 36	2950LA-176653	2950CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	36 Standard	37 Type 37	3050LA-182653	3050CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	37 Standard	38 Type 38	3150LA-188653	3150CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	38 Standard	39 Type 39	3250LA-194653	3250CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	39 Standard	40 Type 40	3350LA-200653	3350CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	40 Standard	41 Type 41	3450LA-206653	3450CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	41 Standard	42 Type 42	3550LA-212653	3550CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	42 Standard	43 Type 43	3650LA-218653	3650CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	43 Standard	44 Type 44	3750LA-224653	3750CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	44 Standard	45 Type 45	3850LA-230653	3850CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	45 Standard	46 Type 46	3950LA-236653	3950CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	46 Standard	47 Type 47	4050LA-242653	4050CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	47 Standard	48 Type 48	4150LA-248653	4150CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	48 Standard	49 Type 49	4250LA-254653	4250CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	49 Standard	50 Type 50	4350LA-260653	4350CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	50 Standard	51 Type 51	4450LA-266653	4450CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	51 Standard	52 Type 52	4550LA-272653	4550CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	52 Standard	53 Type 53	4650LA-278653	4650CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	53 Standard	54 Type 54	4750LA-284653	4750CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	54 Standard	55 Type 55	4850LA-290653	4850CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	55 Standard	56 Type 56	4950LA-296653	4950CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	56 Standard	57 Type 57	5050LA-302653	5050CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	57 Standard	58 Type 58	5150LA-308653	5150CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	58 Standard	59 Type 59	5250LA-314653	5250CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	59 Standard	60 Type 60	5350LA-320653	5350CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	60 Standard	61 Type 61	5450LA-326653	5450CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	61 Standard	62 Type 62	5550LA-332653	5550CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	62 Standard	63 Type 63	5650LA-338653	5650CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	63 Standard	64 Type 64	5750LA-344653	5750CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	64 Standard	65 Type 65	5850LA-350653	5850CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	65 Standard	66 Type 66	5950LA-356653	5950CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	66 Standard	67 Type 67	6050LA-362653	6050CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	67 Standard	68 Type 68	6150LA-368653	6150CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	68 Standard	69 Type 69	6250LA-374653	6250CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	69 Standard	70 Type 70	6350LA-380653	6350CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	70 Standard	71 Type 71	6450LA-386653	6450CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	71 Standard	72 Type 72	6550LA-392653	6550CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	72 Standard	73 Type 73	6650LA-398653	6650CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	73 Standard	74 Type 74	6750LA-404653	6750CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	74 Standard	75 Type 75	6850LA-410653	6850CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	75 Standard	76 Type 76	6950LA-416653	6950CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	76 Standard	77 Type 77	7050LA-422653	7050CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	77 Standard	78 Type 78	7150LA-428653	7150CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	78 Standard	79 Type 79	7250LA-434653	7250CRI	500V	PC514 Photocell Receptacle only with 2 dimming connections	PC514 Photocell Receptacle only with 2 dimming connections
ECF	Standard luminaire (leave blank)	79 Standard	80 Type 80	7350LA-440653	7350CRI			





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OWNER



PROJECT  
2140081  
STONY POINT VI

9101 STONY POINT  
DRIVE  
RICHMOND VIRGINIA  
23235

SCALE: 3/32" = 1'-0"

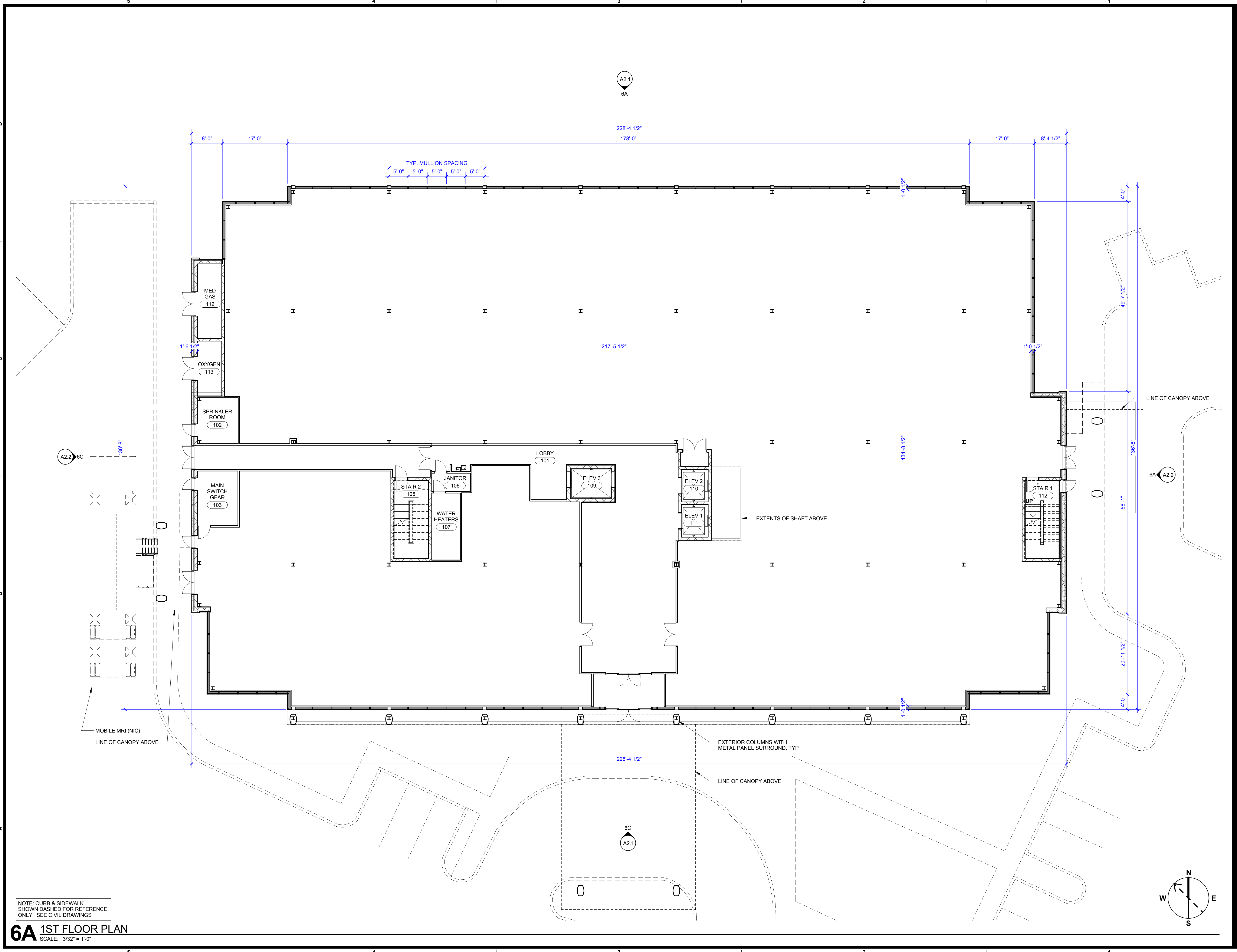
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ISSUE  
09/27/16 - COMMUNITY  
UNIT PLAN

