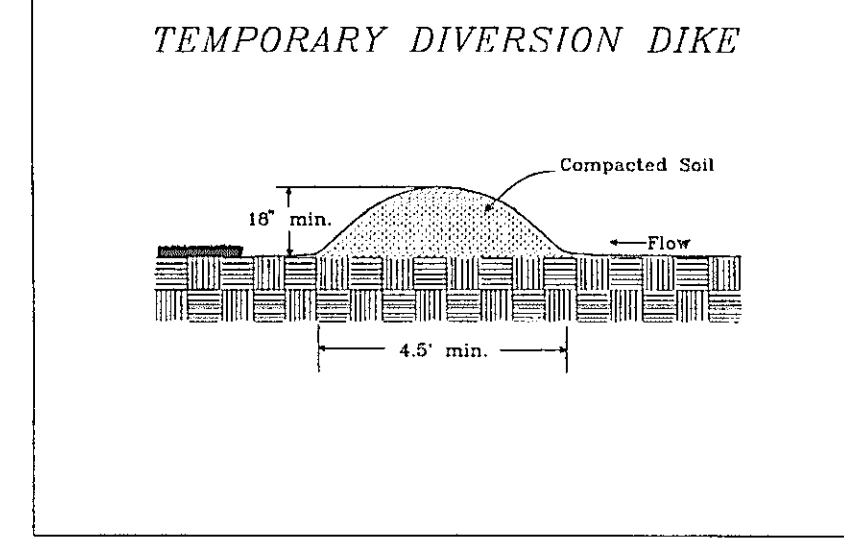
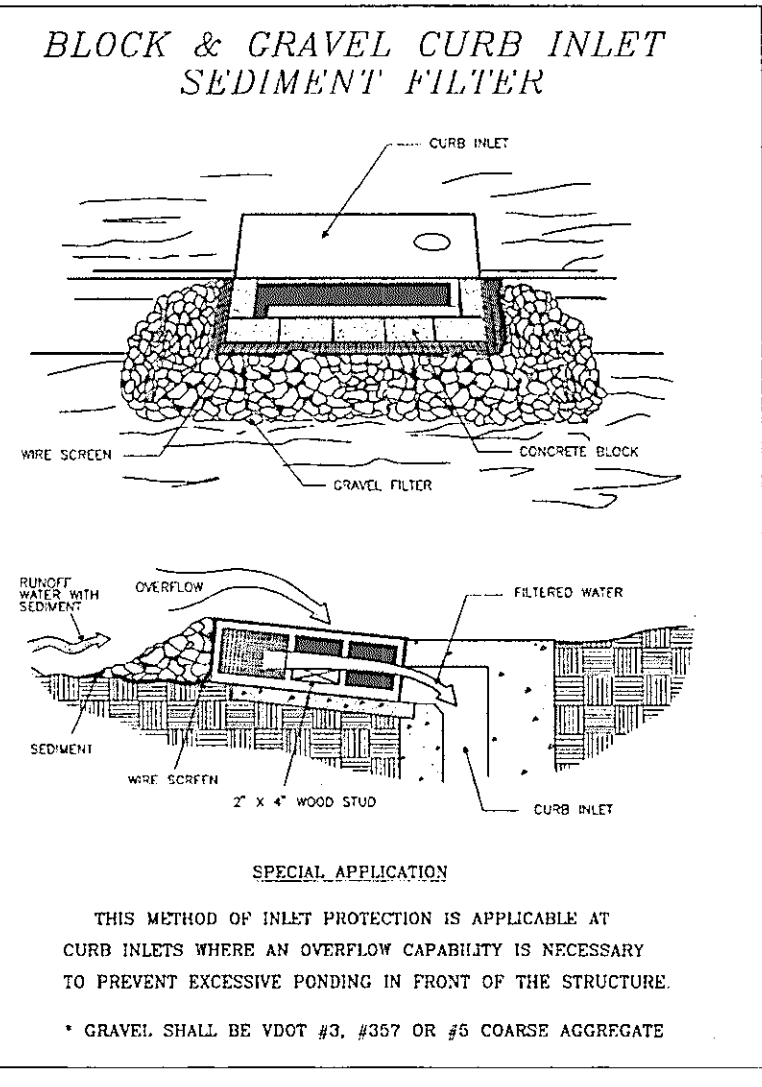




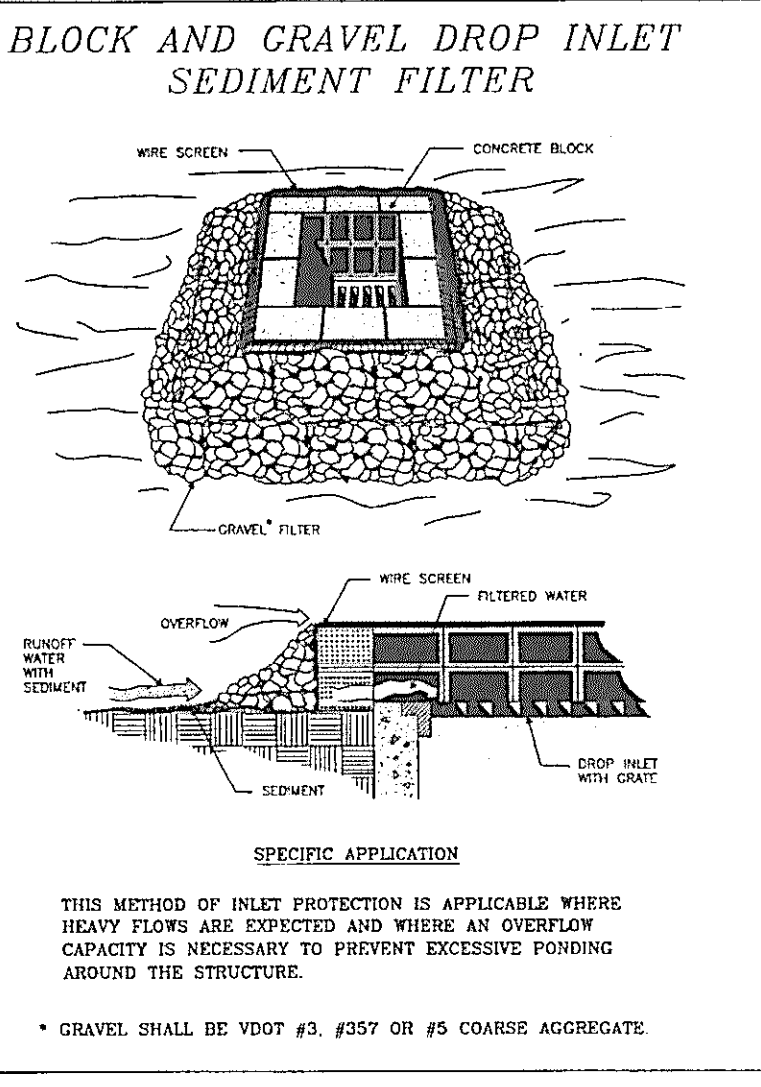
**Height**  
The minimum allowable height measured from the upslope side of the dike is 18 inches (see Plate 3.09-1).



**Source:** Va. DSWC Plate 3.09-1  
**Side Slopes**  
1½:1 or flatter, along with a minimum base width of 4.5 feet (see Plate 3.09-1).  
**Grade**  
The channel behind the dike shall have a positive grade to a stabilized outlet. If the channel slope is less than or equal to 2%, no stabilization is required. If the slope is greater than 2%, the channel shall be stabilized in accordance with Std. & Spec. 3.17, STORMWATER CONVEYANCE CHANNEL.  
**Outlet**  
1. The diverted runoff, if free of sediment, must be released through a stabilized outlet or channel.



**SOURCE:** Va. DSWC Plate 3.07-8



**SOURCE:** Va. DSWC Plate 3.07-3

**Mulching**  
1. Seedlings made in fall for winter cover and during hot and dry summer months shall be mulched according to MULCHING, Std. & Spec. 3.35, except that hydromulches (fiber mulch) will not be considered adequate. Straw mulch should be used during these periods.  
2. Temporary seedlings made under favorable soil and site conditions during optimum spring and fall seeding dates may not require mulch.  
**Re-seeding**  
Areas which fail to establish vegetative cover adequate to prevent soil erosion will be re-seeded as soon as such areas are identified.

TABLE 3.31-B  
ACCEPTABLE TEMPORARY SEEDING PLANT MATERIALS  
"QUICK REFERENCE FOR ALL REGIONS"

Planting Dates	Species	Rate (lb./acre)
Sept. 1 - Feb. 15	50/50 Mix of Annual Ryegrass (Lolium multi-florum) & Cereal (Winter) Rye (Secale cereale)	50 - 100
Feb. 16 - Apr. 30	Annual Ryegrass (Lolium multi-florum)	60 - 100
May 1 - Aug 31	German Millet (Setaria italica)	50

UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF FAUQUIER COUNTY AND THE THIRD EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VE&SCH).

THE CONTRACTOR SHALL COORDINATE A PRE-CONSTRUCTION MEETING WITH FAUQUIER COUNTY EROSION AND SEDIMENT CONTROL INSPECTOR AFTER RECEIVING THE LAND DISTURBING PERMIT. A COPY OF THE STORMWATER POLLUTION PREVENTION PLAN IS REQUIRED AT THE PRE-CONSTRUCTION MEETING REVIEW.  
THE SPECIFIC AREAS TO BE CLEARED SHALL BE IDENTIFIED PRIOR TO BEGINNING CONSTRUCTION. REFER TO THE PLAN FOR THE PROPOSED LIMITS OF CLEARING AND GRADING.

**STRUCTURAL PRACTICES:**  
1. SAFETY FENCE - 3.01  
A PROTECTIVE BARRIER INSTALLED TO PREVENT ACCESS TO AN EROSION CONTROL MEASURE.  
2. CONSTRUCTION ENTRANCE - 3.02  
A STABILIZED STONE PAD WITH A FILTER FABRIC UNDERLINER LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS ON A CONSTRUCTION SITE (TO INCLUDE A WASH RACK WITH A WATER TANK OR TRUCK AS SOURCE).  
3. SILT FENCE AND SUPER SILT FENCE - 3.05  
SILT FENCE SEDIMENT BARRIERS WILL BE INSTALLED DOWN SLOPE OF DISTURBED AREAS TO FILTER SEDIMENT-LADEN RUNOFF FROM SHEET FLOW AS SHOWN ON THE PLAN.  
4. STORM DRAIN INLET PROTECTION - 3.07  
A SEDIMENT FILTER OR AN EXCAVATED IMPOUNDING AREA AROUND A STORM DRAIN DROP INLET OR CURB INLET TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAINAGE SYSTEMS PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREA.  
5. TEMPORARY DIVERSION DIKE-3.09  
A TEMPORARY RIDGE OF COMPACTED SOIL CONSTRUCTED AT THE TOP OR BOTTOM OF A SLOPING DISTURBED AREA.  
6. SURFACE ROUGHENING - 3.29  
SURFACE ROUGHENING WILL BE APPLIED TO FILL SLOPES PRIOR TO FINAL GRADING IN ORDER TO REDUCE SURFACE RUNOFF VELOCITIES AND PREVENT RILL EROSION.  
7. TEMPORARY SEEDING - 3.31  
ESTABLISHMENT OF TEMPORARY VEGETATIVE COVER ON DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR PERIODS OF 30 DAYS TO ONE YEAR BY SEEDING WITH APPROPRIATE RAPIDLY-GROWING PLANTS.  
8. PERMANENT SEEDING - 3.32  
ESTABLISHMENT OF PERENNIAL VEGETATIVE COVER BY PLANTING SEED ON ROUGH-GRADED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A YEAR OR MORE OR WHERE PERMANENT, LONG-LIVED VEGETATIVE COVER IS NEEDED ON FINE-GRADED AREAS.  
9. TREE PROTECTION - 3.38  
A FENCE BARRIER IS TO BE PLACED AROUND THE TREES AND VEGETATED AREAS, WHICH WILL NOT BE DISTURBED, TO PROTECT THE TREES AND OTHER VEGETATION FROM CONSTRUCTION EQUIPMENT AND SOIL COMPACTION.  
10. DUST CONTROL - 3.39  
DUST CONTROL SHALL BE APPLIED AS NOTED ON PLAN.  
11. TEMPORARY SEDIMENT TRAP - 3.13  
A TEMPORARY PONDING AREA FORMED BY CONSTRUCTING AN EARTHEN EMBANKMENT WITH A STONE OUTLET.  
12. CULVERT INLET PROTECTION - 3.08  
A SEDIMENT FILTER LOCATED AT THE INLET OF THE STORM SEWER CULVERT.  
13. TEMPORARY RIGHT-OF-WAY DIVERSION - 3.11  
A RIDGE OF COMPACTED SOIL OF LOOSE ROCK OR GRAVEL CONSTRUCTED ACROSS DISTURBED RIGHTS-OF-WAY AND SIMILAR SLOPING AREAS.

**STORMWATER RUNOFF:**  
THE INCREASED STORMWATER RUNOFF, DUE TO THE CONSTRUCTION OF THE PROPOSED BUILDING, PARKING, AND STORAGE AREAS HAS BEEN ROUTED TO THE EXISTING STORMWATER MANAGEMENT FACILITY (WET POND) LOCATED OFF SITE TO THE NORTH OF THE PROJECT AREA. WATER QUALITY REQUIREMENTS FOR THE PROPOSED DEVELOPMENT SHALL BE ADDRESSED VIA THE NONPOINT OFFSET PROGRAM.

**MAINTENANCE:**  
ALL MEASURES ARE TO BE INSPECTED DAILY BY THE SITE SUPERINTENDENT AND INSPECTOR. ANY DAMAGED DEVICES WILL BE REPAIRED BY THE CLOSE OF THE DAY. ALL TRAPS SHALL BE CLEANED MONTHLY AND AFTER ANY RAINFALL OF 1 INCH OR MORE. IN ADDITION, THE FOLLOWING MAINTENANCE SCHEDULE SHALL BE EMPLOYED:  
a) STONE FILTERS SHALL BE CLEANED WHEN SEDIMENT REACHES ONE HALF OF THE HEIGHT OF THE FILTER.  
b) SILT FENCE SHALL BE CLEANED WHEN SEDIMENT REACHES ONE HALF THE HEIGHT OF THE FENCE.  
c) THE SEEDED AREAS WILL BE CHECKED REGULARLY TO INSURE THAT A GOOD STAND IS MAINTAINED.  
d) TEMPORARY STOCKPILES SHALL BE GRADED TO DRAIN FREELY AND HAVE PERIMETER EROSION CONTROLS INSTALLED IF TO REMAIN LONGER THAN 14 DAYS.

**TEMPORARY SEEDING SPECIFICATIONS**  
PRIOR TO SEEDING, INSTALL NECESSARY EROSION CONTROL PRACTICES SUCH AS DIKES, WATERWAYS, AND BASINS.

**PLANT SELECTION:**  
SELECT PLANTS APPROPRIATE TO THE SEASON AND SITE CONDITIONS FROM TABLES 3.31-B AND 3.32 D SHEET 2.

**SEEDBED PREPARATION:**  
TO CONTROL EROSION ON BARE SOIL SURFACES, PLANTS MUST BE ABLE TO GERMINATE AND GROW. SEEDBED PREPARATION IS ESSENTIAL.

1. FERTILIZER: SHALL BE APPLIED AT 600 LBS./ACRE OF 10-20-10 (14LBS./1000 SQ. FT.) OR EQUIVALENT NUTRIENTS. FERTILIZER SHALL BE INCORPORATED INTO THE TOP 2 TO 4 INCHES OF THE SOIL IF POSSIBLE.  
2. SURFACE ROUGHENING: IF THE AREA HAS BEEN RECENTLY LOOSENED OR DISTURBED, NO FURTHER ROUGHENING IS REQUIRED. WHEN THE AREA IS COMPACTED, CRUSTED, OR HARDENED, THE SOIL SURFACE SHALL BE LOOSENED BY DISCS, RAKING, HARROWING OR OTHER ACCEPTABLE MEANS.  
3. TRACKING: TRACKING WITH BULLDOZER CLEATS IS MOST EFFECTIVE ON SANDY SOILS, AND DOES NOT AID PLANT GROWTH AS EFFECTIVELY AS OTHER METHODS OF SURFACE ROUGHENING.

**SEEDING:**  
SEED SHALL BE EVENLY APPLIED WITH A BROADCAST SEEDER, DRILL, CULTIPACKER SEEDER OR HYDROSEEDER. SMALL GRAINS SHALL BE PLANTED NO MORE THAN ONE INCH DEEP. GRASSES AND LEGUMES SHALL BE PLANTED WITH NO LESS THAN ¼" SOIL COVER.

**MULCHING:**  
1. TEMPORARY SEEDINGS MADE UNDER FAVORABLE SOIL AND SITE CONDITIONS DURING OPTIMUM SPRING AND FALL SEEDING DATES MAY NOT REQUIRE MULCH.  
2. SEEDING MADE IN THE FALL FOR WINTER COVER AND DURING HOT AND DRY SUMMER MONTHS SHALL BE MULCHED AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE. APPLICATION SHALL BE AS FOLLOWS:  
APPLICATION: MULCH MATERIAL SHALL BE SPREAD UNIFORMLY, BY HAND OR MACHINE.

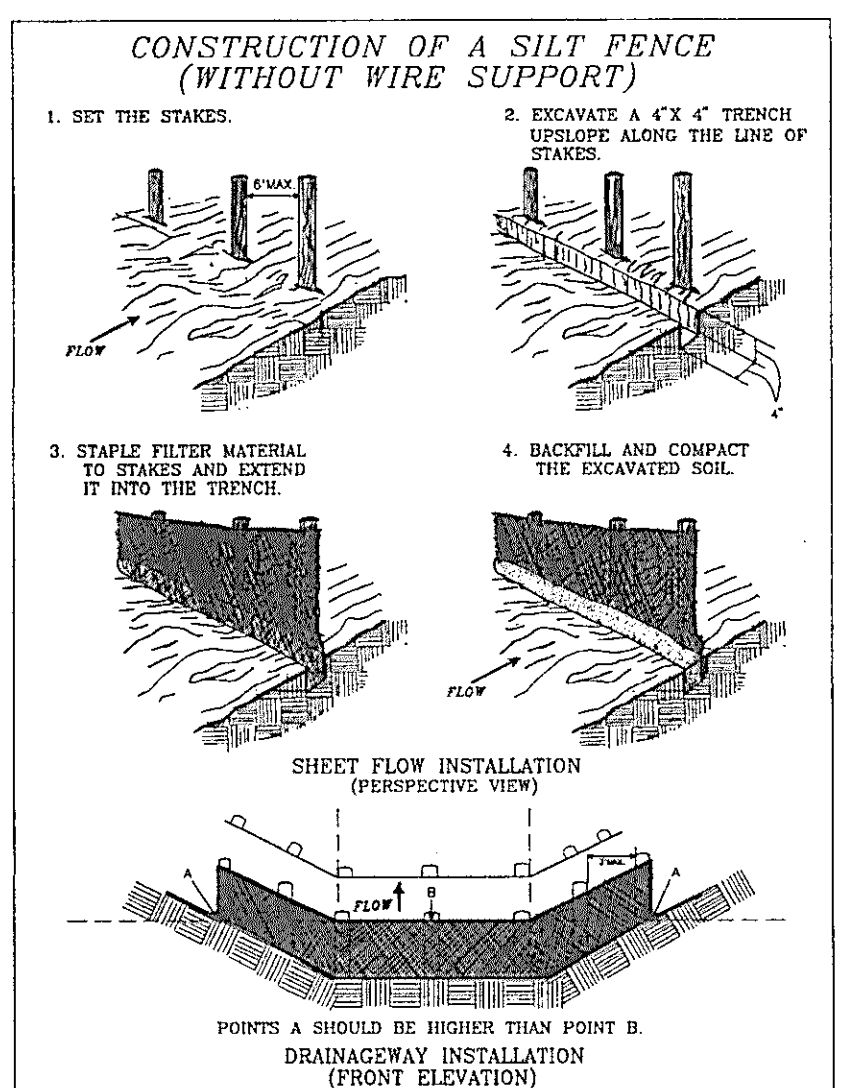
WHEN SPREADING STRAW MULCH BY HAND, DIVIDE THE AREA TO BE MULCHED INTO APPROXIMATELY 1,000 SQUARE FOOT SECTIONS AND PLACE 70-90 POUNDS (1-1/2 TO 2 BALES) OF STRAW IN EACH SECTION TO FACILITATE UNIFORM DISTRIBUTION.

**MULCH ANCHORING:**  
STRAW MULCH MUST BE ANCHORED IMMEDIATELY AFTER SPREADING TO PREVENT DISPLACEMENT. THE FOLLOWING METHODS OF ANCHORING STRAW MAY BE USED:  
1. MULCH ANCHORING TOOL (OFTEN REFERRED TO AS A KRIMPER OR KRIMPER TOOL): THIS IS A TRACTOR-DRAWN IMPLEMENT DESIGNED TO PUNCH MULCH INTO THE SOIL SURFACE. THIS METHOD PROVIDES GOOD EROSION CONTROL WITH STRAW. IT IS LIMITED TO USE ON SLOPES NO STEEPER THAN 3:1, WHERE EQUIPMENT CAN OPERATE SAFELY.  
2. FIBER MULCH: A VERY COMMON PRACTICE WITH WIDESPREAD USE TODAY. APPLY FIBER MULCH BY MEANS OF A HYDRO SEEDER AT A RATE OF 500-750 LBS./ACRE OVER TOP OF STRAW MULCH OR HAY. IT HAS AN ADDED BENEFIT OF PROVIDING ADDITIONAL MULCH TO THE NEWLY SEEDER AREAS.  
3. LIQUID MULCH BINDERS: APPLICATION OF LIQUID MULCH BINDERS AND TACKIFIERS SHOULD BE HEAVIEST AT EDGES OF AREAS AND AT CRESTS OF RIDGES AND BANKS, TO PREVENT DISPLACEMENT. THE REMAINDER OF THE AREA SHOULD HAVE BINDER APPLIED UNIFORMLY. BINDERS MAY BE APPLIED AFTER MULCH IS SPREAD OR MAY BE SPRAYED INTO THE MULCH AS IT IS BEING BLOWN ONTO THE SOIL.

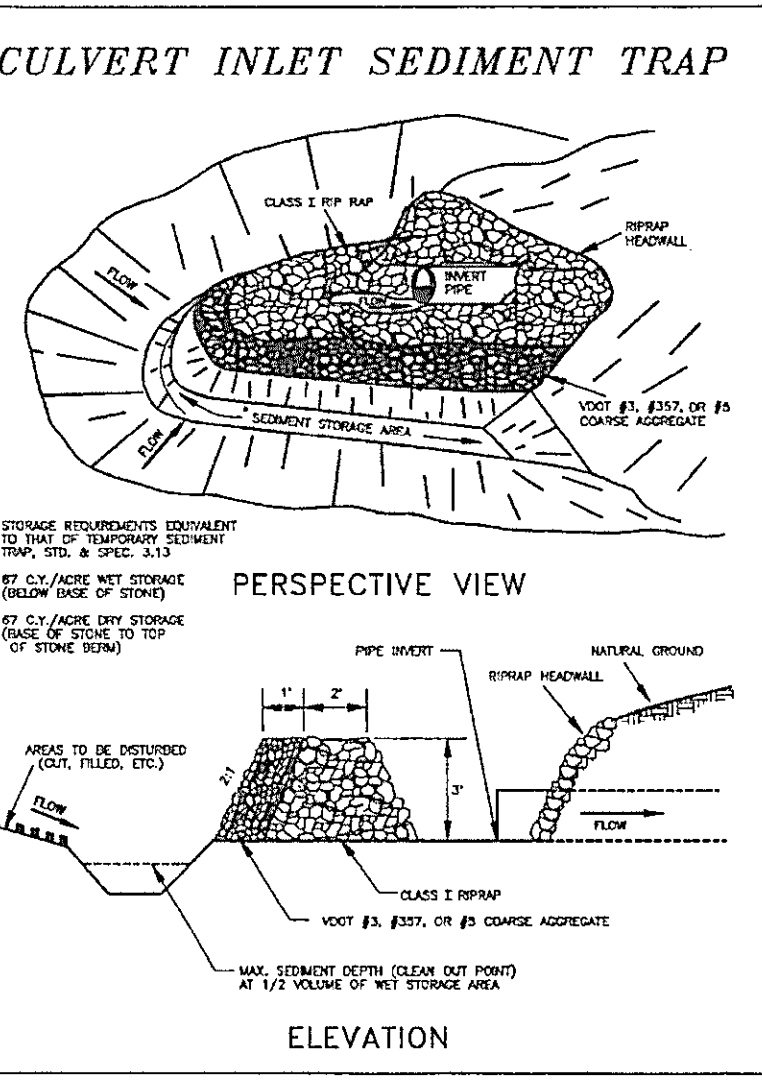
**RE-SEEDING**  
AREAS WHICH FAIL TO ESTABLISH VEGETATIVE COVER ADEQUATE TO PREVENT RILL EROSION WILL BE RE-SEED AS SOON AS SUCH AREAS ARE IDENTIFIED.

**EROSION & SEDIMENT CONTROL STANDARD NOTES**

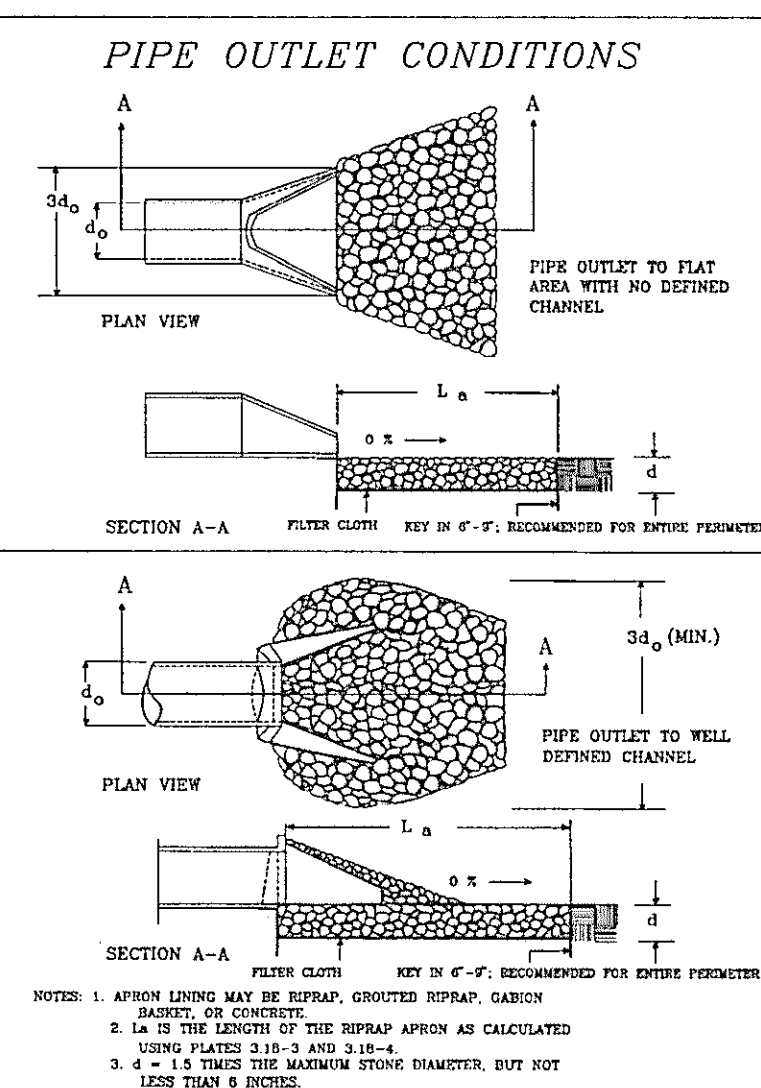
- UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARD AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND THE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS.
- 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 ON THE SITE AT ALL TIMES.
- 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.



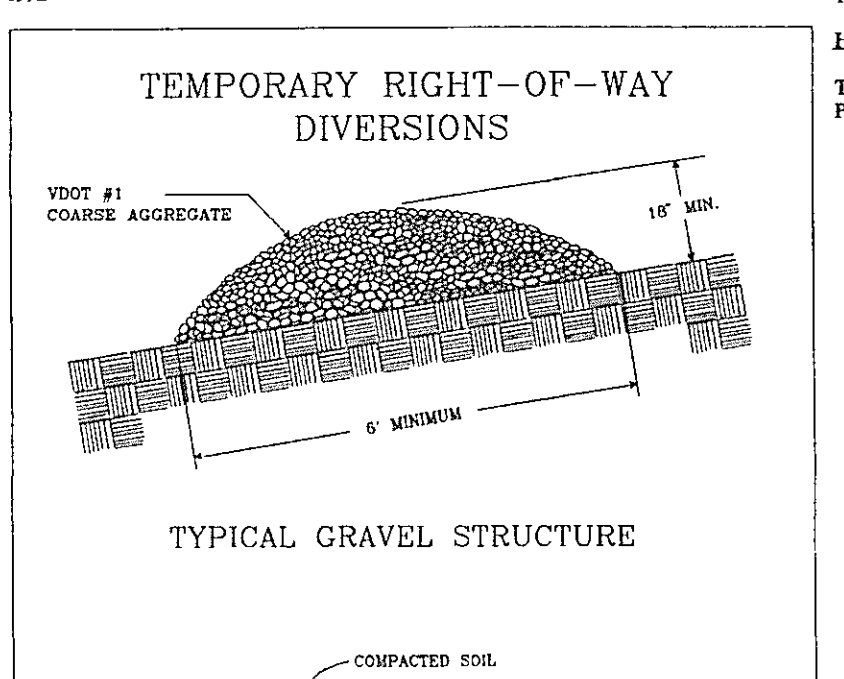
**SOURCE:** Adapted from Installation of Straw and Fabric Filter Barriers for Sediment Control, Sherwood and Wyent Plate 3.05-2



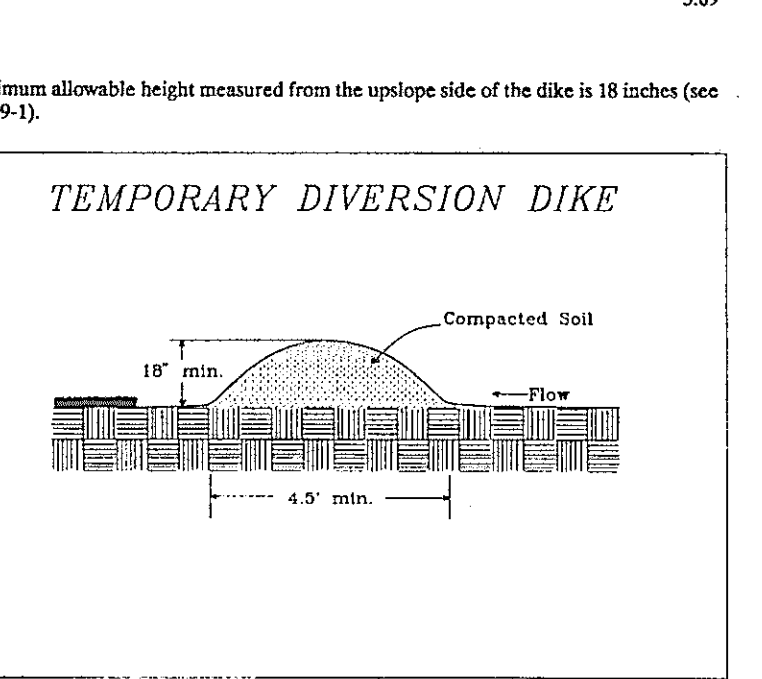
**SOURCE:** North Carolina Sediment Control Commission Plate 3.08-2



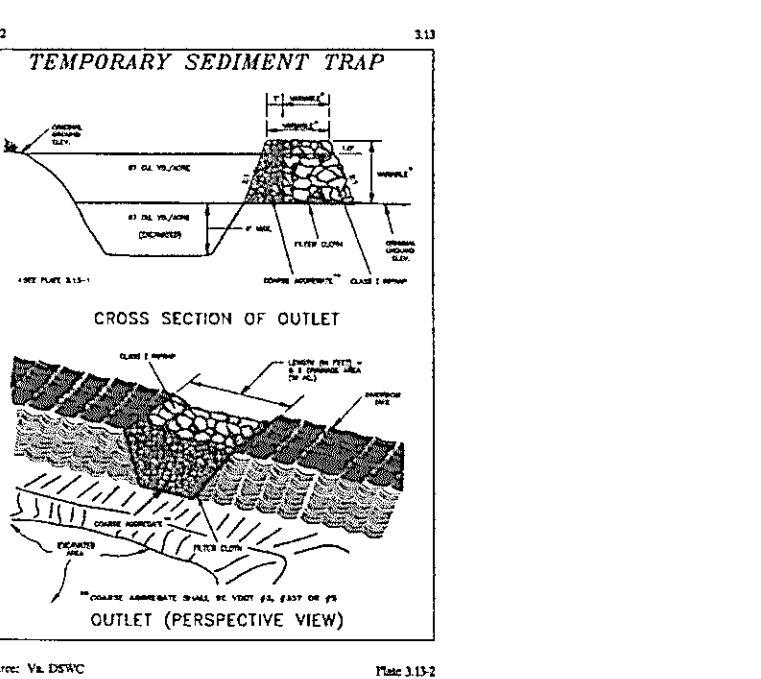
**SOURCE:** Va. DSWC Plate 3.18-1



**SOURCE:** Va. DSWC Plate 3.11-1



**SOURCE:** Va. DSWC Plate 3.09-1



**SOURCE:** Va. DSWC Plate 3.05-2

TABLE 3.32-B  
SITE SPECIFIC SEEDING MIXTURES FOR COASTAL PLAIN AREA

Minimum Care Lawn - Residential - Commercial or Kentucky 31 or Turf-Type Tall Fescue or Common Bermudagrass **	Total Lbs. Per Acre
175-200 lbs.	75 lbs.
High-Maintenance Lawn - Kentucky 31 or Turf-Type Tall Fescue or Hybrid Bermudagrass (seed) **	200-250 lbs.
40 lbs. (unhulled)	30 lbs. (hulled)
Hybrid Bermudagrass (by other vegetative establishment method, see Std. & Spec. 3.34)	
General Slope (3:1 or less) - Kentucky 31 Fescue	128 lbs.
2 lbs.	20 lbs.
150 lbs.	150 lbs.
Low-Maintenance Slope (Steeper than 3:1) - Kentucky 31 Tall Fescue	93-108 lbs.
0.15 lbs.	2 lbs.
20 lbs.	20 lbs.
150 lbs.	150 lbs.

\* Use seasonal nurse crop in accordance with seeding dates as stated below:  
February, March through April . . . . . Annual Rye  
May 1st through August . . . . . Fescue Millet  
September, October through November 15th . . . . . Annual Rye  
November 16th through January . . . . . Winter Rye  
\*\* May through October, use hulled seed. All other seeding periods, use unhulled seed. Weeping Lovegrass may be added to any slope or low-maintenance mix during warmer seeding periods; add 10-20 lbs./acre in mixes.

TABLE 3.33-A  
ORGANIC MULCH MATERIALS AND APPLICATION RATES

MULCHES	Per Area	RATES	NOTES
Straw or Hay	1½ - 2 tons (Minimum 2 tons for winter cover)	75 - 90 lbs.	Free from weeds and coarse matter. Must be anchored. Spread with mulch blower or by hand.
Fiber Mulch	Minimum 1500 lbs.	35 lbs.	Do not use as mulch for winter cover or during hot, dry periods. Apply as slurry.
Corn Stalks	4 - 6 tons	185 - 275 lbs.	Cut or shredded in 4" lengths. Air-dried. Do not use in fine turf areas. Apply with mulch blower or by hand.
Wood Chips	4 - 6 tons	185 - 275 lbs.	Free of coarse matter. Air-dried. Trees with 12" diameter per inch. Do not use in fine turf areas. Apply with mulch blower, chip handler, or by hand.
Bark Chips	50 - 70 cu. yds.	1-2 cu. yds.	Free of coarse matter. Air-dried. Do not use in fine turf areas. Apply with mulch blower, chip handler, or by hand.
Strawbed Bark			

\* When fiber mulch is the only available mulch during periods when straw should be used, apply at a minimum rate of 2000 lbs. or 45 lbs./1000 sq. ft.

**EROSION & SEDIMENT CONTROL NARRATIVE**

**PROJECT DESCRIPTION:**  
THIS SITE CONSISTS OF 3.55 ACRES FOR A PROPOSED DEVELOPMENT TO INCLUDE AN OFFICE/WAREHOUSE FACILITY. APPROXIMATELY 3.97 ACRES WILL BE DISTURBED ON SITE TO SUPPORT THE PROPOSED TWO PHASE CONSTRUCTION. THE SUBJECT PARCEL IS LOCATED SOUTH OF BURROUGH DRIVE IN FAUQUIER COUNTY VIRGINIA.

**EXISTING SITE CONDITIONS:** THE SITE GROUND COVER IS PREDOMINANTLY TALL GRASSES, WITH STANDS OF TREES LOCATED THROUGHOUT. SLOPES WITHIN THE PROJECT AREA GENERALLY RANGE FROM 0 TO 8 PERCENT.

**ADJACENT PROPERTY:** THE SUBJECT PARCELS ARE LOCATED BETWEEN TWO PARCELS CURRENTLY ZONED M-2 WHICH ARE VACANT AND LOCATED TO THE EAST AND WEST RESPECTIVELY.

**OFF-SITE AREAS:** OFFSITE DISTURBANCE SHALL BE LIMITED TO CONSTRUCTION OF THE PROPOSED ENTRANCE, AND THE TIE-IN OF THE RESPECTIVE PROPOSED CURB AND PAVEMENT SECTION AS GENERALLY REQUIRED TO MATCH THE EXISTING CURB AND PAVEMENT SECTIONS. IN ADDITION, OFFSITE GRADING SHALL BE REQUIRED TO INSURE THAT POSITIVE DRAINAGE IS MAINTAINED. THE DEVELOPER SHALL SECURE THE REQUIRED DOCUMENTATION TO SUPPORT THE PROPOSED OFFSITE GRADING ACTIVITY.

**CRITICAL EROSION AREAS:** THE SITE INSPECTOR SHALL HAVE THE AUTHORITY TO ADJUST OR REQUIRE ADDITIONAL EROSION MEASURES IF REQUIRED TO PREVENT SEDIMENT FROM LEAVING THE DISTURBED AREAS.  
THE EXISTING STORMWATER MANAGEMENT FACILITY LOCATED TO THE NORTH OF THE SUBJECT PARCEL, AND ADDRESSES THE STORMWATER MANAGEMENT REQUIREMENTS FROM THE PROPOSED DEVELOPMENT.

**ROSS-FRANCE**  
CIVIL ENGINEERING - LAND SURVEYING  
9417 INNOVATION DRIVE, MASSACHUSETTS, VA 20110  
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COMMONWEALTH OF VIRGINIA  
R. MICHAEL MASSEY, P.E.  
Lic. No. 23985  
07/22/2022  
PROFESSIONAL ENGINEER

VINT HILL LOT 9A-1  
SCOTT/MASTRIERLAND DISTRICT  
FAUQUIER COUNTY, VIRGINIA

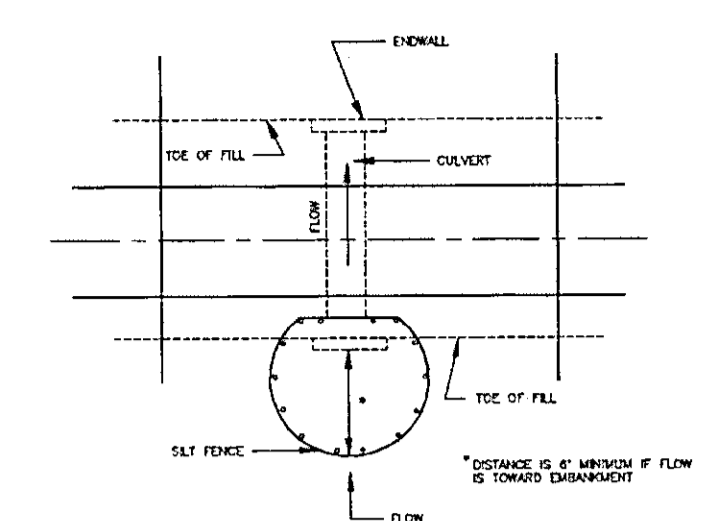
EROSION CONTROL DETAILS & NARRATIVE

REVISION

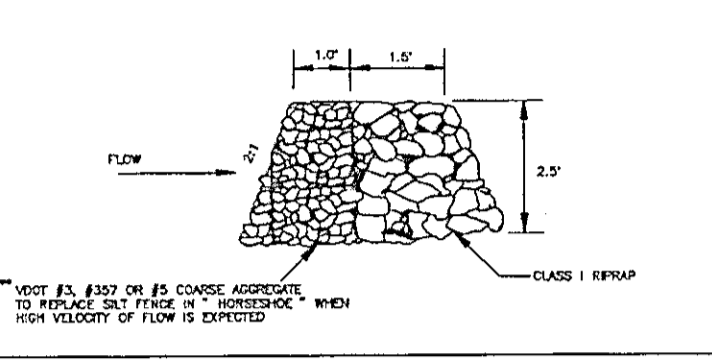
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SHEET 2

SILT FENCE CULVERT INLET PROTECTION

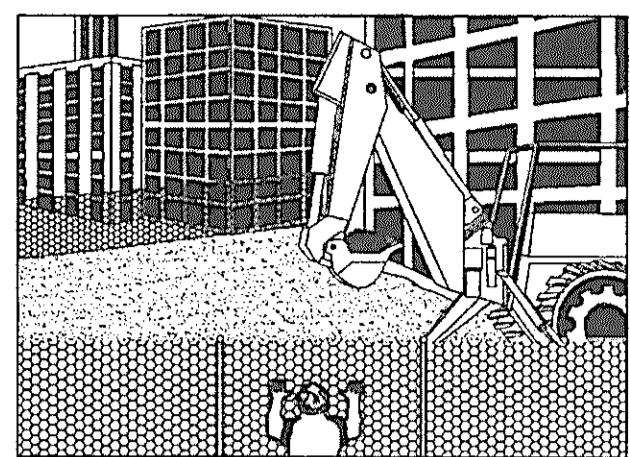


OPTIONAL STONE COMBINATION

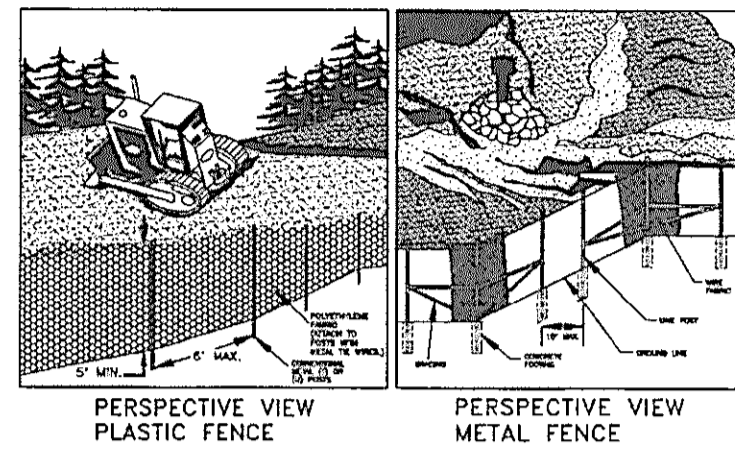


Source: Adapted from VDOT Standard Sheets and Va. DSWC Plate 3.08-1

SAFETY FENCE



PERSPECTIVE VIEW



Source: Adapted from Curved Plastics and VDOT Road and Bridge Standards Plate 3.01-1

CHECKLIST

FOR EROSION AND SEDIMENT CONTROLS PLANS

Minimum Standards - All applicable Minimum Standards must be addressed.

NARRATIVE

Project description - Briefly describes the nature and purpose of the land-disturbing activity, and the area (acres) to be disturbed.

Existing site conditions - A description of the existing topography, vegetation and drainage.

Adjacent areas - A description of the neighboring areas such as streams, lakes, residential areas, roads, etc., which might be affected by the land disturbance.

Off-site areas - Describe any off-site land-disturbing activities that will occur (including borrow sites, waste or surplus areas, etc.) Will any other areas be disturbed?

Soils - A brief description of the soils on the site giving such information as soil name, mapping unit, erodibility, permeability, depth, texture and soil structure.

Critical areas - A description of areas on the site which have potentially serious erosion problems (e.g., steep slopes, channels, wet weather/underground springs, etc.)

Erosion and sediment control measures - A description of the methods which will be used to control erosion and sedimentation on the site. (Controls should satisfy minimum standards in Chapter 3.)

Permanent stabilization - A brief description, including specifications, of how the site will be stabilized after construction is completed.

Stormwater runoff considerations - Will the development site cause an increase in peak runoff rates? Will the increase in runoff cause flooding or channel degradation downstream? Describe the strategy to control stormwater runoff.

Calculations - Detailed calculations for the design of temporary sediment basins, permanent stormwater detention basins, diversions, channels, etc. Include calculations for pre-and post- development runoff.

SITE PLAN

Vicinity map - A small map locating the site in relation to the surrounding area. Include any landmarks which might assist in locating the site.

Indicate north - The direction of north in relation to the site.

Limits of clearing and grading - Areas which to be cleared and graded.

Existing contours - The existing contours of the site.

Final contours - Changes to the existing contours, including final drainage patterns.

Existing vegetation - The existing tree lines, grassed areas, or unique vegetation.

Soils - The boundaries of different soil types.

Existing drainage patterns - The dividing lines and the direction of flow for the different drainage areas. Include size (acreage) of each drainage area.

Critical erosion areas - Areas with potentially serious erosion problems. (See Chapter 6 for criteria.)

Site Development - Show all improvements such as buildings, parking lots, access roads, utility construction, etc.

Location of practices - The locations of erosion and sediment control and stormwater management practices used on the site. Use the standard symbols and abbreviations in Chapter 3 of the E&S Handbook.

Off-site areas - Identify any off-site land-disturbing activities (e.g., borrow sites, waste areas, etc.) Show location of erosion controls. (Is there sufficient information to assure adequate protection and stabilization?)

Detail Drawings - Any structural practices used that are not referenced to the E&S Handbook or local handbooks should be explained and illustrated with detail drawings.

Maintenance - A schedule of regular inspections and repair of erosion and sediment control structures should be set forth.