DRAWING TITLE  
1ST FLOOR - PLAN

DRAWING NO.  
A1.1



9/27/2016 2:31:19 PM

NOTE: CURB & SIDEWALK  
SHOWN DASHED FOR REFERENCE  
ONLY. SEE CIVIL DRAWINGS

6A 1ST FLOOR PLAN  
SCALE: 3/32" = 1'-0"





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PROJECT  
2140081  
STONY POINT VI

9101 STONY POINT  
DRIVE  
RICHMOND VIRGINIA  
23235

0 1' 2' 4' 8' 16' 20'  
SCALE: 3/32" = 1'-0"

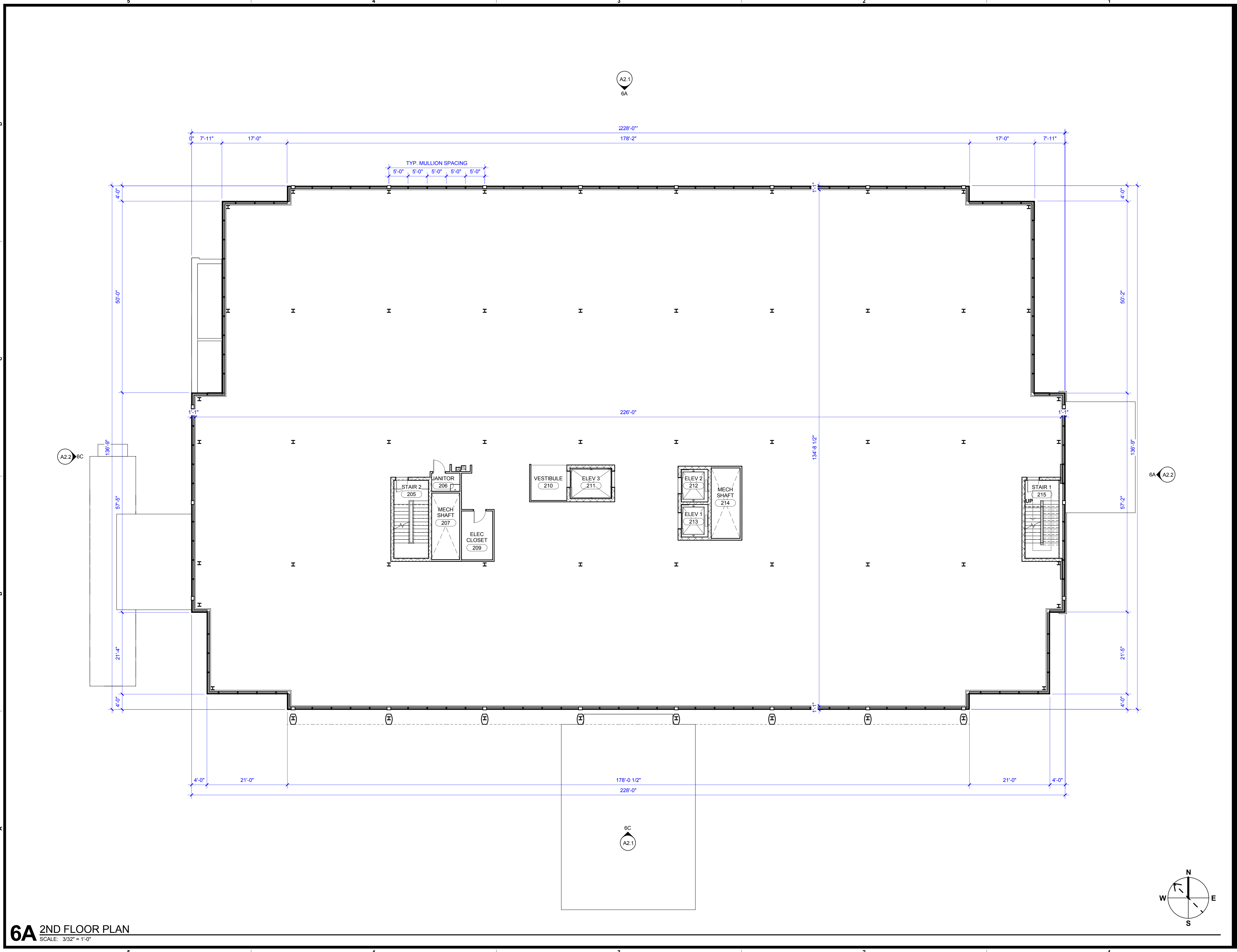
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UNIT PLAN

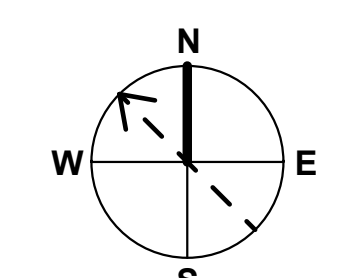
DRAWING TITLE  
2ND FLOOR - PLAN

DRAWING NO.  
A1.2



9/27/2016 2:37:45 PM

6A 2ND FLOOR PLAN  
SCALE: 3/32" = 1'-0"







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PROJECT  
**2140081**  
**STONY POINT VI**

**9101 STONY POINT DRIVE**  
**RICHMOND VIRGINIA**  
**23235**

0 1' 2' 4' 10' 20'  
SCALE: 3/32" = 1'-0"