9VAC25-840-40. Minimum standards. A VESCP must be consistent with the following criteria, techniques and methods:

- 1. 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.
2. During construction of the project, soil stockpiles 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.
3. 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.
4. Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment should be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.
5. Erosion measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation.
6. Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin.
a. 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.
b. 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 basin during 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.
7. 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.
8. Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure.
9. Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.
10. 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.
11. Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.
12. When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Non erodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be used for these structures if armored by non erodible cover materials.
13. When a live watercourse must be crossed by construction vehicles more than twice in any six-month period, a temporary vehicular stream crossing constructed of non erodible material shall be provided.
14. All applicable federal, state and local requirements pertaining to working in or crossing live watercourses shall be met.
15. The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.
16. Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:
a. No more than 500 linear feet of trench may be opened at one time.
b. Excavated material shall be placed on the uphill side of trenches.
c. 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.
d. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.
e. Restabilization shall be accomplished in accordance with this chapter.
f. Applicable safety requirements shall be complied with.
17. Where construction vehicle access routes intersect paved or public roads, provisions shall be made to minimize the transport of sediment by vehicular tracking onto the paved surface. Where sediment is transported onto a paved or public road surface, the road surface shall be cleaned thoroughly at the end of each day. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual development lots as well as to larger land-disturbing activities.
18. All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, unless otherwise authorized by the VESCP authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.
19. Properties and waterways downstream from development sites shall be protected from sediment deposition, erosion and damage due to increases in volume, velocity and peak flow rate of stormwater runoff for the stated frequency storm of 24-hour duration in accordance with the following standards and criteria. Stream restoration and relocation projects that incorporate natural channel design concepts are not man-made channels and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels:
a. 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 outfall of the pipe or pipe system shall be performed.
b. Adequacy of all channels and pipes shall be verified in the following manner:
(1) The applicant shall demonstrate that the total drainage area to the point of analysis within the channel is 100 times greater than the contributing drainage area of the project in question; or
(2) (a) Natural channels shall be analyzed by the use of a two-year storm to verify that stormwater will not over top channel banks nor cause erosion of channel bed or banks;
(b) All previously constructed man-made channels shall be analyzed by the use of a 10-year storm to verify that stormwater will not over top 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
(c) Pipes and storm sewer systems shall be analyzed by the use of a 10-year storm to verify that stormwater will be contained within the pipe or system.
c. If existing natural receiving channels or previously constructed man-made channels or pipes are not adequate, the applicant shall:
(1) Improve the channels to a condition where a 10-year storm will not over top the banks and a two-year storm will not cause erosion to the channel, the bed, or the banks;
(2) Improve the pipe or pipe system to a condition where the 10-year storm is contained within the appurtenances;
(3) 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 10-year storm to increase when runoff outfalls into a man-made channel; or
(4) Provide a combination of channel improvement, stormwater detention or other measures which is satisfactory to the VESCP authority to prevent downstream erosion.
d. The applicant shall provide evidence of permission to make the improvements.
e. All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development condition of the subject project.
f. 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.
g. 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.
h. All on-site channels must be verified to be adequate.
i. Increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property shall be diverted to a stable outlet, adequate channel, pipe or pipe system, or to a detention facility.
j. In applying these stormwater management criteria, individual lots or parcels in a residential, commercial or industrial development shall not be considered to be separate development projects. Instead, the development, as a whole, shall be considered to be a single development project. Hydrologic parameters that reflect the ultimate development condition shall be used in all engineering calculations.
k. All measures used to protect properties and waterways shall be employed in a manner which minimizes impacts on the physical, chemical and biological integrity of rivers, streams and other waters of the state.
l. Any plan approved prior to July 1, 2014, that provides for stormwater management that addresses any flow rate capacity and velocity requirements for natural or man-made channels shall satisfy the flow rate capacity and velocity requirements for natural or man-made channels if the practices are designed to (i) detain the water quality volume and to release it over 48 hours; (ii) detain and release over a 24-hour period the expected rainfall resulting from the one year, 24-hour storm; and (iii) reduce the allowable peak flow rate resulting from the 1.5, 2, and 10-year, 24-hour storms to a level that is less than or equal to the peak flow rate from the site assuming it was in a good forested condition, achieved through multiplication of the forested peak flow rate by a reaction factor that is equal to the runoff volume from the site when it was in a good forested condition divided by the runoff volume from the site in its proposed condition, and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels as defined in any regulations promulgated pursuant to § 62.1-44.15:54 or 62.1-44.15:65 of the Act.
m. For plans approved on and after July 1, 2014, the flow rate capacity and velocity requirements of § 62.1-44.15:52 A of the Act and this subsection shall be satisfied by compliance with water quantity requirements in the Stormwater Management Act (§ 62.1-44.15:24 et seq. of the Code of Virginia) and attendant regulations, unless such land-disturbing activities (i) are in accordance with provisions for time limits on applicability of approved design criteria in 9VAC25-870-47 or grandfathering in 9VAC25-870-48 of the Virginia Stormwater Management Program (VSM) Regulation, in which case the flow rate capacity and velocity requirements of § 62.1-44.15:52 A of the Act shall apply, or (ii) are exempt pursuant to § 62.1-44.15:34 C 7 of the Act.
n. Compliance with the water quantity minimum standards set out in 9VAC25-870-66 of the Virginia Stormwater Management Program (VSM) Regulation shall be deemed to satisfy the requirements of this subdivision 19.

CHECKLIST

FOR EROSION AND SEDIMENT CONTROLS PLANS

Minimum Standards - All applicable Minimum Standards must be addressed.

NARRATIVE

Project description - Briefly describes the nature and purpose of the land-disturbing activity, and the area (acres) to be disturbed.

Existing site conditions - A description of the existing topography, vegetation and drainage.

Adjacent areas - A description of the neighboring areas such as streams, lakes, residential areas, roads, etc., which might be affected by the land disturbance.

Off-site areas - Describe any off-site land-disturbing activities that will occur (including borrow sites, waste or surplus areas, etc.) Will any other areas be disturbed?

Soils - A brief description of the soils on the site giving such information as soil name, mapping unit, erodibility, permeability, depth, texture and soil structure.

Critical areas - A description of areas on the site which have potentially serious erosion problems (e.g., steep slopes, channels, wet weather/underground springs, etc.)

Erosion and sediment control measures - A description of the methods which will be used to control erosion and sedimentation on the site. (Controls should satisfy minimum standards in Chapter 3.)

Permanent stabilization - A brief description, including specifications, of how the site will be stabilized after construction is completed.

Stormwater runoff considerations - Will the development site cause an increase in peak runoff rates? Will the increase in runoff cause flooding or channel degradation downstream? Describe the strategy to control stormwater runoff.

Calculations - Detailed calculations for the design of temporary sediment basins, permanent stormwater detention basins, diversions, channels, etc. Include calculations for pre-and post- development runoff.

SITE PLAN

Vicinity map - A small map locating the site in relation to the surrounding area. Include any landmarks which might assist in locating the site.

Indicate north - The direction of north in relation to the site.

Limits of clearing and grading - Areas which to be cleared and graded.

Existing contours - The existing contours of the site.

Final contours - Changes to the existing contours, including final drainage patterns.

Existing vegetation - The existing tree lines, grassed areas, or unique vegetation.

Soils - The boundaries of different soil types.

Existing drainage patterns - The dividing lines and the direction of flow for the different drainage areas. Include size (acreage) of each drainage area.

Critical erosion areas - Areas with potentially serious erosion problems. (See Chapter 6 for criteria.)

Site Development - Show all improvements such as buildings, parking lots, access roads, utility construction, etc.

Location of practices - The locations of erosion and sediment control and stormwater management practices used on the site. Use the standard symbols and abbreviations in Chapter 3 of the E&S Handbook.

Off-site areas - Identify any off-site land-disturbing activities (e.g., borrow sites, waste areas, etc.) Show location of erosion controls. (Is there sufficient information to assure adequate protection and stabilization?)

Detail Drawings - Any structural practices used that are not referenced to the E&S Handbook or local handbooks should be explained and illustrated with detail drawings.

Maintenance - A schedule of regular inspections and repair of erosion and sediment control structures should be set forth.

PLAN REVIEW MINIMUM STANDARD CHECKLIST

PROJECT: VINT HILL LOTS 9A-1 PROJECT # SITP-20-014125
LOCATION: RECEIVED:
REVIEWED: APPROVED:

Table with columns YES, NO, NA and rows MS-1 through MS-19. MS-1: HAVE TEMPORARY AND PERMANENT STABILIZATION BEEN ADDRESSED IN NARRATIVE? ARE PRACTICES SHOWN ON THE PLAN? SEED SPECIFICATIONS? MULCHING? GRAVEL? MS-2: HAS STABILIZATION OF SOIL STOCKPILES BEEN ADDRESSED IN NARRATIVE? ARE SEDIMENT TRAPPING MEASURES PROVIDED? MS-3: HAS MAINTENANCE OF PERMANENT STABILIZATION BEEN ADDRESSED? MS-4: ARE SEDIMENT TRAPPING FACILITIES TO BE CONSTRUCTED AS A FIRST STEP IN LDT? HAS MAINTENANCE OF PRACTICES BEEN ADDRESSED? (I.E. REPAIR OF STRUCTURES AND REMOVAL ACCUMULATED SEDIMENT) MS-5: HAS STABILIZATION OF EARTHEN STRUCTURES BEEN ADDRESSED? MS-6: ARE SEDIMENT BASINS REQUIRED WHERE NEEDED? MS-7: HAS STABILIZATION OF CUT AND FILL SLOPES BEEN ADEQUATELY ADDRESSED? MS-8: ARE PAVED FLUMES, CHANNELS, OR SLOPE DRAINS REQUIRED WHERE NECESSARY. MS-9: HAVE WATER SEEPS FROM SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION ADDRESSED? MS-10: IS ADEQUATE INLET PROTECTION REQUIRED ON ALL OPERATIONAL STORM SEWER INLETS? MS-11: ARE CHANNEL LINING AND/OR OUTLET PROTECTION REQUIRED ON STORM WATER CONVEYANCE CHANNELS? MS-12: ARE IN-STREAM CONSTRUCTION MEASURES REQUIRED SO THAT CHANNEL DAMAGE IS MINIMIZED? MS-13: ARE TEMPORARY STREAM CROSSINGS OF NON-ERODIBLE MATERIAL REQUIRED WHERE NECESSARY? MS-14: ARE ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES BEING MET? MS-15: HAS RE-STABILIZATION OF AREAS SUBJECT TO IN-STREAM CONSTRUCTION BEEN ADEQUATELY ADDRESSED? MS-16: HAS STABILIZATION OF UTILITY TRENCHES BEEN ADDRESSED? MS-17: HAS THE PREVENTION OF TRANSPORTING OF SOIL AND MUD ONTO PUBLIC ROADWAYS BEEN ADEQUATELY ADDRESSED? (I.E. CONSTRUCTION ENTRANCES, WASH RACKS, DAILY CLEANING OF ROADWAYS, TRANSPORT OF SEDIMENT TO A TRAPPING FACILITY) MS-18: HAS THE REMOVAL OF TEMPORARY PRACTICES BEEN ADDRESSED? MS-19: ARE PROPERTIES AND WATERWAYS DOWNSTREAM FROM THE DEVELOPMENT ADEQUATELY PROTECTED FROM EROSION AND SEDIMENT DEPOSITION DUE TO INCREASE IN PEAK RUNOFF?

EROSION & SEDIMENT CONTROL STANDARD NOTES

- 1. The owner/developer must notify the Fauquier County Community Development at 540-442-8220 at least 24 hours prior to the start of construction in accordance with applicable county ordinances and policies.
2. The owner/developer grants the right-of-entry on to this property to the designated Fauquier County personnel for the purpose of inspecting and monitoring for compliance with Title 10.01, Chapter 5, Article 4 of the Code of Virginia, Erosion and Sediment Control Law and the Design and Construction Standards Manual Section 750.04 (c).
3. All erosion control measures shown on the approved plan must be in place and inspected and approved by the Fauquier County Department of Community Development prior to clearing, stripping of topsoil or grading.
4. A copy of the approved erosion and sediment control plan and permit shall be kept on the site at all times.
5. If soil material is transported off site without prior approval by the E&S inspector or updating the Construction General Permit, the site will be considered in violation. If it is determined that the site is in nonconformance with the approved plan, local ordinances or the Construction General Permit, enforcement will occur. All applicable state, federal, and local approvals are required to be obtained for the offsite disposal site location.
6. All disturbed areas are to drain to approved sediment control measures at all times during land disturbing activities and during site development until complete and adequate stabilization is achieved.
7. Water must be pumped into an approved filtering device during dewatering operations.
8. All erosion and sediment control practices must be constructed and maintained according to the minimum standards and specifications of the Virginia Erosion and Sediment Control Handbook and the Virginia Regulations WR 625-02-00 Erosion and Sediment Control Regulations and to the Prince William County Design and Construction Standards Manual.
9. The developer/developer's representative will be responsible for the installation and maintenance of all erosion and sediment control practices at all times. The developer/developer's representative shall inspect all erosion and sediment control measures daily and after each significant rainfall. The following items will be checked in particular:
a. Sediment basins will be cleaned out when the level of sediment buildup reaches the cleanout elevation indicated on the riser pipe. Sediment shall be disposed in suitable areas and in such a manner that will not erode or cause sedimentation problems. The basin embankment should be checked regularly to ensure that it structurally sound and has not been damaged by erosion or construction equipment.
b. Emergency spillways should be checked regularly to ensure that its lining is well established and erosion resistant.
c. Sediment traps will be checked regularly for sediment cleanout. Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to one half the design volume of the wet storage. Sediment removed from the trap shall be deposited in a suitable area and in such a manner that it will not erode and cause sedimentation problems.
d. Gravel outlets will be checked regularly for sediment buildup which will prevent drainage. If the gravel is clogged by sediment, it shall be removed and cleaned or replaced.
e. 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.
f. Seeded areas will be checked regularly to ensure that a good stand is maintained. Areas should be fertilized and reseeded as needed.
g. Stream diversion and storm conveyance channels shall be inspected daily and after each rain to ensure they're functioning properly and that the integrity of the linings are not impaired.
Any necessary repairs or cleanup to maintain the effectiveness of the erosion control devices must be made immediately after the inspection.
10. Sediment trapping measures will be installed as a first step in grading and will be seeded and mulched immediately following installation.
11. Permanent soil stabilization shall be applied to denuded areas within seven (7) days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven (7) days to denuded areas that may not be at final grade but will remain undisturbed for longer than fourteen (14) days. Seeding and selection of the seed mixture shall be in accordance with the Virginia Erosion and Sediment Control Handbook Standard and Specification 3.32. Roads and parking areas shall be stabilized within seven (7) days after final grade is reached.
12. All temporary erosion and sediment control measures will be removed within 30 days after adequate site stabilization and after the temporary measures are no longer needed, as authorized by the Prince William County inspectors. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures will be permanently stabilized to prevent further erosion and sedimentation.
13. When sediment is transported onto a paved road surface, the road will be cleaned thoroughly at the end of each day. Sediment will be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing will be allowed only after sediment is removed in this manner.
14. Areas which are not to be disturbed will be clearly marked by flags, signs, etc.
15. RPA and flood plain limits shall be clearly marked in the field by flags, signs, etc.
16. Tree save areas shall be clearly marked in the field prior to construction beginning with orange safety fence and tree preservation area signs. It is highly recommended that they alternate between English and Spanish every 30 feet.
17. Orange safety fence must be installed around all silt traps and sediment basins.

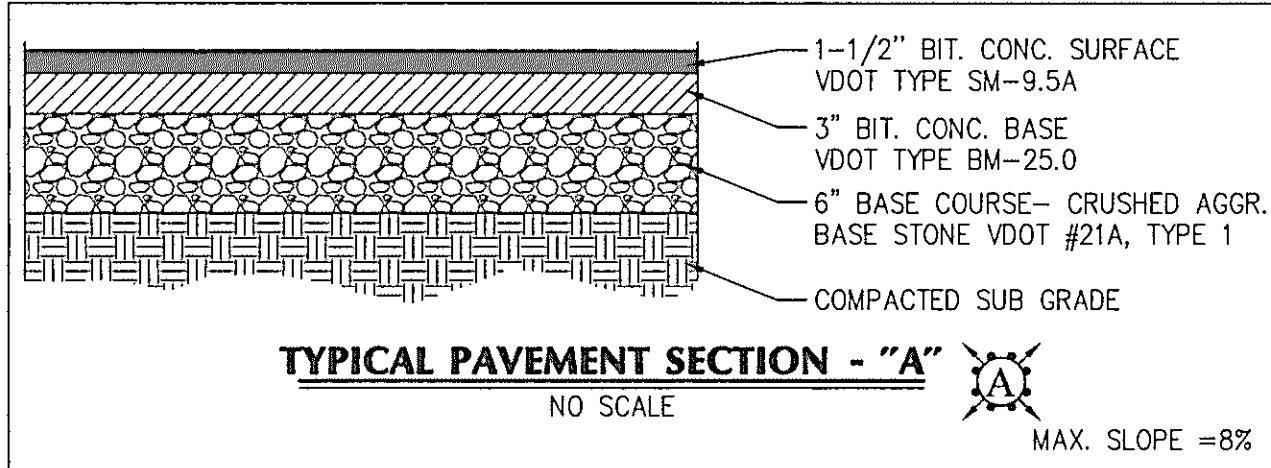
ROSS-FRANCE CIVIL ENGINEERING - LAND SURVEYING 9417 INNOVATION DRIVE, MANASSAS, VA 20110 (703) 361-1488

COMMONWEALTH OF VIRGINIA R. MICHAEL MASSEY Lic. No. 23858 07/22/2022 PROFESSIONAL ENGINEER

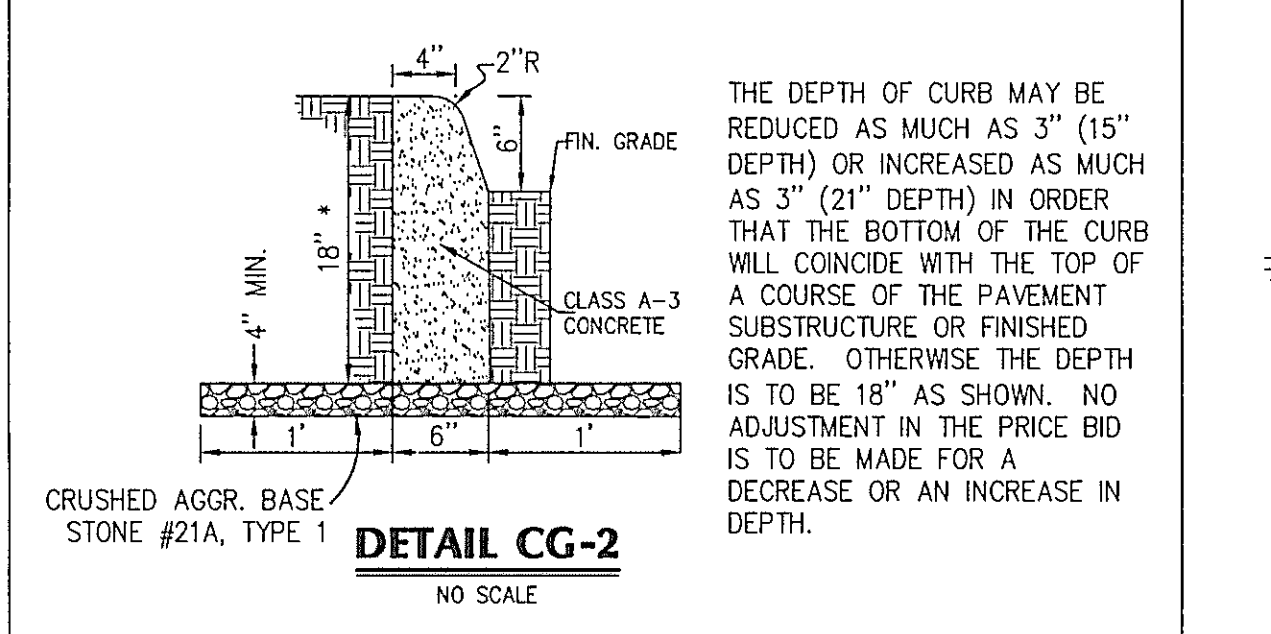
VINT HILL LOT 9A-1 STANDARD EROSION CONTROL CHECKLIST & NOTES SCOTT MAGISTERIAL DISTRICT FAUQUIER COUNTY, VIRGINIA SEPTEMBER 14, 2020

Table with columns DATE, BY, REVISION and rows for tracking changes to the checklist and notes.

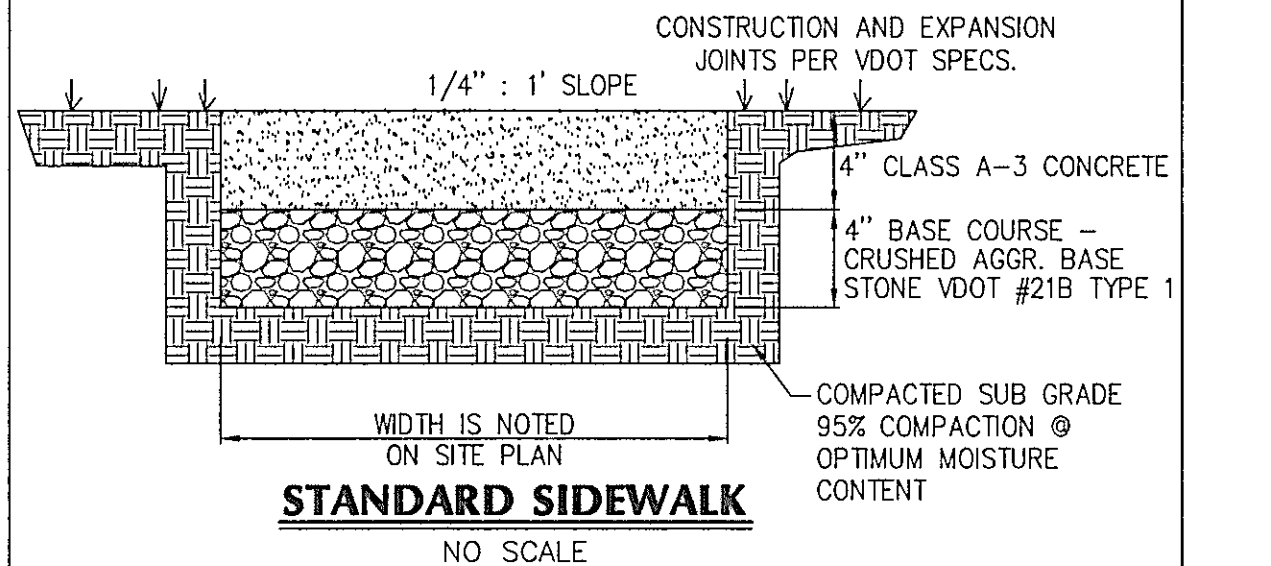
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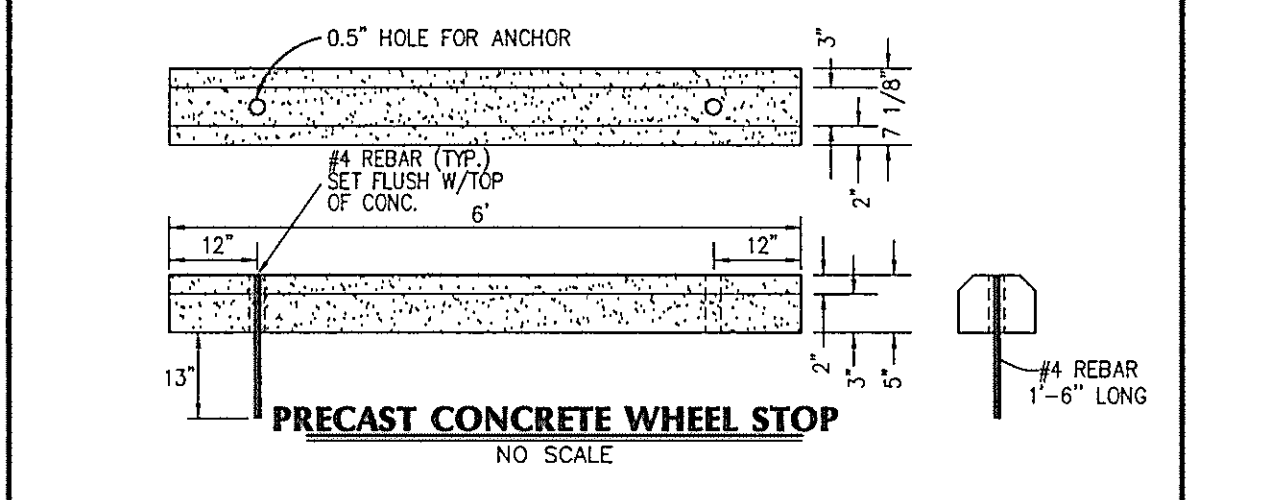
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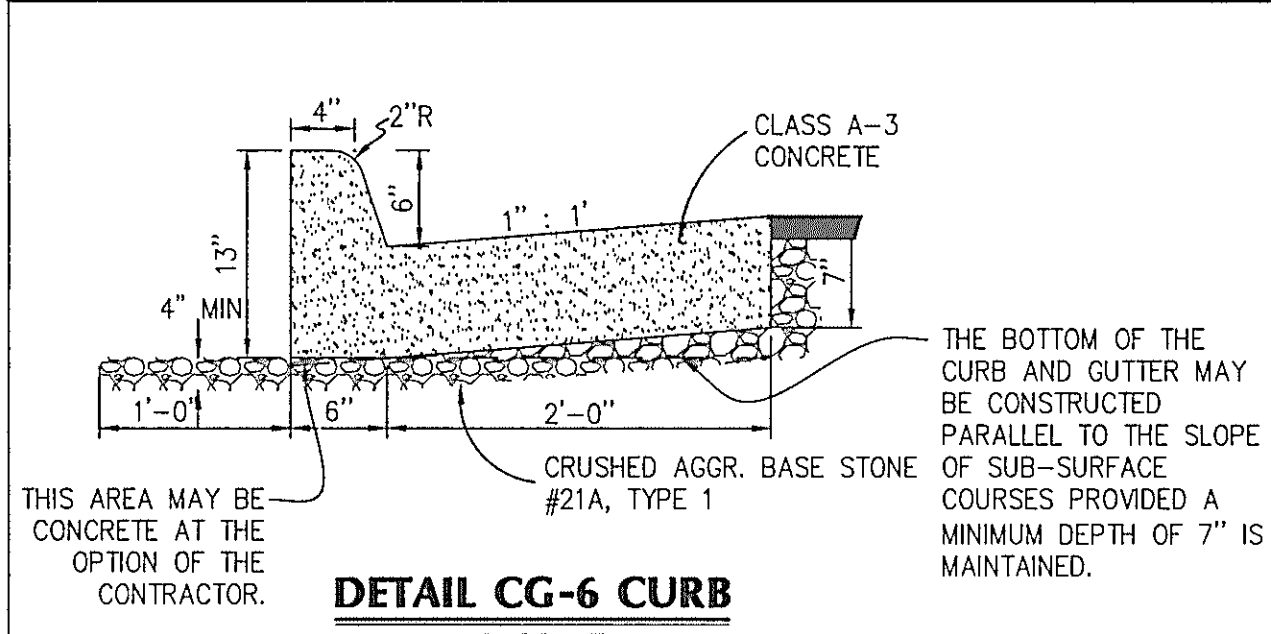
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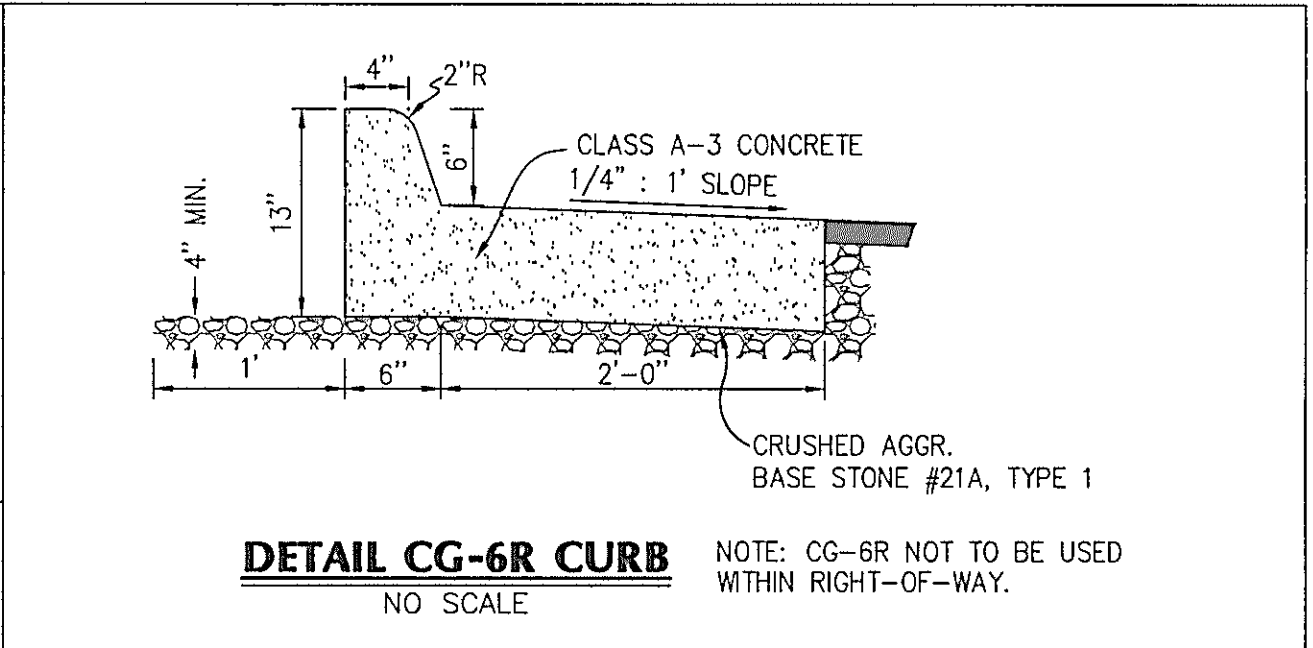
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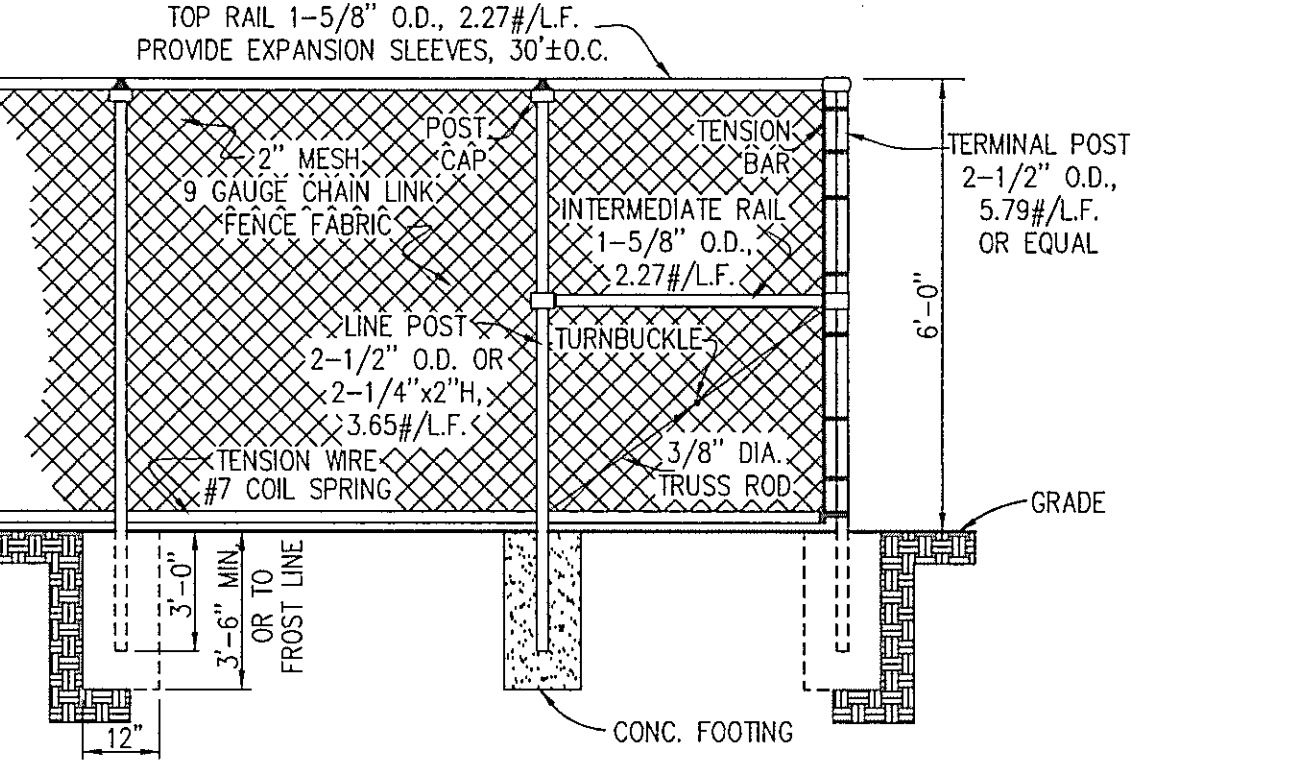
**PRECAST CONCRETE WHEEL STOP**  
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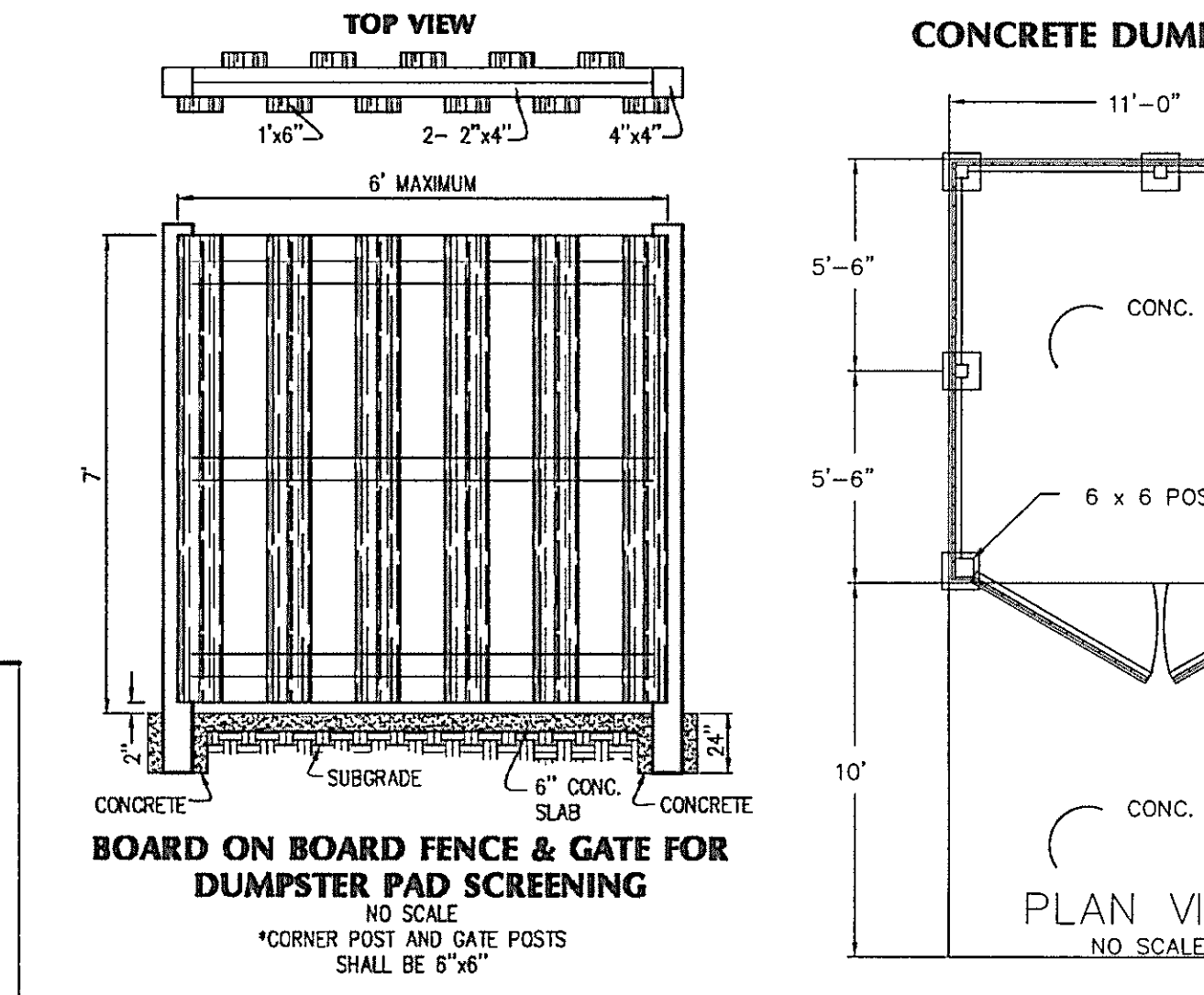
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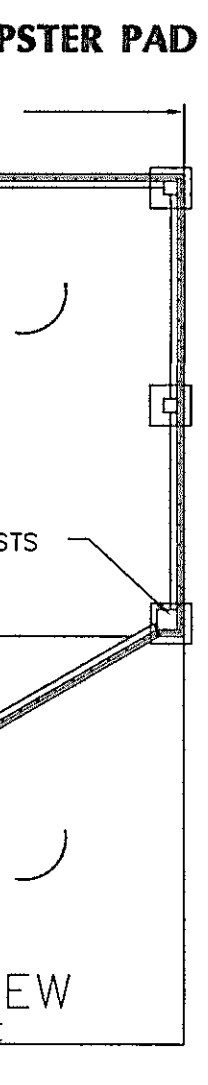
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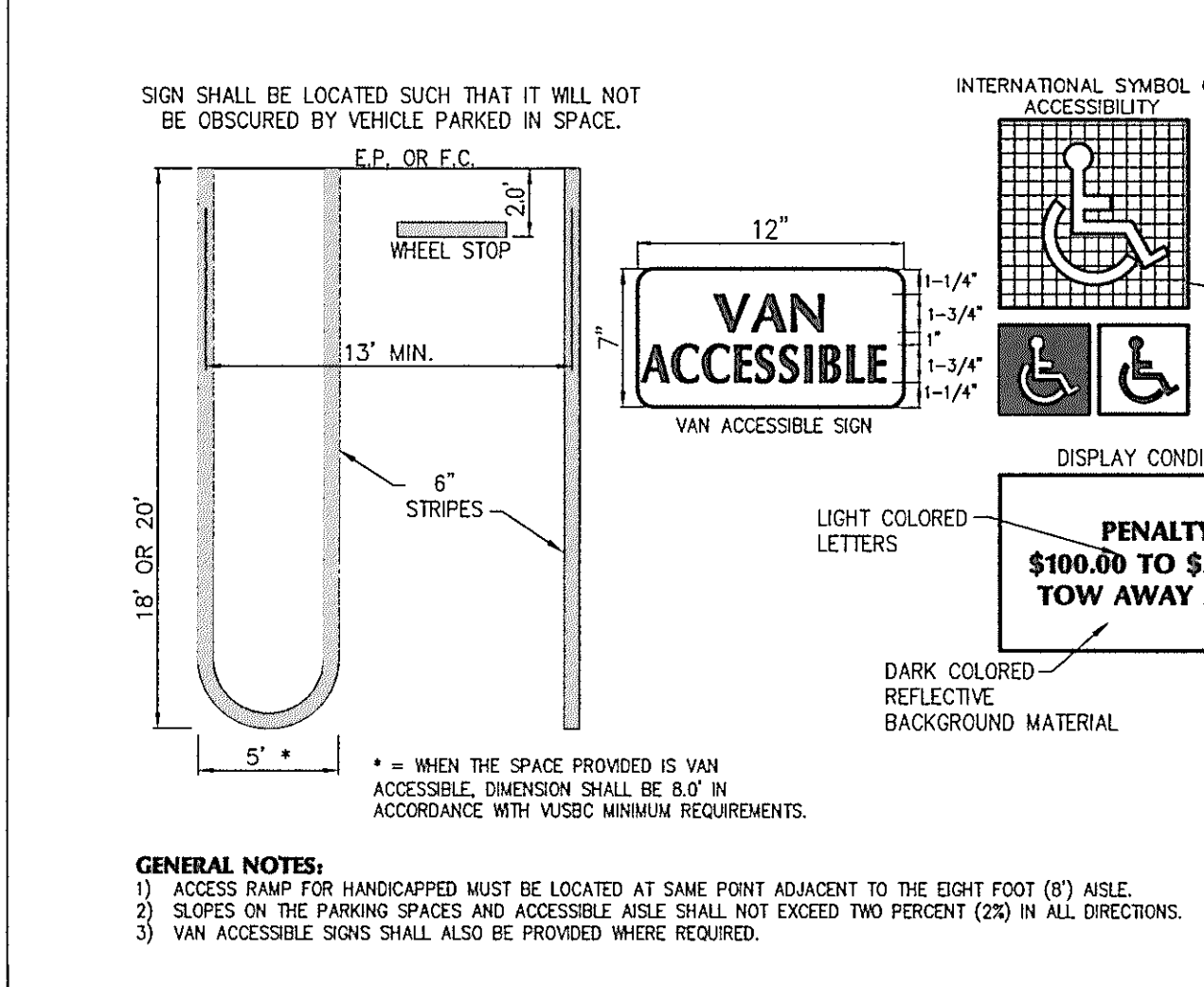
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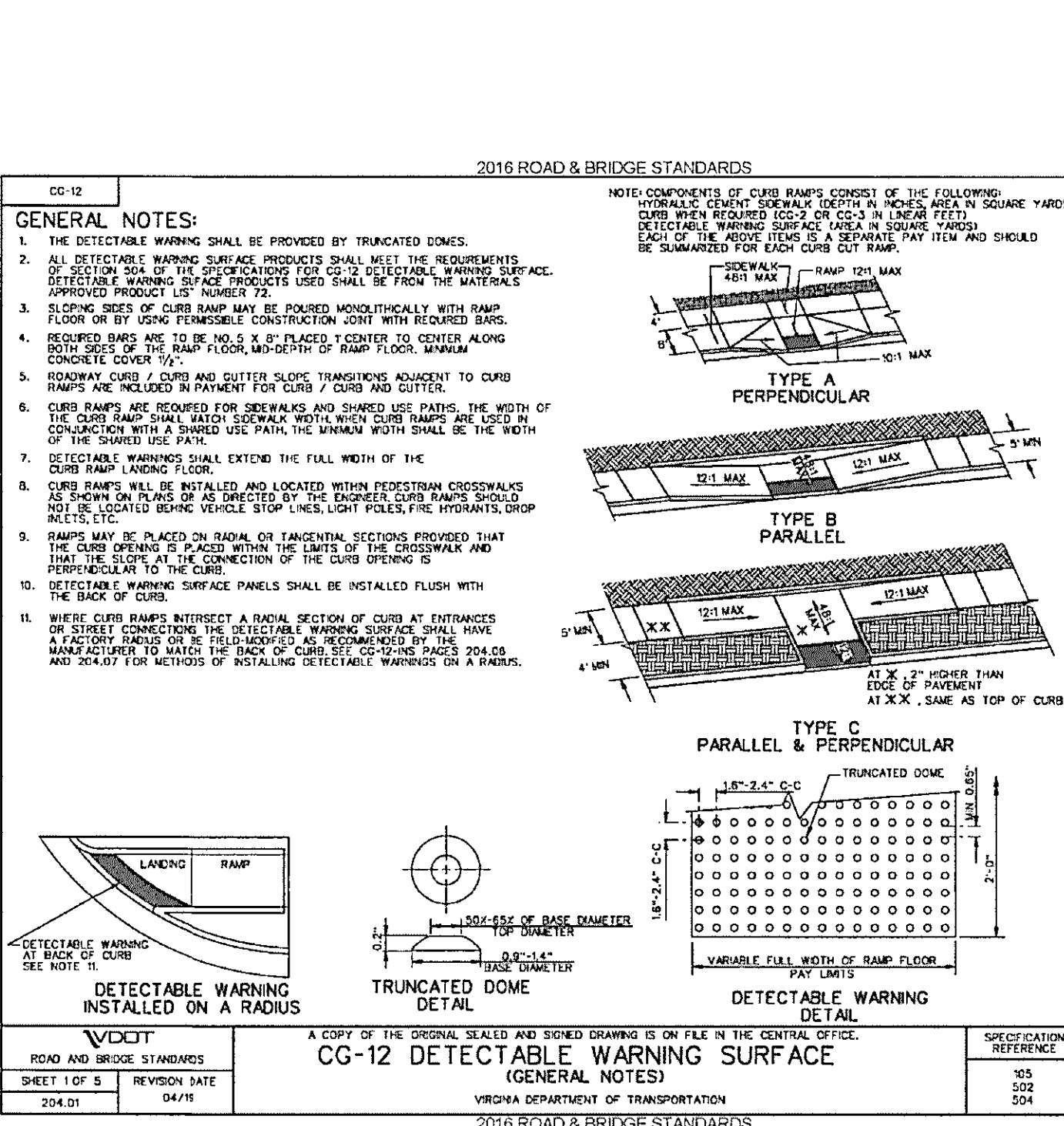
**BOARD ON BOARD FENCE & GATE FOR DUMPSTER PAD SCREENING**  
NO SCALE



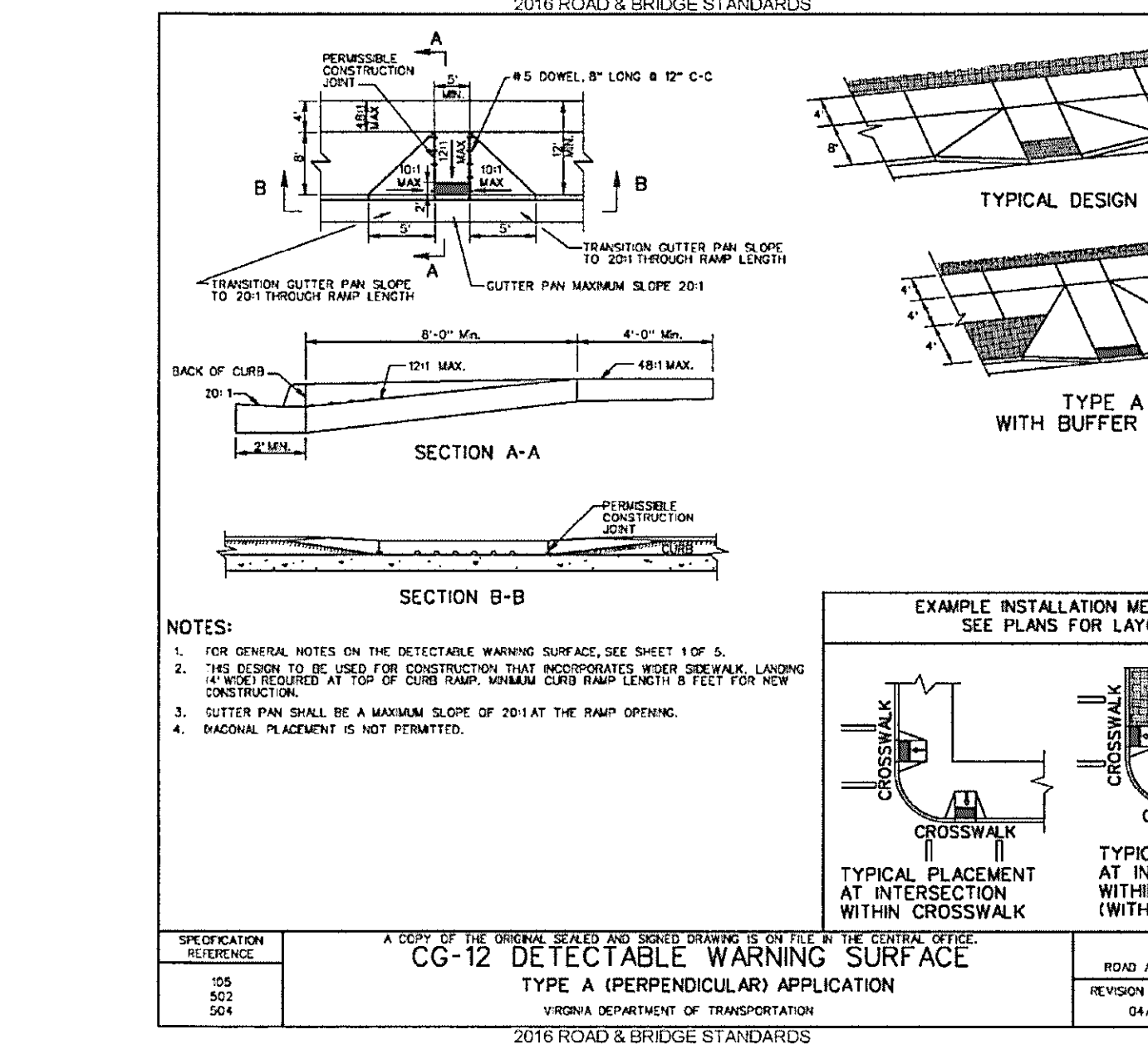
**CONCRETE DUMPSTER PAD**  
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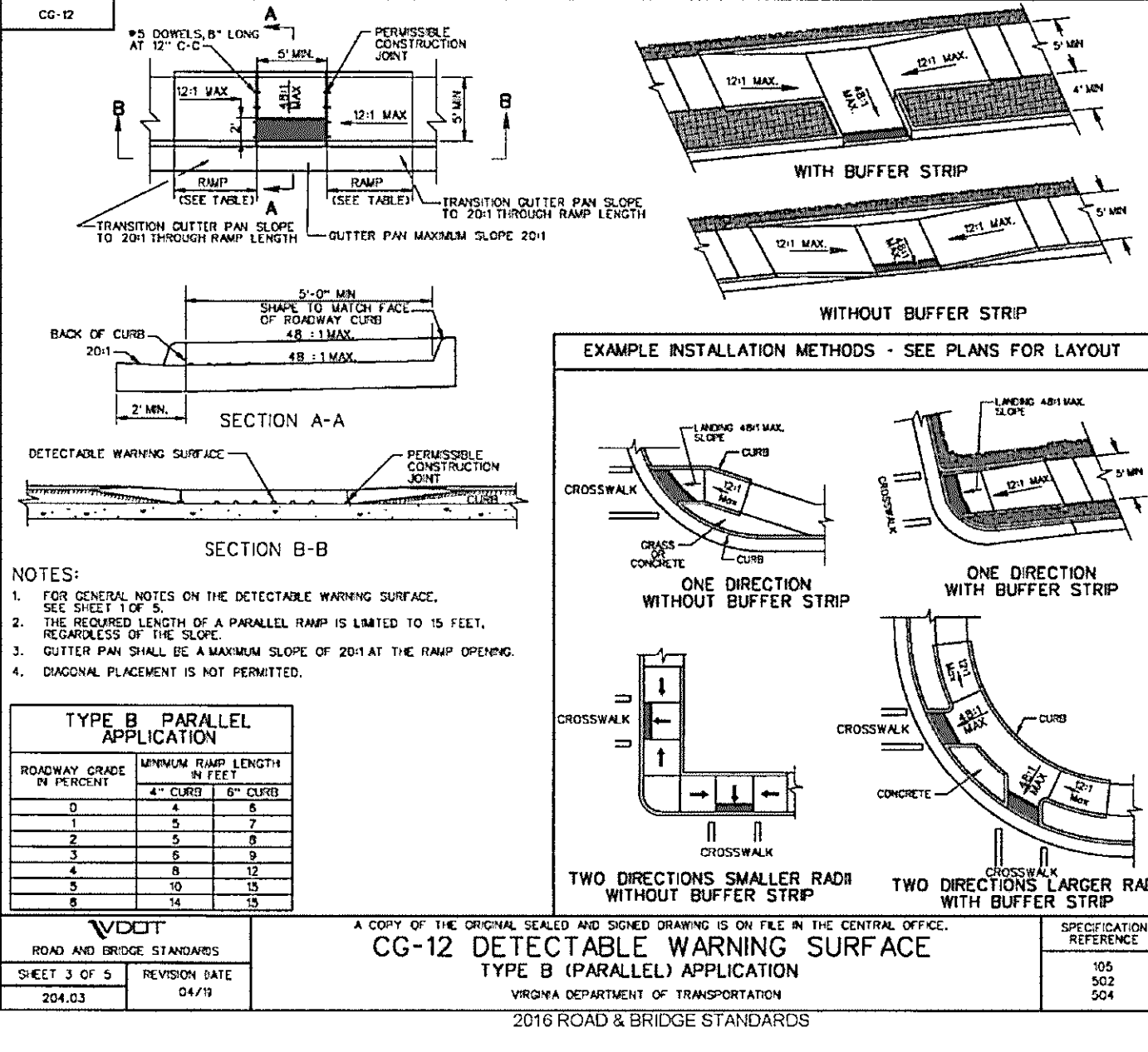
**ACCESSIBLE PARKING SPACE STANDARD**



**CG-12 DETECTABLE WARNING SURFACE (GENERAL NOTES)**  
NO SCALE

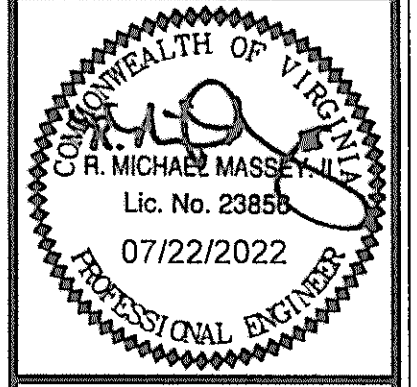
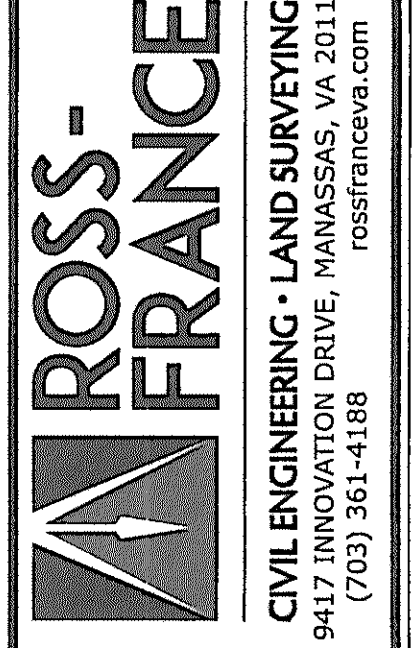
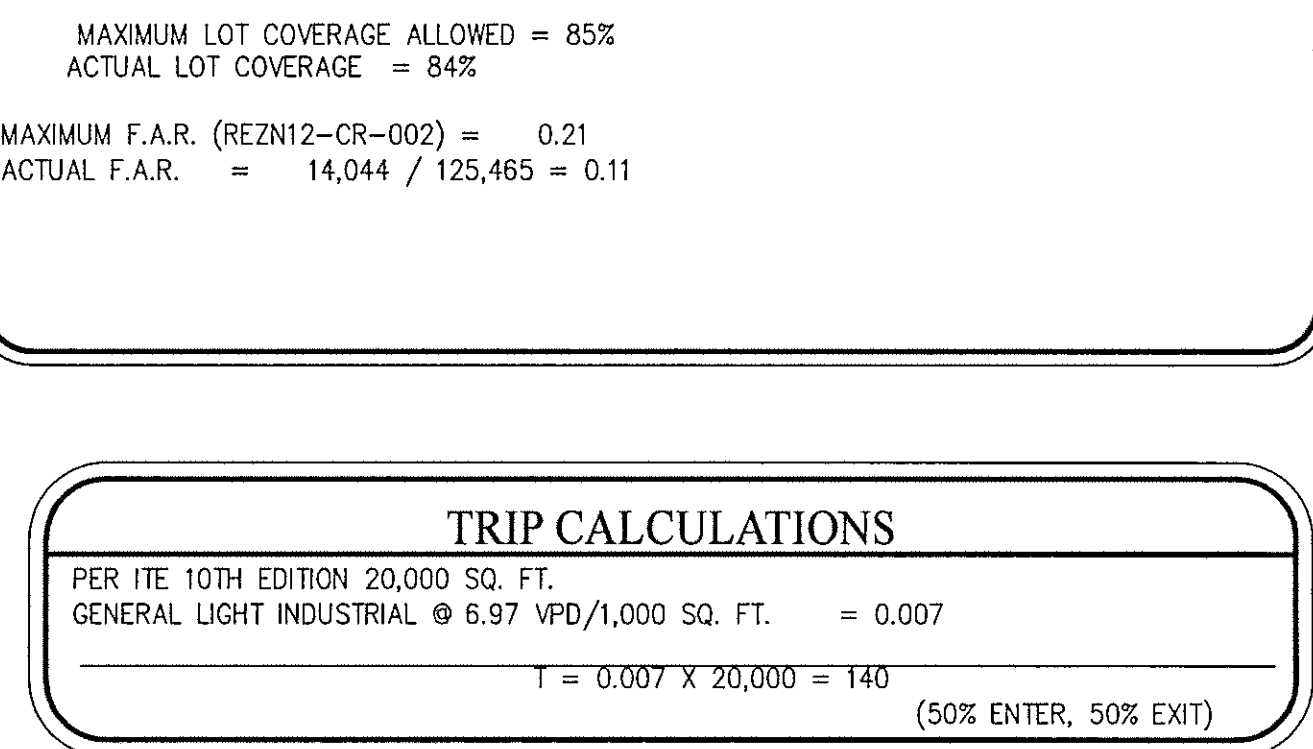
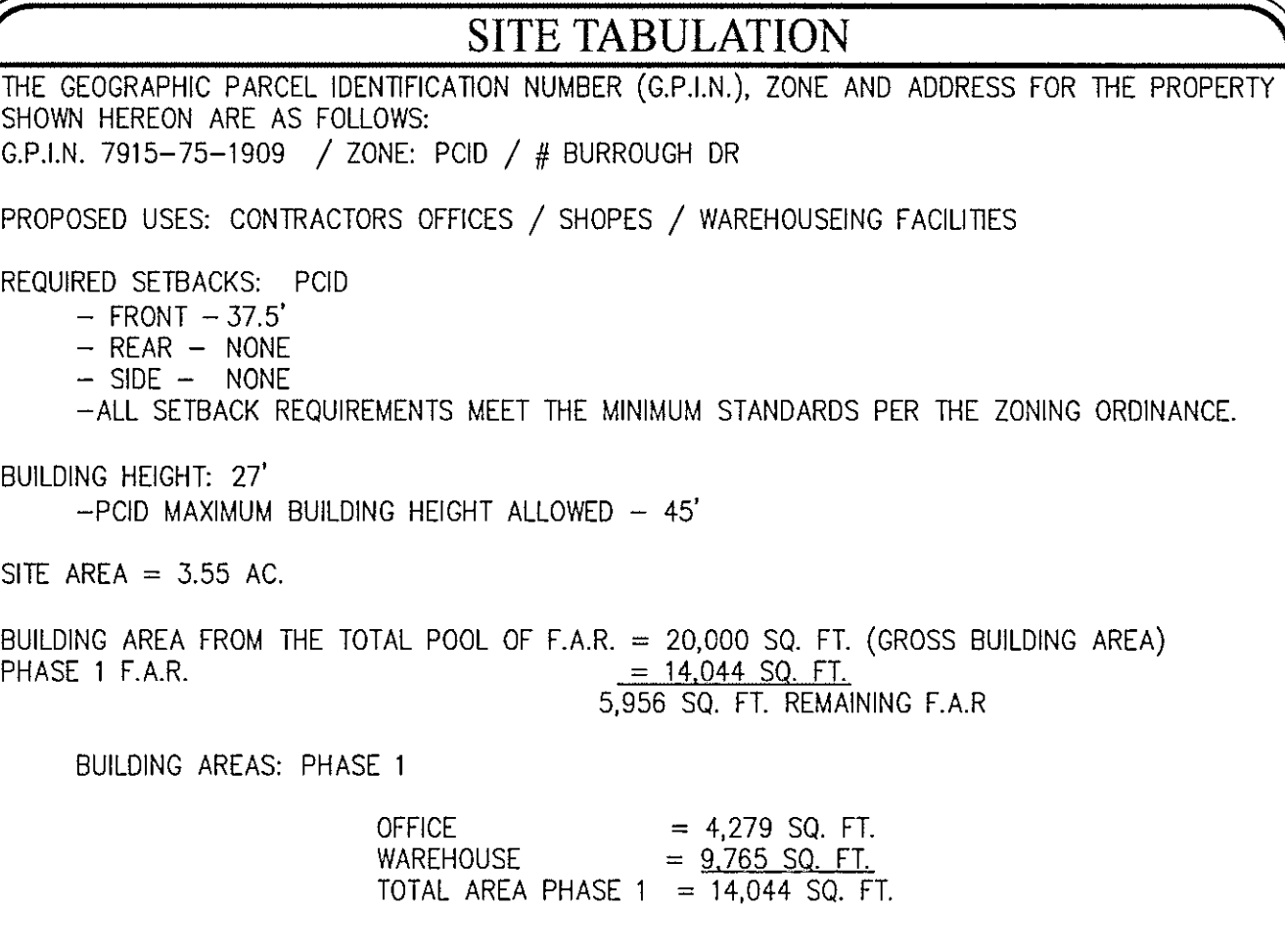
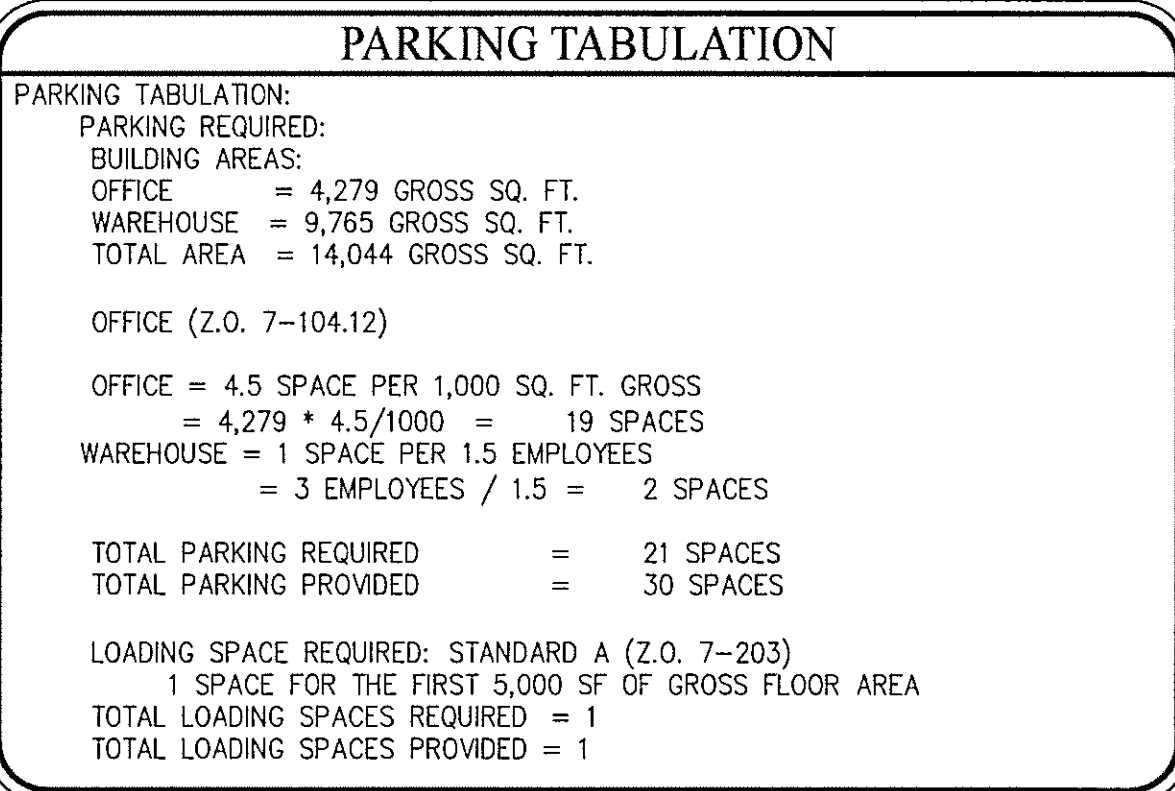


**CG-12 DETECTABLE WARNING SURFACE (TYPE A APPLICATION)**  
NO SCALE



**CG-12 DETECTABLE WARNING SURFACE (TYPE B APPLICATION)**  
NO SCALE

LEGEND			
A/C	AIR CONDITIONER	M.B.	MAILBOX
AC	ACRES	MH	MANHOLE
APPROX.	APPROXIMATE	MISC.	MISCELLANEOUS
CATV	CABLE TELEVISION	PE.	PEDESTAL
C&G	CURB AND GUTTER	PERM.	PERMANENT
C.L.	CHAINLINK	P.G.	PAGE
C.O.	CLEANOUT	P.O.B.	POINT OF BEGINNING
CONC.	CONCRETE	PVC	POLYVINYL CHLORIDE
CONST.	CONSTRUCTION	R.D.	ROOF DRAIN
D.B.	DEED BOOK	SAN.	SANITARY
ELEC.	ELECTRIC	SEW.	SEWER
E.M.	ELECTRIC METER	SQ. FT.	SQUARE FEET
E.P.	EDGE OF PAVEMENT	SWM	STORMWATER MANAGEMENT
ESMT	EASEMENT	T.M.	TAX MAP
EX.	EXISTING	TEL.	TELEPHONE
F.H.	FIRE HYDRANT	TRANS.	TRANSFORMER
G.M.	GAS METER	TV	TELEVISION
G.P.I.N.	GEOGRAPHIC PARCEL IDENTIFICATION NUMBER	TYP.	TYPICAL
H.C.	HEADER CURB	U/G	UNDERGROUND
H/C	HANDICAP	UCG	UNDERGROUND GAS
INST. #	INSTRUMENT NUMBER	VA.	VIRGINIA
IPF	IRON PIPE FOUND	W.M.	WATER METER
IPS	IRON PIPE SET	W.V.	WATER VALVE
LOC.	LOCATION		WATER LINE/L
L.P.	LIGHT POLE		



**VINT HILL LOT 9A-1**  
SCOTT MAGISTERIAL DISTRICT  
FAUQUIER COUNTY, VIRGINIA

**STANDARD DETAILS**

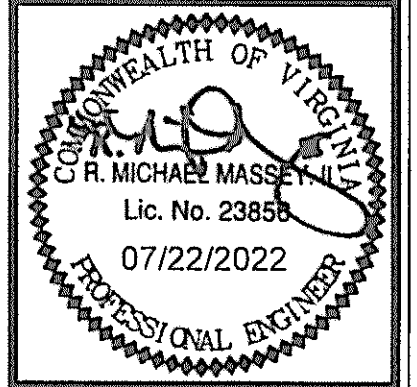
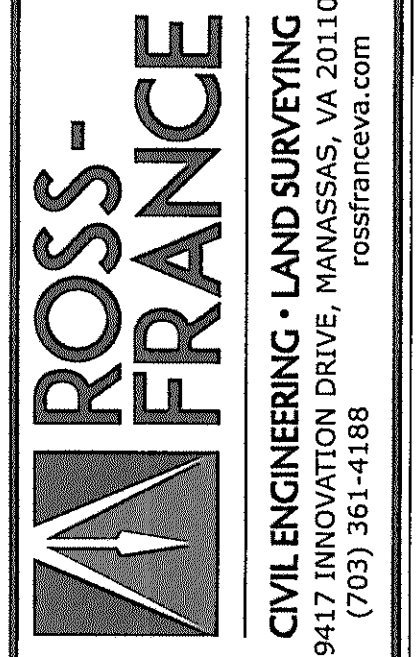
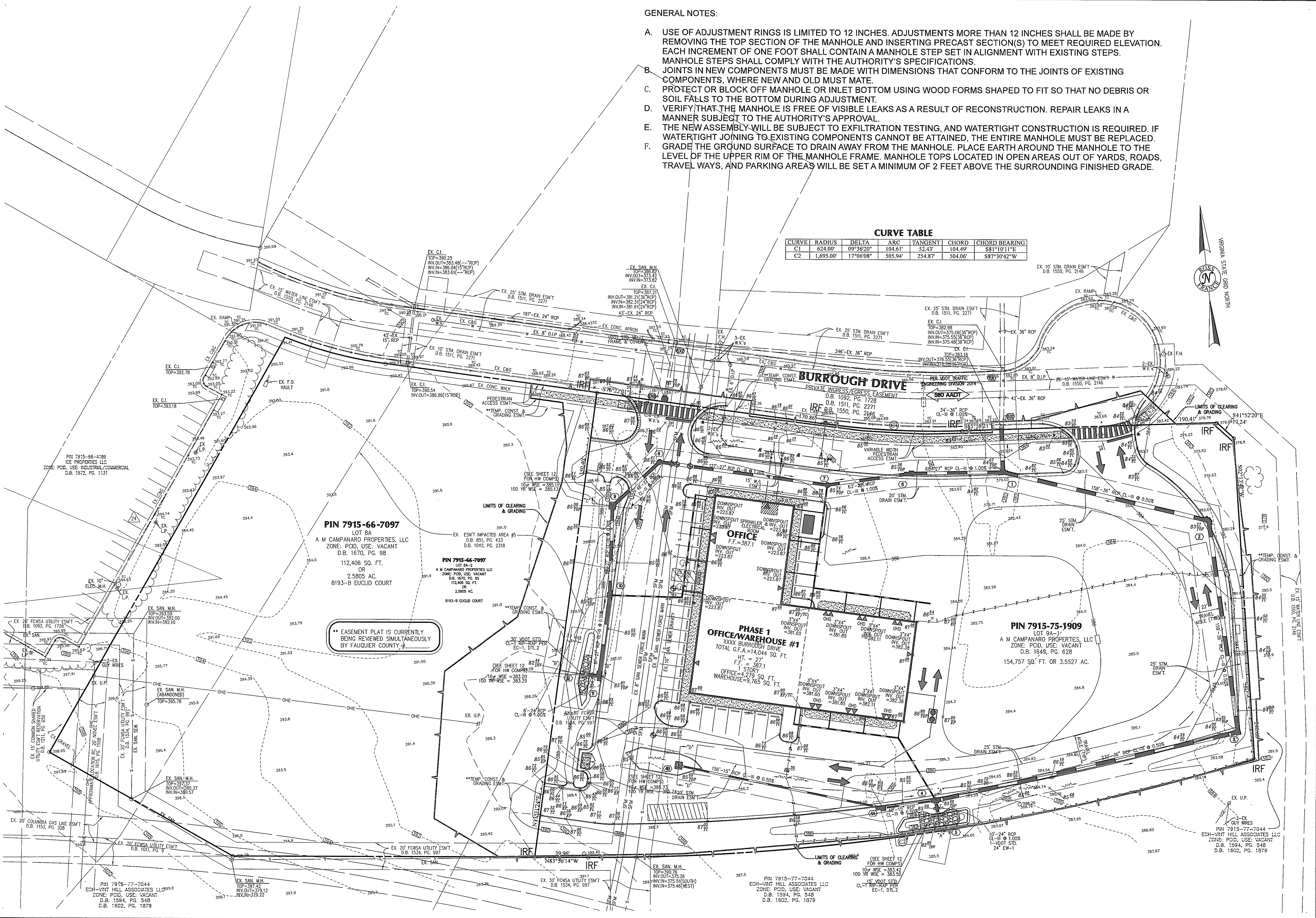
DATE	BY	REVISION
DES:	DWN:	CHK:
FW	MSL	RMM
FILE NO.: SP # 2040		
SHEET 4		

GENERAL NOTES:

- A. USE OF ADJUSTMENT RINGS IS LIMITED TO 12 INCHES. ADJUSTMENTS MORE THAN 12 INCHES SHALL BE MADE BY REMOVING THE TOP SECTION OF THE MANHOLE AND INSERTING PRECAST SECTION(S) TO MEET REQUIRED ELEVATION. EACH INCREMENT OF ONE FOOT SHALL CONTAIN A MANHOLE STEP SET IN ALIGNMENT WITH EXISTING STEPS. MANHOLE STEPS SHALL COMPLY WITH THE AUTHORITY'S SPECIFICATIONS.
- B. JOINTS IN NEW COMPONENTS MUST BE MADE WITH DIMENSIONS THAT CONFORM TO THE JOINTS OF EXISTING COMPONENTS, WHERE NEW AND OLD MUST MATE.
- C. PROTECT OR BLOCK OFF MANHOLE OR INLET BOTTOM USING WOOD FORMS SHAPED TO FIT SO THAT NO DEBRIS OR SOIL FALLS TO THE BOTTOM DURING ADJUSTMENT.
- D. VERIFY THAT THE MANHOLE IS FREE OF VISIBLE LEAKS AS A RESULT OF RECONSTRUCTION. REPAIR LEAKS IN A MANNER SUBJECT TO THE AUTHORITY'S APPROVAL.
- E. THE NEW ASSEMBLY WILL BE SUBJECT TO EXFILTRATION TESTING, AND WATERTIGHT CONSTRUCTION IS REQUIRED. IF WATERTIGHT JOINING TO EXISTING COMPONENTS CANNOT BE ATTAINED, THE ENTIRE MANHOLE MUST BE REPLACED.
- F. GRADE THE GROUND SURFACE TO DRAIN AWAY FROM THE MANHOLE. PLACE EARTH AROUND THE MANHOLE TO THE LEVEL OF THE UPPER RIM OF THE MANHOLE FRAME. MANHOLE TOPS LOCATED IN OPEN AREAS OUT OF YARDS, ROADS, TRAVEL WAYS, AND PARKING AREAS WILL BE SET A MINIMUM OF 2 FEET ABOVE THE SURROUNDING FINISHED GRADE.

CURVE TABLE

CURVE	RADIUS	DELTA	ARC	TANGENT	CHORD	CHORD BEARING
C1	624.00'	09°36'20"	104.61'	52.43'	104.49'	S81°10'11"E
C2	1,695.00'	17°06'08"	505.94'	254.87'	504.06'	S87°30'42"W



**VINT HILL LOT 9A-1**  
 SCOTT MAGISTERIAL DISTRICT  
 FAUQUIER COUNTY, VIRGINIA  
 CONTOUR INTERVAL = 2'  
 SCALE: 1" = 30'

**GRADING PLAN**

DATE	BY	REVISION

DES: FW DWN: MSL CHK: RMM  
 FILE NO.: SP # 2040  
 SHEET 5



**TABLE 3-4**  
**FIRE LANE SIGN LETTERING SIZE**

Lettering	Letter Height inches
NO PARKING OR STANDING FIRE LANE	2
Arrows	1
	2
	2-1/2
	1

**SIGN TYPES AND DESIGN**

SIGN TYPE "A"	SIGN TYPE "B"	SIGN TYPE "C"
NO PARKING OR STANDING FIRE LANE →	NO PARKING OR STANDING FIRE LANE ←→	NO PARKING OR STANDING FIRE LANE ←

Standard wording with an arrow at bottom pointing to the right. One sign mounted parallel to the line of curbing or pavement edge at end of painted area.

Standard wording with two directional arrows. One sign mounted parallel to the line of curbing or pavement edge at end of painted area.

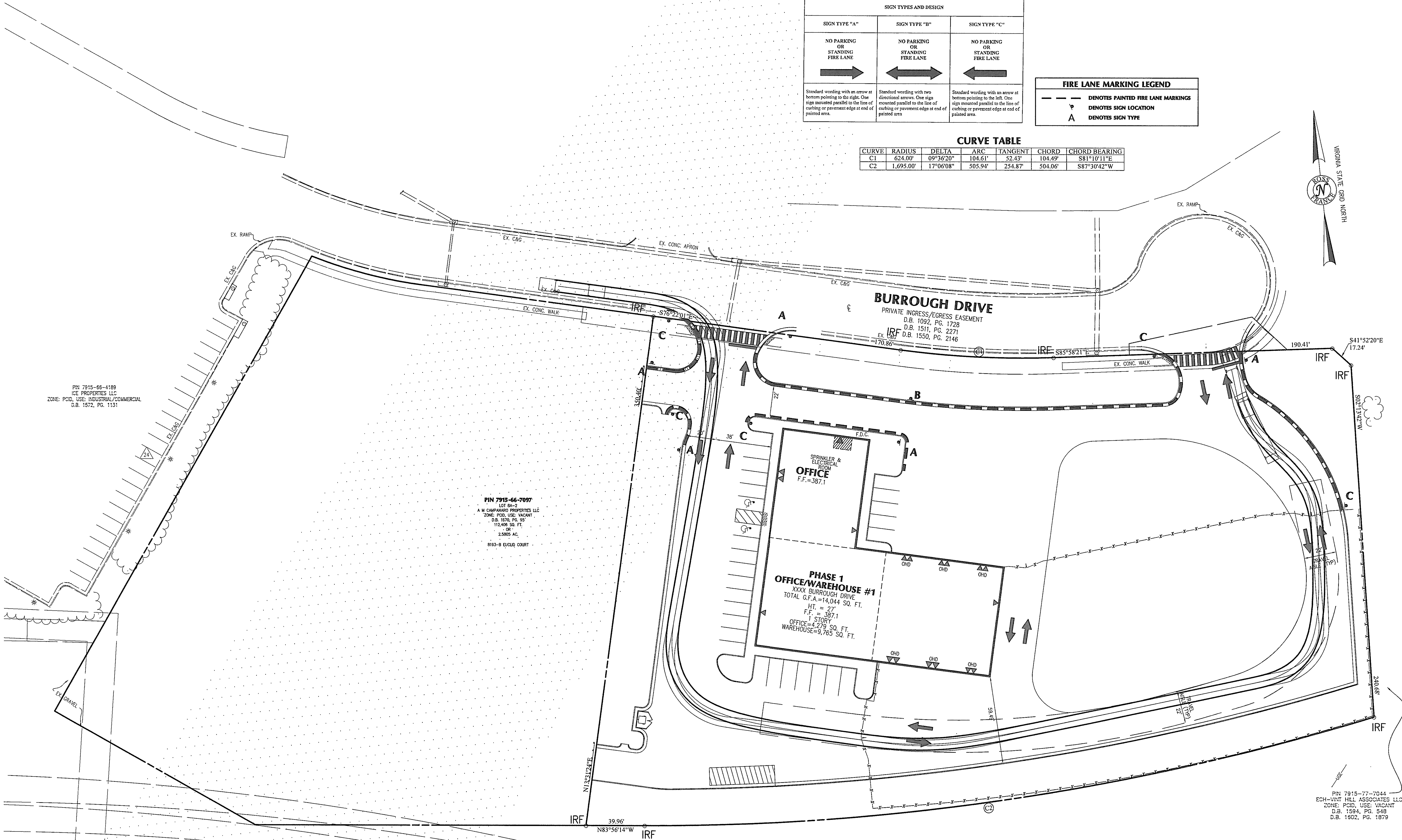
Standard wording with an arrow at bottom pointing to the left. One sign mounted parallel to the line of curbing or pavement edge at end of painted area.

**FIRE LANE MARKING LEGEND**

- DENOTES PAINTED FIRE LANE MARKINGS
- ⊙ DENOTES SIGN LOCATION
- A DENOTES SIGN TYPE

**CURVE TABLE**

CURVE	RADIUS	DELTA	ARC	TANGENT	CHORD	CHORD BEARING
C1	624.00'	09°36'20"	104.61'	52.43'	104.49'	S81°10'11"E
C2	1,695.00'	17°06'08"	505.94'	254.87'	504.06'	S87°30'42"W



PIN 7915-66-4189  
 ICE PROPERTIES LLC  
 ZONE: PCID, USE: INDUSTRIAL/COMMERCIAL  
 D.B. 1572, PG. 1131

PIN 7915-66-7097  
 LOT 9A-2  
 A.M. CAMPANARO PROPERTIES LLC  
 ZONE: PCID, USE: VACANT  
 D.B. 1079, PG. 15  
 112,408 SQ. FT.  
 1.81 AC.  
 2.5805 AC.  
 8183-B EUCLEID COURT

PIN 7915-77-7044  
 ECH-VINT HILL ASSOCIATES LLC  
 ZONE: PCID, USE: VACANT  
 D.B. 1594, PG. 548  
 D.B. 1602, PG. 1879

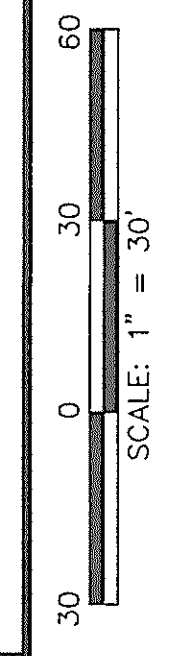
PIN 7915-77-7044  
 ECH-VINT HILL ASSOCIATES LLC  
 ZONE: PCID, USE: VACANT  
 D.B. 1594, PG. 548  
 D.B. 1602, PG. 1879

PIN 7915-77-7044  
 ECH-VINT HILL ASSOCIATES LLC  
 ZONE: PCID, USE: VACANT  
 D.B. 1594, PG. 548  
 D.B. 1602, PG. 1879

**THIS DRAWING FOR FIRE LANE MARKING PURPOSES ONLY**

DATE	BY	REVISION

DES: FW DWN: MSL CHK: RMM  
 FILE NO.: SP # 2040  
 SHEET 7

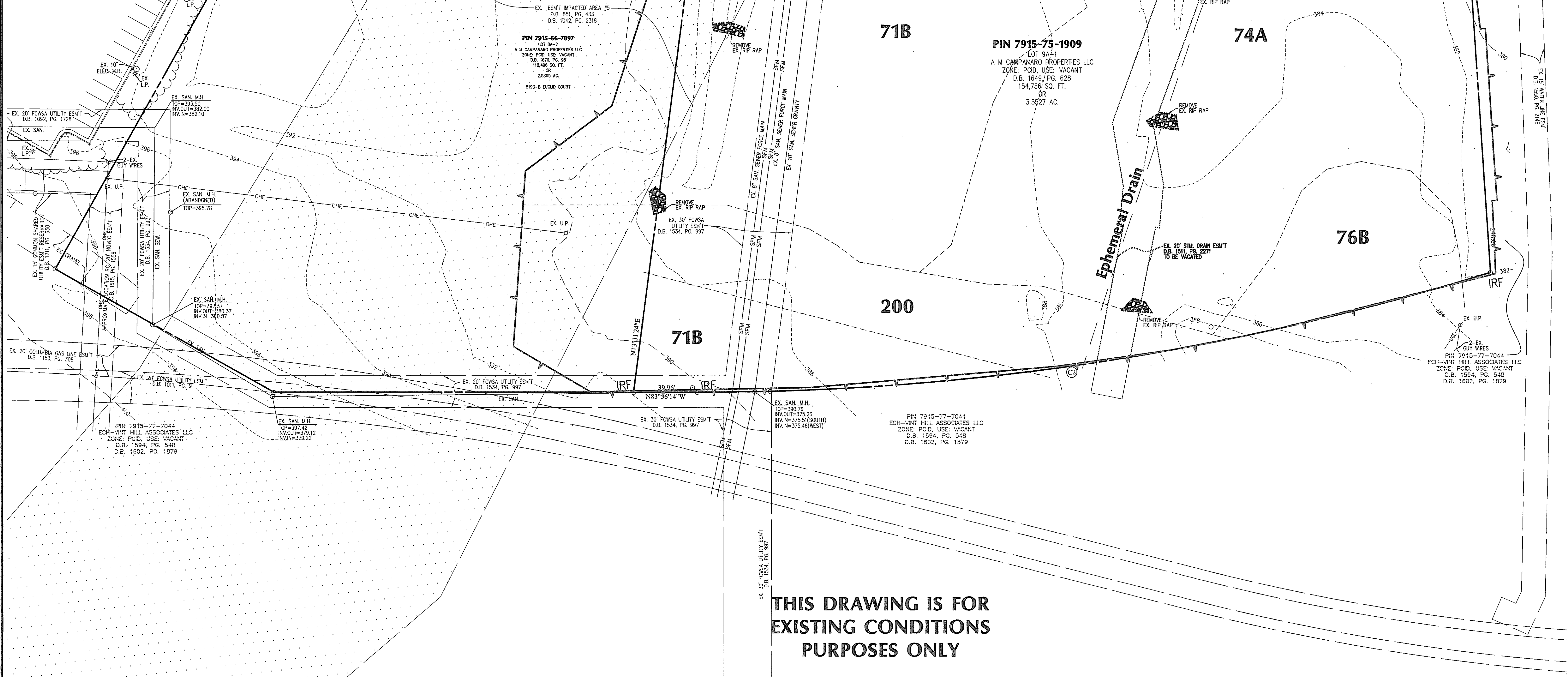


SOIL LEGEND										
MAP, CITY SCHOOL, SOIL NAME, DATE	SOIL DESCRIPTION	General Characteristics					DEVELOPMENT POTENTIAL AND PLANTING			
		SOIL FEATURES		K <sub>sat</sub>	LAND POTENTIALS	LAND USE	CENTRAL WATER AND CENTRAL SEWER	PLANTING	PROFESSIONAL OFFICE	TAX AND EASEMENTS
76B	SUDLEY Very deep, well drained strong brown to reddish brown loamy soils on undulating terrain with gently sloping topography, developed in residual from Triassic conglomerate and sandstone.	Slope (%)	2-7	Horizontal Hazard Potential:	Mod.	Surface: Moderate	AGRICULTURE	GOOD	MARGINAL	Shallow to rock
		Bedrock Depth (in.)	>6'	K Factor (surface):	0.37	Subsoil: Moderate	PRIME CROPLAND			
74A	OATLANDS Moderately deep, well drained strong brown to reddish brown loamy soils on undulating terrain with gently sloping topography, developed in residual from Triassic conglomerate and sandstone.	Slope (%)	2-7	Horizontal Hazard Potential:	Mod.	Surface: Moderate	AGRICULTURE	FAIR	Marginal	Shallow to rock
		Bedrock Depth (in.)	20-40	K Factor (surface):	0.24	Subsoil: Moderate	SECONDARY CROPLAND			
71B	Pinebarren silt loam Deep, well drained, reddish-brown silt loam on undulating terrain with gently sloping topography, developed in residual from red Triassic sandstone and fine grained sandstone.	Slope (%)	2-7	Horizontal Hazard Potential:	Mod.	Surface: Moderate	AGRICULTURE	GOOD	MARGINAL	Shallow to rock
		Bedrock Depth (in.)	40-60	K Factor (surface):	0.52	Subsoil: Moderate	PRIME CROPLAND			
200	Clay sandier silt	HORIZONTALLY VARIABLE								

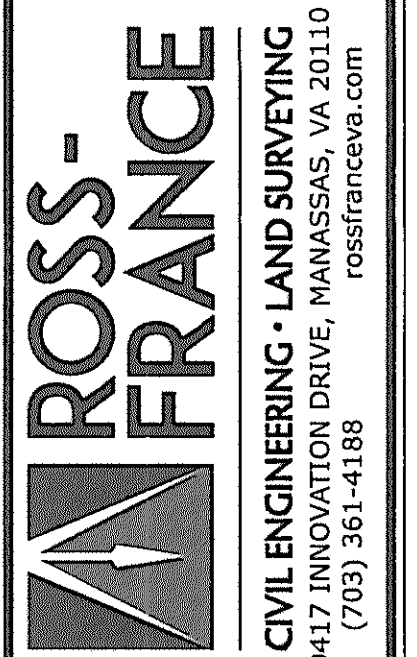
CURVE	RADIUS	DELTA	ARC	TANGENT	CHORD	CHORD BEARING
C1	624.00'	09°36'20"	104.61'	52.43'	104.49'	S81°10'11"E
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PIN 7915-66-4189  
ICE PROPERTIES LLC  
ZONE: PCID, USE: INDUSTRIAL/COMMERCIAL  
D.B. 1572, PG. 1131

**"PRELIMINARY SOILS INFORMATION VIA TYPE 1 SOIL MAP (ORIGINAL SCALE 1"=400') AND REPORT BY THE FAUQUIER COUNTY SOIL SCIENTISTS OFFICE, DATED JANUARY 31, 2013"**



**THIS DRAWING IS FOR EXISTING CONDITIONS PURPOSES ONLY**



CIVIL ENGINEERING - LAND SURVEYING  
9417 INNOVATION DRIVE, ROSSFORD, VA 20110  
(703) 361-4188  
rossfranceva.com

VINT HILL LOT 9A-1  
SCOTT MAGISTERIAL DISTRICT  
FAUQUIER COUNTY, VIRGINIA  
CONTOUR INTERVAL = 2'  
SCALE: 1"=30'  
SEPTEMBER 14, 2020

**EXISTING CONDITIONS & TYPE 1 SOILS MAP**

DATE	BY	REVISION

DES: DWN  
FW MSL  
CHK: RMM

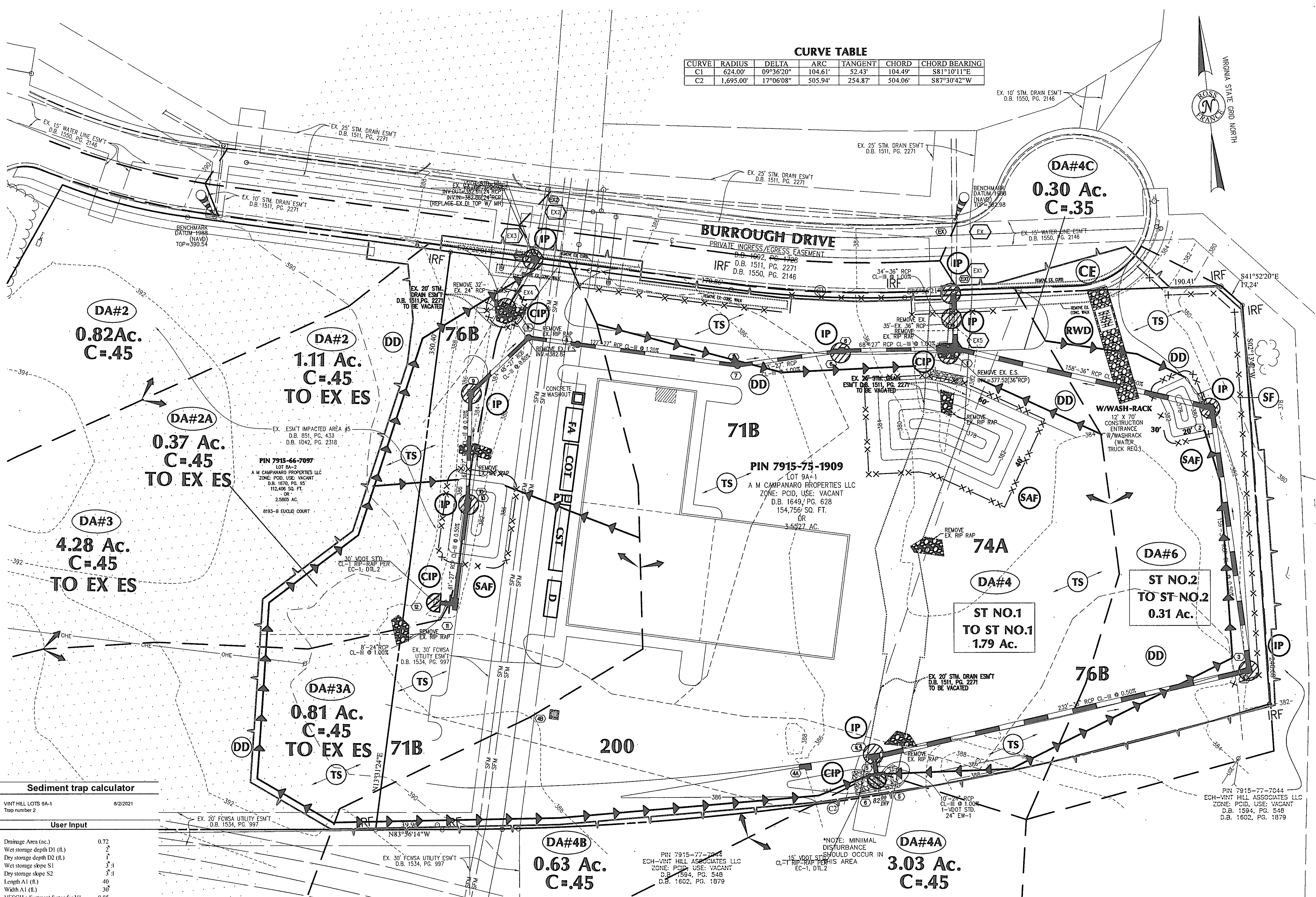
FILE NO.: SP # 2040

SHEET 8

NO.	TITLE	KEY	SYMBOL
3.02	TEMPORARY STONE CONSTRUCTION ENTRANCE	CE	
3.05	SILT FENCE	SF	
3.07	STORM DRAIN INLET PROTECTION	IP	
3.09	TEMPORARY DIVERSION DIKE	DD	
3.18	OUTLET PROTECTION	OP	
3.19	RIP-RAP	RR	
3.31	TEMPORARY SEEDING	TS	
3.32	PERMANENT SEEDING	PS	
3.38	TREE PRESERVATION AND PROTECTION	TP	
	LIMITS OF CLEARING AND/OR GRADING		
	DRAINAGE DIVIDES		
3.08	CULVERT INLET PROTECTION	CIP	
3.01	SAFETY FENCE	SAF	

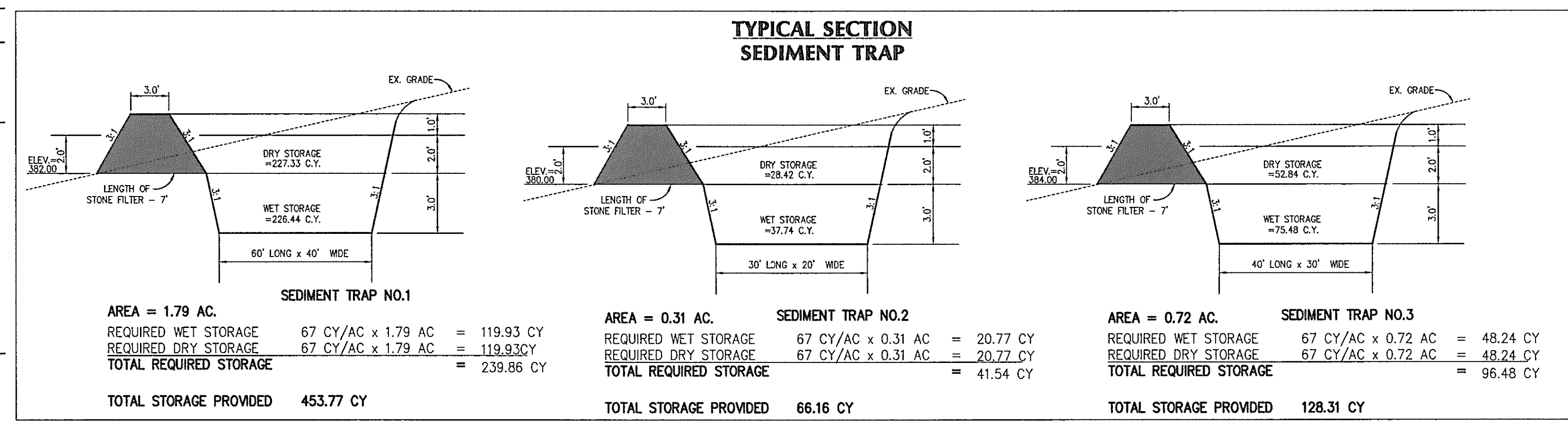
**THIS DRAWING IS FOR PHASE I EROSION & SEDIMENT CONTROL & DEMOLITION PURPOSES ONLY**

NOTE: THE EROSION AND SEDIMENT CONTROL INSPECTOR HAS THE AUTHORITY TO ADD OR DELETE EROSION AND SEDIMENT CONTROLS AS NECESSARY IN THE FIELD AS SITE CONDITIONS CHANGE. IN ADDITION NO SEDIMENT BASIN OR TRAP CAN BE REMOVED WITHOUT WRITTEN AUTHORIZATION.