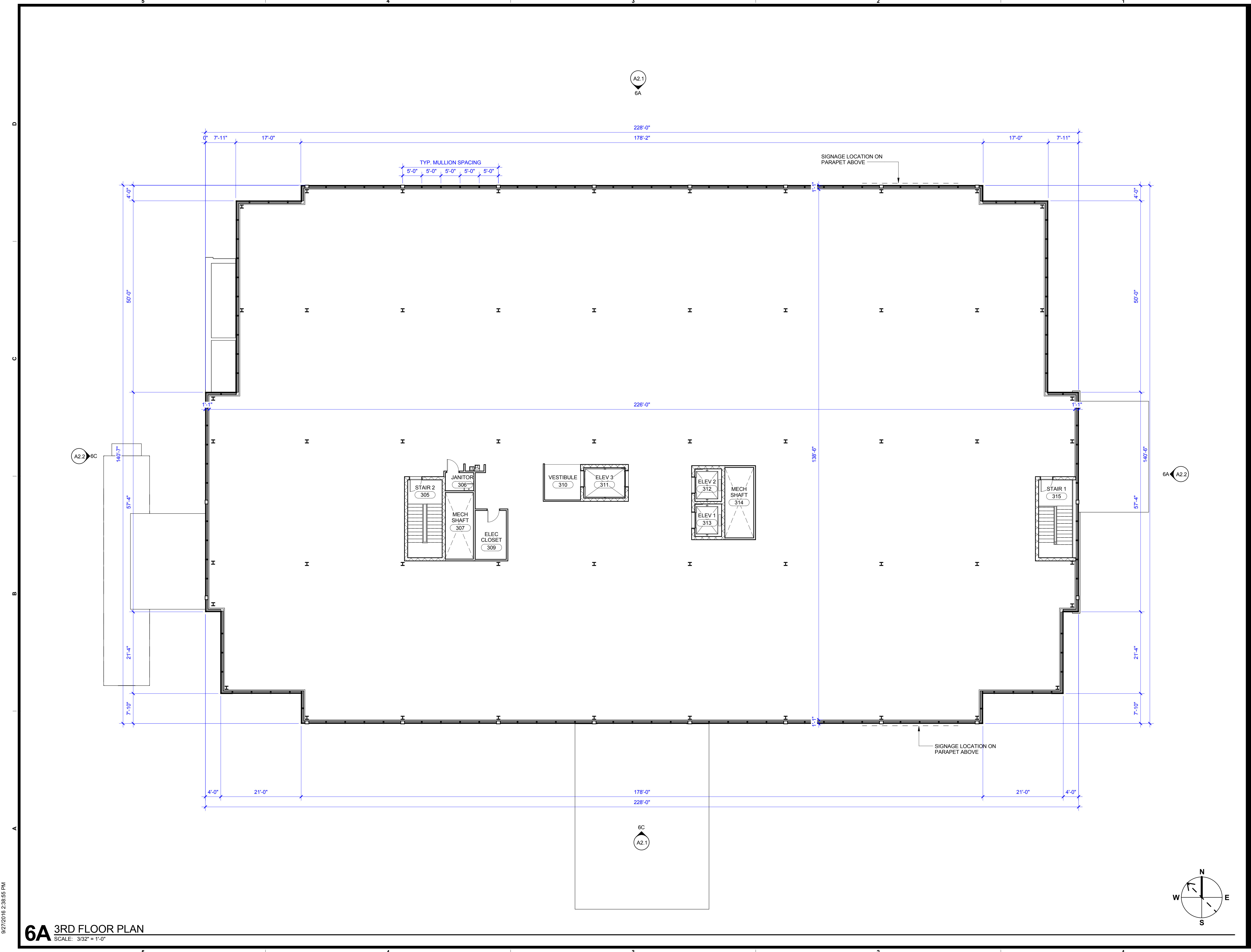
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ISSUE  
**09/27/16 - COMMUNITY UNIT PLAN**