CURVE	RADIUS	DELTA	ARC	TANGENT	CHORD	CHORD BEARING
C1	624.00'	09°36'20"	104.61'	52.43'	104.49'	S81°10'11"E
C2	1,695.00'	17°06'08"	505.94'	254.87'	504.06'	S87°30'42"W

Sediment trap calculator		Sediment trap calculator		Sediment trap calculator	
Trap number 1		Trap number 2		Trap number 2	
User Input		User Input		User Input	
Drainage Area (ac.)	1.79	Drainage Area (ac.)	0.31	Drainage Area (ac.)	0.72
Wet storage depth D1 (ft.)	3'	Wet storage depth D1 (ft.)	2'	Wet storage depth D1 (ft.)	2'
Dry storage depth D2 (ft.)	2'	Dry storage depth D2 (ft.)	1'	Dry storage depth D2 (ft.)	1'
Wet storage slope S1	3:1	Wet storage slope S1	3:1	Wet storage slope S1	3:1
Dry storage slope S2	3:1	Dry storage slope S2	3:1	Dry storage slope S2	3:1
Length A1 (ft.)	60	Length A1 (ft.)	30	Length A1 (ft.)	40
Width A1 (ft.)	40	Width A1 (ft.)	20	Width A1 (ft.)	30
VESCH adjustment factor for V1	0.85	VESCH adjustment factor for V1	0.85	VESCH adjustment factor for V1	0.85
Calculations		Calculations		Calculations	
Required storage		Required storage		Required storage	
Wet storage (cu. yds.)	119.93	Wet storage (cu. yds.)	20.77	Wet storage (cu. yds.)	48.24
Dry storage (cu. yds.)	119.93	Dry storage (cu. yds.)	20.77	Dry storage (cu. yds.)	48.24
Total storage (cu. yds.)	239.86	Total storage (cu. yds.)	41.54	Total storage (cu. yds.)	96.48
Calculated storage		Calculated storage		Calculated storage	
Area A1 (sq. ft.)	2400	Area A1 (sq. ft.)	600	Area A1 (sq. ft.)	1200
Wet Volume V1 (cu. ft.)	6120	Wet Volume V1 (cu. ft.)	1020	Wet Volume V1 (cu. ft.)	2040
Wet Volume (cu. yds.)	226.44	Wet Volume (cu. yds.)	37.74	Wet Volume (cu. yds.)	75.48
Length A2 (ft.)	72	Length A2 (ft.)	36	Length A2 (ft.)	46
Width A2 (ft.)	52	Width A2 (ft.)	26	Width A2 (ft.)	36
Area A2 (sq. ft.)	3744	Area A2 (sq. ft.)	936	Area A2 (sq. ft.)	1656
Dry volume (cu. ft.)	6144	Dry volume (cu. ft.)	768	Dry volume (cu. ft.)	1428
Dry volume (cu. yds.)	227.328	Dry volume (cu. yds.)	28.416	Dry volume (cu. yds.)	52.836
Total storage (cu. yds.)	453.768	Total storage (cu. yds.)	66.156	Total storage (cu. yds.)	128.316
Embankment calculations		Embankment calculations		Embankment calculations	
Outlet width (ft.)	11	Outlet width (ft.)	2	Outlet width (ft.)	4
Embankment height (ft.)	3	Embankment height (ft.)	2	Embankment height (ft.)	2
Top width of embankment (ft.)	2.5	Top width of embankment (ft.)	2	Top width of embankment (ft.)	2
Bottom width of embankment (ft.)	20.5	Bottom width of embankment (ft.)	14	Bottom width of embankment (ft.)	14



	CONSTRUCTION OFFICE TRAILER & CHEMICAL WASHOUT (COT)
	CONSTRUCTION STORAGE TRAILER (CST)
	30 CY DUMPSTER (D)
	PORTABLE TOILET (PT)
	CONCRETE WASHOUT (CO)
	FUEL AREA WITH DRIP PAN (FDP)

**ROSS-FRANCE**  
 CIVIL ENGINEERING - LAND SURVEYING  
 9417 INNOVATION DRIVE, MANASSAS, VA 20110  
 (703) 361-4188  
 rossfranceva.com

**VINT HILL LOT 9A-1**  
 SCOTT MAGISTERIAL DISTRICT  
 FAUQUIER COUNTY, VIRGINIA  
 SCALE: 1" = 30'

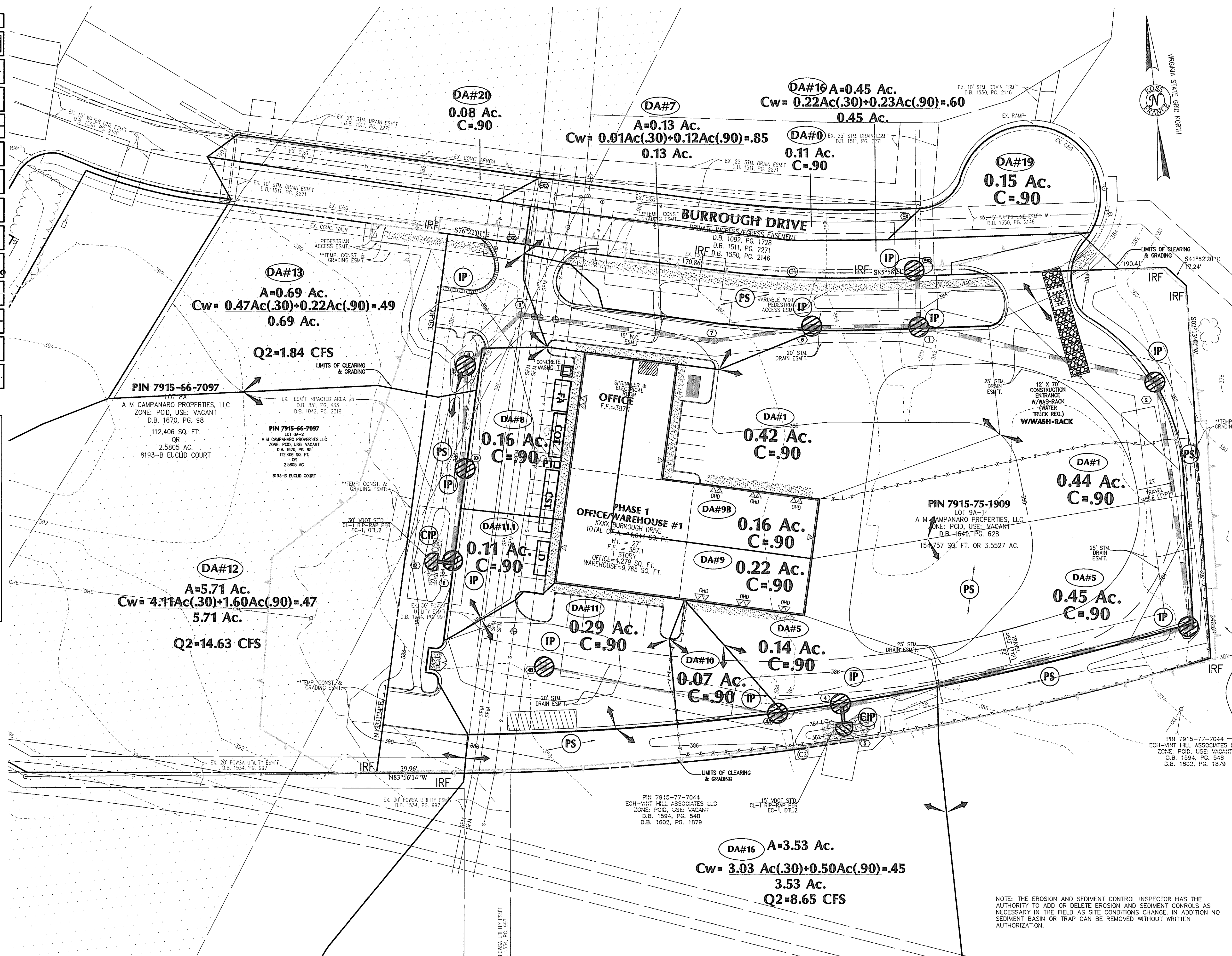
**PHASE I EROSION AND SEDIMENT CONTROL & DEMOLITION PLAN**

DES: DWN: CHK:  
 FW MSL RMM  
 FILE NO.: SP#2040  
 SHEET 9

NO.	TITLE	KEY	SYMBOL
3.02	TEMPORARY STONE CONSTRUCTION ENTRANCE	CE	
3.05	SILT FENCE	SF	
3.07	STORM DRAIN INLET PROTECTION	IP	
3.09	TEMPORARY DIVERSION DIKE	DD	
3.18	OUTLET PROTECTION	OP	
3.19	RIP-RAP	RR	
3.31	TEMPORARY SEEDING	TS	
3.32	PERMANENT SEEDING	PS	
3.38	TREE PRESERVATION AND PROTECTION	TP	
	LIMITS OF CLEARING AND/OR GRADING		
	DRAINAGE DIVIDES		
3.08	CULVERT INLET PROTECTION	CIP	
3.01	SAFETY FENCE	SAF	

**POLLUTION PREVENTION PLAN LEGEND**

COT & CW	CONSTRUCTION OFFICE TRAILER & CHEMICAL WASHOUT (COT)
CST	CONSTRUCTION STORAGE TRAILER (CST)
D	30 CY DUMPSTER (D)
PT	PORTABLE TOILET (PT)
CO	CONCRETE WASHOUT (CO)
(FDP)	FUEL AREA WITH DRIP PAN (FDP)



**ROSS-FRANCE**  
 CIVIL ENGINEERING - LAND SURVEYING  
 9417 INNOVATION DRIVE, MANASSAS, VA 20110  
 (703) 361-4188

COMMONWEALTH OF VIRGINIA  
 SCOTT R. MICHAEL MASTERS  
 Lic. No. 23855  
 07/22/2022  
 PROFESSIONAL SEAL

VINT HILL LOT 9A-1  
 SCOTT MANAGERIAL DISTRICT  
 FAUQUER COUNTY, VIRGINIA  
 SCALE: 1"=30'  
 CONTOUR INTERVAL = 2'  
 SEPTEMBER 14, 2020

PHASE II  
 EROSION AND SEDIMENT CONTROL PLAN

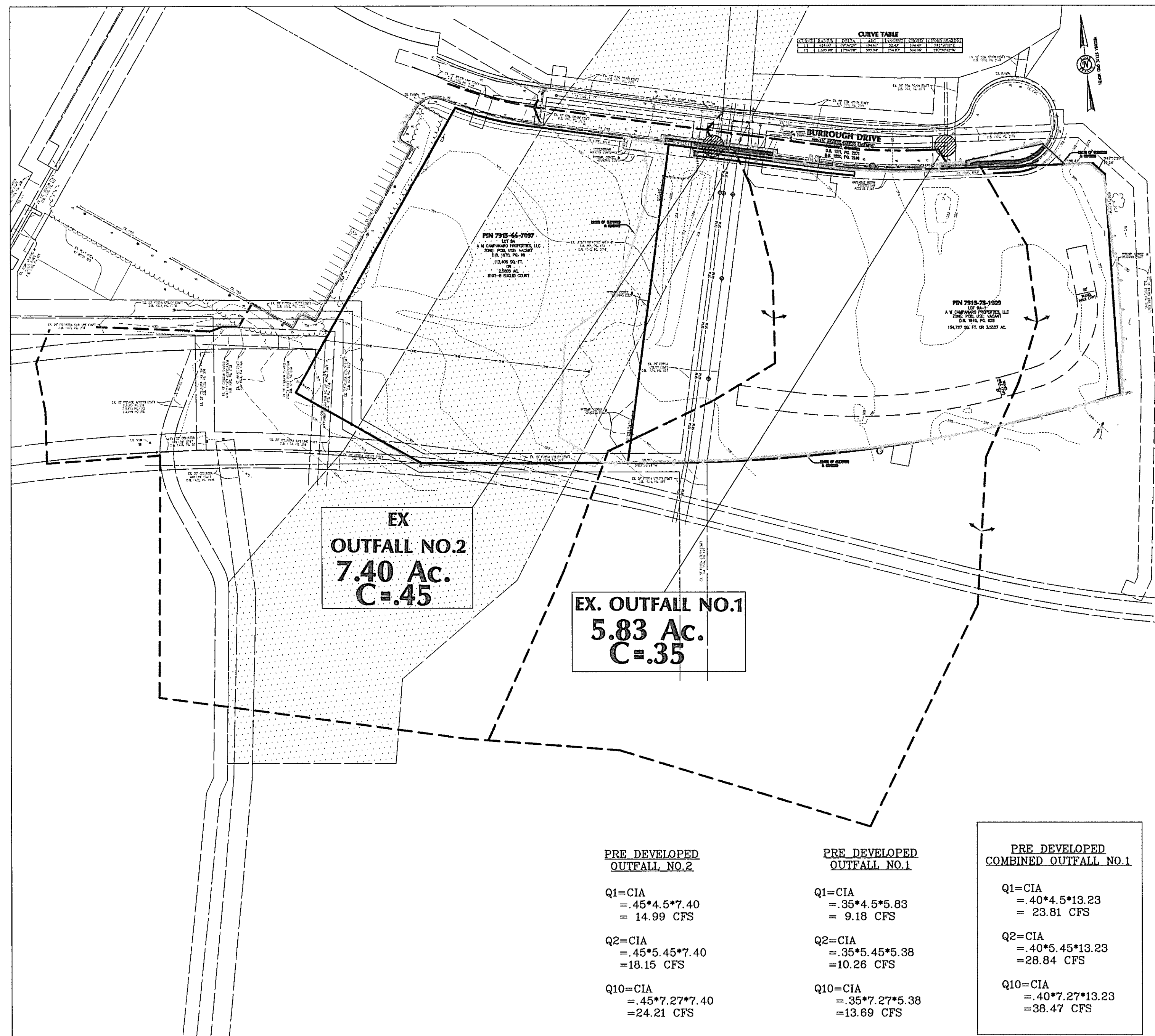
DATE	BY	REVISION

DES: DWN: CHK:  
 FW MSL RMM  
 FILE NO.: SP # 2040  
 SHEET 10

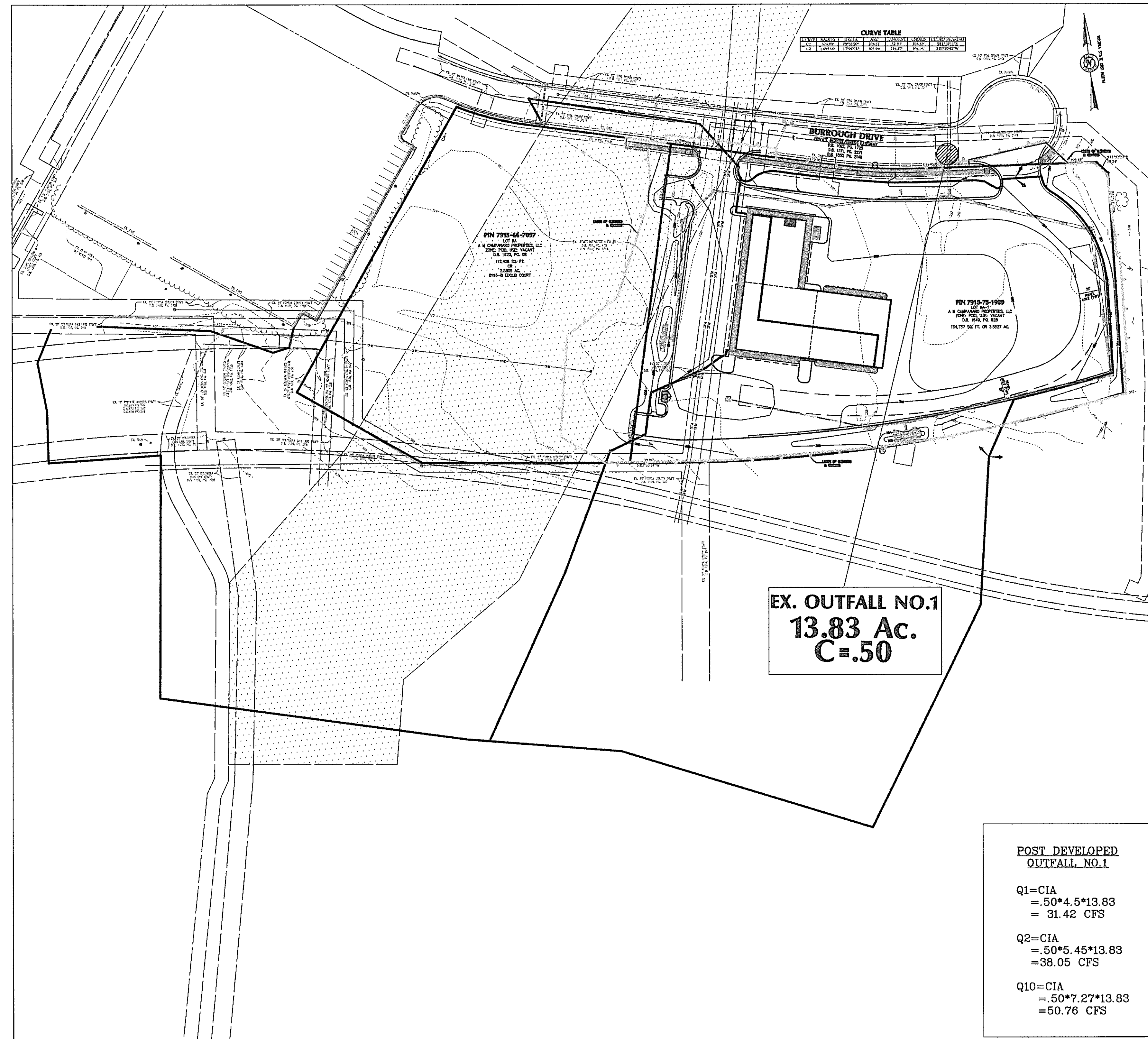
**THIS DRAWING IS FOR  
 PHASE II  
 EROSION & SEDIMENT  
 CONTROL PURPOSES ONLY**

NOTE: THE EROSION AND SEDIMENT CONTROL INSPECTOR HAS THE AUTHORITY TO ADD OR DELETE EROSION AND SEDIMENT CONTROLS AS NECESSARY IN THE FIELD AS SITE CONDITIONS CHANGE. IN ADDITION NO SEDIMENT BASIN OR TRAP CAN BE REMOVED WITHOUT WRITTEN AUTHORIZATION.

PRE DEVELOPMENT DRAINAGE AREA MAP



POST DEVELOPMENT DRAINAGE AREA MAP



DATE	BY	REVISION

P:\SP Projects\Engineering\Delaware\Vint Hill\CD\VA\Site Plan\VA\VA Vint Hill.dwg - P:\SP Projects\Engineering\Delaware\Vint Hill\CD\VA\Site Plan\VA\VA Vint Hill.dwg - P:\SP Projects\Engineering\Delaware\Vint Hill\CD\VA\Site Plan\VA\VA Vint Hill.dwg





**BMP FACILITY DESIGN CALCULATIONS**

PLAN NAME: Vint Hill - Landbay K Phase II Temp Pond (PHR+A PROJECT # 10428-E-5) DATE: 1/24/2008  
 CO. PLAN #: ENGINEER: HB/ETN

**I. WATER QUALITY NARRATIVE**  
 REFER TO BMP NARRATIVE ON THIS SHEET.

**II. WATERSHED INFORMATION**

**PART 1. LIST ALL OF THE SUBAREAS AND "C" FACTORS USED IN THE BMP COMPUTATIONS**

SUBAREA DESIGNATION & DESCRIPTION	"C" (1)	AREA (AC) (2)	PRODUCT (3)
A1 Onsite/Developed/Controlled	0.90	34.53	31.08
A2 Onsite/Developed/Uncontrolled	0.25	1.12	0.28
A3 Offsite/Developed/Controlled	0.75	2.14	1.61
<b>(b) TOTAL</b>			<b>32.98</b>

**PART 2. COMPUTE THE WEIGHTED AVERAGE "C" FACTOR FOR THE SITE**

SUBAREA DESIGNATION	"C" (1)	AREA (AC) (2)	PRODUCT (3)
A1 Onsite/Developed/Controlled	0.90	34.53	31.08
A2 Onsite/Developed/Uncontrolled	0.25	1.12	0.28
<b>(b) TOTAL</b>			<b>31.36</b>

**(c) WEIGHTED AVERAGE "C" FACTOR** (b) / (a) = (c) = **0.88**

**PART 3. COMPUTE THE TOTAL PHOSPHORUS REMOVAL FOR THE SITE**

SUBAREA DESIGNATION	BMP TYPE	REMOVAL EFF. (%) (1)	AREA RATIO (2)	"C" FACTOR RATIO (3)	PRODUCT (4)
A1	Ext. Detention Dry Pond	40	0.97	1.02	39.64
A2	Uncontrolled	-	0.03	X	0.00
A3	Ext. Detention Dry Pond	40	0.06	0.30	0.41
<b>(d) TOTAL</b>					<b>40.05%</b>

**PART 4. DETERMINE COMPLIANCE WITH PHOSPHORUS REMOVAL REQUIREMENT**

(a) SELECT REQUIREMENT: (a) = **40 %**

WATER SUPPLY OVERLAY DISTRICT (OCOQUAN WATERSHED) → 50% FOR FAIRFAX AND FRNCE WILLIAM COUNTY  
 CHESAPEAKE BAY PRESERVATION AREA (NEW DEVELOPMENT) → 40% FOR FAIRFAX COUNTY, 50% FOR FRNCE WILLIAM COUNTY  
 CHESAPEAKE BAY PRESERVATION AREA (RE-DEVELOPMENT) → [1.00 X ("PR" / "POST")] X 100, %

(b) IF LINE 3 (a) **40.05 %** >= LINE 4(a) **40 %**  
 THEN PHOSPHORUS REMOVAL REQUIREMENT IS SATISFIED.

**PART 5. DETERMINE COMPLIANCE WITH SITE COVERAGE REQUIREMENT**

SUM ALL THE UNCONTROLLED ONSITE AREAS AND COMPUTE A WEIGHTED AVERAGE "C" FACTOR. DO NOT INCLUDE QUALIFYING OPEN SPACE.

SUBAREA DESIGNATION	"C" (1)	AREA (AC) (2)	PRODUCT (3)
A2 Onsite/Developed/Uncontrolled	0.25	1.12	0.28
<b>(b) TOTAL</b>			<b>1.12</b>

**(c) WEIGHTED AVERAGE "C" FACTOR** (a) / (b) = (c) = **0.25**

(d) IF LINE 5B < 20% OF LINE 2A, THEN THE SITE COVERAGE REQUIREMENT IS SATISFIED. LINE 5A IS THE EQUIVALENT OFFSITE AREA FOR WHICH COVERAGE MAY BE REQUIRED.

100 X LINE 5B **1.12** / LINE 2(A) **35.65** = **3.14%**

**SITE COVERAGE REQUIREMENT IS SATISFIED**

**PART 6. DETERMINE THE OFFSITE AREAS FOR WHICH COVERAGE IS REQUIRED**

(A) FOR THE OFFSITE AREAS LISTED IN PART 1 WHICH FLOW TO PROPOSED ONSITE BMP, COMPUTE THE EQUIVALENT AREAS.

SUBAREA DESIGNATION	"C" (1)	AREA (AC) (2)	PRODUCT (3)
A3 Offsite/Developed/Controlled	0.75	2.14	1.61
<b>(d) TOTAL</b>			<b>1.61</b>

IF THE EQUIVALENT OFFSITE AREA, LINE 6A, DRAINING TO ALL PROPOSED BMP FACILITIES IS GREATER THAN THE EQUIVALENT UNCONTROLLED AREA OF THE SITE SHOWN IN LINE 5A, THEN, THE OFFSITE AREA CONTROLLED BY THE PROPOSED BMP FACILITIES MAY BE REDUCED UNTIL THE TWO ARE EQUAL. OTHERWISE, ALL UNCONTROLLED OFFSITE AREAS DRAINING TO THE PROPOSED BMP FACILITIES MUST BE INCLUDED. ALL OFFSITE AREAS THUS REDUCED SHOULD BE MARKED WITH AN "X" WHEREVER THEY APPEAR IN THE COMPUTATIONS.

**PART 7. COMPUTE THE WEIGHTED AVERAGE "C" FACTOR FOR EACH PROPOSED BMP FACILITY**

(A) LIST ALL THE AREAS TO BE CONTROLLED BY THE PROPOSED BMP

SUBAREA DESIGNATION	"C" (1)	AREA (AC) (2)	PRODUCT (3)
A1 Onsite/Developed/Controlled	0.90	34.53	31.08
A3 Offsite/Developed/Controlled	0.75	2.14	1.61
<b>(a) TOTAL AREA</b>	<b>(a) TOTAL</b>		<b>36.67</b>
<b>(b) TOTAL EQUIVALENT AREA</b>	<b>(b) TOTAL</b>		<b>32.68</b>
<b>(c) WEIGHTED AVERAGE "C" FACTOR</b>	<b>(b) / (a) = (c)</b>		<b>0.89</b>

**PART 8. DETERMINE THE STORAGE REQUIRED FOR EACH PROPOSED FACILITY**

(A) EXTENDED DETENTION DRY POND  
 CHART A6-40 VALUE (APPENDIX 4-3) FOR BMP STORAGE PER ACRE  
 [(4575 X "C") - 879] OR [(1.25 X "NDMP")] = (a) **3024.20** CF/AC

DESIGN 1 (48-HOUR DRAWDOWN) LINE 7A X LINE 8A = **110,897.50** CF

**PART 9. DETERMINE THE REQUIRED ORIFICE SIZE FOR EACH EXTENDED DETENTION FACILITY**

(A) BMP STORAGE REQUIREMENT (S) FROM PART 8 (a) = **110898** CF

(B) MAXIMUM HEAD (H) AT THE REQUIRED BMP STORAGE FROM THE ELEVATION-STORAGE CURVE FOR THE FACILITY (b) = **5.6** FT

(C) PEAK OUTFLOW RATE (Qp) AT THE MAXIMUM HEAD FOR A DRAWDOWN TIME OF 48 HOURS  
 (Qp = S / (0.5 X 3600 X 48)) (c) = **1.28** CFS

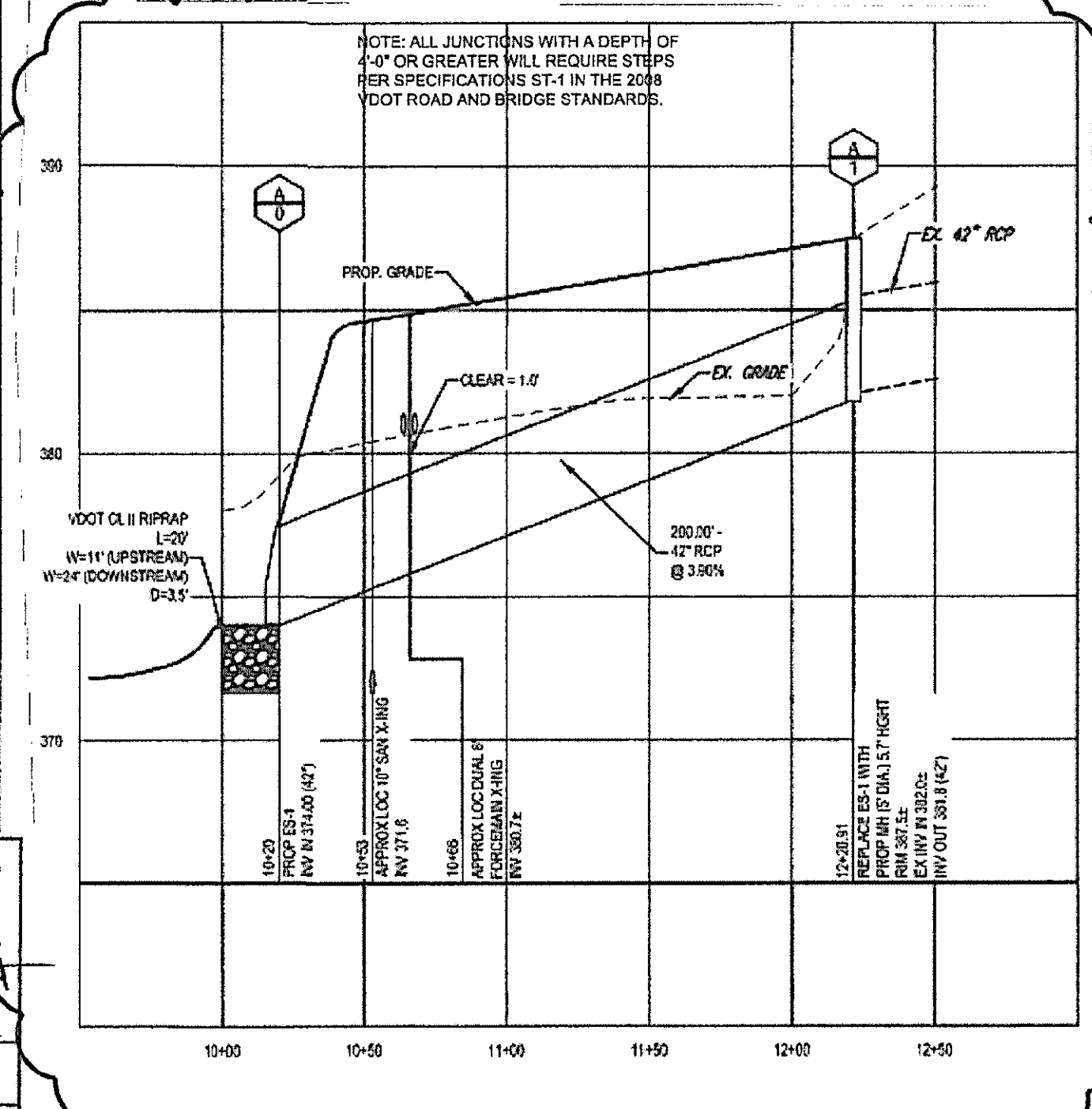
(D) REQUIRED ORIFICE AREA (A)  
 (A = Qp / (0.6 X (64.4 X H^0.5))) (d) = **0.1126** SF

(E) DIAMETER OF A CIRCULAR ORIFICE.  
 (DIAMETER = 2.0 X (A/3.1415927)^0.5) (e) = **0.379** IN  
 (DIAMETER = **2.0** X (A/3.1415927)^0.5) (e) = **4.54** IN  
 Use **4"** Dia. Orifice

**BMP NARRATIVE**

BMP for the site is provided using an extended detention dry pond. The BMP facility design was done according to the Ocoquan Method recommended in the Northern Virginia BMP Handbook. BMP drainage divide map and design are provided on this sheet.

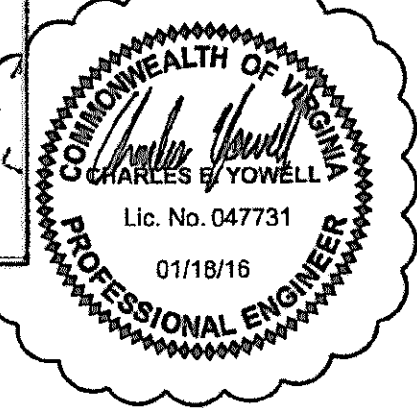
The BMP drainage area in consideration consists of 3 sub-areas namely A1, A2 and A3. A1 and A2 are onsite areas, of which A1 drains to the pond whereas A2 is not controlled by the BMP structure. Area A1 is considered as Business and Commercial District with 85% imperviousness, and A2 predominantly consists of open space and lawn. A3 is an offsite area to Landbay K, which naturally drains to the BMP structure, and consists of few existing developments like roads, parking lots, and buildings. Since A3 is considered offsite, only 20% of the area is claimed for credit. The computations indicate that there will be a 40% in reduction of phosphorus from the site, which is the required removal rate. The volume of BMP storage required is 110,898 CF and the volume of BMP storage provided is 124,689 CF.



**REVISIONS**

REV	DATE	COMMENT	BY
1	10/23/06	ADDRESS COUNTY COMMENTS	CEY
2	12/16/06	ADDRESS COUNTY COMMENTS	CEY
3	03/15/08	SIGNATURE SUBMISSION	CEY

**BOHLER ENGINEERING**  
 28 BLACKWELL PARK LANE, SUITE 201  
 WARRENTON, VIRGINIA 20186  
 Phone: (540) 349-4101  
 Fax: (540) 349-0321  
 www.BohlerEngineering.com



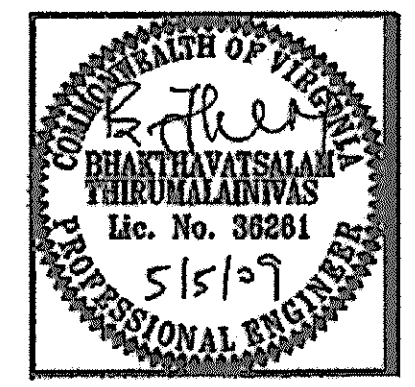
COPY AS APPROVED BY  
 BOS PC  
 ON 9.23.09  
 Hmeade  
 CERTIFIED  
 CASE # NMP08 0005

THIS CERTIFICATION BY CHARLES E. YOWELL AND BOHLER ENGINEERING ONLY PERTAINS TO THE AREAS CLOUDED IN THIS REVISION.

**APPROVED FOR CONSTRUCTION**

**BMP DRAINAGE DIVIDE**

NO.	DESCRIPTION	DATE	CHKD
1	1ST SUBMISSION COMMENTS	6/18/08	ETN



**PROJECT**

**VINT HILL LANDBAY K**  
**PHASE II**  
 CEDAR RUN DISTRICT  
 FAUQUIER COUNTY, VA.

**TITLE**

**BMP DRAINAGE DIVIDE & COMPUTATIONS**

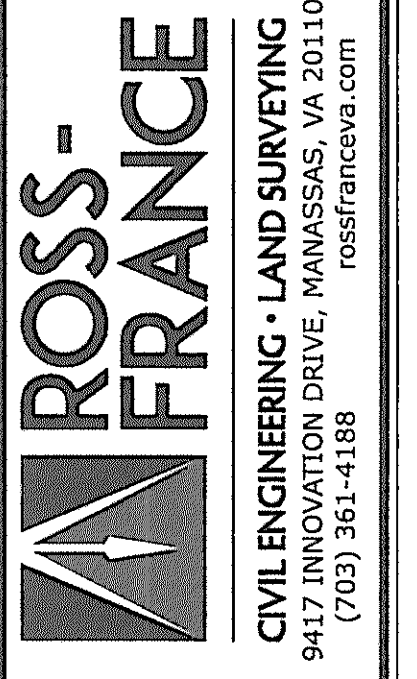
**Patton Harris Rust & Associates**  
 Engineers. Surveyors. Planners. Landscape Architects.

**PHR+A**

208 Church Street SE  
 Leesburg, VA 20175  
 T 703.777.3616  
 F 703.777.3725

DESIGN	HE	SURVEY	PHR+A
DRAWN	HE	DATE	JANUARY 2008
CHECKED	BTN	SCALE	1"=100'
SHEET	21 OF 27	FILE NO.	10428-E-5

**FOR INFORMATION ONLY  
 PURPOSES ONLY !!!**



**VINT HILL LOT 9A-1**

SCOTT MAGISTERIAL DISTRICT  
 FAUQUIER COUNTY, VIRGINIA

SEPTEMBER 14, 2020

SCALE: NO SCALE

**BMP DRAINAGE DIVIDE & COMPUTATIONS**

**LANDBAY K - PHASE II**

DATE	BY	REVISION

DES: DWN: CHK:  
 FW MSL RMM  
 FILE NO.: SP # 2040  
 SHEET 13



**Worksheet 2: Runoff curve number and runoff**

Project: VINT HILL - LANDBAY K PHASE II By: HE Date: 1/23/2008  
 Location: PRE-DEVELOPMENT TO STUDY POINT Checked: BTN Date:

Check One:  Present  Developed Existing Conditions

Soil name and hydrologic group (appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN*			Area (acres)	Product of CN x area
		Table 2-2	Figure 2-3	Figure 2-4		
B	Woods/Grass Combination - Good Condition	58			0.16	9.3
B	Pasture - Good Condition	61			22.09	1347.5
C	Woods/Grass Combination - Good Condition	72			0.05	3.6
C	Pasture - Good Condition	74			0.13	9.6
D	Woods/Grass Combination - Good Condition	79			0.34	26.9
D	Pasture - Good Condition	80			4.15	332.0
<b>Totals</b>					28.92	1728.85

\* Use only one CN source per line  
 CN (weighted) =  $\frac{\text{total product}}{\text{total area}} = \frac{1728.85}{28.92} = 59.78$   
 Use CN **64.2**

Frequency	yr	Storm #1	Storm #2	Storm #3
Frequency	yr	2	10	100
Rainfall, P (24-hour)	in	3.5	5.4	7.7
Runoff, Q	in	0.71	1.88	3.57

**Worksheet 2: Runoff curve number and runoff**

Project: VINT HILL - LANDBAY K PHASE II By: HE Date: 1/24/2008  
 Location: PRE-DEVELOPMENT TO STUDY POINT Checked: BTN Date:

Check One:  Present  Developed Existing Conditions

Soil name and hydrologic group (appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN*			Area (acres)	Product of CN x area
		Table 2-2	Figure 2-3	Figure 2-4		
B	Woods-grass Combination-Good Condition	58			0.33	19.14
B	Pasture -Good Condition	61			16.55	1009.55
B	Impervious areas: Paved Parking lots, roofs etc	98			7.48	733.04
C	Woods-grass Combination-Good Condition	72			0.25	18.00
C	Pasture -Good Condition	74			6.79	502.46
C	Impervious areas: Paved Parking lots, roofs etc	98			1.94	190.12
D	Woods-grass Combination-Good Condition	79			1.67	131.93
D	Pasture -Good Condition	80			24.53	1962.40
D	Impervious areas: Paved Parking lots, roofs etc	98			15.31	1500.39
<b>Totals</b>					74.85	6087.02

\* Use only one CN source per line  
 CN (weighted) =  $\frac{\text{total product}}{\text{total area}} = \frac{6087.02}{74.85} = 81.32$   
 Use CN **81.1**

Frequency	yr	Storm #1	Storm #2	Storm #3
Frequency	yr	2	10	100
Rainfall, P (24-hour)	in	3.5	5.4	7.7
Runoff, Q	in	1.72	3.35	5.47

**Worksheet 2: Runoff curve number and runoff**

Project: VINT HILL - LANDBAY K PHASE II By: HE Date: 1/24/2008  
 Location: POST-DEVELOPMENT TO POND Checked: BTN Date:

Check One:  Present  Developed Proposed Conditions

Soil name and hydrologic group (appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN*			Area (acres)	Product of CN x area
		Table 4-4B	Figure 2-3	Figure 2-4		
B	Commercial & Business (85% Impervious)	92			29.95	2756.3
C	Commercial & Business (85% Impervious)	94			1.41	132.5
D	Commercial & Business (85% Impervious)	95			5.30	503.5
<b>Totals</b>					36.67	3392.36

\* Use only one CN source per line  
 CN (weighted) =  $\frac{\text{total product}}{\text{total area}} = \frac{3392.36}{36.67} = 92.51$   
 Use CN **92.5**

Frequency	yr	Storm #1	Storm #2	Storm #3
Frequency	yr	2	10	100
Rainfall, P (24-hour)	in	3.5	5.4	7.7
Runoff, Q	in	2.69	4.54	6.81

**Worksheet 2: Runoff curve number and runoff**

Project: VINT HILL - LANDBAY K PHASE II By: HE Date: 1/24/2008  
 Location: POST-DEVELOPMENT TO STUDY POINT Checked: BTN Date:

Check One:  Present  Developed Existing Conditions

Soil name and hydrologic group (appendix A)	Cover description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN*			Area (acres)	Product of CN x area
		Table 2-2	Figure 2-3	Figure 2-4		
B	Woods-grass Combination-Good Condition	58			0.33	19.14
B	Pasture -Good Condition	61			15.94	972.34
B	Impervious areas: Paved Parking lots, roofs etc	98			7.48	733.04
C	Woods-grass Combination-Good Condition	72			0.07	5.04
C	Pasture -Good Condition	74			5.74	424.76
C	Impervious areas: Paved Parking lots, roofs etc	98			1.94	190.12
D	Woods-grass Combination-Good Condition	79			1.47	116.13
D	Pasture -Good Condition	80			24.31	1944.80
D	Impervious areas: Paved Parking lots, roofs etc	98			15.31	1500.38
<b>Totals</b>					72.59	5905.76

\* Use only one CN source per line  
 CN (weighted) =  $\frac{\text{total product}}{\text{total area}} = \frac{5905.76}{72.59} = 81.36$   
 Use CN **81.4**

Frequency	yr	Storm #1	Storm #2	Storm #3
Frequency	yr	2	10	100
Rainfall, P (24-hour)	in	3.5	5.4	7.7
Runoff, Q	in	1.74	3.38	5.51

**Worksheet 3: Time of Concentration (T<sub>c</sub>) or Travel Time (T<sub>t</sub>)**

Project: VINT HILL - LANDBAY K PHASE II By: HE Date: 1/23/2008  
 Location: PRE-DEVELOPMENT TO STUDY POINT Checked: BTN Date:

Check One:  Present  Developed  
 Check One:  T<sub>c</sub>  T<sub>t</sub> through subarea

Notes: Space for as many as two segments per flow type can be used for each worksheet. Include a map, schematic, or description of flow segments.

Segment ID	A-B	Flow Length, L (ft)	Surface description	Flow Length, L (ft)	Watercourse slope, s	Average velocity, V (ft/s)	Time, T <sub>c</sub> (hr)
1	Grass	189	Grass	189	0.024	2.5	0.24
2	Grass	200	Grass	200	0.025	2.4	0.27
3	Grass	3.5	Grass	3.5	0.025	2.4	0.04
<b>Total T<sub>c</sub></b>							<b>0.35</b>

**Worksheet 3: Time of Concentration (T<sub>c</sub>) or Travel Time (T<sub>t</sub>)**

Project: VINT HILL - LANDBAY K PHASE II By: AJ/HE Date: 1/24/2008  
 Location: PRE-DEVELOPMENT TO STUDY POINT Checked: BTN Date:

Check One:  Present  Developed  
 Check One:  T<sub>c</sub>  T<sub>t</sub> through subarea

Notes: Space for as many as two segments per flow type can be used for each worksheet. Include a map, schematic, or description of flow segments.

Segment ID	A-B	Flow Length, L (ft)	Surface description	Flow Length, L (ft)	Watercourse slope, s	Average velocity, V (ft/s)	Time, T <sub>c</sub> (hr)
1	Grass	200	Grass	200	0.025	2.4	0.27
2	Grass	3.5	Grass	3.5	0.025	2.4	0.04
3	Grass	0.025	Grass	0.025	2.4	0.04	0.04
<b>Total T<sub>c</sub></b>							<b>0.35</b>

**Worksheet 3: Time of Concentration (T<sub>c</sub>) or Travel Time (T<sub>t</sub>)**

Project: VINT HILL - LANDBAY K PHASE II By: SGJ Date: 5/20/2008  
 Location: POST-DEVELOPMENT TO STUDY POINT Checked: BTN Date:

Check One:  Present  Developed  
 Check One:  T<sub>c</sub>  T<sub>t</sub> through subarea

Notes: Space for as many as two segments per flow type can be used for each worksheet. Include a map, schematic, or description of flow segments.

Segment ID	A-B	Flow Length, L (ft)	Surface description	Flow Length, L (ft)	Watercourse slope, s	Average velocity, V (ft/s)	Time, T <sub>c</sub> (hr)
1	Grass	60	Grass	60	0.030	3.1	0.11
2	Grass	405	Grass	405	0.030	3.1	0.11
3	Grass	0.030	Grass	0.030	3.1	0.11	0.11
<b>Total T<sub>c</sub></b>							<b>0.22</b>

**Worksheet 3: Time of Concentration (T<sub>c</sub>) or Travel Time (T<sub>t</sub>)**

Project: VINT HILL - LANDBAY K PHASE II By: AJ/HE Date: 1/24/2008  
 Location: POST-DEVELOPMENT TO STUDY POINT Checked: BTN Date:

Check One:  Present  Developed  
 Check One:  T<sub>c</sub>  T<sub>t</sub> through subarea

Notes: Space for as many as two segments per flow type can be used for each worksheet. Include a map, schematic, or description of flow segments.

Segment ID	A-B	Flow Length, L (ft)	Surface description	Flow Length, L (ft)	Watercourse slope, s	Average velocity, V (ft/s)	Time, T <sub>c</sub> (hr)
1	Grass	200	Grass	200	0.025	2.4	0.27
2	Grass	3.5	Grass	3.5	0.025	2.4	0.04
3	Grass	0.025	Grass	0.025	2.4	0.04	0.04
<b>Total T<sub>c</sub></b>							<b>0.35</b>

**Worksheet 3: Time of Concentration (T<sub>c</sub>) or Travel Time (T<sub>t</sub>)**

Project: VINT HILL - LANDBAY K PHASE II By: HE Date: 1/23/2008  
 Location: PRE-DEVELOPMENT TO STUDY POINT Checked: BTN Date:

Check One:  Present  Developed  
 Check One:  T<sub>c</sub>  T<sub>t</sub> through subarea

Notes: Space for as many as two segments per flow type can be used for each worksheet. Include a map, schematic, or description of flow segments.

Segment ID	A-B	Flow Length, L (ft)	Surface description	Flow Length, L (ft)	Watercourse slope, s	Average velocity, V (ft/s)	Time, T <sub>c</sub> (hr)
1	Grass	189	Grass	189	0.024	2.5	0.24
2	Grass	200	Grass	200	0.025	2.4	0.27
3	Grass	3.5	Grass	3.5	0.025	2.4	0.04
<b>Total T<sub>c</sub></b>							<b>0.55</b>

**Worksheet 3: Time of Concentration (T<sub>c</sub>) or Travel Time (T<sub>t</sub>)**

Project: VINT HILL - LANDBAY K PHASE II By: AJ/HE Date: 1/24/2008  
 Location: PRE-DEVELOPMENT TO STUDY POINT Checked: BTN Date:

Check One:  Present  Developed  
 Check One:  T<sub>c</sub>  T<sub>t</sub> through subarea

Notes: Space for as many as two segments per flow type can be used for each worksheet. Include a map, schematic, or description of flow segments.

Segment ID	A-B	Flow Length, L (ft)	Surface description	Flow Length, L (ft)	Watercourse slope, s	Average velocity, V (ft/s)	Time, T <sub>c</sub> (hr)
1	Grass	200	Grass	200	0.025	2.4	0.27
2	Grass	3.5	Grass	3.5	0.025	2.4	0.04
3	Grass	0.025	Grass	0.025	2.4	0.04	0.04
<b>Total T<sub>c</sub></b>							<b>0.35</b>

**Worksheet 3: Time of Concentration (T<sub>c</sub>) or Travel Time (T<sub>t</sub>)**

Project: VINT HILL - LANDBAY K PHASE II By: SGJ Date: 5/20/2008  
 Location: POST-DEVELOPMENT TO STUDY POINT Checked: BTN Date:

Check One:  Present  Developed  
 Check One:  T<sub>c</sub>  T<sub>t</sub> through subarea

Notes: Space for as many as two segments per flow type can be used for each worksheet. Include a map, schematic, or description of flow segments.

Segment ID	A-B	Flow Length, L (ft)	Surface description	Flow Length, L (ft)	Watercourse slope, s	Average velocity, V (ft/s)	Time, T <sub>c</sub> (hr)
1	Grass	60	Grass	60	0.030	3.1	0.11
2	Grass	405	Grass	405	0.030	3.1	0.11
3	Grass	0.030	Grass	0.030	3.1	0.11	0.11
<b>Total T<sub>c</sub></b>							<b>0.22</b>

**Worksheet 3: Time of Concentration (T<sub>c</sub>) or Travel Time (T<sub>t</sub>)**

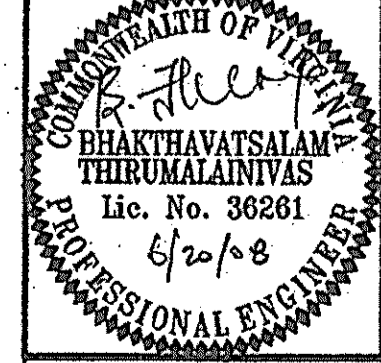
Project: VINT HILL - LANDBAY K PHASE II By: AJ/HE Date: 1/24/2008  
 Location: POST-DEVELOPMENT TO STUDY POINT Checked: BTN Date:

Check One:  Present  Developed  
 Check One:  T<sub>c</sub>  T<sub>t</sub> through subarea

Notes: Space for as many as two segments per flow type can be used for each worksheet. Include a map, schematic, or description of flow segments.

Segment ID	A-B	Flow Length, L (ft)	Surface description	Flow Length, L (ft)	Watercourse slope, s	Average velocity, V (ft/s)	Time, T <sub>c</sub> (hr)
1	Grass	200	Grass	200	0.025	2.4	0.27
2	Grass	3.5	Grass	3.5	0.025	2.4	0.04
3	Grass	0.025	Grass	0.025	2.4	0.04	0.04
<b>Total T<sub>c</sub></b>							<b>0.35</b>

NO.	DESCRIPTION	DATE	CHKD
1	1ST SUBMISSION COMMENTS	6/18/08	BTN



**VINT HILL LANDBAY K PHASE II**  
 CEDAR RUN DISTRICT  
 FAUQUIER COUNTY, VA.

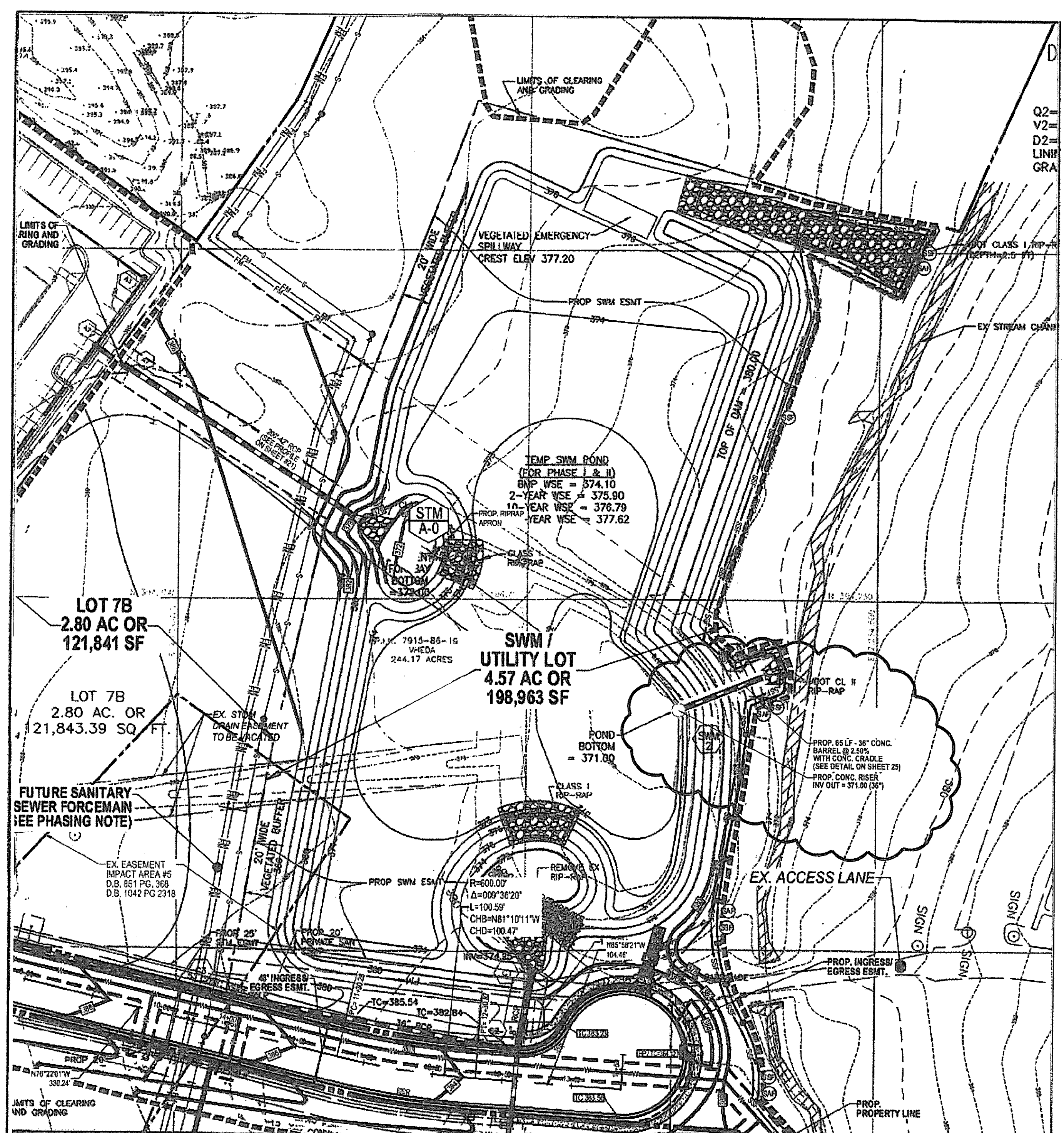
**STORMWATER MANAGEMENT POND COMPUTATIONS**

**Patton Harris Rust & Associates**  
 Engineers. Surveyors. Planners. Landscape Architects.  
 PHRA  
 208 Church Street SE  
 Leesburg, VA 20175  
 T 703.777.3616  
 F 703.777.3725

DESIGN	HE	SURVEY	PHR+A
DRAWN	HE	DATE	JANUARY 2008
CHECKED	BTN	SCALE	N/A
SHEET	23 OF 27	FILE NO.	10428-E-5

FOR INFORMATION ONLY  
 PURPOSES ONLY !!!

APPROVED BY: [Signature]  
 BZA  
 CERTIFIED: [Signature]  
 CASE # [Number]



**TR-20 RESULTS**  
 PRE-DEVELOPMENT CONDITION

\*\*\*\*\*80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY\*\*\*\*\*  
 JOB TR-20  
 TITLE 000 VINT HILL K-II (10428-E-5)  
 DATE: 01/24/2008  
 FILE: PRE.DAT

NO.	TYPE	STRUCTURE	AREA (SQ FT)	COEFF	TIME (HR)	LOSS (IN)	LOSS (IN)	LOSS (IN)	LOSS (IN)	LOSS (IN)
1	1	1	1	1	1	1	1	1	1	1

\*\*\*\*\*END OF 80-80 LIST\*\*\*\*\*

TR20 SEQ 01-25-08 15:07 VINT HILL K-II (10428-E-5) DATE: 01/24/2008  
 SUBSTAY REV FC 09/83(2) TYPE SWM POND - EXISTING CONDITION FILE: PRE.DAT

SUMMARY TABLE 3 - DISCHARGES (CFS) AT SECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

SECTION/STRUCTURE ID	STORM NO.	DISCHARGE (CFS)
0 SECTION 1	1	0.04
ALTERNATE 1	1	16.27
0 SECTION 2	1	108.65
ALTERNATE 1	1	212.50
0 SECTION 3	1	108.65
ALTERNATE 1	1	212.50

**REVISIONS**

REV	DATE	COMMENT	BY
1	10/23/15	ADDRESS COUNTY COMMENTS	CEY
2	12/15/15	ADDRESS COUNTY COMMENTS	CEY
3	03/15/16	SIGNATURE SUBMISSION	CEY

**TR-20 ROUTING RESULTS**  
 POST-DEVELOPMENT CONDITION

\*\*\*\*\*80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY\*\*\*\*\*  
 JOB TR-20  
 TITLE 000 VINT HILL K-II (10428-E-5)  
 DATE: 05/27/08  
 FILE: POSTREV.DAT

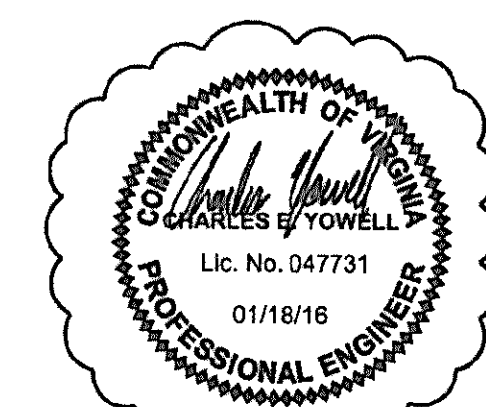
NO.	TYPE	STRUCTURE	AREA (SQ FT)	COEFF	TIME (HR)	LOSS (IN)	LOSS (IN)	LOSS (IN)	LOSS (IN)	LOSS (IN)
1	1	1	1	1	1	1	1	1	1	1

\*\*\*\*\*END OF 80-80 LIST\*\*\*\*\*

TR20 SEQ 05-27-08 11:40 VINT HILL K-II (10428-E-5) DATE: 05/27/08  
 SUBSTAY REV FC 09/83(2) TYPE SWM POND - PROPOSED CONDITION FILE: POSTREV.DAT

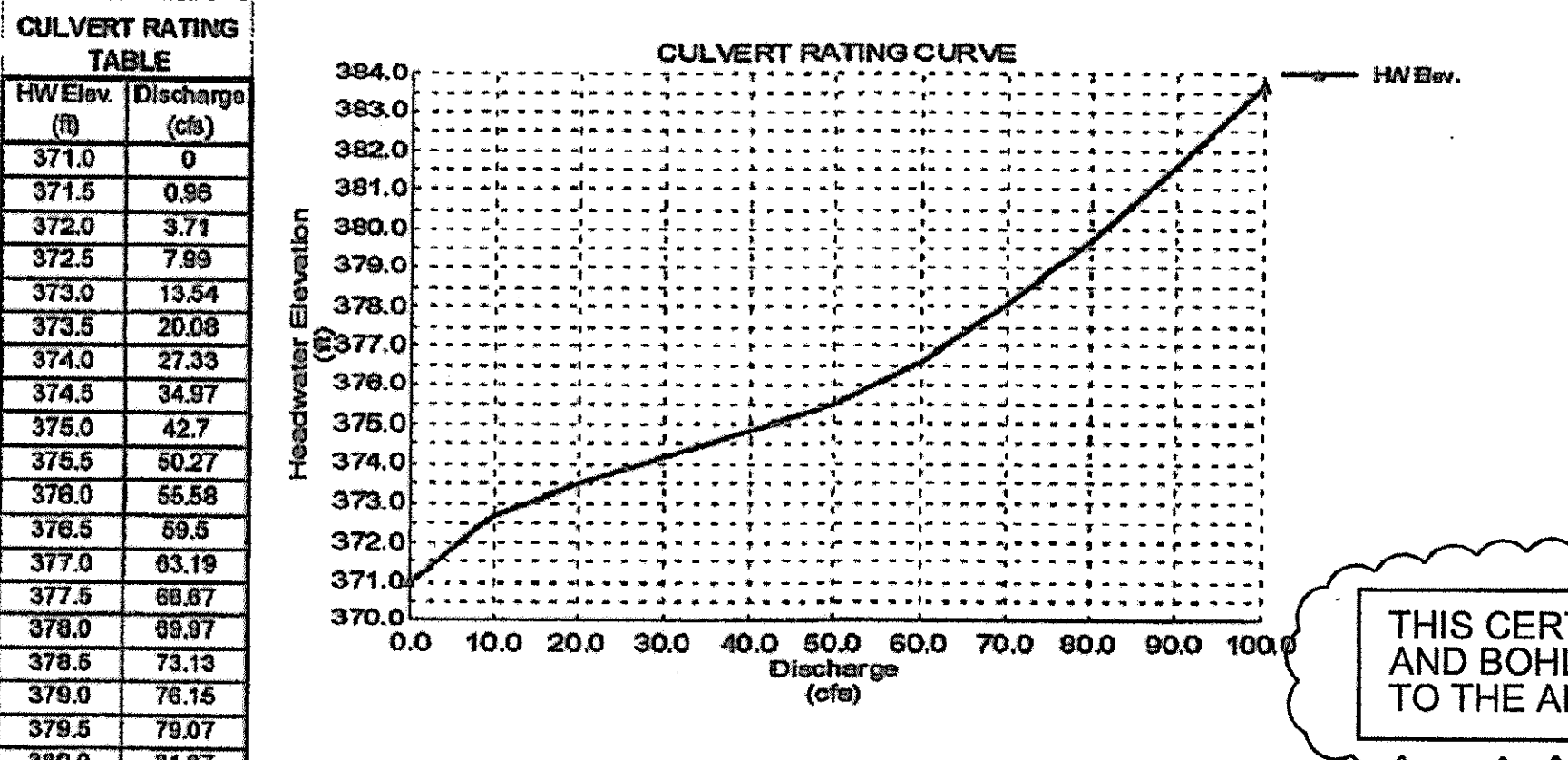
SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND ENHANCED CONTROL INSTRUCTIONS IN THE ORDER PERFORMED (A STAR (\*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS) VALUES INDICATES A FLAT TOP HYDROGRAPH; A QUESTION MARK (?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/STRUCTURE ID	STANDARD OPERATION	ENHANCED OPERATION	RAINFALL (IN)	HYET (HR)	HAUL TIME (HR)	PRECIPITATION (IN)	INFLOW (CFS)	DETERIORATION (HR)	INFLOW (CFS)	PEAK ELEVATION (FT)	PEAK TIME (HR)	PEAK RATE (CFS)	PEAK RATE (CFS)
ALTERNATE 1 STORM 2													



**VINT HILL - TEMPORARY SWM POND**  
 OUTFLOW RATING TABLE

WATER SURFACE ELEVATION IN THE POND (FEET)	WEIR OUTFLOW (CFS)	CONDUIT FLOW (CFS)	SPILLWAY OUTFLOW (CFS)	TOTAL OUTFLOW (CFS)	STORAGE VOLUME (AC. FT.)	REMARKS
374.10	0.00	28.84	0.00	0.00	0.00	
375.00	6.40	42.70	0.00	6.40	1.91	
376.00	19.64	55.58	0.00	19.64	4.31	
377.00	33.27	61.74	0.00	33.27	6.44	
378.00	40.94	63.19	0.00	40.94	7.53	
379.00	57.76	69.97	100.18	170.15	9.76	Conduit Control Condition
380.00	107.48	81.87	655.94	737.81	15.84	Conduit Control Condition

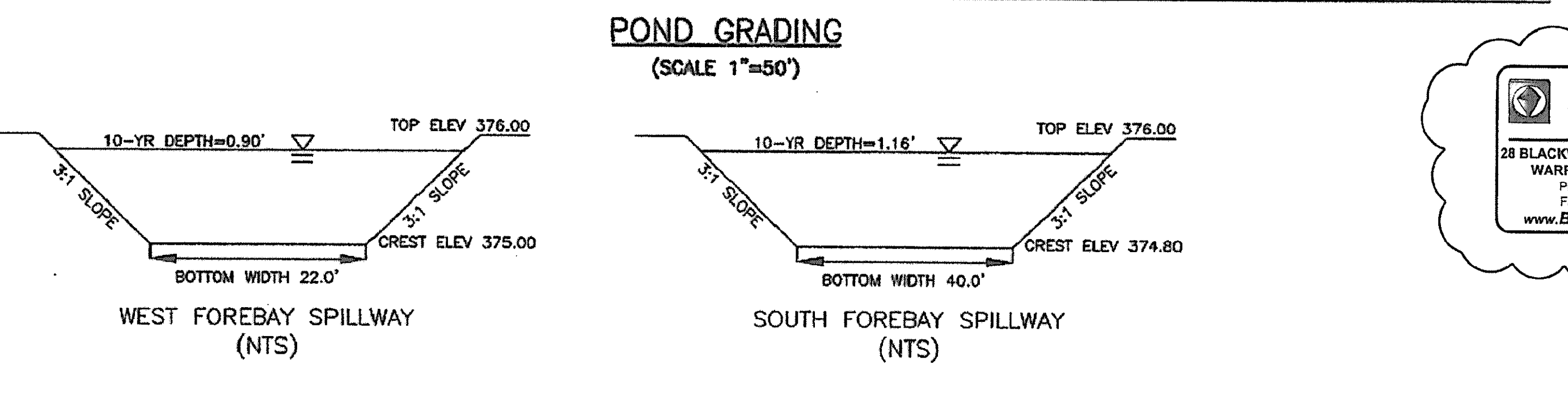


**VINT HILL - TEMPORARY SWM POND**  
 STORAGE VOLUME SUMMARY

Drainage Area (acres)	Pre-Development to Study Point	Post-Development to Study Point
Q <sub>1</sub> (cfs)	101.77	109.26
Q <sub>2</sub> (cfs)	124.27	123.83
Q <sub>3</sub> (cfs)	258.62	256.87
Q <sub>4</sub> (cfs)	430.78	452.27

**VINT HILL - TEMPORARY SWM POND**  
 STORAGE VOLUME

Elevation (ft)	Area (sq ft)	Avg Area (sq ft)	Depth (ft)	Incl. Vol. (cu ft)	Total Vol. (cu ft)	SWM Vol. (cu ft)
371.00	0	0.00	1.00	0.00	0.00	0.00
372.00	17800	6800	1.00	6800	6800	0.20
373.00	35600	13600	1.00	13600	13600	1.00
374.00	53400	20400	1.00	20400	20400	2.00
375.00	71200	27200	1.00	27200	27200	4.00
376.00	89000	34000	1.00	34000	34000	7.00
377.00	106800	40800	1.00	40800	40800	10.00
378.00	124600	47600	1.00	47600	47600	15.00
379.00	142400	54400	1.00	54400	54400	20.00
380.00	160200	61200	1.00	61200	61200	25.00



**BOHLER ENGINEERING**  
 28 BLACKWELL PARK LANE, SUITE 201  
 WARRENTON, VIRGINIA 20186  
 Phone: (540) 348-4500  
 Fax: (540) 349-0321  
 www.BohlerEngineering.com

**APPROVED FOR CONSTRUCTION**

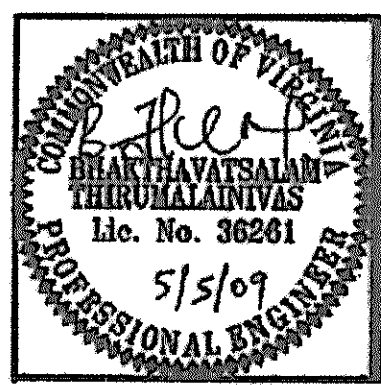
**VINT HILL - Retention Pond**  
 Storage Volume - Forebay (West Side Inflow) for Temporary SWM Pond

Elevation	Area (sq ft)	Avg Area (sq ft)	Depth (ft)	Incl. Vol. (cu ft)	Total Vol. (cu ft)	Total Vol. (cu ft)
371.75	3654	3743.6	0.25	698	0	0.00
372.00	3833	4614	2.00	9228	958	0.02
374.00	6395	6330.5	2.00	12661	10164	0.23
370.00	7206				22805	0.52

Forebay Volume Required = 0.25 inches of runoff over impervious area

Total Drainage Area to Forebay = 27.75 acres  
 Impervious Area to Forebay = 23.59 acres  
 (Assuming 85% Imperviousness for Business & Commercial Districts)  
 Forebay Volume Required = 0.40 ac-ft.  
 Forebay Volume Provided = 0.52 ac-ft.

NO.	DESCRIPTION	DATE	CHKD
1	1ST SUBMISSION COMMENTS	6/18/08	BTN



**VINT HILL LANDBAY K**  
**PHASE II**  
 CEDAR RUN DISTRICT  
 FAUQUIER COUNTY, VA.

**TEMPORARY SWM POND COMPUTATIONS**

**Patton Harris Rust & Associates**  
 Engineers, Surveyors, Planners, Landscape Architects.

**PHR+A**  
 208 Church Street SE  
 Leesburg, VA 20175  
 T 703.777.3816  
 F 703.777.3725

DESIGN	HE	SURVEY	PHR+A
DRAWN	HE	DATE	JANUARY 2008
CHECKED	BTN	SCALE	AS SHOWN
SHEET	24 OF 27	FILE NO.	10428-E-5

**SWM/BMP MAINTENANCE PLAN**

Regular maintenance and inspections are required for Stormwater Management Ponds to achieve their intended purpose. Responsibility for routine and non-routine maintenance of the Stormwater Management Pond will be borne by Vint Hill Economic Development Authority, PO Box 861617, Warrenton, Virginia 20187-1617, (540) 347-6965.

**Access for Maintenance**

Access will be provided for inspections, maintenance personnel and equipment for operation and maintenance.

**Routine Maintenance**

**Mowing**

The side slopes, embankment and emergency spillway must be mowed at least twice a year to prevent woody growth and to control weeds. A more frequent mowing cycle (about 14 mowing operations per year) may be desirable since the ponds are located in a residential development. If possible, the facility should be managed as an upland meadow with grass no shorter than 6-8 inches.

**Inspections**

The extended detention pond shall be inspected on an annual basis to ensure that the facility operates in the manner originally intended. When possible, inspections should be conducted during wet weather to determine if the pond is functioning properly.

Inspection priorities should include checking the embankment for subsidence, erosion, cracking, and tree growth; the condition of the emergency spillway and drain; the accumulation of sediment, clogging of the barrel and outlet; the adequacy of upstream and downstream channel erosion protection measures; any modifications which have occurred to the contributing watershed and the pond structure; and the stability of the side slopes.

**Debris and Litter Control**

As part of periodic mowing operations, debris and litter should be removed from the pond. Particular attention should be paid to floatable debris that can eventually clog the control device.

**Erosion Control**

The pond side-slopes, emergency spillway and embankment all may periodically suffer from slumping and erosion. Corrective measures such as regrading and revegetation may be necessary. Similarly the rip rap or channel lining of the outlet may need to be repaired or replaced.

**Nuisance Control**

The control of insects, weeds, odors, and algae may be required. If proper vegetation is established and maintained, these problems should be rare in wet ponds except under extremely dry weather conditions. Biological control of algae and mosquitoes by the use of forthead minnows and other fish is preferable to chemical applications. The control of odor, insects, weeds and mosquitoes can generally be accomplished in a dry pond by regular mowing, debris removal and clearing the extended detention device.

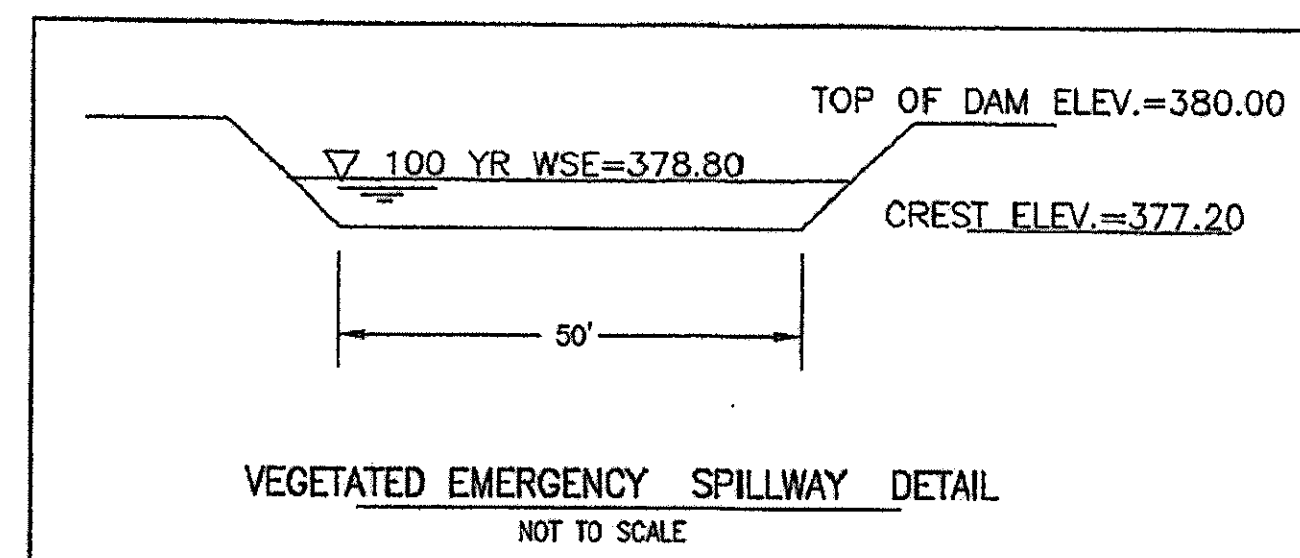
**Non-Routine Maintenance**

**Structural Repairs**

Eventually the various inlet/outlet, weir, and riser works will deteriorate and must be replaced.

**Sediment Removal**

Sediment accumulation is a serious maintenance concern for a Stormwater Management pond. The sediment gradually reduces the available stormwater management storage capacity of the pond, can be very unsightly, increases the risk of the extended detention orifice or filter medium becoming clogged, and reduces the capacity reserved for pollutant removal. For these reasons, the accumulated sediment may need to be removed from the lower stage of a dry pond every 5 to 10 years. Front end loaders or backhoes can be used to scrape off the bulk of the accumulated sediment, followed by manual removal of the sediment deposited around the control device. The disturbed area should be immediately stabilized with vegetation after sediment removal operations are complete. All excavated or dredged materials shall be placed in a suitable on-site disposal area or removed from the site.



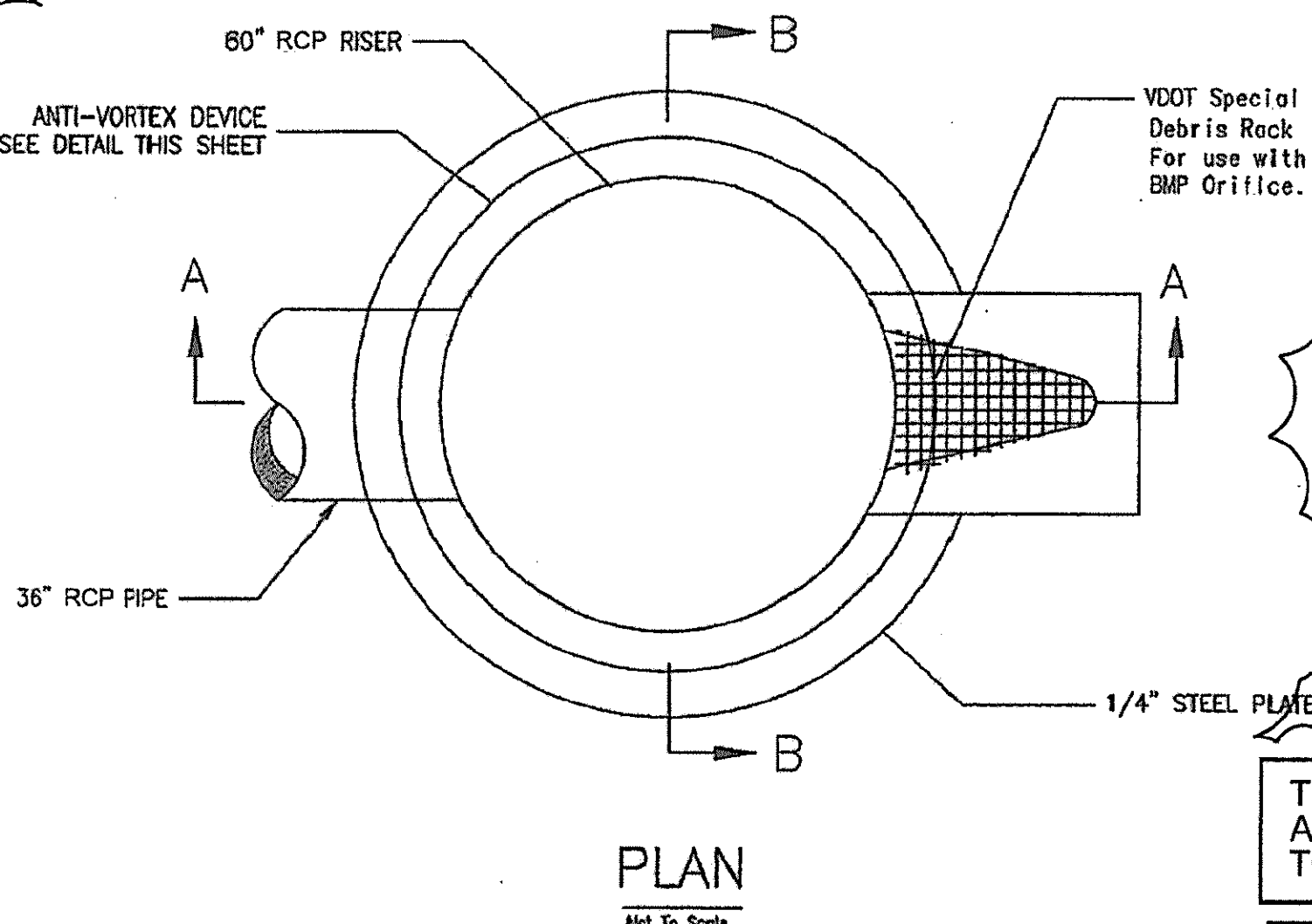
**EMERGENCY SPILLWAY DESIGN (CLOGGED CONDITION)**

Q100 = 280.81 CFS  
 C = 2.8  
 L = 50 FT  
 Q = CxLxH<sup>1.5</sup>  
 H = 1.60 FT

100 YR WSE WHEN PRINCIPAL SPILLWAY IS CLOGGED:

377.20+1.60 = 378.80  
 TOP OF DAM = 380.00  
 FREE BOARD = 1.20 FT

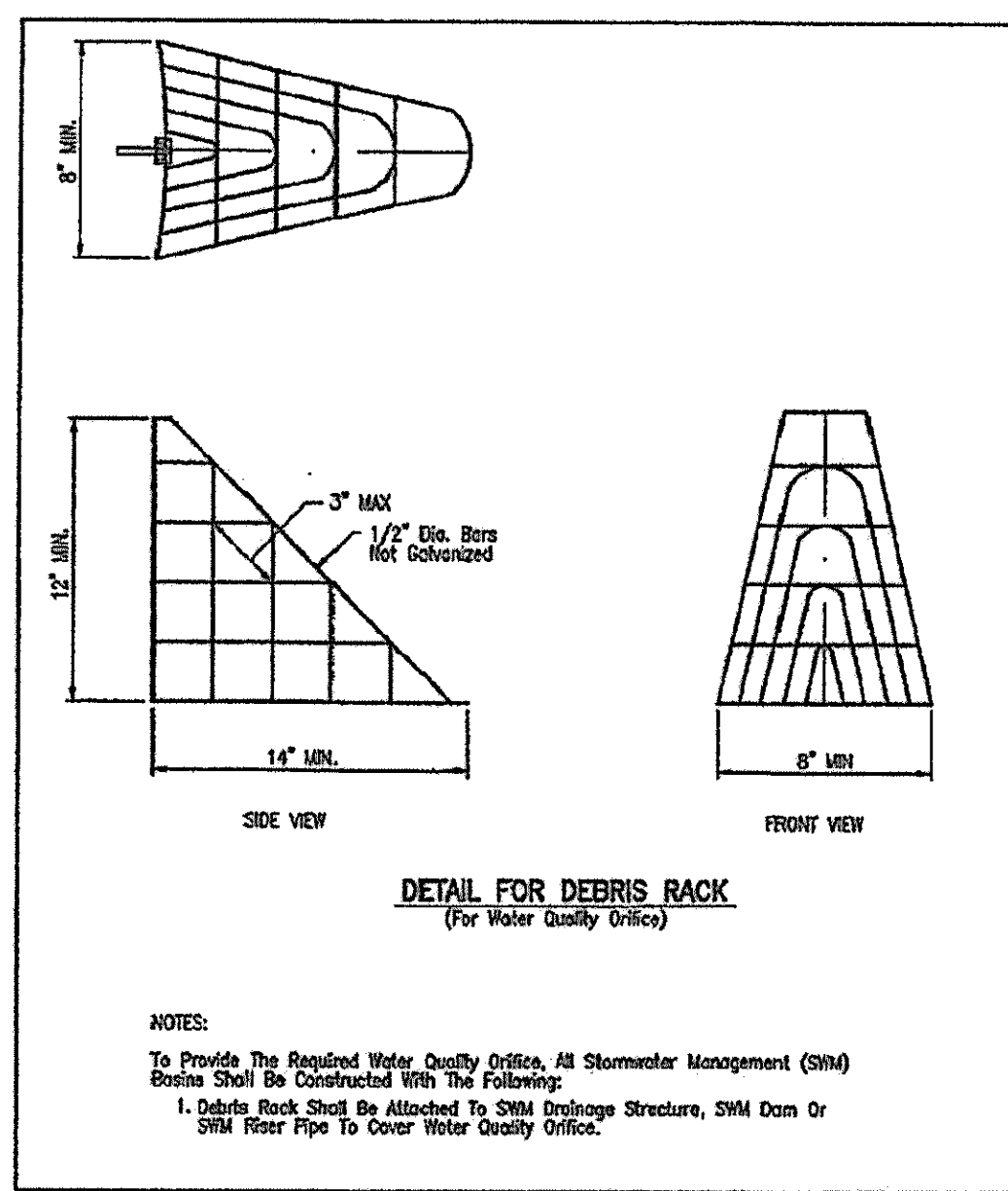
**NOTE:**  
 PER WAIVER APPROVED WITH ORIGINAL PLAN, THE EXISTING CMP RISER AND OUTLET CONDUIT SHALL BE REPLACED WITH CONCRETE STRUCTURE. THIS IS BASED ON POND BECOMING A PERMANENT FACILITY. PROPOSED RISER AND CONDUIT SHALL MATCH ALL SPECS ON THIS SHEET. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEERING APPROVAL.



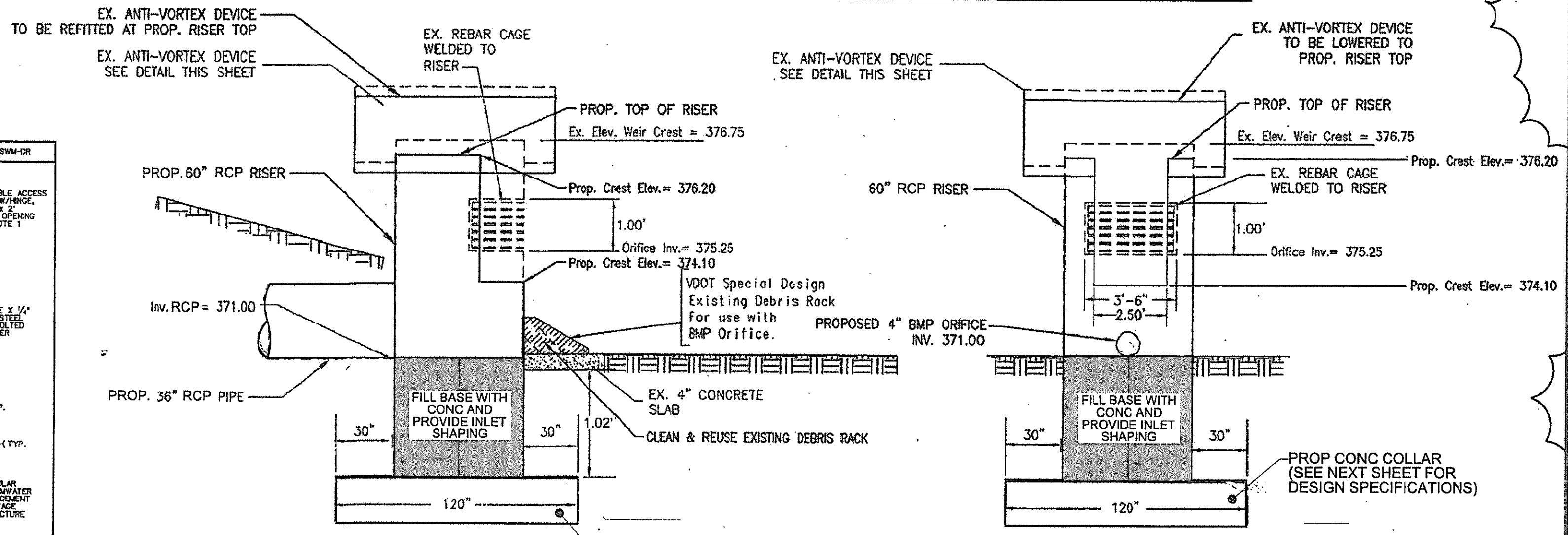
THIS CERTIFICATION BY CHARLES E. YOWELL AND BOHLER ENGINEERING ONLY PERTAINS TO THE AREAS CLOUDED IN THIS REVISION.

APPROVED FOR CONSTRUCTION

**BOHLER ENGINEERING**  
 28 BLACKWELL PARK LANE, SUITE 201  
 WARRENTON, VIRGINIA 20186  
 Phone: (540) 349-4500  
 Fax: (540) 349-0321  
 www.BohlerEngineering.com



**NOTES:**  
 To Provide the Required Water Quality Orifice, All Stormwater Management (SWM) Orifices Shall Be Constructed With the Following:  
 1. Debris Rack Shall Be Attached To SWM Drainage Structure, SWM Dam Or SWM Riser Pipe To Cover Water Quality Orifice.



COPY AS APPROVED BY TRC  
 BOS PG BZA  
 ON 9.23.09  
 H Made  
 CERTIFIED CASE # NFM-P08 CR 005

FOR INFORMATION ONLY PURPOSES ONLY !!!

**STORMWATER MANAGEMENT DETAILS TRASH RACK FOR SWM DRAINAGE STRUCTURES**

RISER									
ID.	O.D.	A	B	C	D	E	APPROX. WT. (LBS.)		
24	30	31	26 1/2	7	11	27	24		
28	34	35	30 1/2	8	13	31	28		
40	48	50	44 1/2	13	21	40	40		
48	72	75	67 1/2	17	28	58	135		
72	96	100	90 1/2	23	35	72	204		
96	120	125	113 1/2	29	42	84	288		
120	144	150	136 1/2	35	50	96	396		

**NOTES:**  
 1. A Hinged Lockable Access Door Shall Be Provided On All Trash Racks.  
 2. THE TOTAL WEIGHT OF THE TRASH RACK IS GREATER THAN 10 LBS OR MORE, TRASH RACK IS TO BE PLACED ON A SWM WITH AN 18" DIMENSION GREATER THAN 7'-6".  
 3. ANTI-VORTEX DEVICE IS TO BE USED WHEN SPECIFIED ON THE PLANS.  
 4. COST OF FURNISHING AND PLACING THE ANTI-VORTEX DEVICE IS TO BE INCLUDED IN THE BID PRICE FOR THE STRUCTURE.

**VDOT ROAD AND BRIDGE STANDARDS**  
 SPECIFICATION REFERENCE: 302  
 REVISION DATE: 11.07

CHARLES E. YOWELL  
 PROFESSIONAL ENGINEER  
 Lic. No. 047731  
 01/18/16

**REVISIONS**

REV	DATE	COMMENT	BY
1	10/23/15	ADDRESS COUNTY COMMENTS	CEY
2	12/15/15	ADDRESS COUNTY COMMENTS	CEY
3	03/19/16	SIGNATURE SUBMISSION	CEY

NO.	DESCRIPTION	DATE	CHKD
1	1ST SUBMISSION COMMENTS	6/18/08	BTN

CHARLES E. YOWELL  
 PROFESSIONAL ENGINEER  
 Lic. No. 36261  
 12/5/08

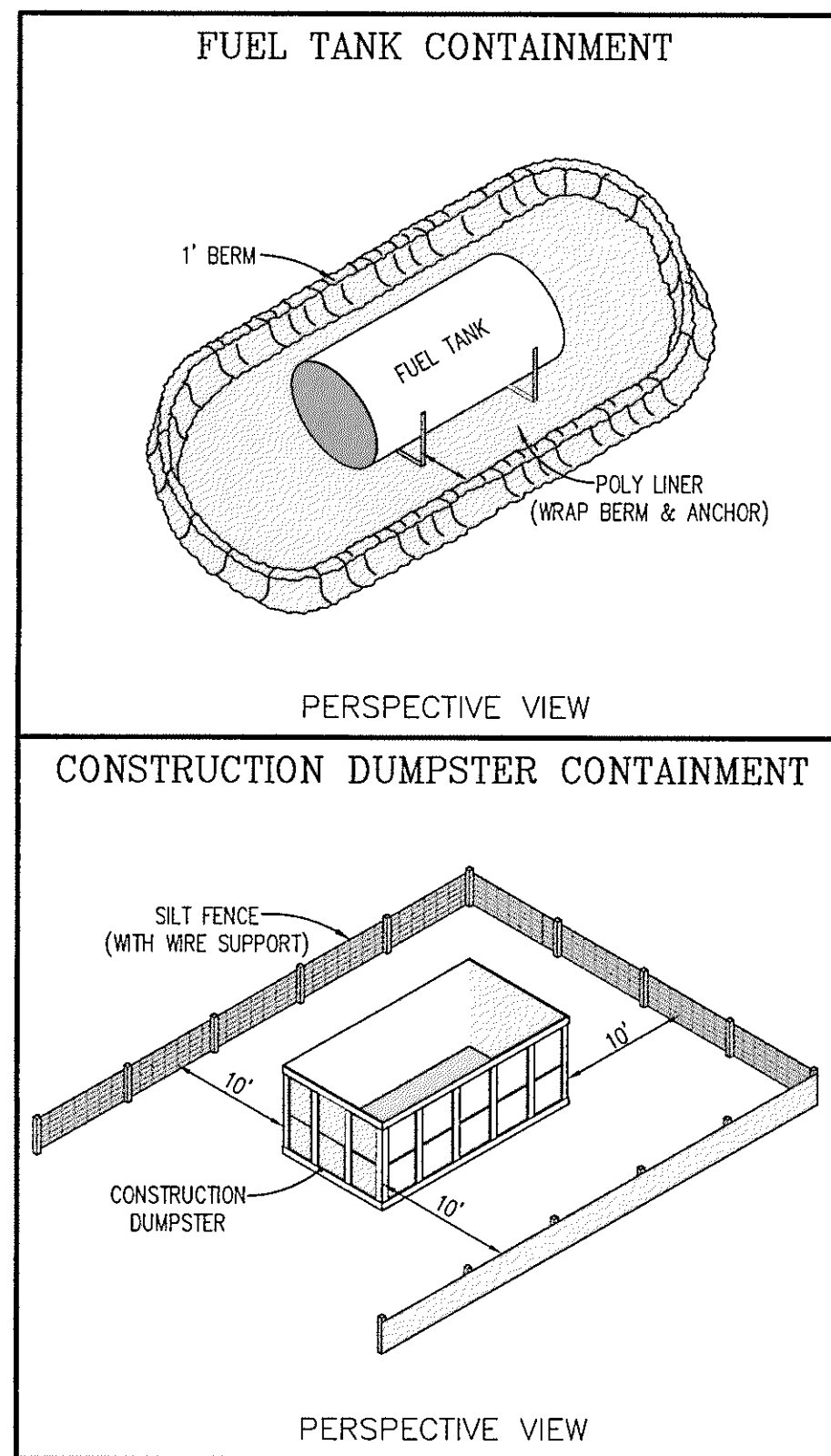
**VINT HILL LANDBAY K PHASE II**  
 CEDAR RUN DISTRICT  
 FAUQUIER COUNTY, VA.

**TEMPORARY SWM POND DETAILS, SWM NARRATIVE & MAINTENANCE PLAN**

**Patton Harris Rust & Associates**  
 Engineers, Surveyors, Planners, Landscape Architects.  
 PHRA  
 208 Church Street SE  
 Leesburg, VA 20175  
 T 703.777.3616  
 F 703.777.3725

Fauquier County # NFM08-CR-005

DESIGN	HE	SURVEY	PHR+A
DRAWN	HE	DATE	JANUARY 2008
CHECKED	BTN	SCALE	NOT TO SCALE
SHEET	25 OF 27	FILE NO.	10428-E-5



**PURPOSE**

4VAC50-60-54 of the Virginia Stormwater Management Program (VSMP) Permit Regulations requires that Stormwater Pollution Prevention Plan (SWPPP) be developed for all regulated land disturbing activities. The SWPPP must include, but not be limited to, an approved erosion and sediment control plan, an approved stormwater management plan, and this **Pollution Prevention Plan (PPP)** for regulated land disturbing activities, and a description of any additional control measures necessary to address a TMDL as applicable.

The plan for implementing pollution prevention measures during construction activities developed on this sheet must be implemented and updated as necessary. Any PPP requirements not included on this sheet must be incorporated into the SWPPP required by 4VAC50-60-54 that must be developed before land disturbance commences. This PPP identifies potential sources of pollutants that may reasonably be expected to affect the quality stormwater discharges from the construction site (both on- and off-site activities) and describes control measures that will be used to minimize pollutants in stormwater discharges from the construction site.

**OTHER REFERENCED PLANS**

SWPPP requirements may be fulfilled by incorporating, by reference, other plans. All plans incorporated by reference become enforceable under the VSMP Permit Regulations and General Permit VAR10 for Discharges of Stormwater from Construction Activities. If a plan incorporated by reference does not contain all of the required elements of the PPP, the operator must develop the missing elements and include them in the SWPPP.

Independent Plans Incorporated by Reference	Date Approved
Stormwater Management Plans (Regional or Master)	
Spill Prevention, Control, and Countermeasure Plans	
Off-Site Stockpile	
Off-Site Borrow Area	
CONSTRUCTION PLAN AMENDMENT VINT HILL LANDBAY K PHASE II	9/23/2009

**POTENTIAL POLLUTANT SOURCES**

The following sources of potential pollutants must be addressed in the Pollution Prevention Plan. Various controls and/or measures designed to prevent and/or minimize pollutants in stormwater discharges from the project site must be applied to the sources found on the site. Additional information concerning the following controls and/or measures may be found in the SWPPP. Deviations from the location criteria may be approved by the Fauquier County Environmental Inspector.

**LEAKS, SPILLS, AND OTHER RELEASES**

- The operator(s) shall ensure procedures are in place to prevent and respond to all leaks, spills and other releases of pollutants.
- The operator(s) shall ensure all leaks, spills and other releases of pollutant are contained and cleaned immediately upon discovery. Any contaminated materials are to be disposed in accordance with federal, state, and/or local requirements.
- The operator(s) shall ensure spill containment kits containing appropriate materials (e.g., absorbent material and pads, brooms, gloves, sand, etc.) are available at appropriate locations, including, but not limited to: designated areas for vehicle and equipment maintenance; vehicle and equipment fueling; storage and disposal of construction materials, products, and waste; and storage and disposal of hazardous and toxic materials, and sanitary waste facilities.
- The locations of the spill containment kits are identified as described below.

Date	Shown on Plan Sheet # (s)	Location
Approved Plan	9, 10	BURROUGH DR., FAUQUIER, VA

Date	Shown on Plan Sheet # (s)	Location	Operator(s) Initials

- The operator(s) shall notify the Department of Environmental Quality (DEQ) of leaks, spills, and other releases that discharge to or have the potential to discharge to surface waters immediately upon discovery of the discharge but in no case later than 24 after the discovery. Written notice of the discharge must be sent to DEQ and Fauquier County Department of Community Development within five (5) days of the discovery.

Virginia Department of Environmental Quality Northern Regional Office (703) 583-3800 (voice) (703) 583-3821 (fax) <a href="http://www.deq.virginia.gov/Programs/PollutionResponsePreparedness/MakingReport.aspx">http://www.deq.virginia.gov/Programs/PollutionResponsePreparedness/MakingReport.aspx</a> For emergencies 1-800-468-8892 (outside normal working hours)	Fauquier County Department of Community Development, Environmental Division 29 Ashby Street, Suite 310 Warrenton, Virginia 20186 540-422-8220 Fauquier County Department of Fire Rescue & Emergency Services 30 John Marshall Street Warrenton, Virginia 20186 540-422-8800
---	--

**EQUIPMENT / VEHICLE WASHING**

- Washing must be conducted in a **dedicated area** that is located to maximize the distance from storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features.
- All wash water used in vehicle wheel washing must be directed to a sediment basin/trap.
- All vehicle washing activities other than wheel washing must have secondary containment.
- Each facility must have appropriate signage to inform users where the **dedicated area(s)** are located.

Activity	Location of Dedicated Area(s)	Shown on Plan Sheet # (s)	Water Source Location
Wheel Wash			
Other Wash Areas			

Activity	Location of Dedicated Area(s)	Shown on Plan Sheet # (s)	Water Source Location	Operator's Initials

**VEHICLE FUELING AND MAINTENANCE**

- Conduct regular maintenance in a **dedicated area** that is located to maximize the distance from storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features.
- If fueling is conducted at a **dedicated area**, the location must be located to maximize the distance from storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features.
- The **dedicated areas** must be designed to eliminate the discharge of spilled and leaked fuels and chemicals from vehicle fueling and maintenance activities by providing secondary containment (spill berms, decks, spill containment pallets, providing cover where appropriate, and having spill kits readily available).
- Each facility must have appropriate signage to inform users where the **dedicated area(s)** are located.

Date	Shown on Plan Sheet # (s)	Location of Dedicated Area(s)
Approved Plan	9, 10	BURROUGH DR., FAUQUIER, VA

Date	Shown on Plan Sheet # (s)	Location of Dedicated Area(s)	Operator's Initials

- If mobile fueling will be used, the fueling must be done in an area that is located to maximize the distance from storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features.
- Spill kits must be readily available at all mobile fueling locations.
- On-site storage tanks must have a means of secondary containment (spill berms, decks, spill containment pallets, etc.) and must be covered where appropriate.
- All vehicles on site must be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage.

**DISCHARGE FROM STORAGE, HANDLING, AND DISPOSAL OF CONSTRUCTION PRODUCTS, MATERIALS, AND WASTE**

- Storage of construction products, materials, and waste is to be conducted in **dedicated areas**.
- The **dedicated area** must be located to maximize the distance from storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features. Separations of less than 50 feet may be approved by the Environmental Inspector.
- The **dedicated areas** must be designed to minimize the discharge of pollutants from storage, handling, and disposal of construction products, materials and wastes including (i) building products such as asphalt sealants, copper flashing, roofing materials, adhesives, concrete admixtures; (ii) pesticides, herbicides, insecticides, fertilizers, and landscape materials; and (iii) construction and domestic wastes such as packaging materials, scrap construction materials, masonry products, timber, pipe and electrical cuttings, plastics, Styrofoam, concrete and other trash or building products.
- Each facility must have appropriate signage to inform users where the **dedicated area(s)** are located.