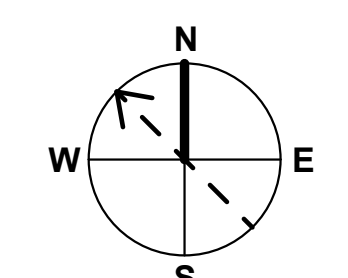
DRAWING TITLE  
**3RD FLOOR - PLAN**

DRAWING NO.  
**A1.3**

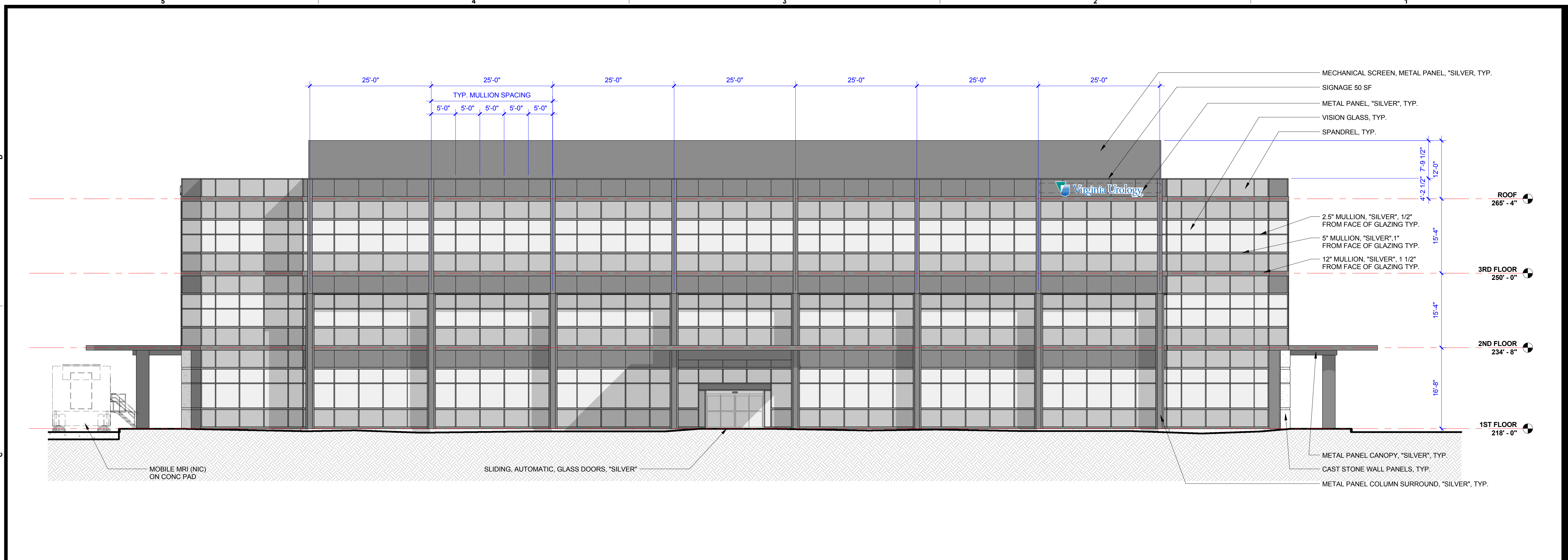


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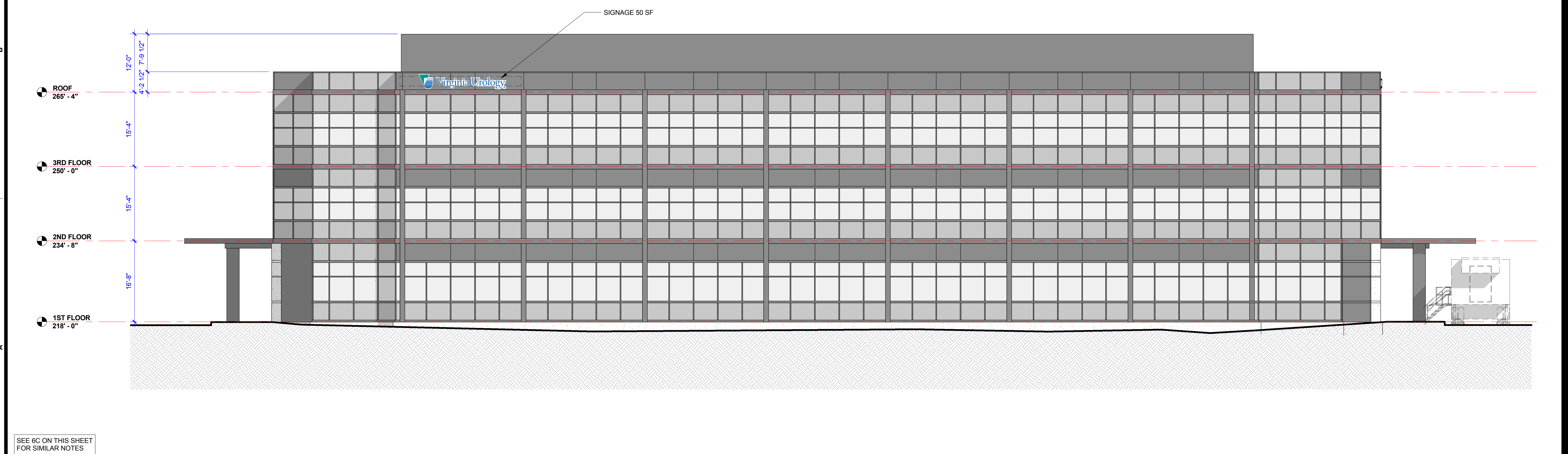
**6A 3RD FLOOR PLAN**  
SCALE: 3/32" = 1'-0"



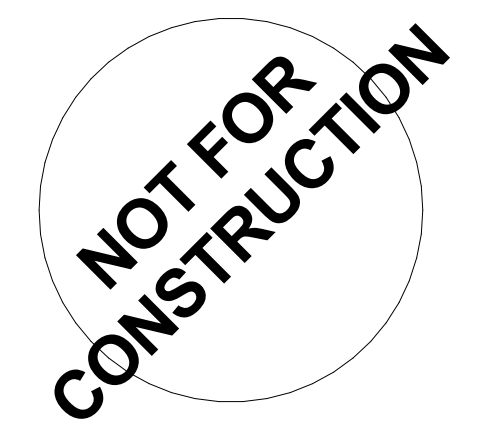




**6C ELEVATION - SOUTH**  
SCALE: 3/32" = 1'-0" DRAWING REF: A1.1



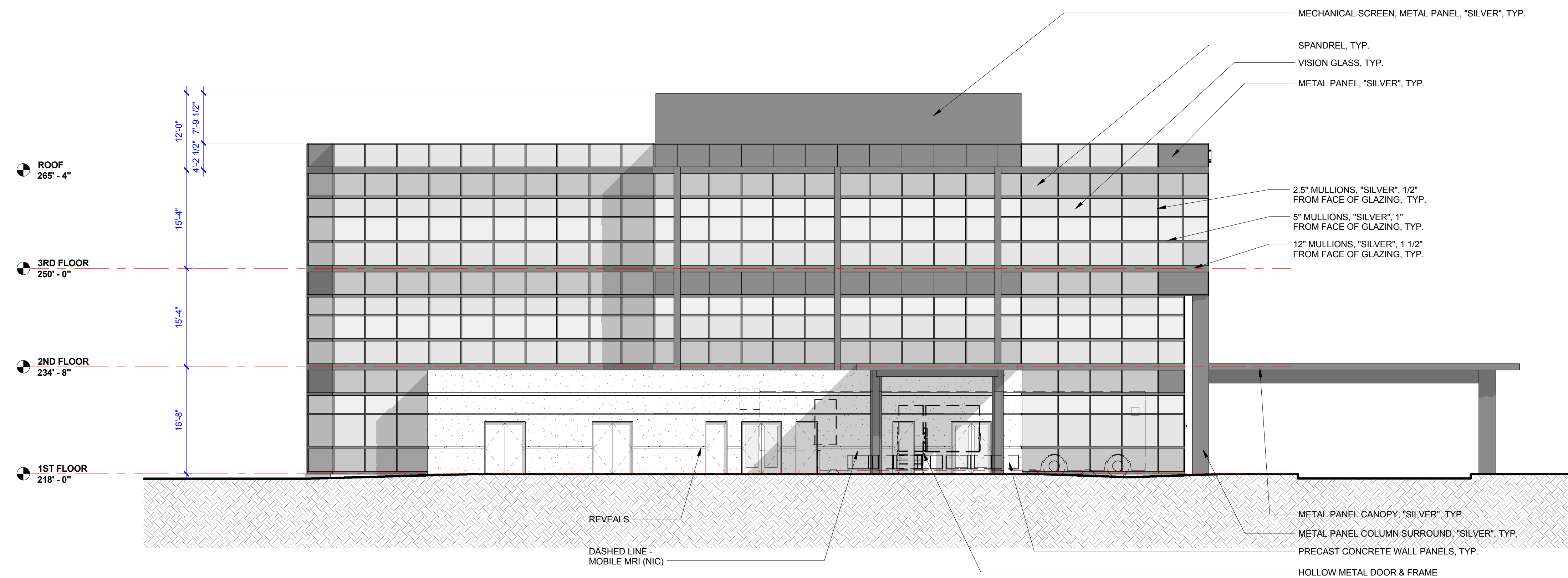
**6A ELEVATION - NORTH**  
SCALE: 3/32" = 1'-0" DRAWING REF: A1.1