Date	Shown on Plan Sheet # (s)	Location(s) of Dedicated Area(s) for storage of construction products and materials
Approved Plan	9, 10	BURROUGH DR., FAUQUIER, VA

Date	Shown on Plan Sheet # (s)	Location(s) of Dedicated Area(s) for storage of construction products and materials	Operator(s) Initials

Date	Shown on Plan Sheet # (s)	Location(s) of Dedicated Area(s) for waste from construction products and materials
Approved Plan	9, 10	BURROUGH DR., FAUQUIER, VA

Date	Shown on Plan Sheet # (s)	Location(s) of Dedicated Area(s) for waste from construction products and materials	Operator(s) Initials

- Follow all federal, state, and local requirements that apply to the use, handling and disposal of pesticides, herbicides, and fertilizers.
- Keep chemicals on-site in small quantities and in closed, well marked containers.
- Clean up solid waste, including building materials, garbage, and debris on a daily basis and deposit into covered dumpsters that are periodically emptied.
- Schedule waste collection to prevent exceeding the capacity of onsite containers. Additional containers may be necessary depending on the phase of construction (e.g., demolition, etc.)
- Dispose of all solid waste at an authorized disposal site.
- Ensure that containers have lids or are otherwise protected from exposure to precipitation.

**DISCHARGES FROM OTHER POTENTIAL POLLUTANT SOURCES**

Other Potential Pollutant Sources	Location(s) of Potential Pollutant Sources

- Above ground oil storage tanks with a storage capacity exceeding 1,320 gallons and have a reasonable expectation of a discharge into or upon Waters of the United States are required to have a Spill Prevention Control and Countermeasure (SPCC) Plan.
- The discharge of contaminated flush water and material removed during flushing operations must be collected and disposed of in accordance with appropriate federal, state, and local requirements.

**DISCHARGES FROM CONCRETE RELATED WASH ACTIVITIES**

- Concrete trucks are not allowed to wash out or discharge surplus concrete or drum wash water on site except in a **dedicated area(s)** that is located to prevent discharge to storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features.
- Each facility must have a stabilized access to prevent mud tracking into the street.
- Each facility must have appropriate signage to inform users where the **dedicated area(s)** are located.

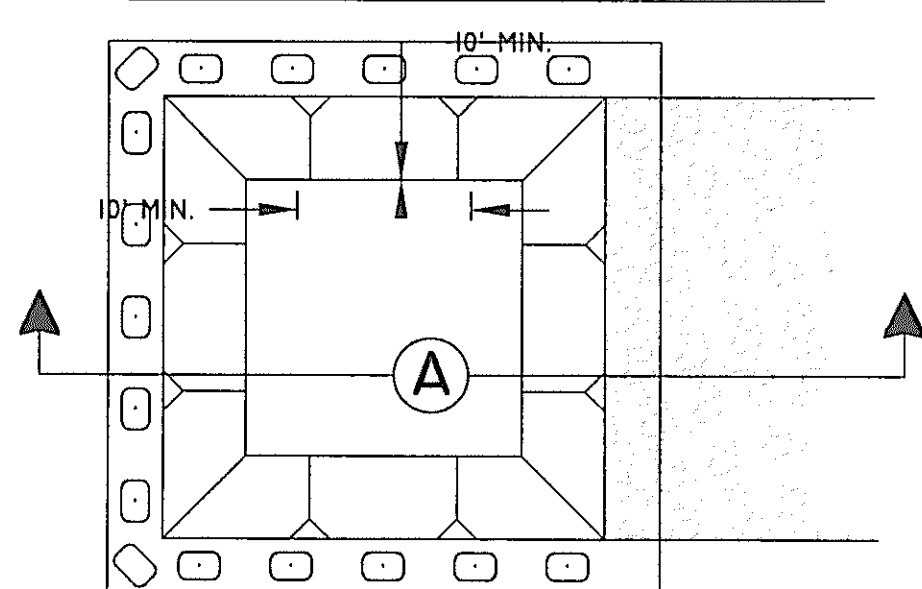
Date	Shown on Plan Sheet # (s)	Location of Dedicated Area(s)
Approved Plan	9, 10	BURROUGH DR., FAUQUIER, VA

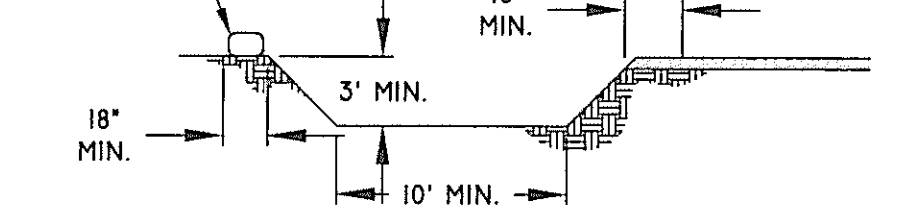
Date	Shown on Plan Sheet # (s)	Location of Dedicated Area(s)	Operator's Initials

- Facilities must be cleaned, or new facilities constructed, once the washout area is two-thirds (2/3) full.

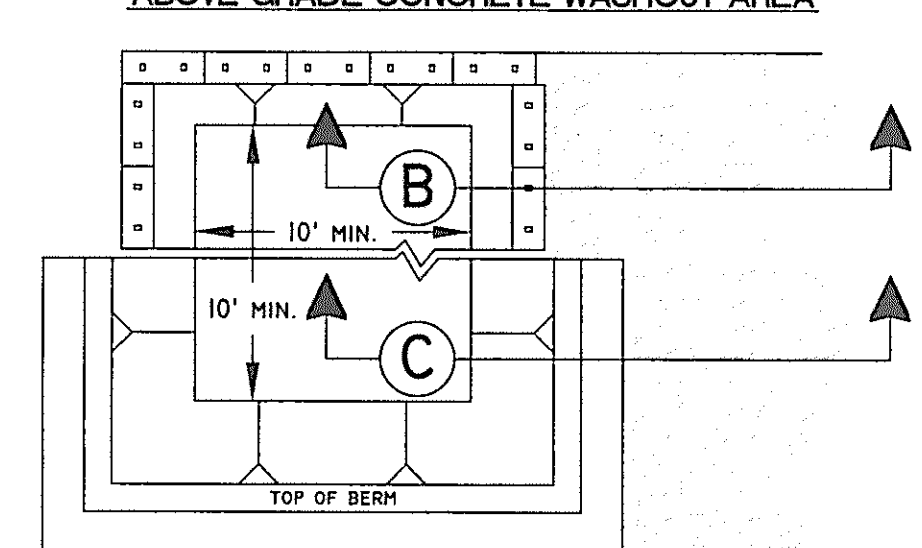
**BELOW GRADE CONCRETE WASHOUT AREA**



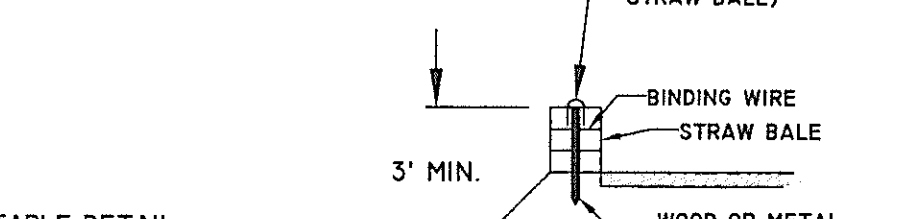
**SECTION A**



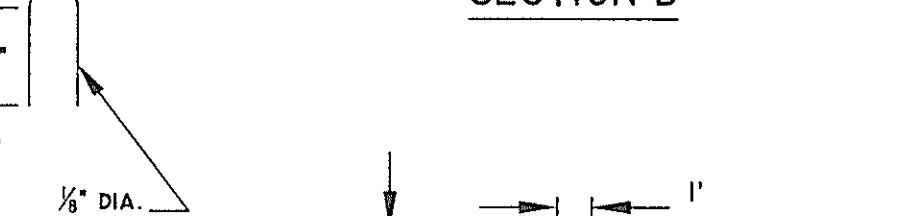
**ABOVE GRADE CONCRETE WASHOUT AREA**



**SECTION B**



**SECTION C**



**CONCRETE WASHOUT AREA NOTES**

- The facility must be lined with 10 mil plastic lining that is free from holes, tears, or other defects that might compromise the material's impermeability.
- The lining must be anchored with vertical (2' spacing) or sandbags.
- Side slopes must be 1:1 (horizontal:vertical) or flatter.
- Stone access must be provided between the street and the concrete washout area.
- A "Concrete Washout" sign must be installed within 30 feet of the washout facility. The sign must be no smaller than 2' tall by 4' wide.

**DISCHARGES OF SOAPS, DETERGENTS, SOLVENTS, AND WASH WATER FROM CONSTRUCTION ACTIVITIES SUCH AS CLEANUP OF STUCCO, PAINT, FORM RELEASE OILS, AND CURING COMPOUNDS**

- Washing activities associated with construction activities other than vehicle and equipment washing, such as clean up of stucco, paint, form release oils, and curing compounds are to be conducted in a **dedicated area**.
- The **dedicated area** must be located to maximize the distance from storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features. Separations of less than 50 feet may be approved by the Environmental Inspector.
- The **dedicated areas** must be designed to prevent the discharge of soaps, detergents, solvents, and wash water.

Date	Shown on Plan Sheet # (s)	Location(s) of Dedicated Area(s)
Approved Plan	9, 10	BURROUGH DR., FAUQUIER, VA

Date	Shown on Plan Sheet # (s)	Location(s) of Dedicated Area(s)	Operator(s) Initials

- The **dedicated area** must be covered (e.g., plastic sheeting, temporary roof, etc.) to prevent contact with stormwater.
- The contaminated wastewater from the **dedicated area** must be collected for disposal by a waste hauler or discharged to the sanitary sewer.

**DISCHARGES OF HAZARDOUS, TOXIC, AND SANITARY WASTE**

- Storage and disposal of hazardous, toxic and sanitary wastes are to be conducted in **dedicated areas**.
- The **dedicated areas** must be located to maximize the distance from storm drain inlets, ditches, waterbodies or wetlands but no less than 50 feet from those features. Separations of less than 50 feet may be approved by the Environmental Inspector.
- The **dedicated areas** must be designed to prevent the discharge of hazardous, toxic and sanitary waste by avoiding contact with precipitation.
- Each facility must have appropriate signage to inform users where the **dedicated area(s)** are located.

Date	Shown on Plan Sheet # (s)	Location(s) of Dedicated Area(s) for storage and disposal of hazardous and toxic wastes
Approved Plan	9, 10	BURROUGH DR., FAUQUIER, VA

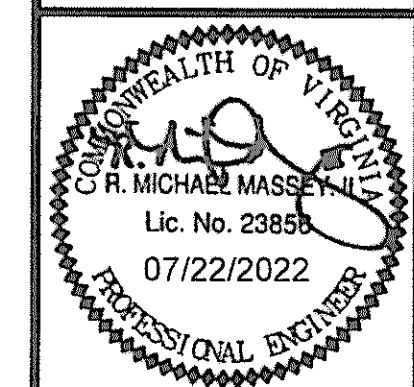
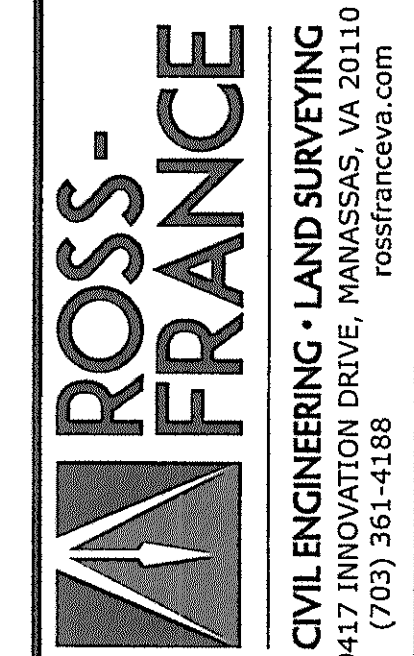
Date	Shown on Plan Sheet # (s)	Location(s) of Dedicated Area(s) for storage and disposal of hazardous and toxic wastes	Operator(s) Initials

Date	Shown on Plan Sheet # (s)	Location(s) of Dedicated Area(s) for portable toilets
Approved Plan	9, 10	BURROUGH DR., FAUQUIER, VA

Date	Shown on Plan Sheet # (s)	Location(s) of Dedicated Area(s) for portable toilets	Operator(s) Initials

- Consult with local waste management authorities or private firms about the requirements for disposing of hazardous materials and/or soils that may be contaminated with hazardous materials.
- Never remove the original product label from the container. Follow the manufacturer's recommended method of disposal.
- Schedule periodic pumping of portable toilets and dispose of waste
- Dispose of all solid waste at an authorized disposal site.



VINT HILL LOT 9A-1  
SCOTT MAGISTERIAL DISTRICT  
FAUQUIER COUNTY, VIRGINIA

SCALE: NO SCALE  
SEPTEMBER 14, 2020

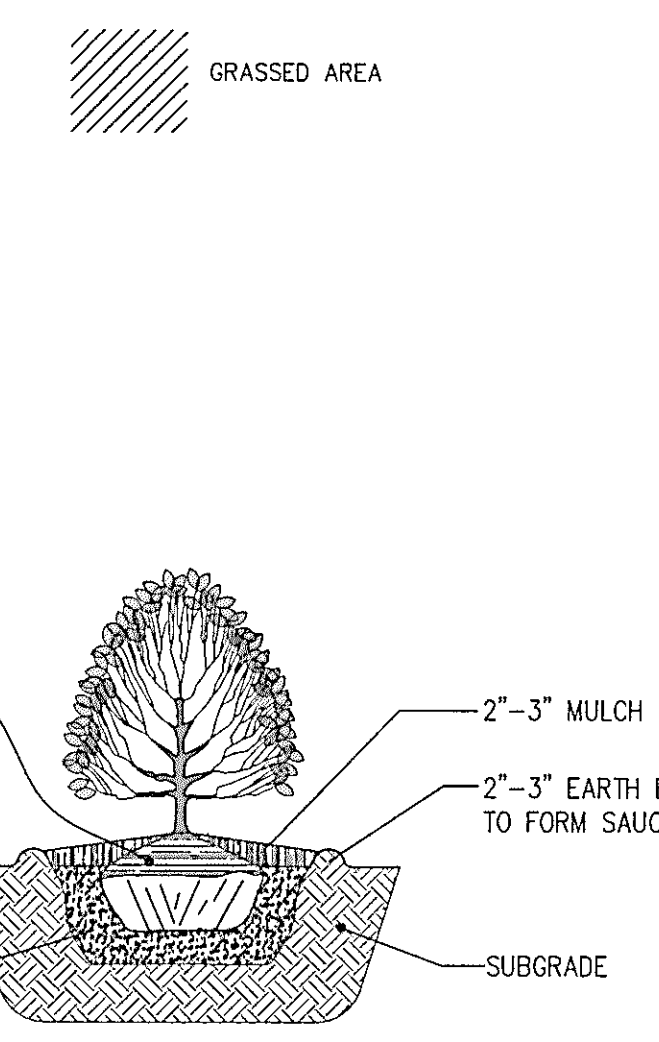
**POLLUTION PREVENTION PLAN**

DATE	BY	REVISION

DATE	BY	REVISION
DES: FW	DWN: MSL	CHK: RMM
FILE NO.: SP # 2040		
SHEET 19		

**SCHEDULE H - LANDSCAPE LEGEND (20 YEAR CANOPY)**

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	CANOPY	TOTAL CANOPY
<b>SHADE TREES</b>						
RM	ACER RUBRUM	RED MAPLE	7'-8'	34	250 SF	8,500 SF
SG	LIQUIDAMBER STYRACIFLUA	SWEETGUM	7'-8'	10	215 SF	2,150 SF
<b>EVERGREEN TREES</b>						
VP	PINUS VIRGINIANA	VIRGINIA PINE	7'-8'	23	215 SF	4,945 SF
<b>SHRUBS</b>						
SB	CALYCANTHUS FLORIDUS	SWEETBRUSH	34"-30"	30		
WH	LLEX DECIDUA	WINTERBERRY HOLLY	34"-30"	23		
ME	KIAUTSCHOVICUS	MANHATTAN EUONYMUS	34"-30"	37		
<b>20 YEAR TOTAL CANOPY</b>					15,595 SF	



**SHRUB PLANTING DETAIL**  
 NO SCALE

**LANDSCAPE REQUIREMENTS  
 RIGHT OF WAY BUFFER PLANTING**

LANDSCAPE OPTION: 20 FEET  
 REQUIRED PLANTING = 3 CANOPY TREES  
 = 3 UNDERSTORY TREES  
 = 24 SHRUBS  
 BUFFER LENGTH = 344 LF  
 LANDSCAPING REQUIRED: 344/100 = 3.4 \* 3 = 10 CANOPY TREES  
 344/100 = 3.4 \* 3 = 10 UNDERSTORY TREES  
 344/100 = 3.4 \* 24 = 83 SHRUBS  
 LANDSCAPING PROVIDED: CANOPY TREES = 10  
 UNDERSTORY TREES = 10  
 SHRUBS = 83

**PERIMETER BUFFER PLANTING**  
 NOT REQUIRED -

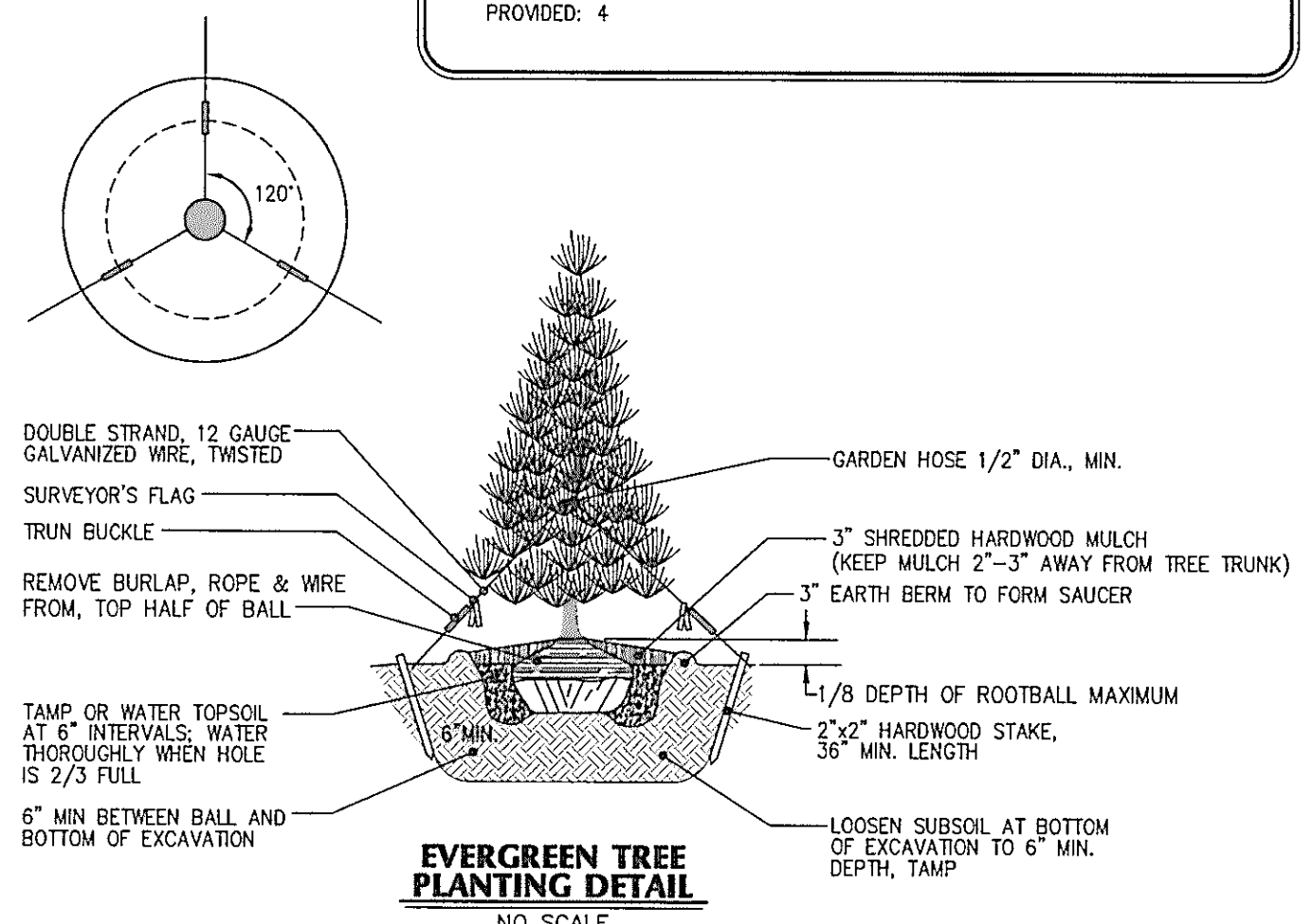
**TREE COVER CALCULATIONS**

SITE AREA: 154,747 SF  
 INDUSTRIAL DEVELOPMENT: 10%  
 REQUIRED TREE CANOPY COVER AT 20 YEAR MATURITY:  
 REQUIRED: 154,747 X .10 = 15,475 SF OR 0.36 AC  
 PROVIDED: 15,595 SF OR 0.36 AC

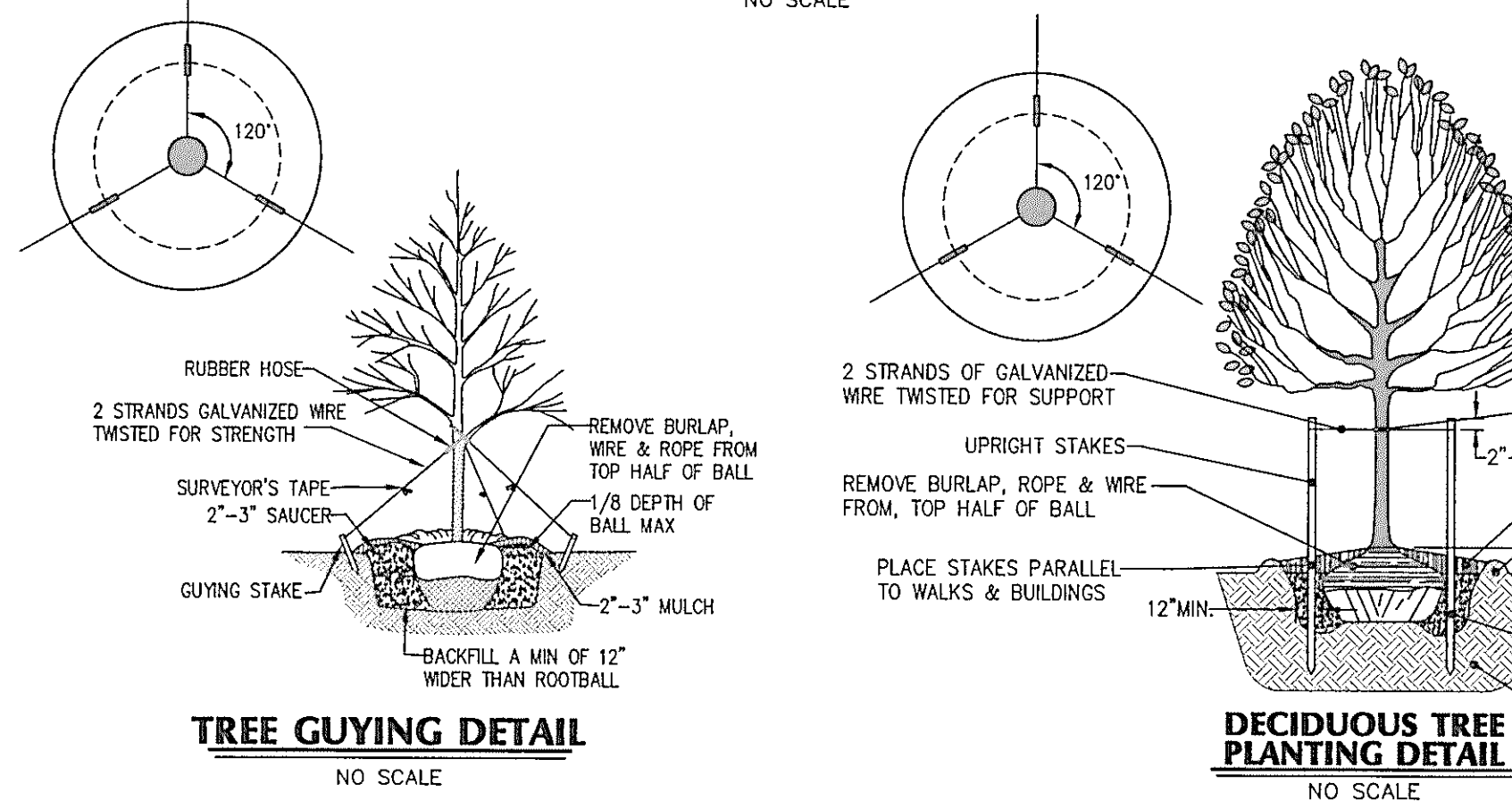
TOTAL CANOPY PROVIDED: 15,595 SF OR 0.36 AC = 10%

**INTERIOR PARKING LOT LANDSCAPE**

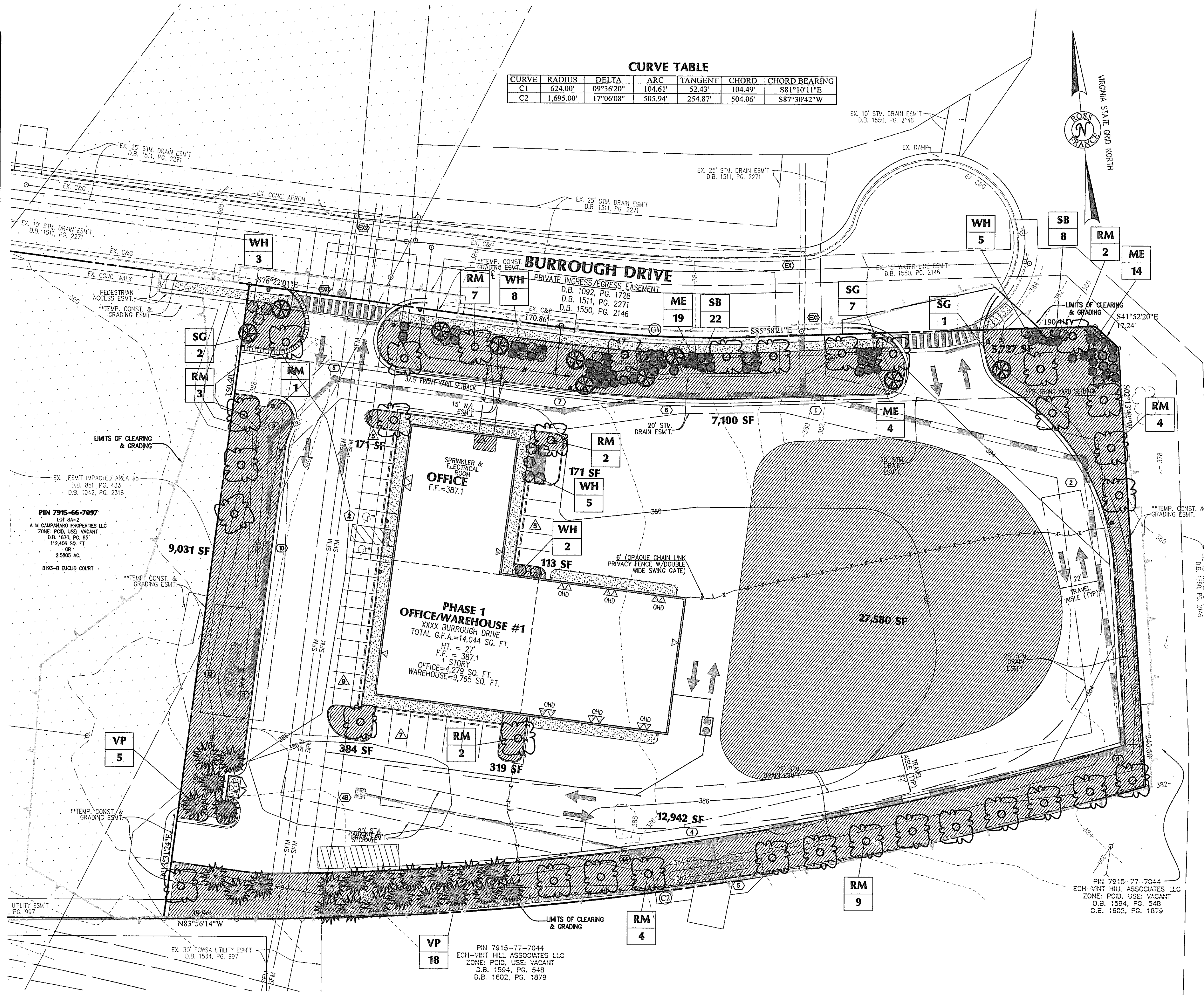
PARKING SPACES: 28  
 REQUIRED TREE CANOPY/DECIDUOUS TREE COVER AT 20 YEAR MATURITY PER 10 SPACES:  
 REQUIRED: 2  
 PROVIDED: 4



**EVERGREEN TREE PLANTING DETAIL**  
 NO SCALE



**DECIDUOUS TREE PLANTING DETAIL**  
 NO SCALE



**CURVE TABLE**

CURVE	RADIUS	DELTA	ARC	TANGENT	CHORD	CHORD BEARING
C1	624.00'	09°36'20"	104.61'	52.43'	104.49'	S81°10'11"E
C2	1,695.00'	17°06'08"	505.94'	254.87'	504.06'	S87°30'42"W

**THIS DRAWING IS FOR  
 LANDSCAPE PURPOSES ONLY**

**LANDSCAPE NOTE**

"THE PLANTING OF THESE TREES SHALL BE DONE IN ACCORDANCE WITH EITHER THE STANDARDIZED LANDSCAPE SPECIFICATIONS JOINTLY ADOPTED BY THE VIRGINIA NURSERYMEN'S ASSOCIATE, THE VIRGINIA SOCIETY OF LANDSCAPE DESIGNERS."

NO TREES SHALL BE PLANTED WITHIN FCWSA/BWSAC EASEMENTS AND NO PLANTINGS WITHIN 5 FEET OF FIRE HYDRANTS.

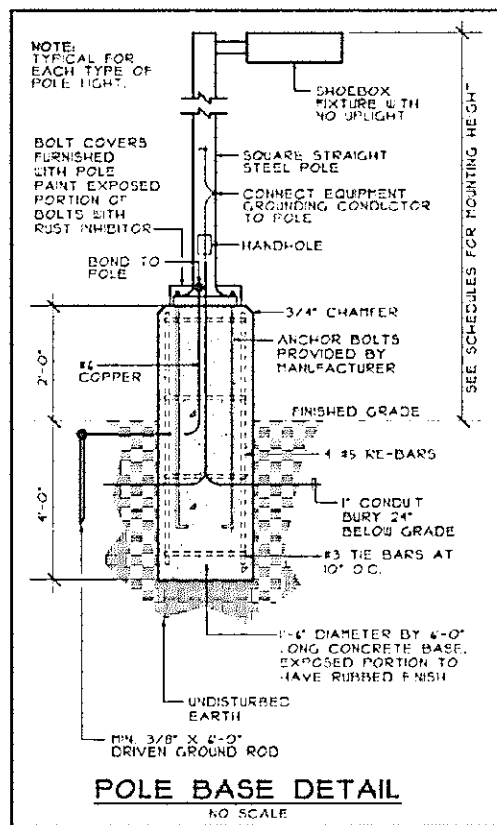
Symbol	Label	Image	Quantity	Manufacturer	Catalog Number	Description	Lumens	Beam Angle	Mounting Height	Efficiency	Distribution	Notes
AA1	Lighting		16	RSX3	LED P2 40K R4	RSX Area Fixture Size 2 P2 Luminaire Package 4000 CCT Type 14 Distribution	12135	1	0.9	114.0%	100%	TYPE IV, SHIELD, BIC RATING: 02-07
AA3	Lighting		2	RSX3	LED P1 40K R4	RSX Area Fixture Size 2 P1 Luminaire Package 4000 CCT Type 14 Distribution	11135	1	0.9	114.1%	100%	TYPE IV, SHIELD, BIC RATING: 02-07
BB1	Lighting		3	RSX4	LED P1 40K R4	RSX Area Fixture Size 2 P1 Luminaire Package 4000 CCT Type 14 Distribution	11135	1	0.9	72.0%	100%	TYPE IV, SHIELD, BIC RATING: 02-07
CC1	Lighting		1	RSX3	LED P2 40K R4	RSX Area Fixture Size 2 P2 Luminaire Package 4000 CCT Type 14 Distribution	12160	1	0.9	156.2%	100%	TYPE IV, SHIELD, BIC RATING: 02-07

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
HAST SITE	■	2.2%	5.7%	0.2%	25.3	110.4
OFFICE BUILDING	■	2.4%	8.8%	0.4%	22.3	60.8
PROPERTY LINE	■	2.2%	0.3%	0.0%	NA	NA

CURVE	RADIUS	DELTA	ARC	TANGENT	CHORD	CHORD BEARING
C1	624.00'	09° 50' 20"	194.64'	32.45'	104.49'	S81° 30' 17" W
C2	1,695.00'	1° 00' 00"	505.94'	254.87'	504.66'	S87° 30' 12" W

**PHOTOMETRIC NOTES:**

1. ALL OUTDOOR LIGHT FIXTURES ARE TO BE FULLY SHIELDED.
2. OUTDOOR LIGHTING OF BUILDINGS, LANDSCAPING, SIGNS, FLAGS, STATUES AND OTHER OBJECTS SHALL CONSIST OF FULL CUT-OFF OR DIRECTIONALLY SHIELDED LIGHTING FIXTURES.
3. ALL OUTDOOR LIGHTING FIXTURES INCLUDING DISPLAY LIGHTING, SHALL BE TURNED OFF AFTER THE CLOSE OF BUSINESS.
4. MAXIMUM MOUNTING HEIGHT IN NON-RESIDENTIAL IS 25 FEET



**RSX3 LED Area Luminaire**  
4000K CCT  
40° BEAM ANGLE  
CC1

**Introduction:** The RSX3 LED Area Luminaire is a high-performance, energy-efficient lighting fixture designed for outdoor use. It features a die-cast aluminum housing and a high-quality LED chip-on-board (COB) light source. The fixture is fully shielded to meet the requirements of the Illuminating Engineering Society (IES) Type IV lighting distribution. It is suitable for use in parking lots, walkways, and other outdoor areas where uniform, glare-free illumination is required.

**Specifications:**

Model:	RSX3-LED-P2-40K-R4
Beam Angle:	40°
Color Temperature:	4000K
Efficiency:	114.1%
Mounting Height:	25 feet
Beam Spread:	114.1 feet
Light Output:	12135 lumens

**RSX3 LED Area Luminaire**  
4000K CCT  
20° BEAM ANGLE  
AM3

**Introduction:** The RSX3 LED Area Luminaire is a high-performance, energy-efficient lighting fixture designed for outdoor use. It features a die-cast aluminum housing and a high-quality LED chip-on-board (COB) light source. The fixture is fully shielded to meet the requirements of the Illuminating Engineering Society (IES) Type III lighting distribution. It is suitable for use in parking lots, walkways, and other outdoor areas where uniform, glare-free illumination is required.

**Specifications:**

Model:	RSX3-LED-P1-40K-R4
Beam Angle:	20°
Color Temperature:	4000K
Efficiency:	114.1%
Mounting Height:	25 feet
Beam Spread:	42.8 feet
Light Output:	11135 lumens

**RSX3 LED Area Luminaire**  
4000K CCT  
40° BEAM ANGLE  
AM1

**Introduction:** The RSX3 LED Area Luminaire is a high-performance, energy-efficient lighting fixture designed for outdoor use. It features a die-cast aluminum housing and a high-quality LED chip-on-board (COB) light source. The fixture is fully shielded to meet the requirements of the Illuminating Engineering Society (IES) Type IV lighting distribution. It is suitable for use in parking lots, walkways, and other outdoor areas where uniform, glare-free illumination is required.

**Specifications:**

Model:	RSX3-LED-P2-40K-R4
Beam Angle:	40°
Color Temperature:	4000K
Efficiency:	156.2%
Mounting Height:	25 feet
Beam Spread:	156.2 feet
Light Output:	12160 lumens

**RSX3 LED Area Luminaire**  
4000K CCT  
20° BEAM ANGLE  
EM1

**Introduction:** The RSX3 LED Area Luminaire is a high-performance, energy-efficient lighting fixture designed for outdoor use. It features a die-cast aluminum housing and a high-quality LED chip-on-board (COB) light source. The fixture is fully shielded to meet the requirements of the Illuminating Engineering Society (IES) Type III lighting distribution. It is suitable for use in parking lots, walkways, and other outdoor areas where uniform, glare-free illumination is required.

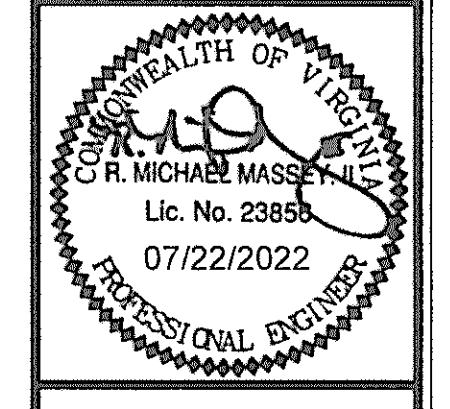
**Specifications:**

Model:	RSX3-LED-P1-40K-R4
Beam Angle:	20°
Color Temperature:	4000K
Efficiency:	114.1%
Mounting Height:	25 feet
Beam Spread:	42.8 feet
Light Output:	11135 lumens



PN: 2015-77-2044  
SCH-VINT HILL ASSOCIATES LLC  
2015, P.O. BOX 540  
D.B. 1994, PG. 540  
D.B. 1992, PG. 1879

**THIS DRAWING IS FOR  
PHOTOMETRIC PURPOSES ONLY**



DATE	BY	REVISION

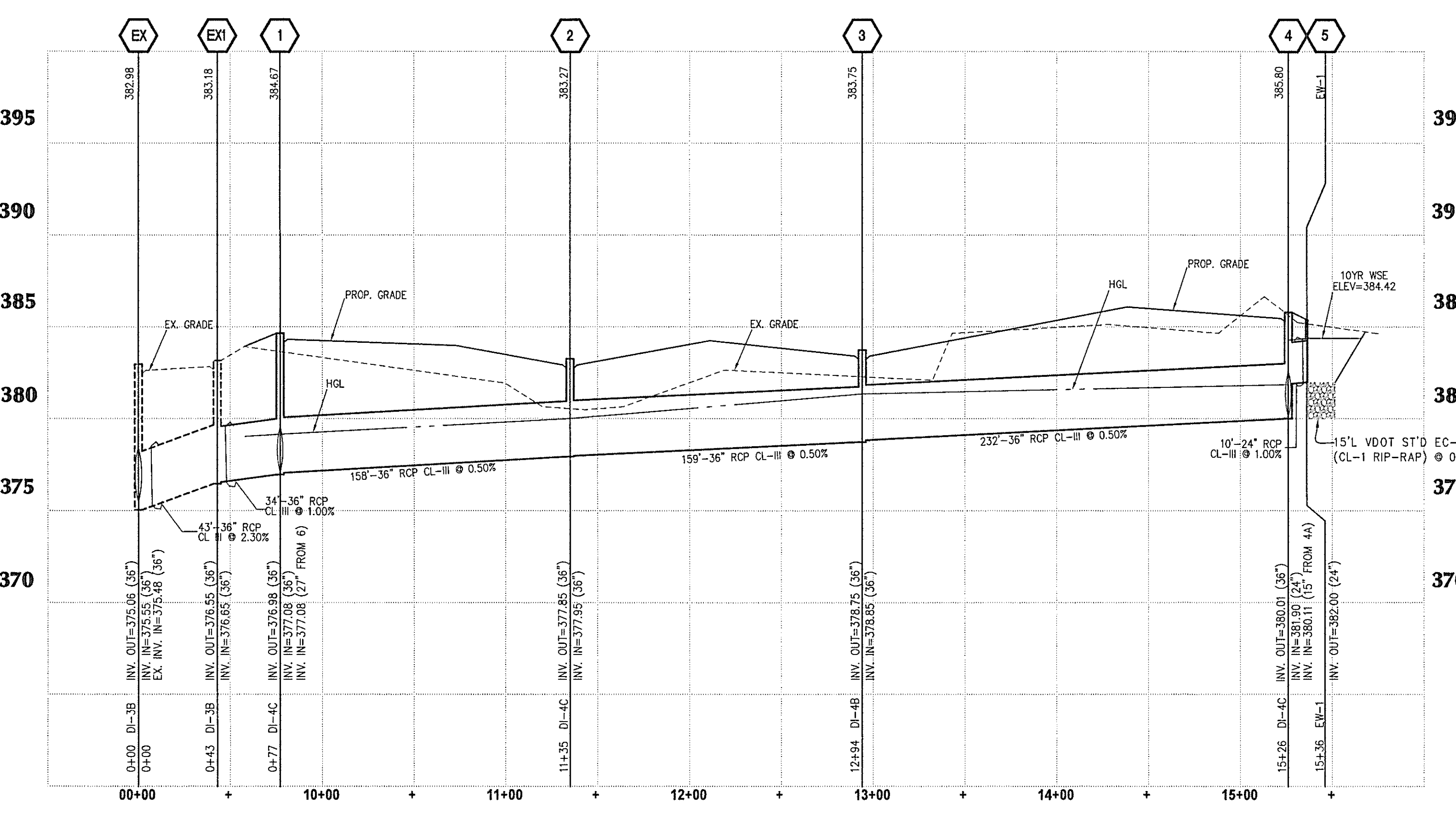
  

DES: FW	DWN: MSL	CHK: RMM
FILE NO.: SP # 2040		
SHEET 21		

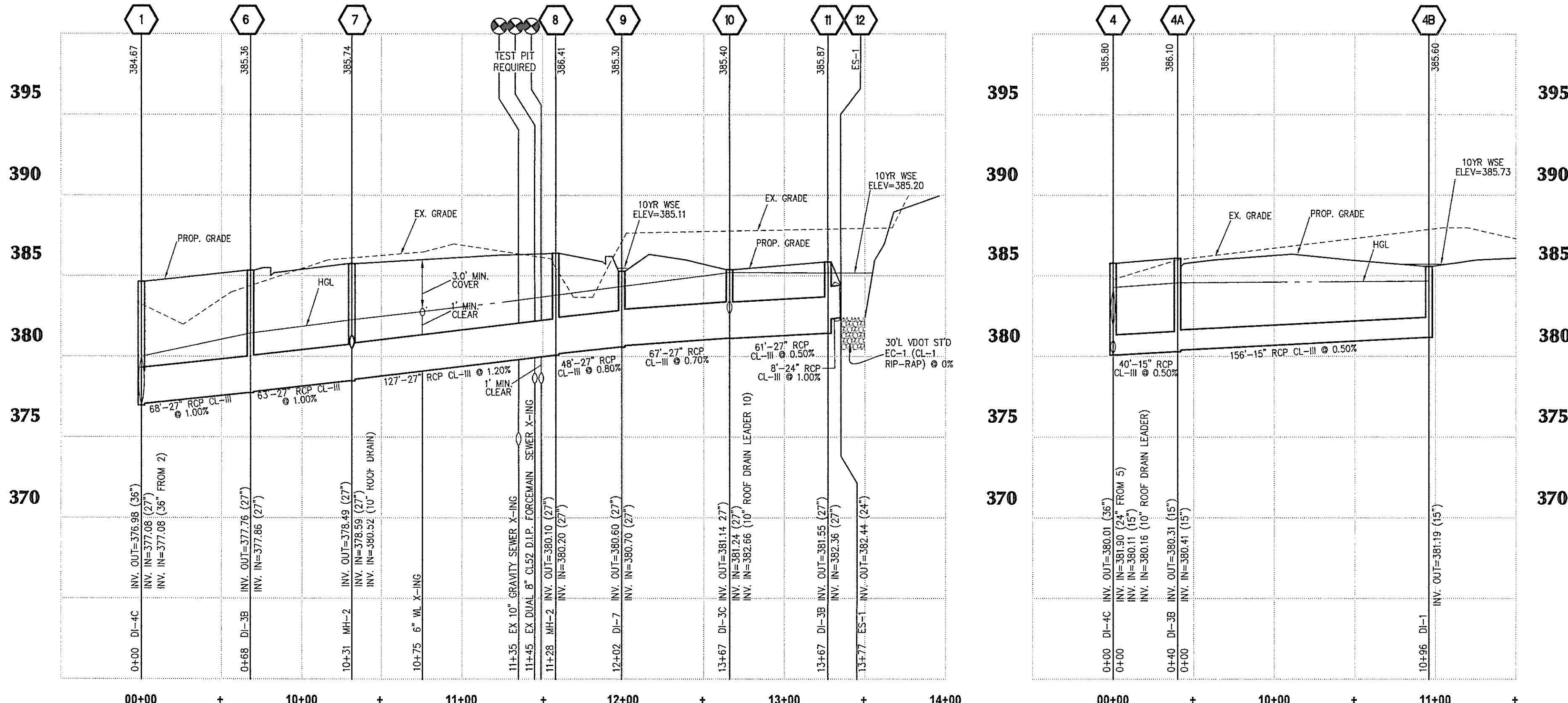
DESIGNER: Franklin Walker										PROJECT: S1TP-20-014125																							
DATE: 11-Aug-21										STORM INLET COMPUTATIONS																							
PLAN: S1TP-20-014125																																	
NUMBER	TYPE	LENGTH (FT)	STATION	DRAINAGE (AC)	C	CA	Σ CA	INTENSITY (IN./HR.)	Q INCREMENTAL (CFS)	Q CARRYOVER (CFS)	Q <sub>1</sub> GUTTER FLOW	S GUTTER SLOPE (FT./FT.)	S <sub>1</sub> CROSS SLOPE (FT./FT.)	T (SPREAD)	W (FT.)	WT	S <sub>w</sub> (FT./FT.)	S <sub>w</sub> /S <sub>1</sub>	E <sub>0</sub> (#10)	a = 1.49(S <sub>w</sub> -S <sub>1</sub> ) + Loc. Dep.	S <sub>w</sub> = a/(2W)	S <sub>0</sub> (FT./FT.) = S <sub>w</sub> + S <sub>1</sub> + E <sub>0</sub>	L <sub>1</sub> (FT) #15	P (EFFEC LENGTH FT.)	LL <sub>1</sub>	d (FT.)	E (#16)	h (FT.)	Q INTERCEPTED (CFS)	d/h	Q <sub>0</sub> CARRYOVER (CFS)	T SPREAD @ 90° (FT.)	REMARKS
11	DI-3B	6.00		0.11	0.90	0.10	0.10	7.27	0.72		0.72	0.0100	0.0200	13.21	2.00	0.15	0.0833	4.17	1.00	3.52	0.147	0.167	11.60		0.5172		1.00	0.72	0.00	3.64			
10	DI-3C	4.00		0.16	0.90	0.14	0.14	7.27	1.05		1.05	0.0050	0.0200	7.89	2.00	0.25	0.0833	4.17	1.00	3.52	0.147	0.167	11.60		0.3448		1.00	1.05	0.00	5.59			
9	DI-7			0.69	0.49	0.34	0.34	7.27	2.46		2.46		0.020	3.52	2.00	0.57	0.0833	4.17	1.00	3.52	0.147	0.167	11.60		0		1.00	2.46	0.00	27.58			50% BLOCKED
6	DI-3B	8.00		0.13	0.85	0.11	0.11	7.27	0.80		0.80	0.010	0.020	6.10	2.00	0.33	0.0833	4.17	1.00	3.52	0.147	0.167	16.90		0.4734		1.00	0.80	0.00	6.10			
4B	DI-1			0.29	0.90	0.26	0.26	7.27	1.90		1.90		0.010	29.24	2.00	0.07	0.0833	8.33	1.00	3.76	0.157	0.167	11.60		0		1.00	1.90	0.00	29.24			50% BLOCKED
4A	DI-3B	4.00		0.07	0.90	0.06	0.06	7.27	0.46		0.46	0.010	0.010	2.33	2.00	0.86	0.0833	8.33	1.00	3.76	0.157	0.167	11.60		0.3448		1.00	0.46	0.00	2.33			
4	DI-4C	8.00		0.14	0.90	0.13	0.13	7.27	0.92		0.92	0.005	0.030	3.68	2.00	0.54	0.0833	2.78	1.00	3.28	0.137	0.167	11.60		0.6897		1.00	0.92	0.00	2.54			
3	DI-4B	14.00		0.45	0.90	0.41	0.41	7.27	2.94		2.94	0.020	0.030	5.45	2.00	0.37	0.0833	2.78	1.00	3.28	0.137	0.167	11.60		1.2069		1.00	2.94	0.00	5.45			
2	DI-4C	10.00		0.44	0.90	0.40	0.40	7.27	2.88		2.88	0.010	0.030	7.54	2.00	0.27	0.0833	2.78	1.00	3.28	0.137	0.167	11.60		0.8621		1.00	2.88	0.00	7.54			
1	DI-4C	10.00		0.42	0.90	0.38	0.38	7.27	2.75		2.75	0.005	0.030	7.31	2.00	0.27	0.0833	2.78	1.00	3.28	0.137	0.167	11.60		0.8621		1.00	2.75	0.00	7.31			

Hydraulic Grade Line										Project:												
Inlet Station	Outlet Water Surface Elev.	Do	Qo	Lo	Sfo	Hf	Vo	Ho	Di	Qi	Vi	Q1/V1	V1/2g	Hi	Angle	Hdelt	Ht	1.3Ht	.5Ht	Final H	Inlet Water Surface Elev.	Rim Elev.
1	379.05	36	65.7	34	0.0097	0.33	9.0	0.31	36	50.78	6.4	325.0	0.64	0.22	90	0.45	0.98	1.28	0.64	0.97	380.02	384.67
2	380.02	36	50.8	158	0.0058	0.92	6.4	0.16	36	21.00	6.2	130.2	0.60	0.21	68	0.28	0.65	0.84	0.42	1.34	381.36	385.27
3	381.36	36	21.0	159	0.0010	0.16	6.2	0.15	36	18.12	5.9	106.9	0.54	0.19	90	0.38	0.72	0.90	0.36	0.52	381.87	385.75
4	381.87	36	18.1	232	0.0007	0.10	5.9	0.01	36	15.18	7.2	0.0	0.00	0.00	90	0.00	0.01	0.01	0.01	0.10	384.30	385.80
5	384.30	24	15.2	10	0.0045	0.10	7.2	0.01	0	11.55	0.0	0.0	0.00	0.00	0	0.00	0.01	0.01	0.01	0.10	384.40	
4A	384.30	15	4.6	40	0.0051	0.20	3.80	0.06	15	1.90	3.5	6.7	0.19	0.07	0	0.00	0.12	0.16	0.08	0.28	384.58	386.10
4B	384.58	15	1.9	156	0.0009	0.10	3.50	0.01	0	1.90	0.0	0.0	0.00	0.00	20	0.00	0.01	0.01	0.01	0.10	384.69	385.60
6	380.02	27	31.0	68	0.0100	0.68	8.8	0.30	27	27.02	8.8	237.8	1.20	0.42	90	0.84	1.56	0.00	0.78	1.46	381.48	385.36
7	381.48	27	27.0	63	0.0076	0.48	8.7	0.29	27	26.22	8.7	228.1	1.18	0.41	7	0.00	0.71	0.00	0.35	0.83	382.32	385.74
8	382.32	27	26.2	127	0.0072	0.91	8.7	0.29	27	25.17	9.3	234.1	1.34	0.47	16	0.13	0.90	0.00	0.45	1.36	383.68	386.41
9	383.68	27	25.2	48	0.0066	0.32	8.7	0.29	27	25.17	7.1	178.7	0.78	0.27	51	0.37	0.94	0.00	0.47	0.79	384.46	385.30
10	384.46	27	25.2	67	0.0010	0.10	8.4	0.01	27	22.72	6.3	143.1	0.62	0.22	6	0.00	0.23	0.00	0.11	0.21	384.67	385.40
11	384.67	27	22.7	61	0.0010	0.10	6.3	0.01	24	20.23	8.1	163.9	1.02	0.36	90	0.71	1.08	0.00	0.54	0.64	385.31	385.87
12	385.31	24	20.2	8	0.0010	0.10	8.1	0.01	0	19.51	0.0	0.0	0.00	0.00	0	0.00	0.01	0.00	0.01	0.10	385.41	

FROM	TO	AREA	RUN OFF COEFF	CA	INLET TIME	RAIN FALL	RUN OFF "Q" C.F.S.	INVERT ELEV.	LENGTH	SLOPE	DIAM.	VEID.	CAPAC.	TIME	REMARKS				
		IN. AC	TOTAL AC	C	INCR	ACCUM	UPPER	LOWER	FT.	FT/FT	IN	FTS	C.F.S.	MIN					
11	10	5.31	5.71	0.47	2.68	2.68	5	7.27	19.51	19.51	382.44	382.36	8	0.010	24	8.1	22.6	0.02	
10	9	0.11	5.82	0.90	0.10	2.78	5	7.27	0.72	20.23	381.55	381.24	61	0.005	27	6.3	22.1	0.16	
ROOF DRAIN 10	ROOF DRAIN 10	0.22	0.22	0.90	0.20	0.20	5	7.27	1.44	1.44	383.03	383.21	72	0.010	10	4.3	2.2	0.28	
ROOF DRAIN 10	10	0.00	0.22	0.90	0.00	0.20	5	7.27	0.00	1.44	383.21	382.66	55	0.010	10	4.3	2.2	0.22	
10	9	0.36	6.20	0.90	0.14	3.12	5	7.27	1.05	22.72	381.14	380.70	67	0.007	27	7.1	25.1	0.16	
9	8	0.69	6.89	0.89	0.34	3.46	5	7.27	2.46	25.17	380.60	380.20	48	0.008	27	8.0	28.3	0.10	
8	7	0.00	6.89	0.90	0.00	3.46	5	7.27	0.00	25.17	380.20	378.20	127	0.012	27	9.3	33.8	0.23	
ROOF DRAIN 7	ROOF DRAIN 7	0.36	0.16	0.90	0.14	0.14	5	7.27	1.05	1.05	382.11	381.10	91	0.010	10	3.9	2.2	0.34	
ROOF DRAIN 7	7	0.00	0.16	0.90	0.00	0.14	5	7.27	0.00	1.05	381.10	380.52	78	0.010	10	3.9	2.2	0.33	
7	6	0.00	7.05	0.90	0.00	3.61	5	7.27	0.00	26.22	378.40	377.86	63	0.010	27	8.7	31.0	0.12	
6	5	0.10	7.18	0.85	0.11	3.72	5	7.27	0.80	27.02	377.76	377.08	68	0.010	27	8.8	31.0	0.13	
4B	4A	0.29	0.29	0.90	0.26	0.26	5	7.27	1.90	1.90	381.10	380.44	66	0.005	15	3.5	4.6	0.74	
4A	4	0.07	0.36	0.90	0.06	0.37	5	7.27	0.46	2.72	380.31	380.18	40	0.005	15	3.8	4.6	0.17	
ROOF DRAIN 4	ROOF DRAIN 4	0.10	0.13	0.90	0.12	0.12	5	7.27	0.85	0.85	381.50	381.71	70	0.010	10	3.7	2.2	0.35	
ROOF DRAIN 4	4	0.00	0.13	0.90	0.00	0.12	5	7.27	0.00	0.85	381.71	381.10	55	0.010	10	3.7	2.2	0.25	
5	4	3.53	3.53	0.45	1.59	1.59	5	7.27	11.55	11.55	382.00	381.00	10	0.010	24	7.2	22.6	0.02	
4	3	0.11	4.83	0.90	0.13	2.21	5	7.27	0.92	16.83	380.01	378.85	232	0.005	36	6.0	47.2	0.64	
3	2	0.45	4.48	0.90	0.41	2.61	5	7.27	2.94	18.97	378.75	377.95	89	0.005	36	6.3	47.3	0.42	
2	1	0.44	4.92	0.90	0.40	3.01	5	7.27	2.88	21.85	377.85	377.08	88	0.005	36	6.5	46.6	0.41	
EX1	EX1	0.42	5.34	0.90	0.38	7.10	5	7.27	2.75	51.63	376.98	376.65	34	0.010	36	10.3	65.7	0.86	
EX1	EX	0.45	5.79	0.80	0.27	7.37	5	7.27	1.96	53.59	376.55	375.55	43	0.023	36	14.4	101.7	0.85	

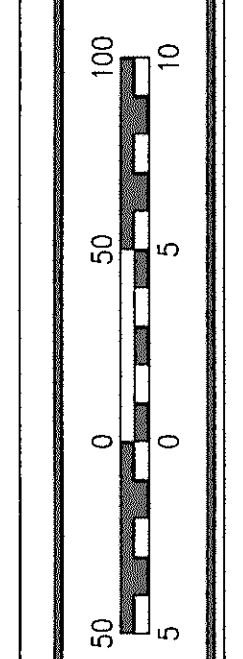


**STORM SEWER PROFILES**  
 SCALE: HORZ. - 1"=50', VERT. - 1"=5'  
 ALL STORM STRUCTURES SHALL HAVE IS-1 INLET SHAPING

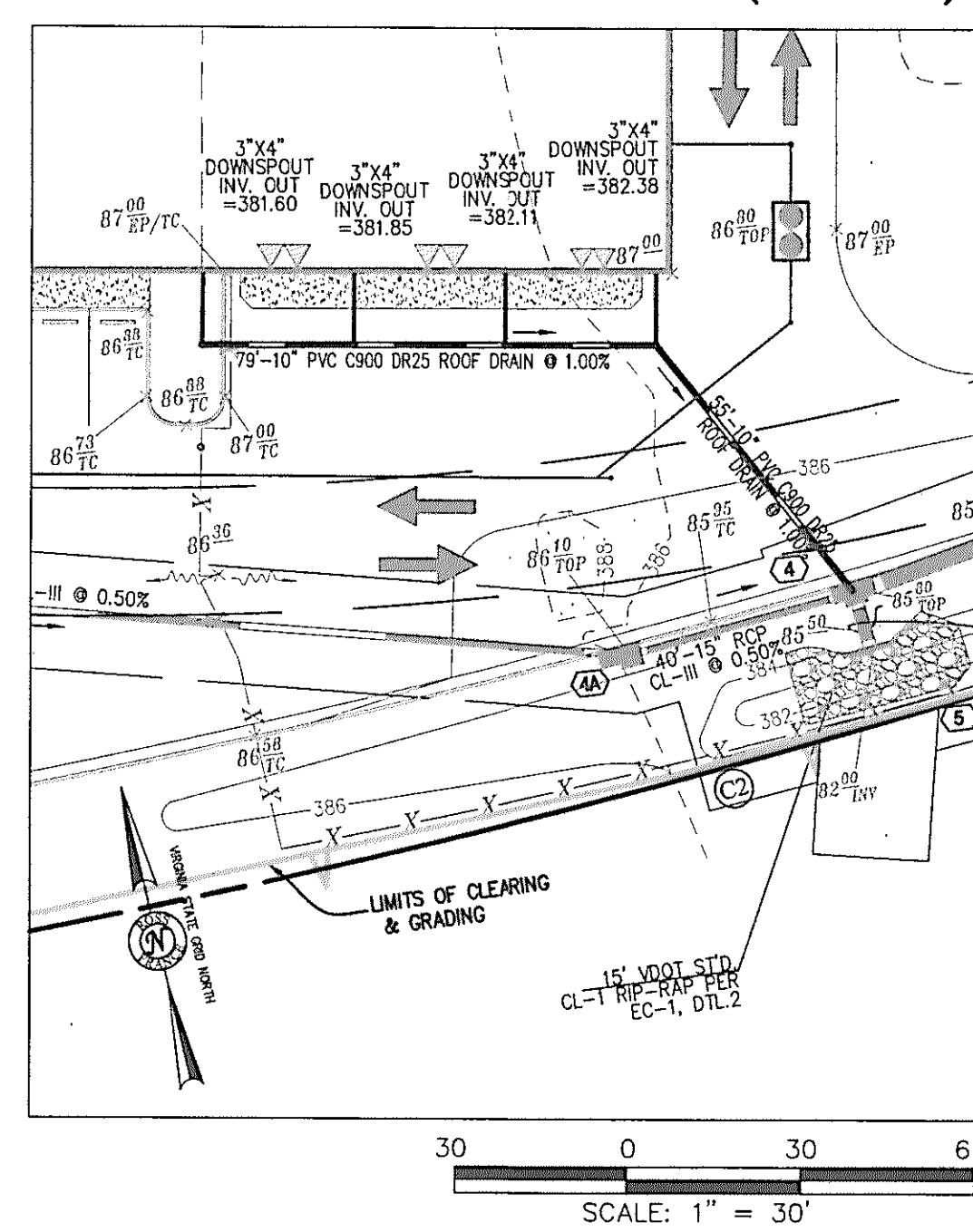


**STORM SEWER PROFILES**  
 SCALE: HORZ. - 1"=50', VERT. - 1"=5'

**STORM SEWER PROFILES**  
 SCALE: HORZ. - 1"=50', VERT. - 1"=5'

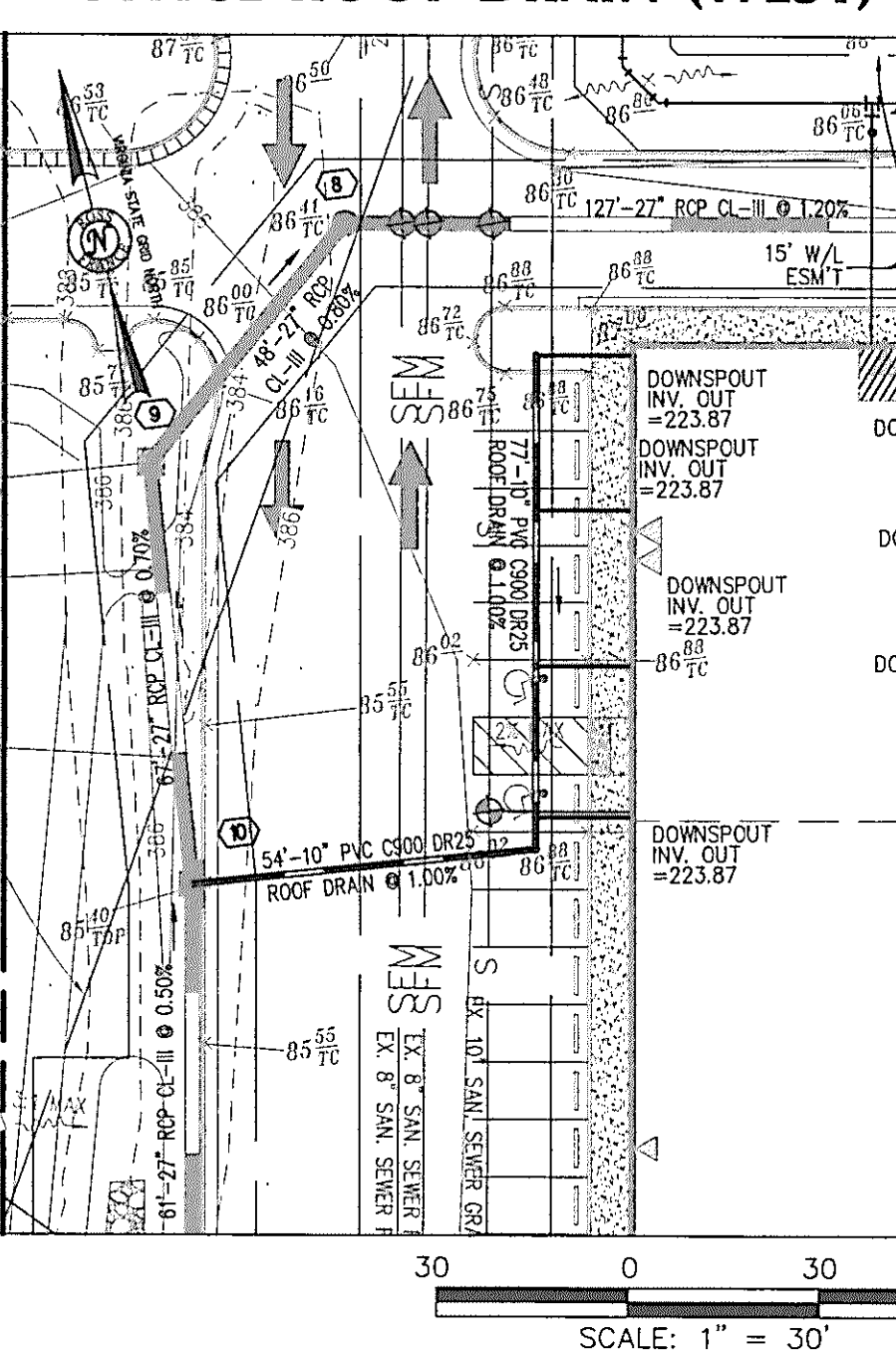


**WAREHOUSE ROOF DRAIN (SOUTH)**



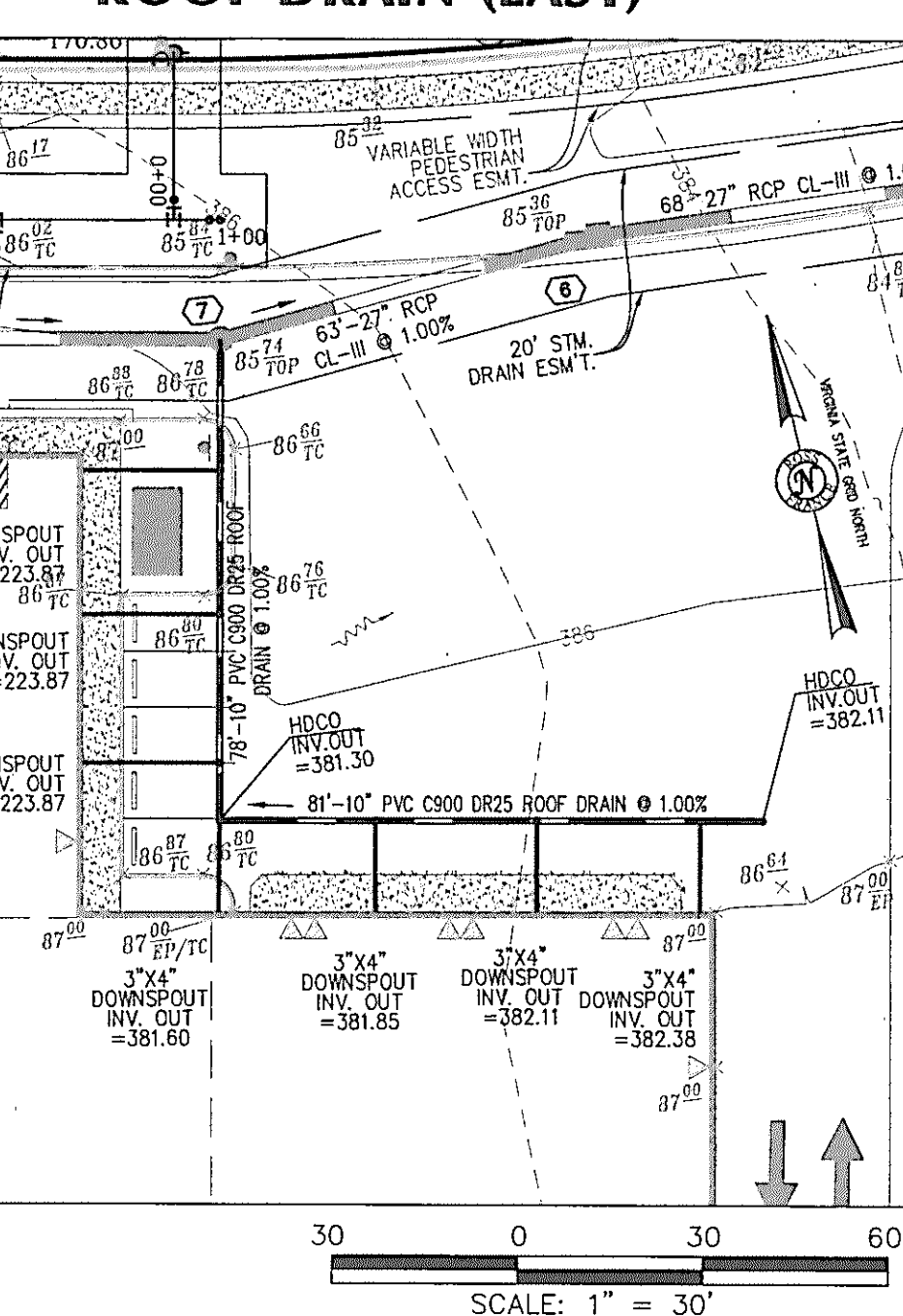
SCALE: 1" = 30'

**OFFICE ROOF DRAIN (WEST)**

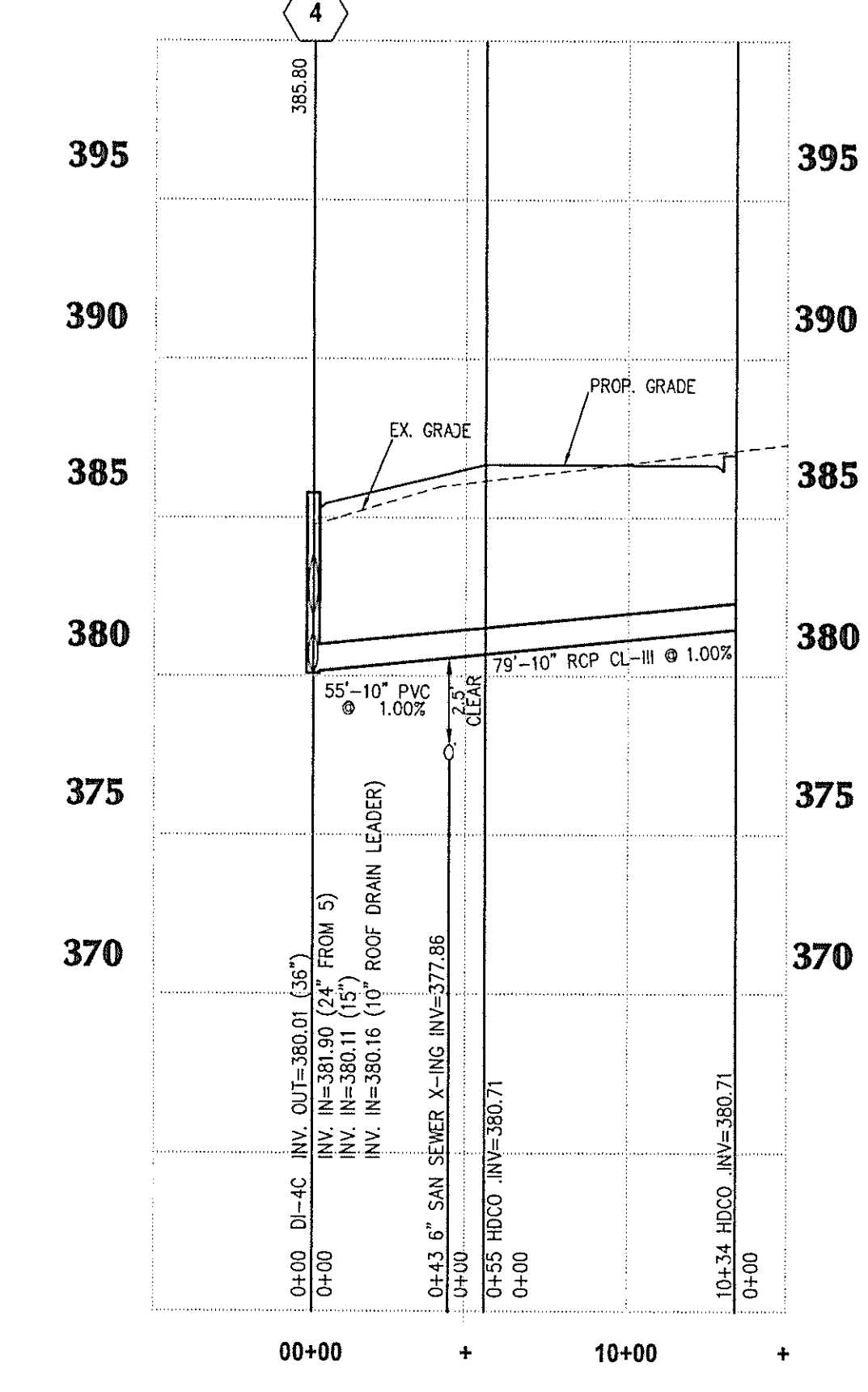


SCALE: 1" = 30'

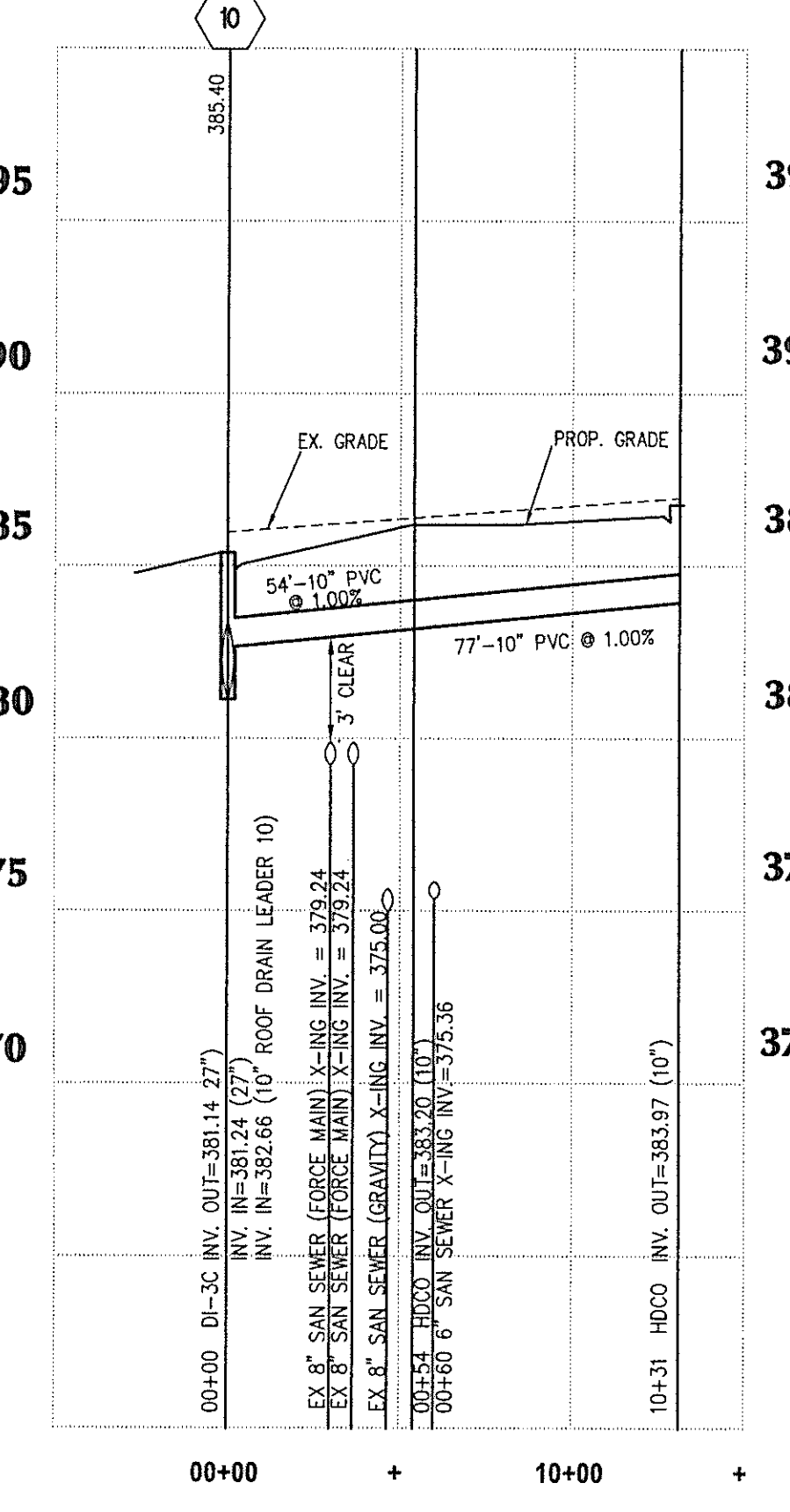
**OFFICE - WAREHOUSE ROOF DRAIN (EAST)**



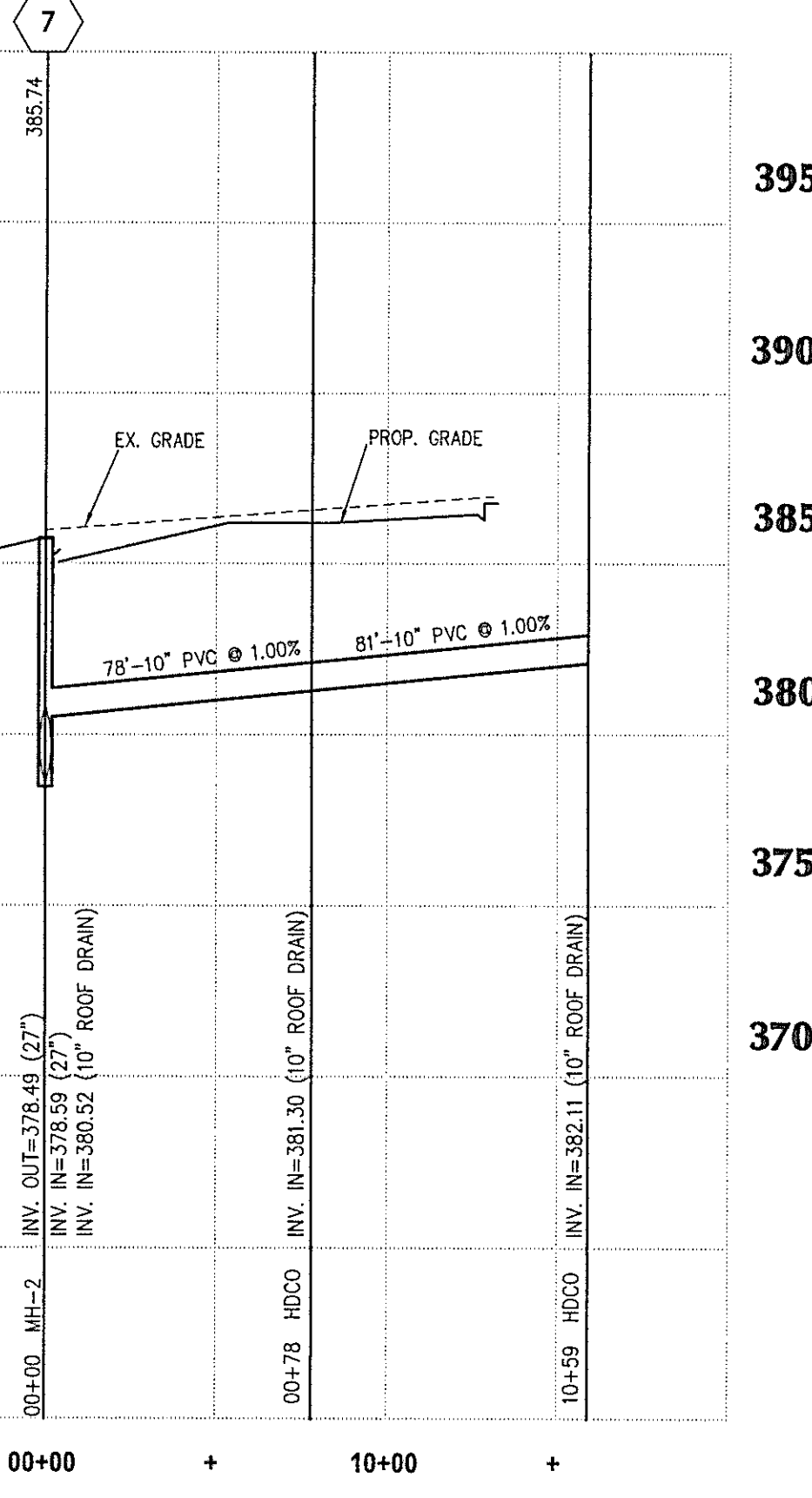
SCALE: 1" = 30'



**WAREHOUSE (SOUTH) ROOF DRAIN PROFILE**  
 SCALE: HORZ.- 1"=50', VERT.- 1"=5'



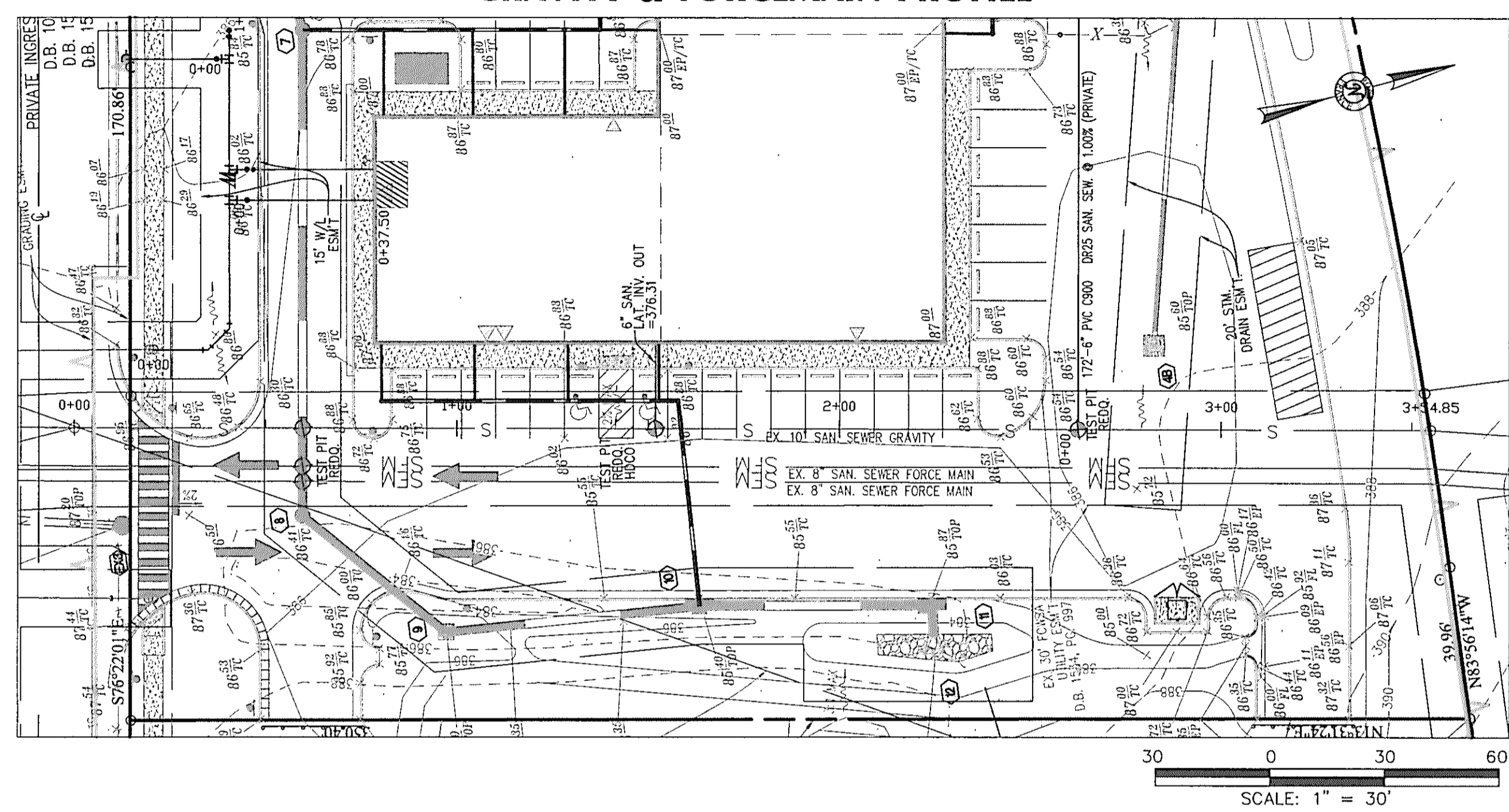
**OFFICE (WEST) ROOF DRAIN PROFILE**  
 SCALE: HORZ.- 1"=50', VERT.- 1"=5'



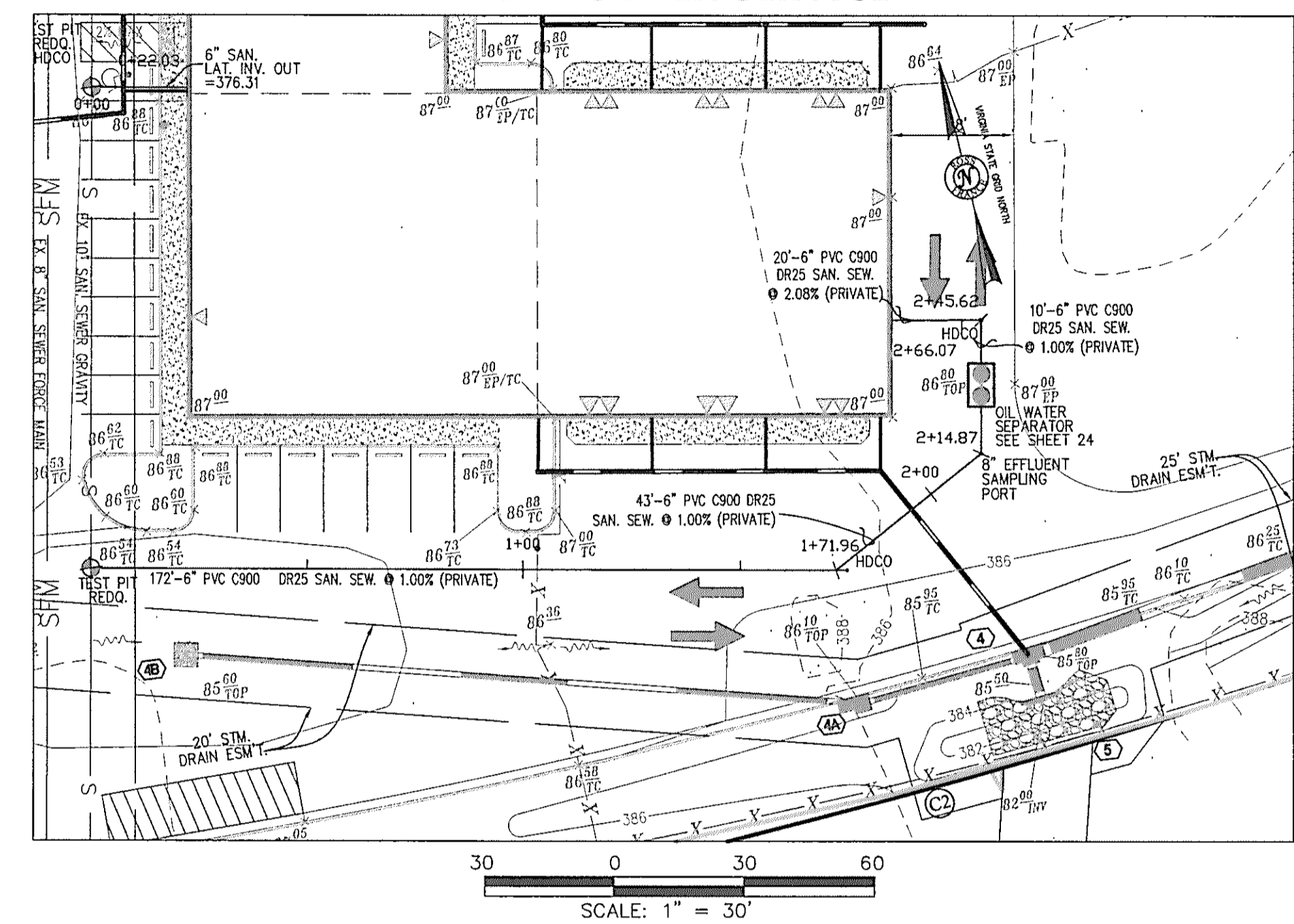
**OFFICE - WAREHOUSE (EAST) ROOF DRAIN PROFILE**  
 SCALE: HORZ.- 1"=50', VERT.- 1"=5'

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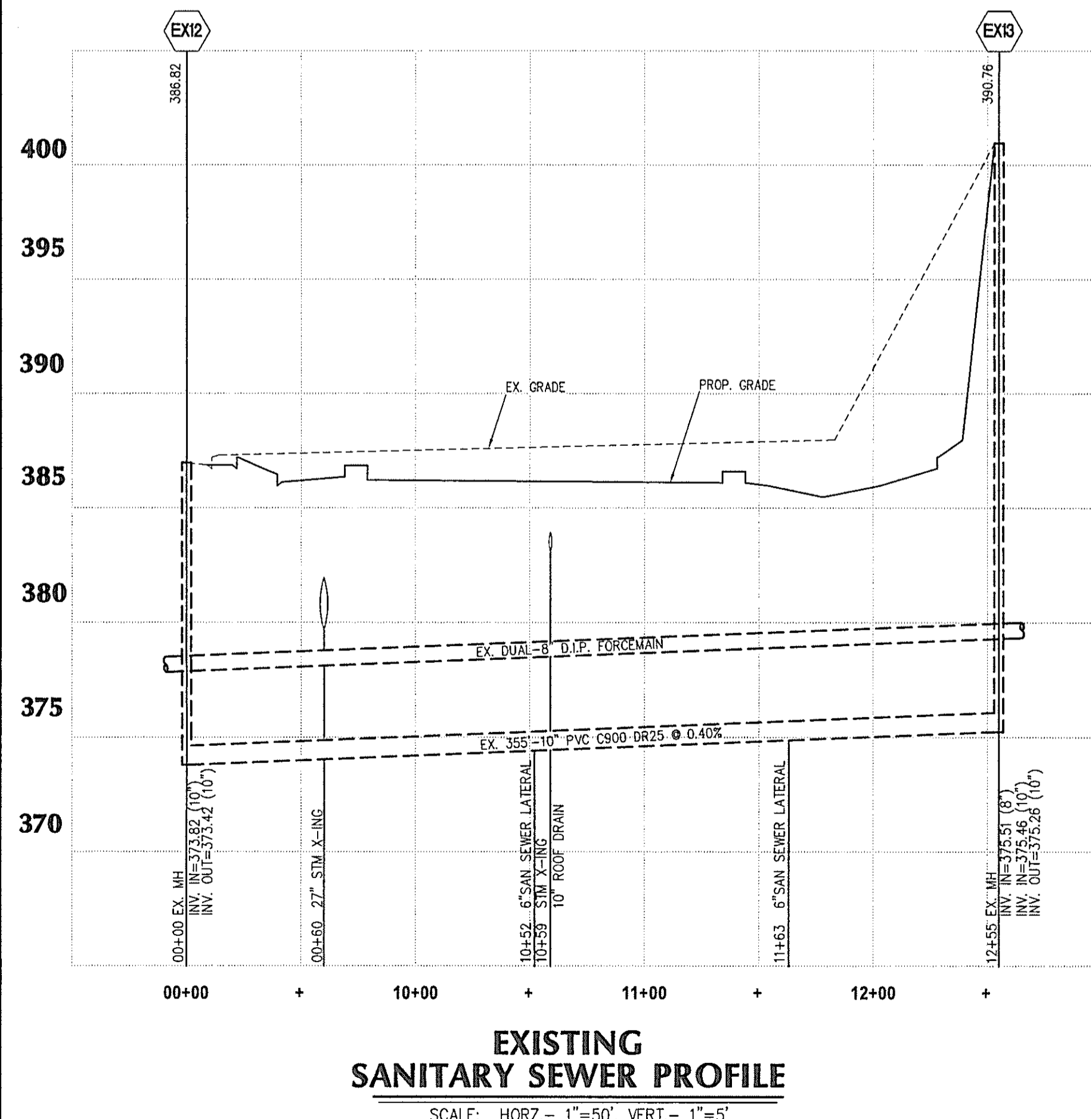
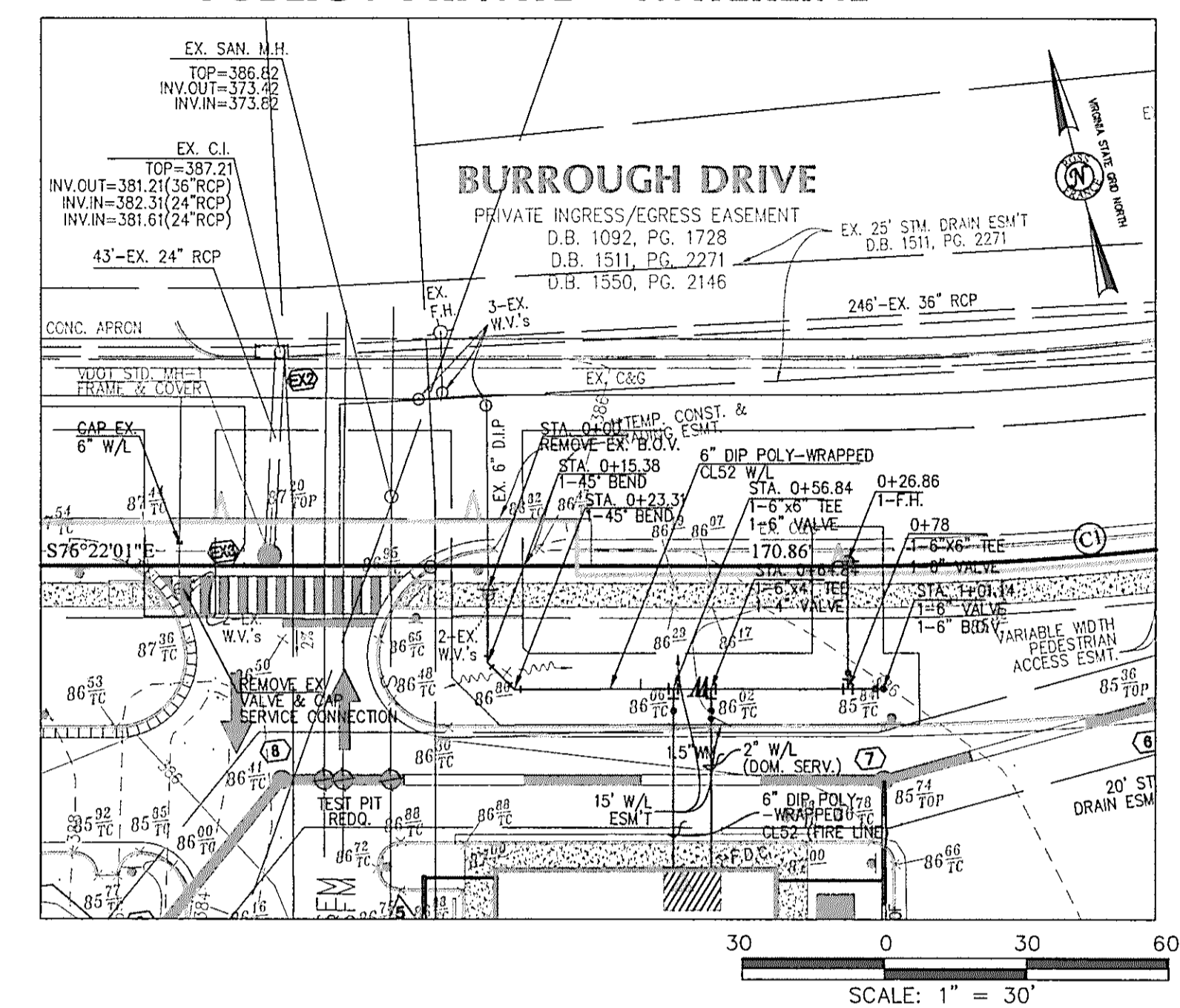
**EXISTING SANITARY SEWER GRAVITY & FORCEMAIN PROFILE**