9/27/2016 2:13:44 PM

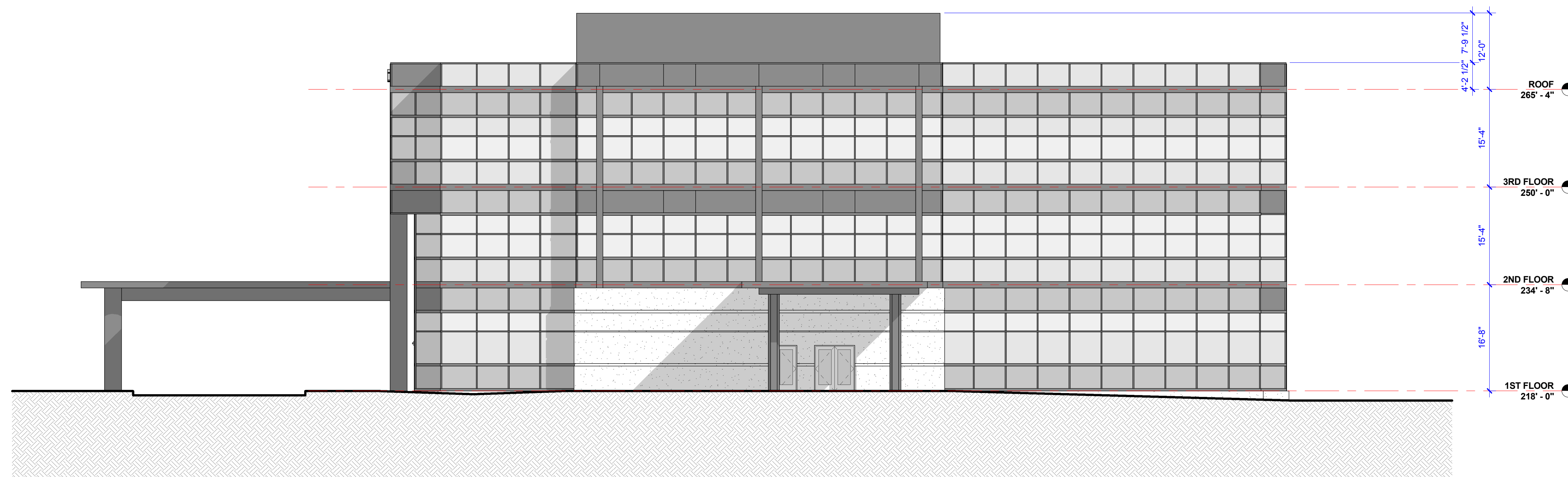
SEE 6C ON THIS SHEET FOR SIMILAR NOTES





**6C ELEVATION - WEST**

SCALE: 3/32" = 1'-0" DRAWING REF: A1.1



**6A ELEVATION - EAST**

SCALE: 3/32" = 1'-0" DRAWING REF: A1.1

SEE 6C ON THIS SHEET FOR SIMILAR NOTES

**NOT FOR CONSTRUCTION**

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ISSUE  
**09/27/16 - COMMUNITY UNIT PLAN**

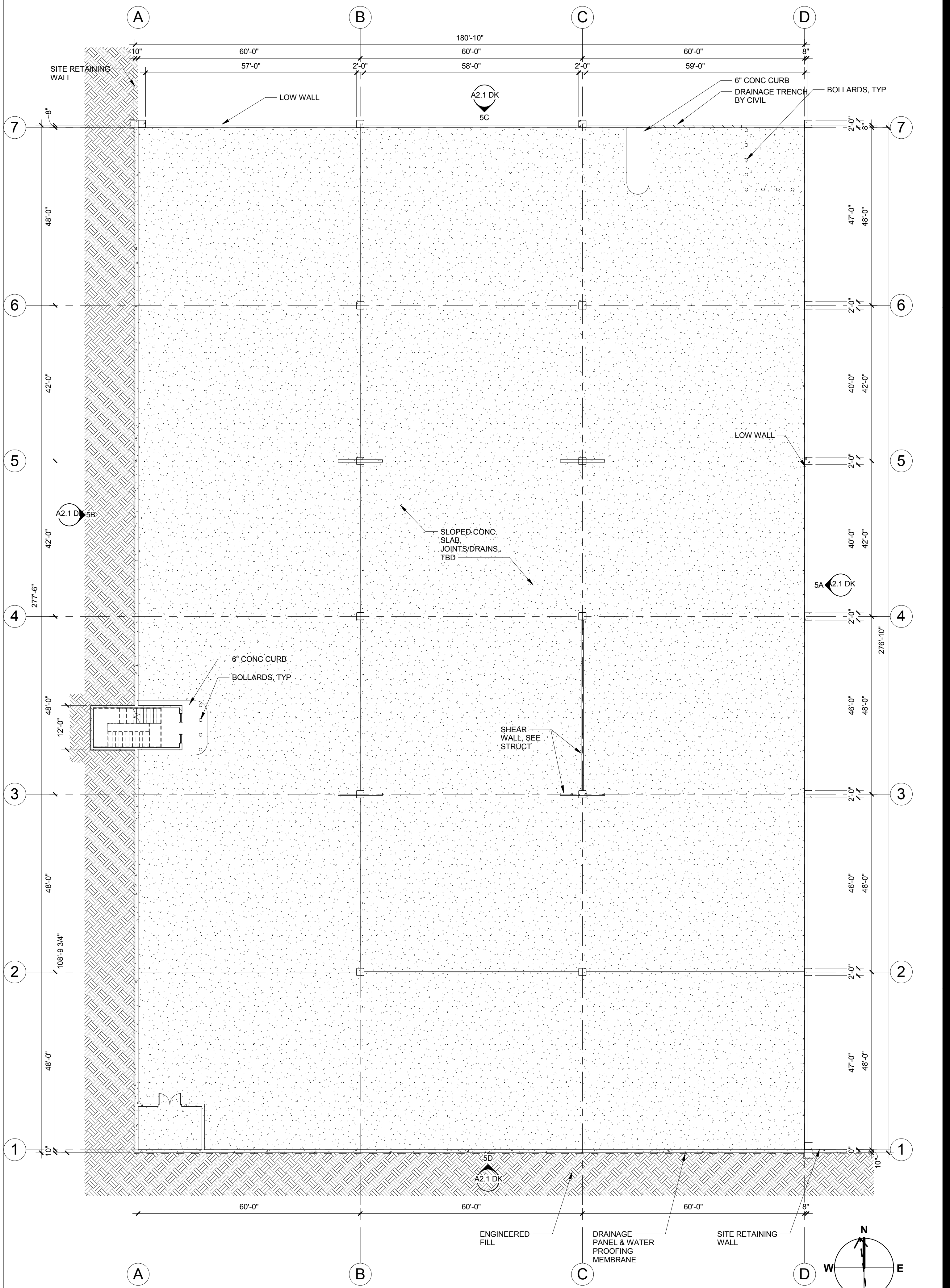
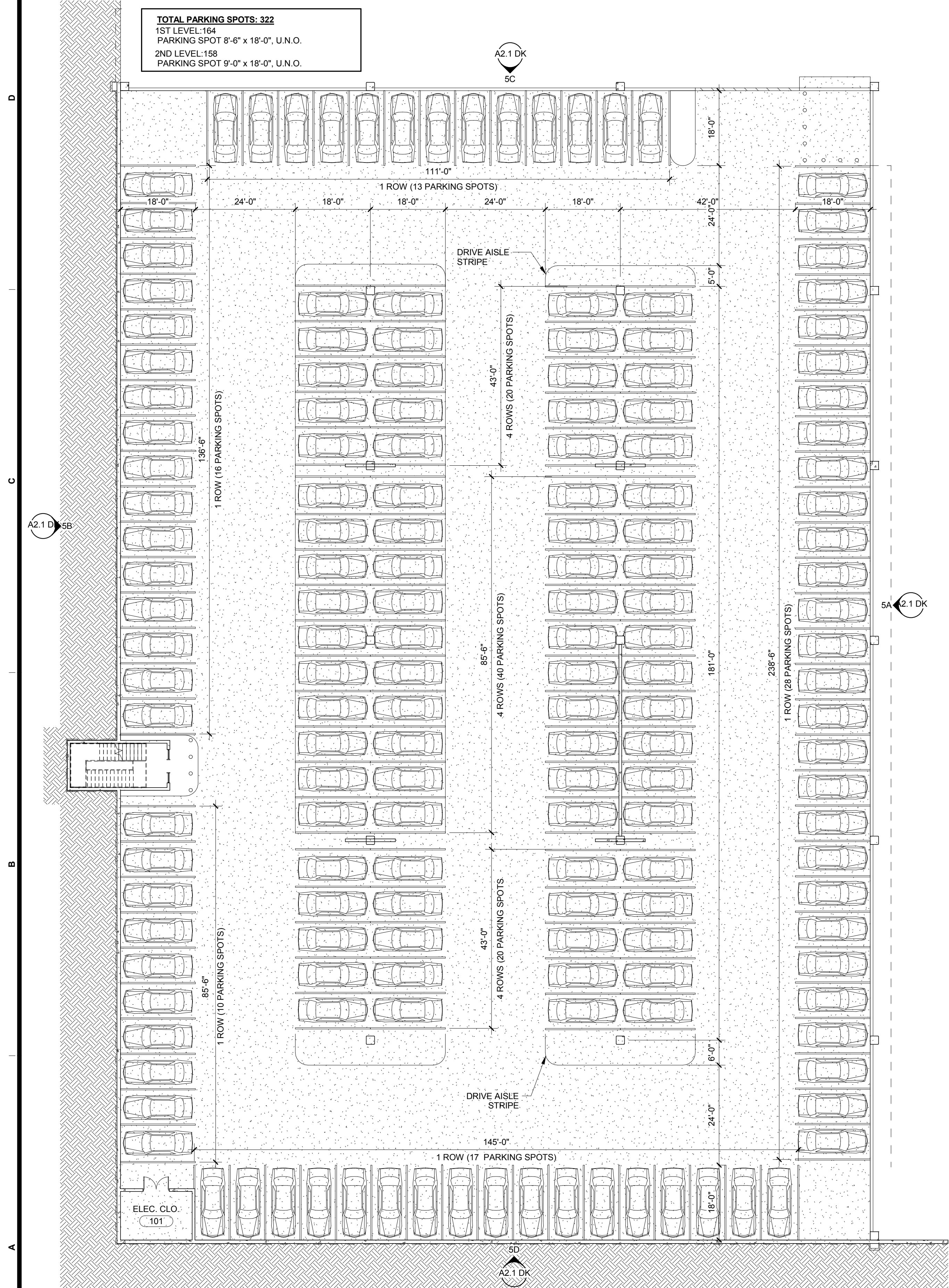
DRAWING TITLE  
**EXTERIOR ELEVATIONS**

DRAWING NO.  
**A2.2**

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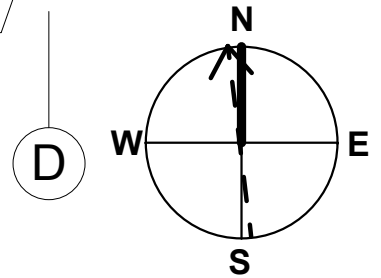
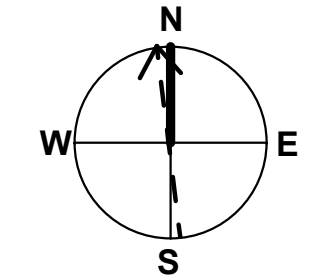
**NOT FOR  
CONSTRUCTION**



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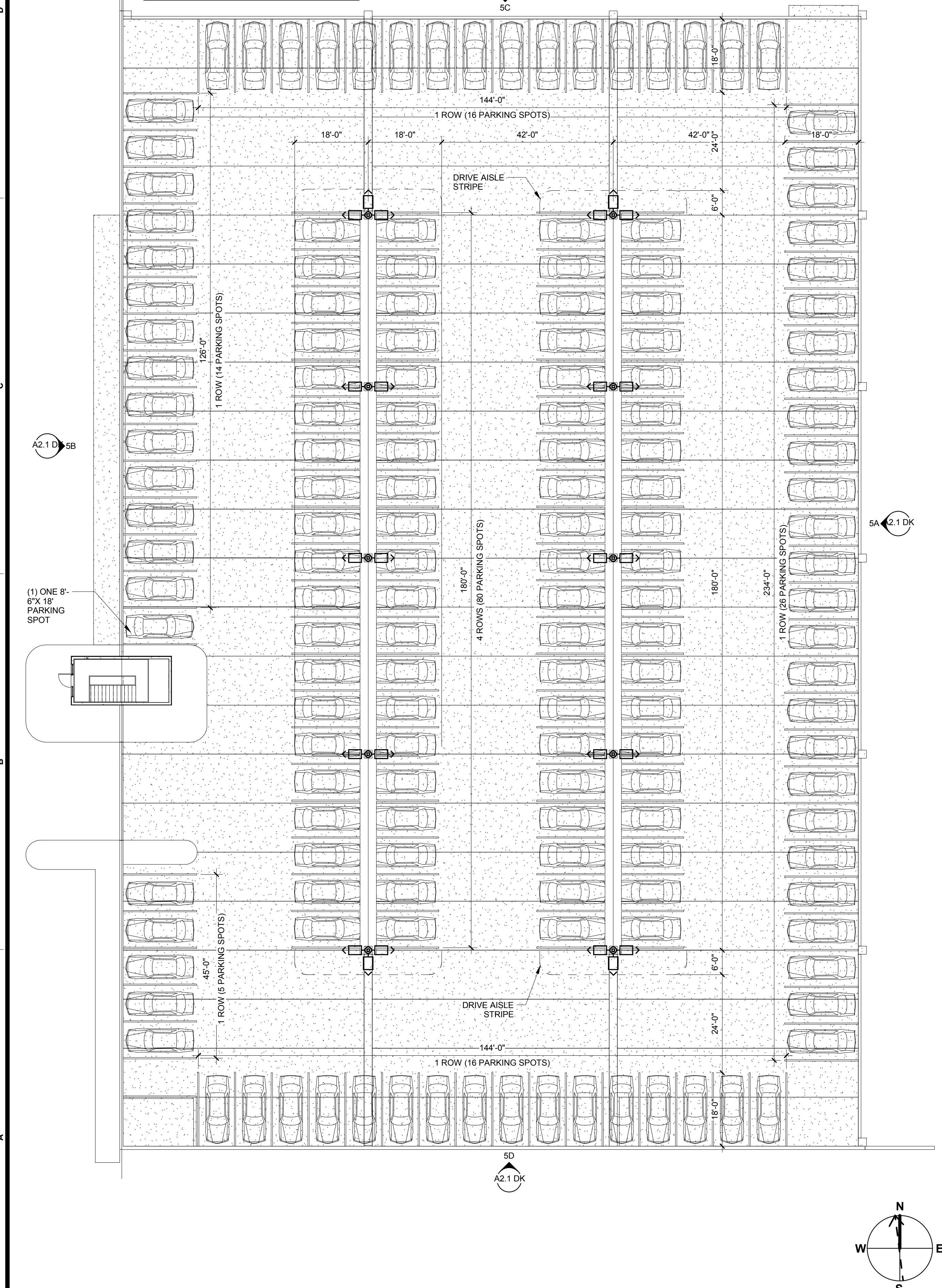
**5A 1ST LEVEL PARKING PLAN**  
SCALE: 1/16" = 1'-0" DRAWING REF: A2.1 DK

**2A 1ST LEVEL CONSTRUCTION PLAN**  
SCALE: 1/16" = 1'-0" DRAWING REF: A2.1 DK

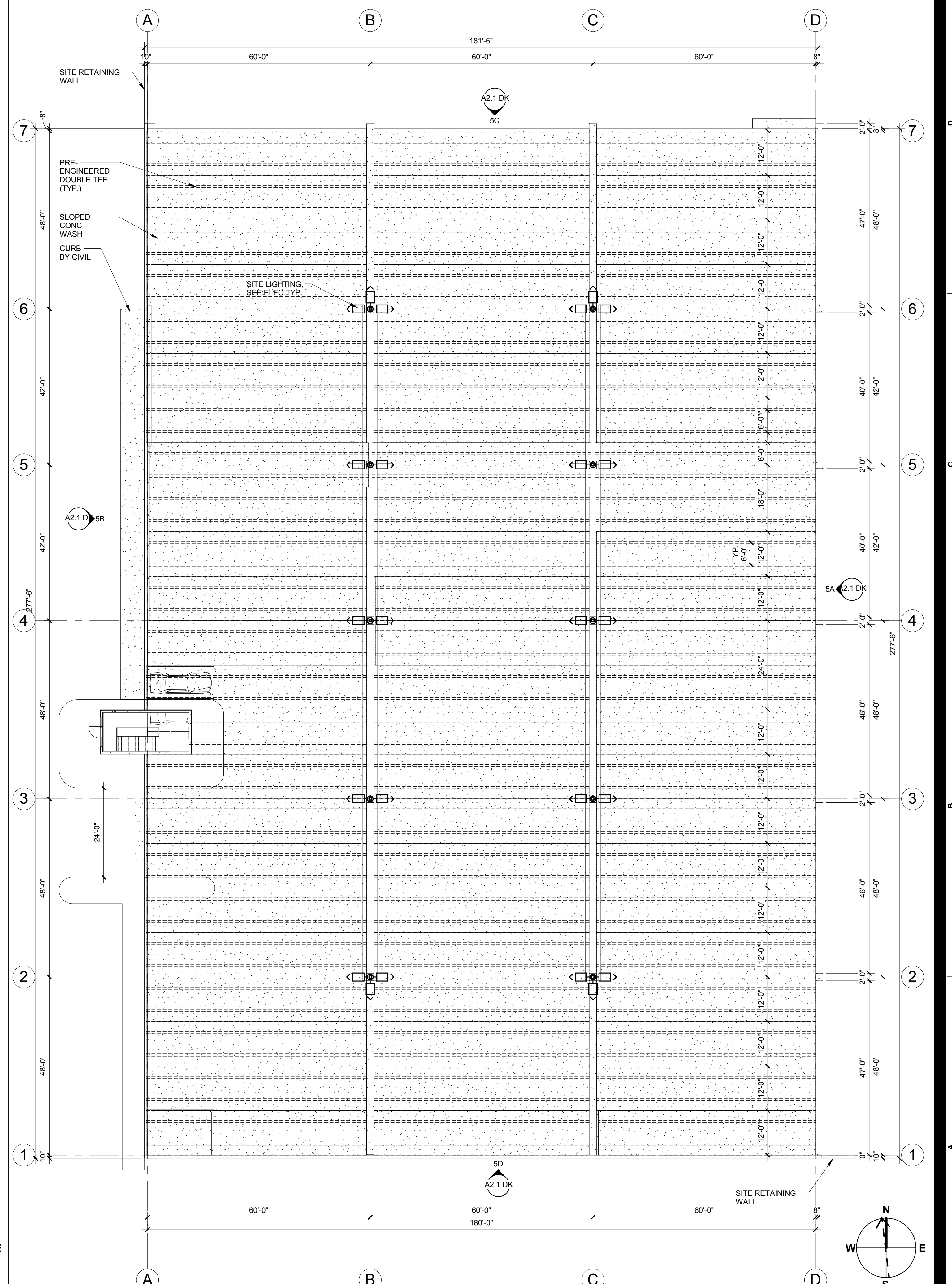




**TOTAL PARKING SPOTS: 322**  
 1ST LEVEL: 164  
 PARKING SPOT 8'-6" x 18'-0", U.N.O.  
 2ND LEVEL: 158  
 PARKING SPOT 9'-0" x 18'-0", U.N.O.



**5A 2ND LEVEL PARKING PLAN**  
 SCALE: 1/16" = 1'-0" DRAWING REF: A2.1 DK



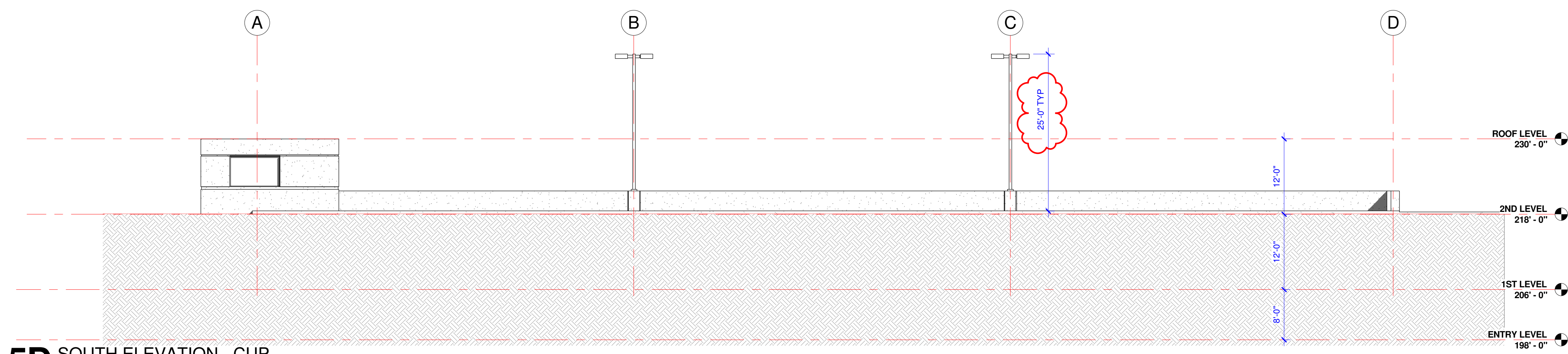
**3A 2ND LEVEL CONSTRUCTION PLAN**  
 SCALE: 1/16" = 1'-0" DRAWING REF: A2.1 DK

**NOT FOR CONSTRUCTION**

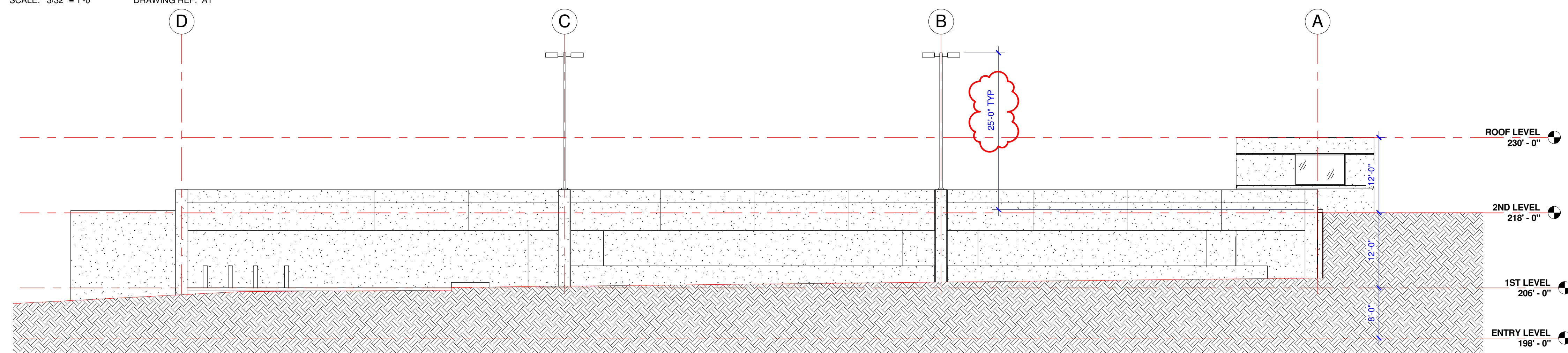
9/27/2016 3:08:54 PM



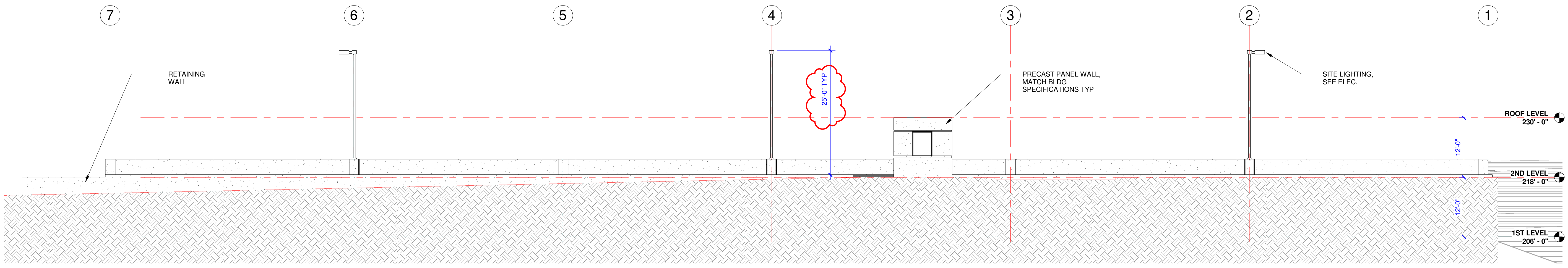
NOT FOR  
CONSTRUCTION



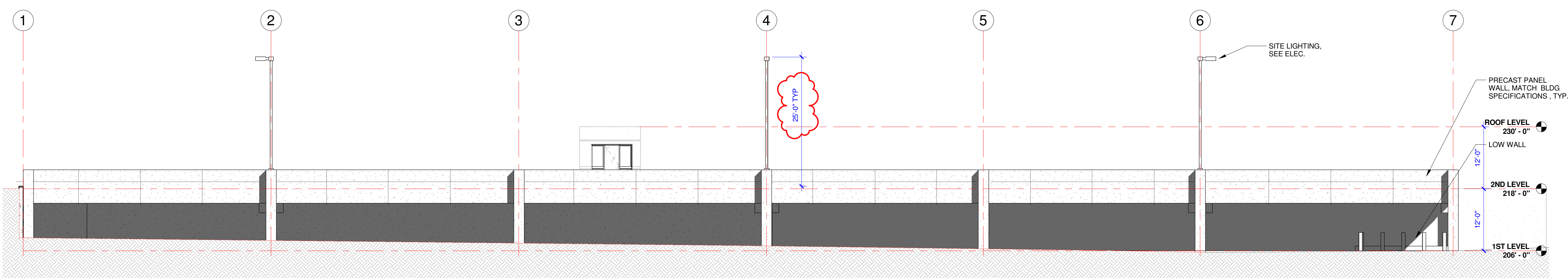
5D SOUTH ELEVATION - CUP  
SCALE: 3/32" = 1'-0" DRAWING REF: A1



5C NORTH ELEVATION - CUP  
SCALE: 3/32" = 1'-0" DRAWING REF: A1



5B WEST ELEVATION - CUP  
SCALE: 3/32" = 1'-0" DRAWING REF: A1



5A EAST ELEVATION - CUP  
SCALE: 3/32" = 1'-0" DRAWING REF: A1

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