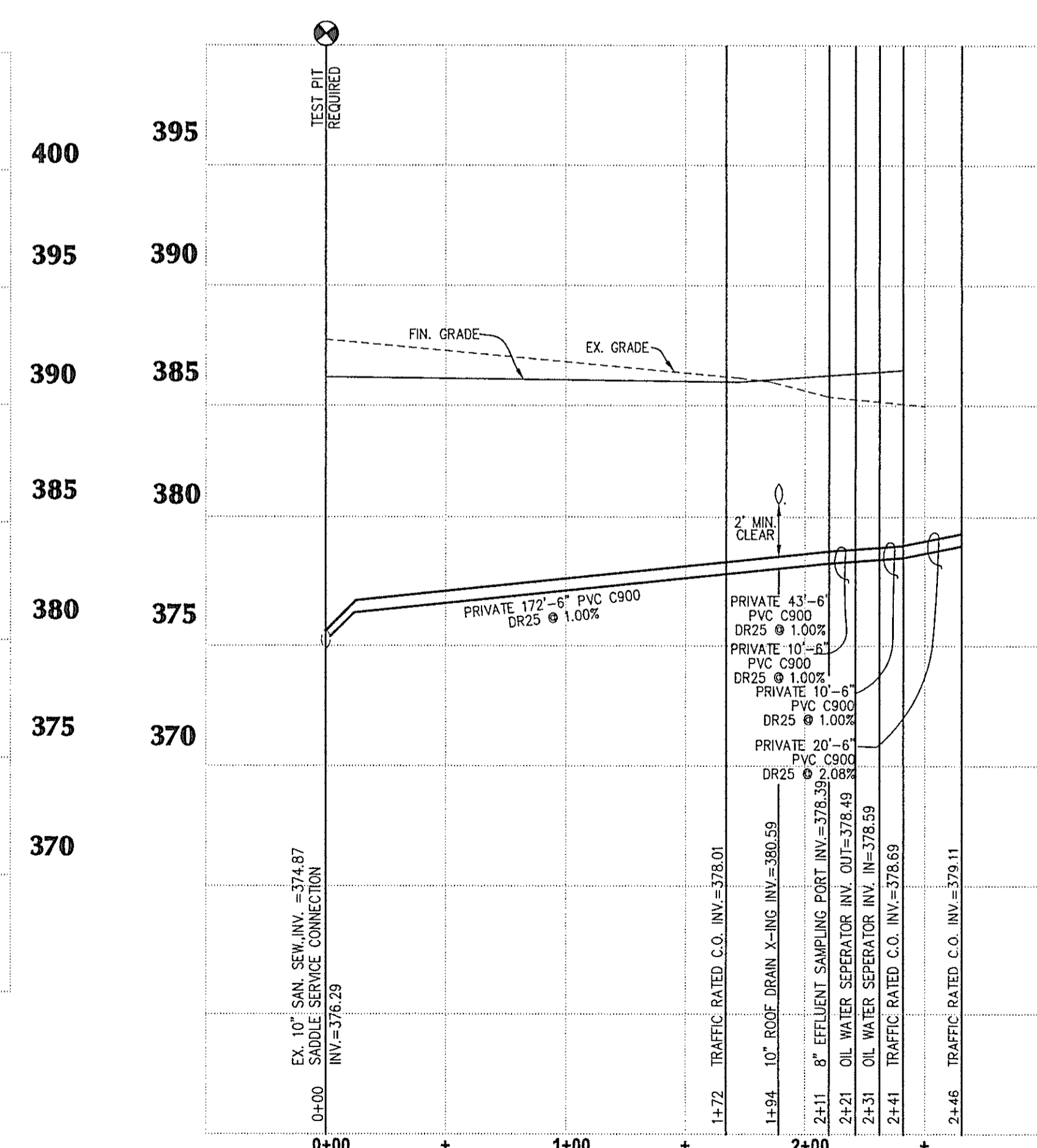
**PRIVATE - SEWER SERVICE**



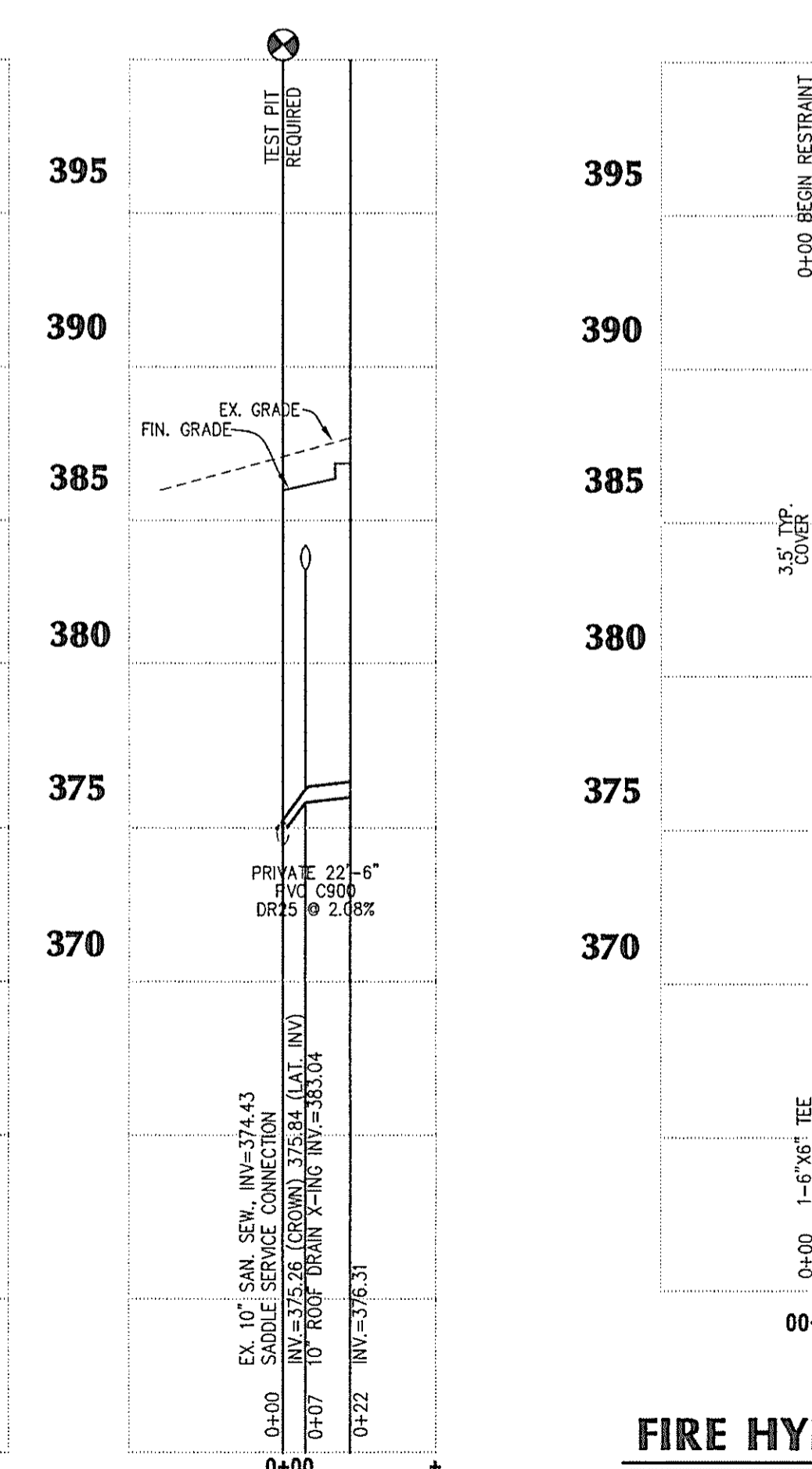
**PUBLIC / PRIVATE - WATERLINE**



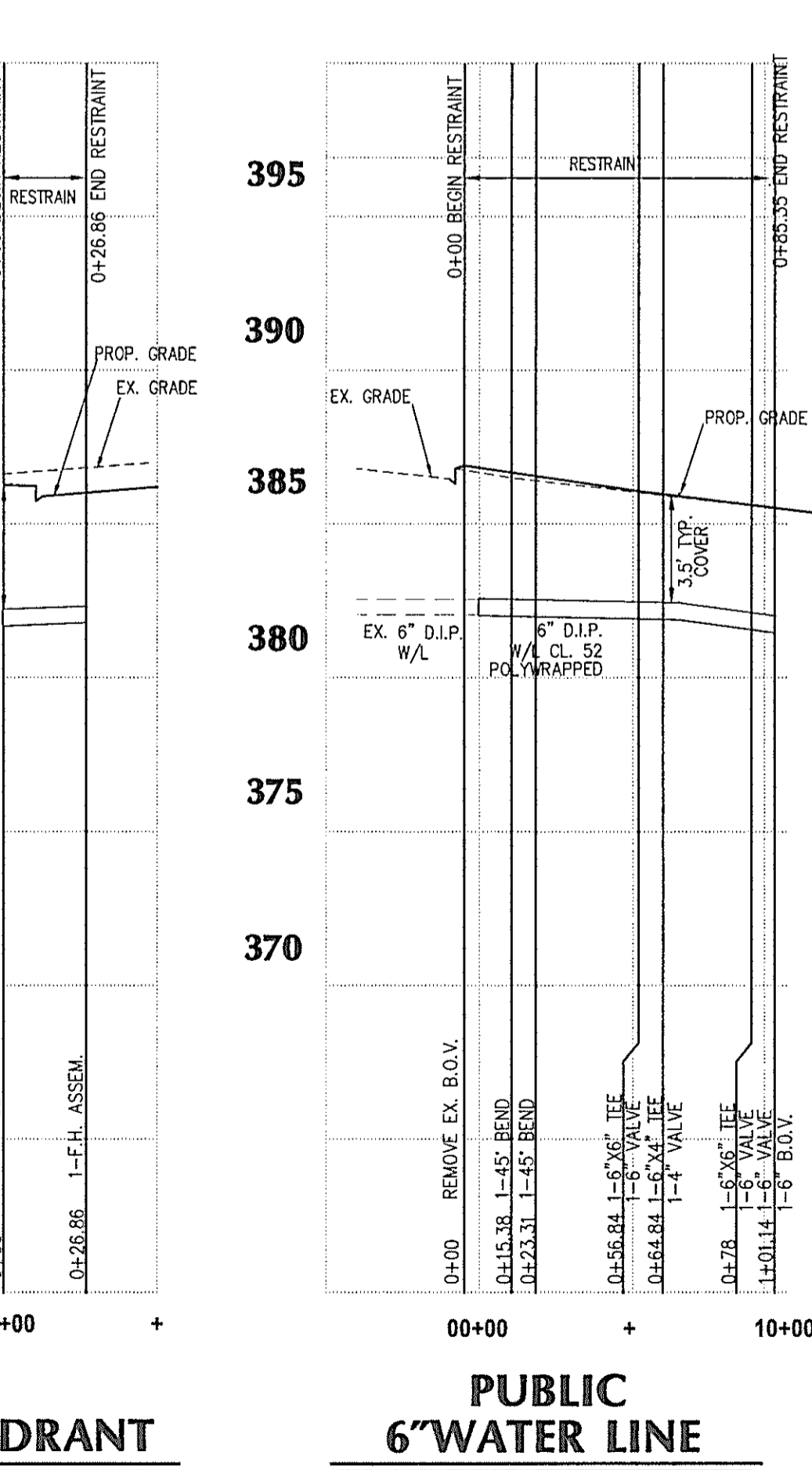
**EXISTING SANITARY SEWER PROFILE**  
 SCALE: HORZ. - 1" = 50', VERT. - 1" = 5'



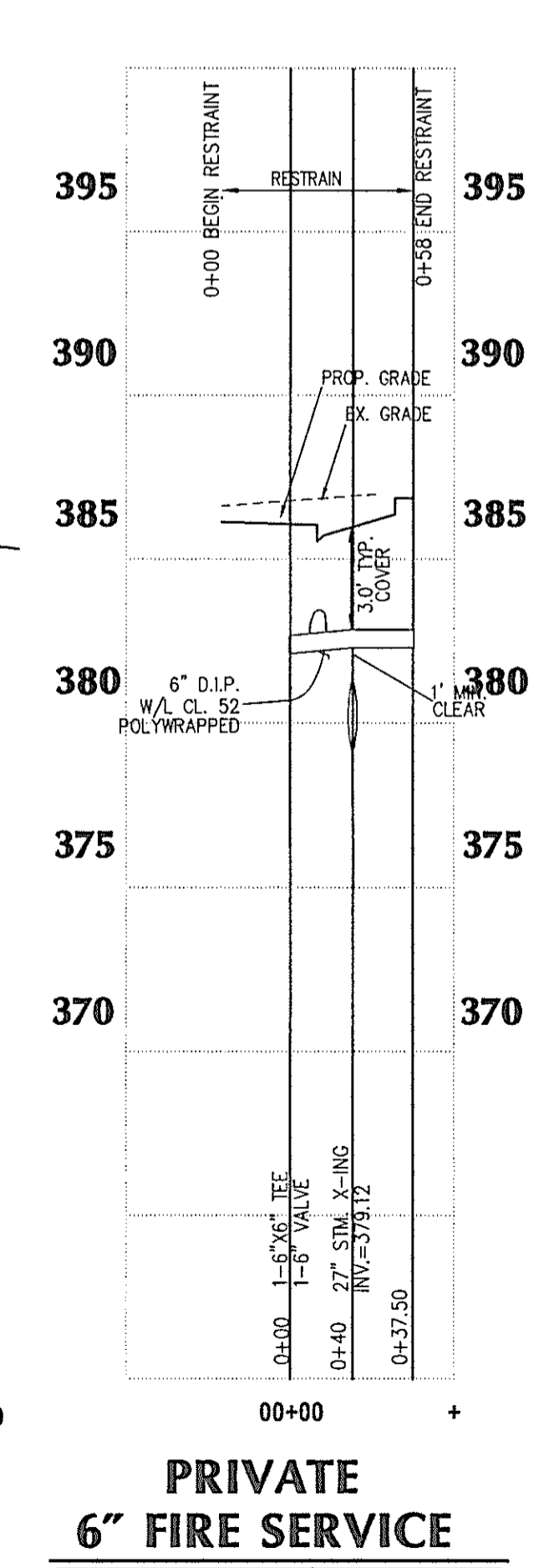
**WAREHOUSE PRIVATE 6" SEWER SERVICE**  
 SCALE: HORZ. - 1" = 50', VERT. - 1" = 5'



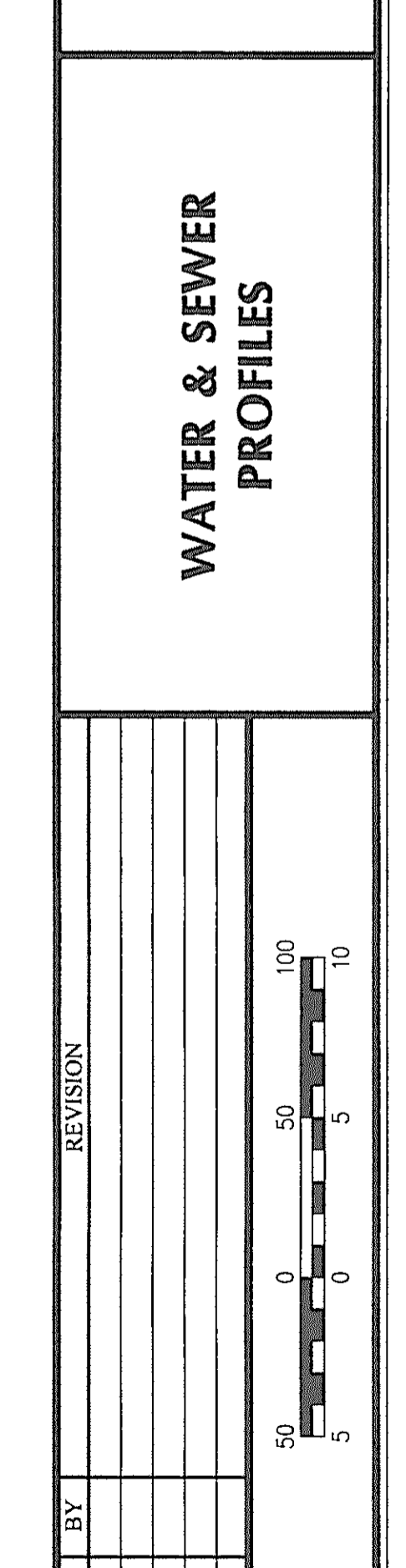
**OFFICE PRIVATE 6" SEWER SERVICE**  
 SCALE: HORZ. - 1" = 50', VERT. - 1" = 5'



**FIRE HYDRANT**  
 SCALE: HORZ. - 1" = 50', VERT. - 1" = 5'



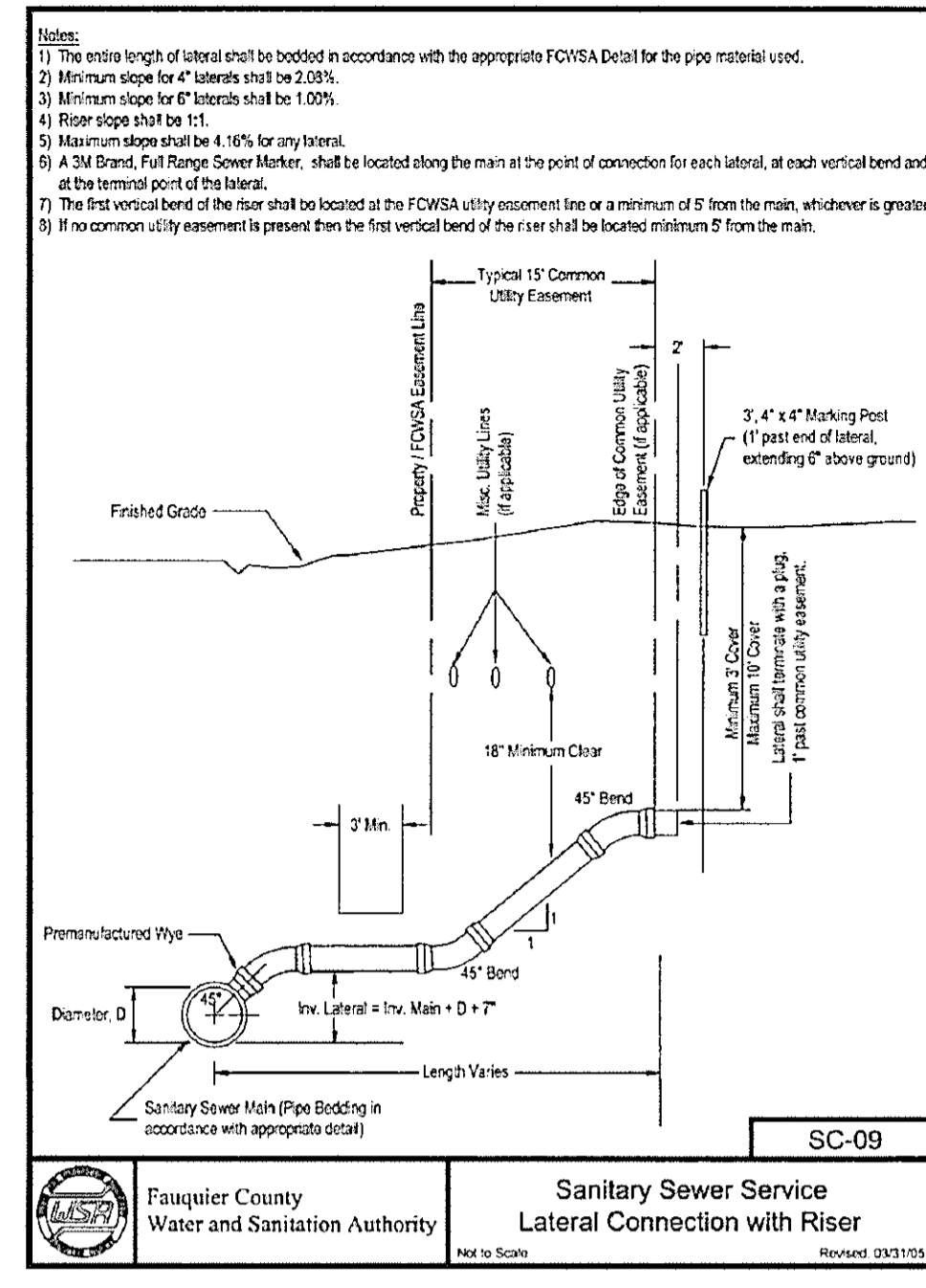
**PUBLIC 6" WATER LINE**  
 SCALE: HORZ. - 1" = 50', VERT. - 1" = 5'



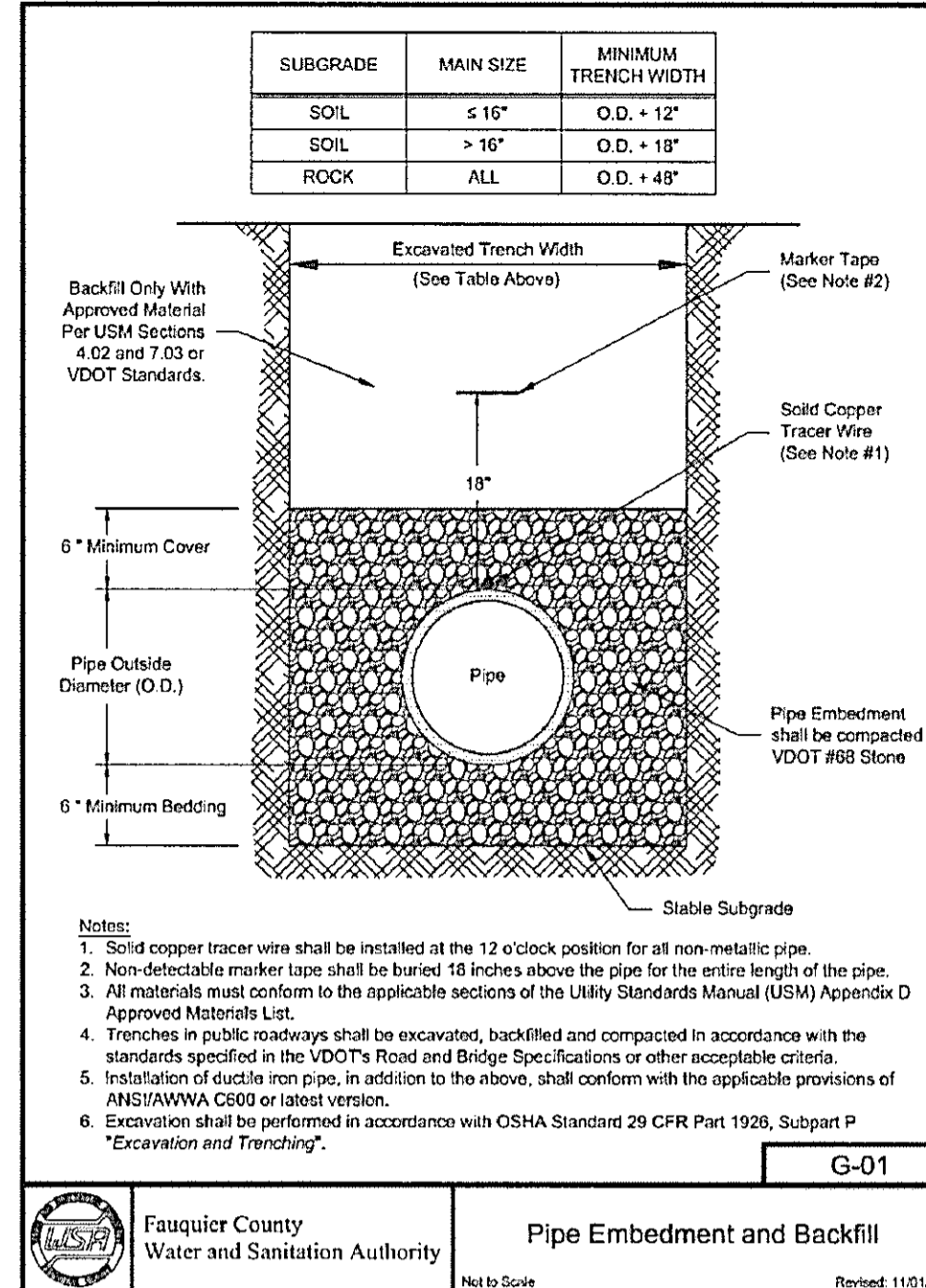
**PRIVATE 6" FIRE SERVICE**  
 SCALE: HORZ. - 1" = 50', VERT. - 1" = 5'

**WATER & SEWER PROFILES**

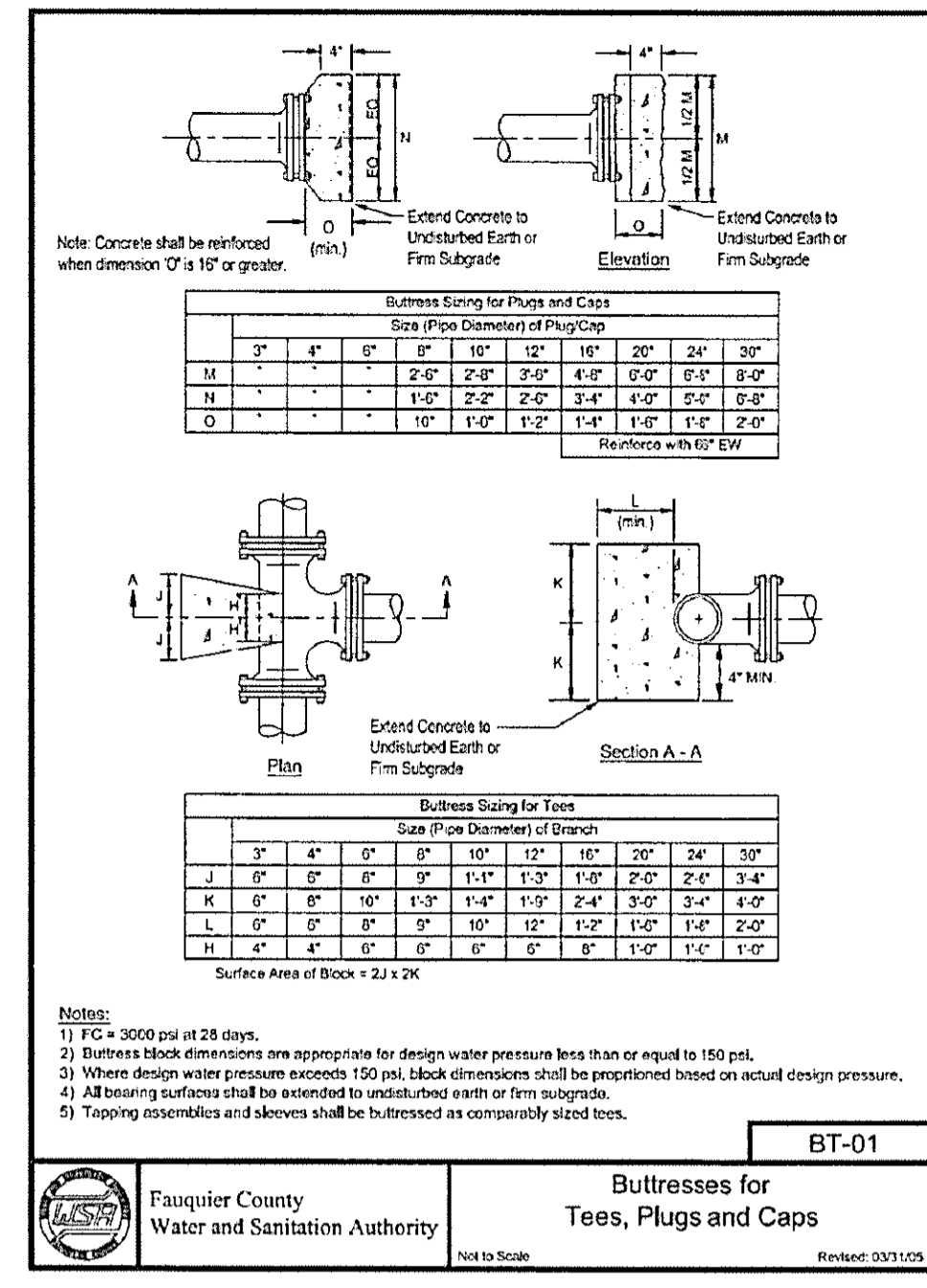
DATE	BY	REVISION



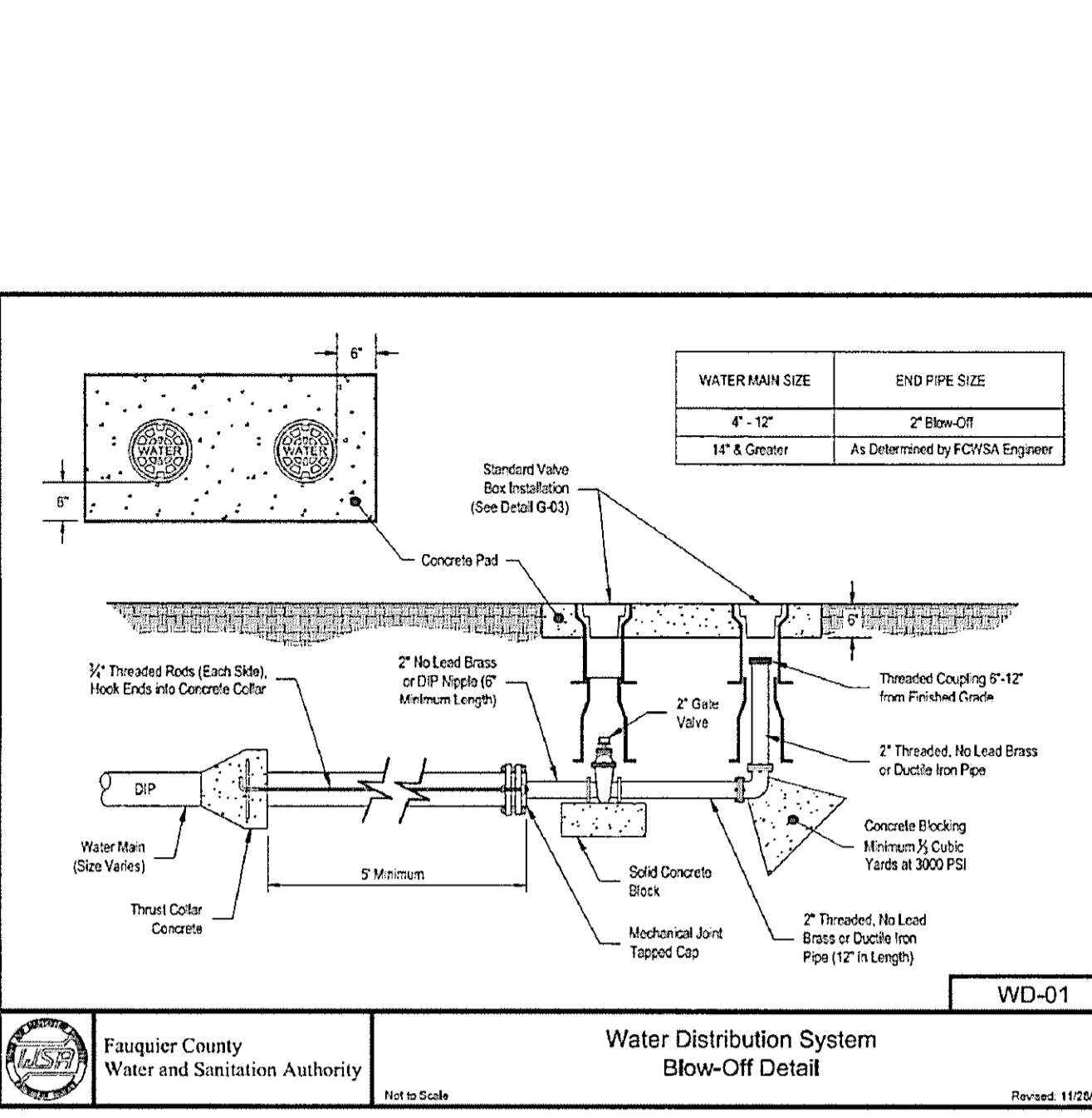
Fauquier County Water and Sanitation Authority  
 Sanitary Sewer Service Lateral Connection with Riser  
 Not to Scale  
 Revised: 03/01/05



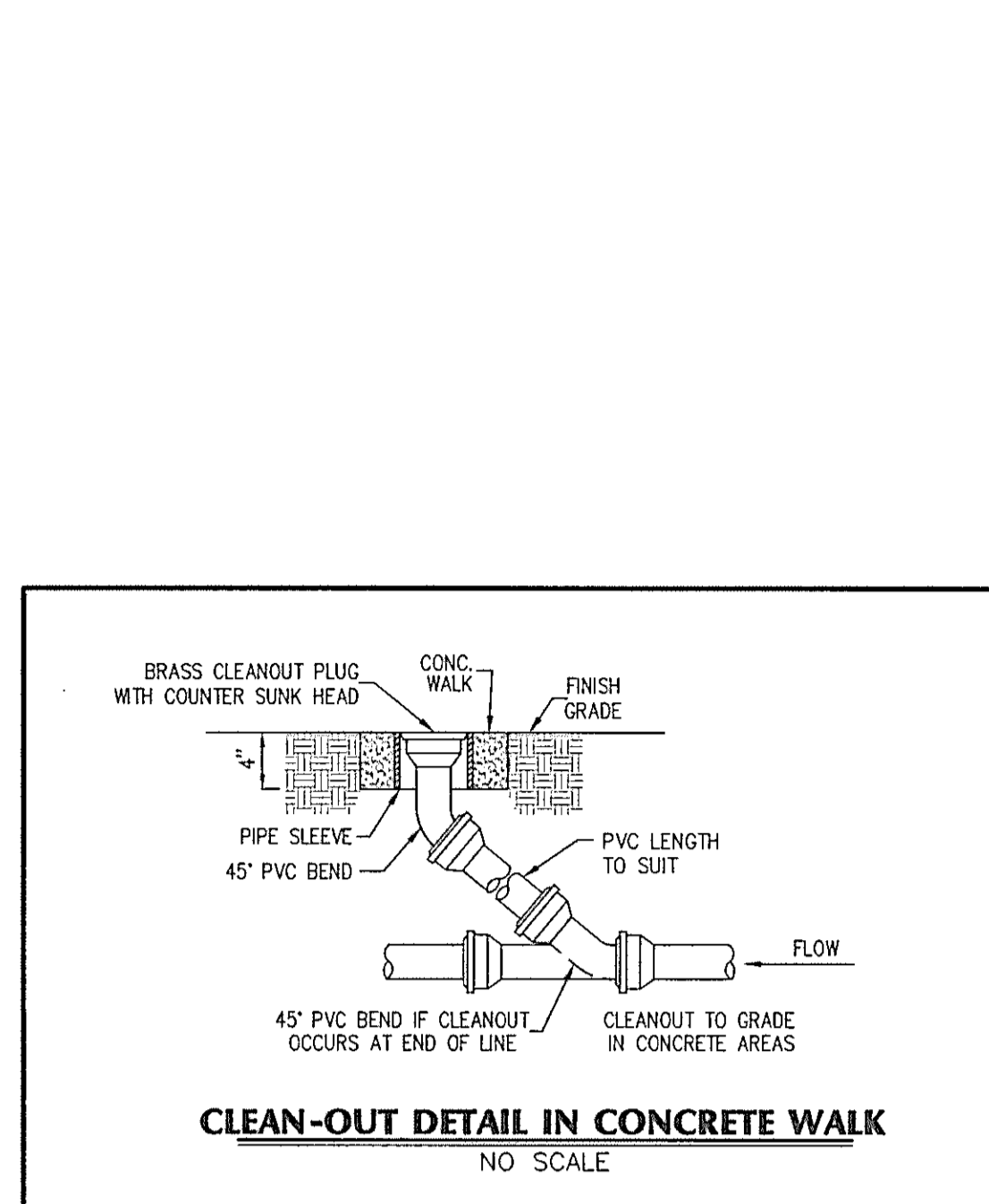
Fauquier County Water and Sanitation Authority  
 Pipe Embedment and Backfill  
 Not to Scale  
 Revised: 11/01/01



Fauquier County Water and Sanitation Authority  
 Buttresses for Tees, Plugs and Caps  
 Not to Scale  
 Revised: 03/01/05



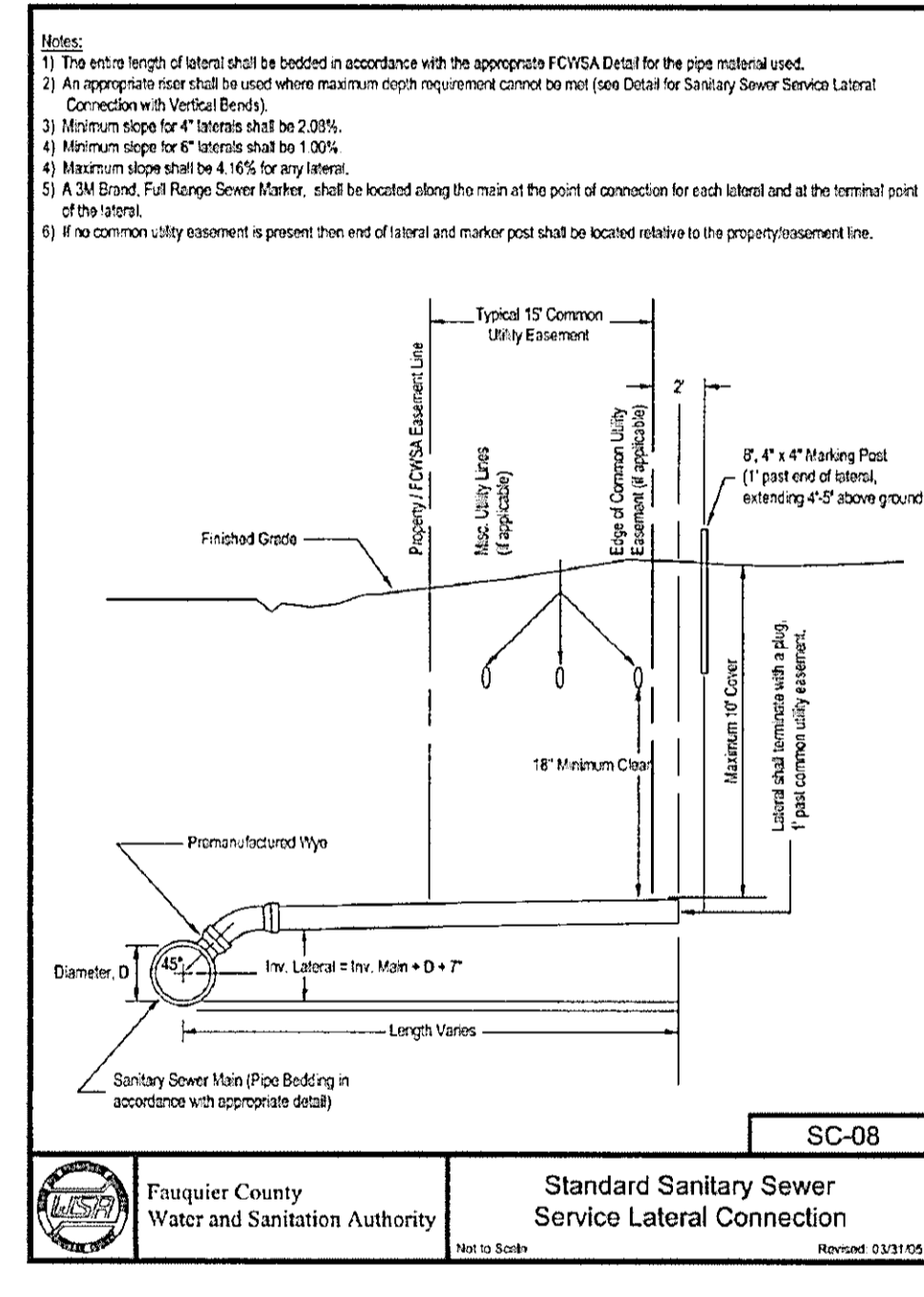
Fauquier County Water and Sanitation Authority  
 Water Distribution System Blow-Off Detail  
 Not to Scale  
 Revised: 11/20/01



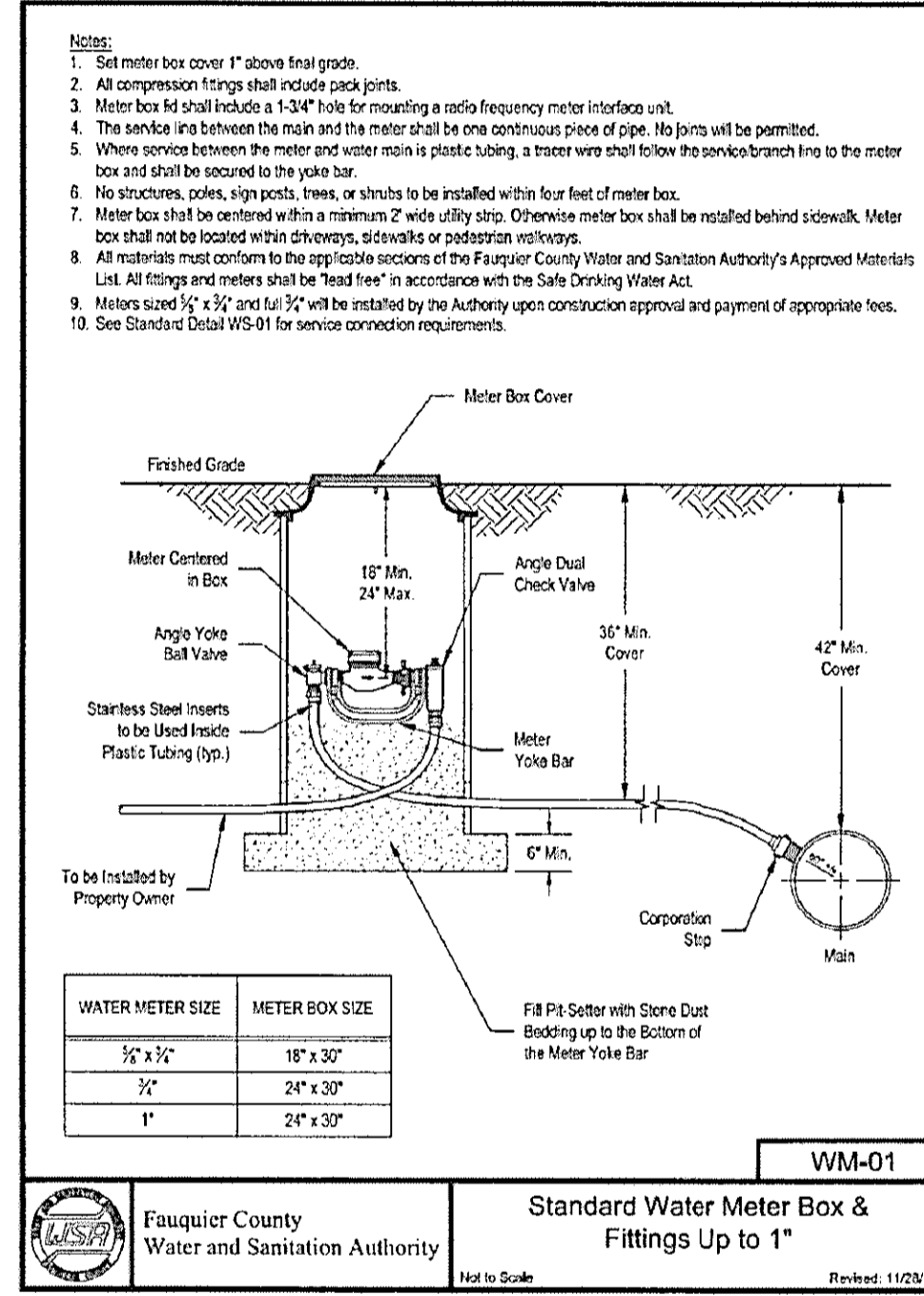
Fauquier County Water and Sanitation Authority  
 Clean-Out Detail in Concrete Walk  
 Not to Scale  
 Revised: 11/20/01



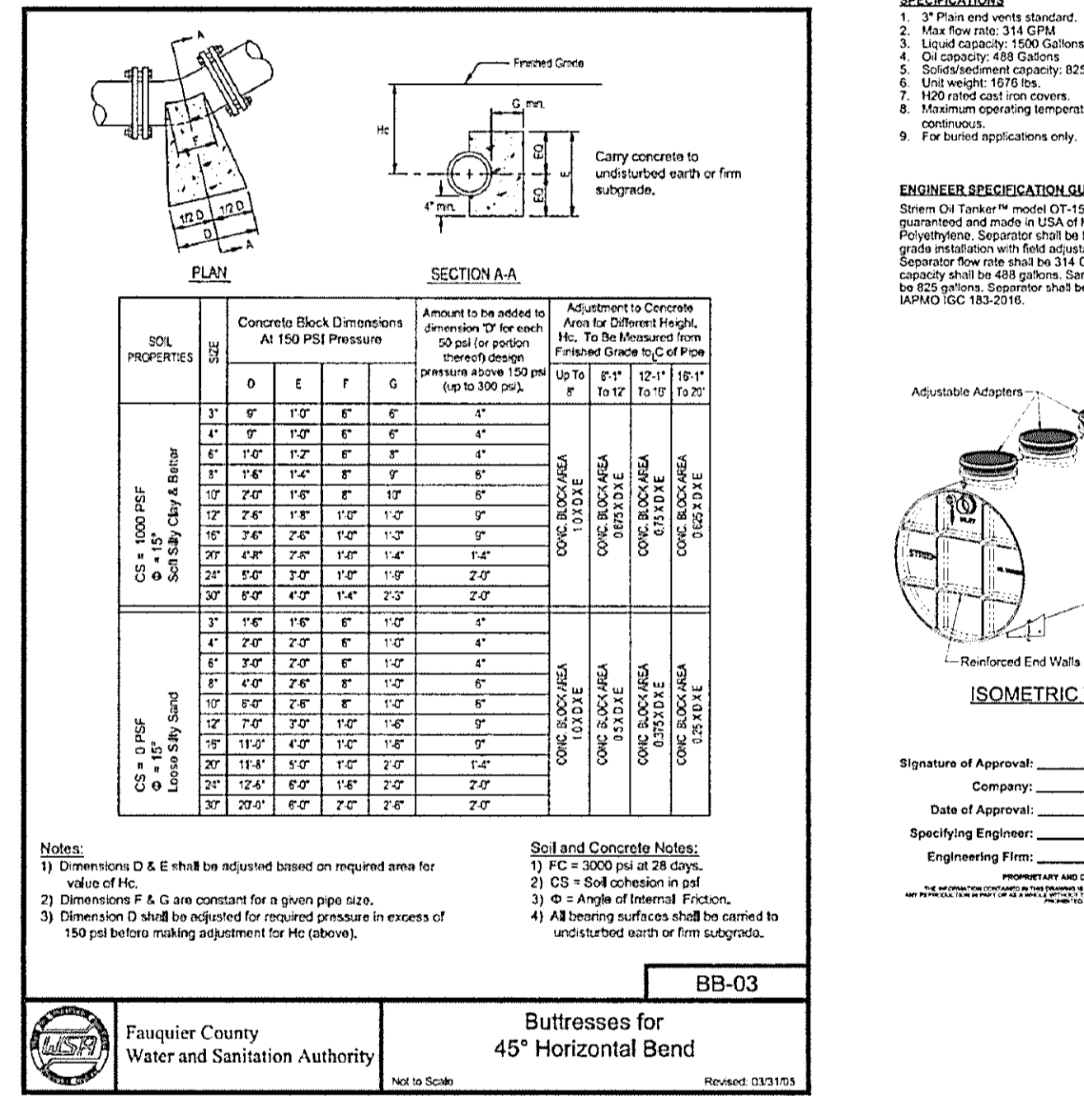
Fauquier County Water and Sanitation Authority  
 Standard Sanitary Sewer Service Lateral Connection  
 Not to Scale  
 Revised: 03/01/05



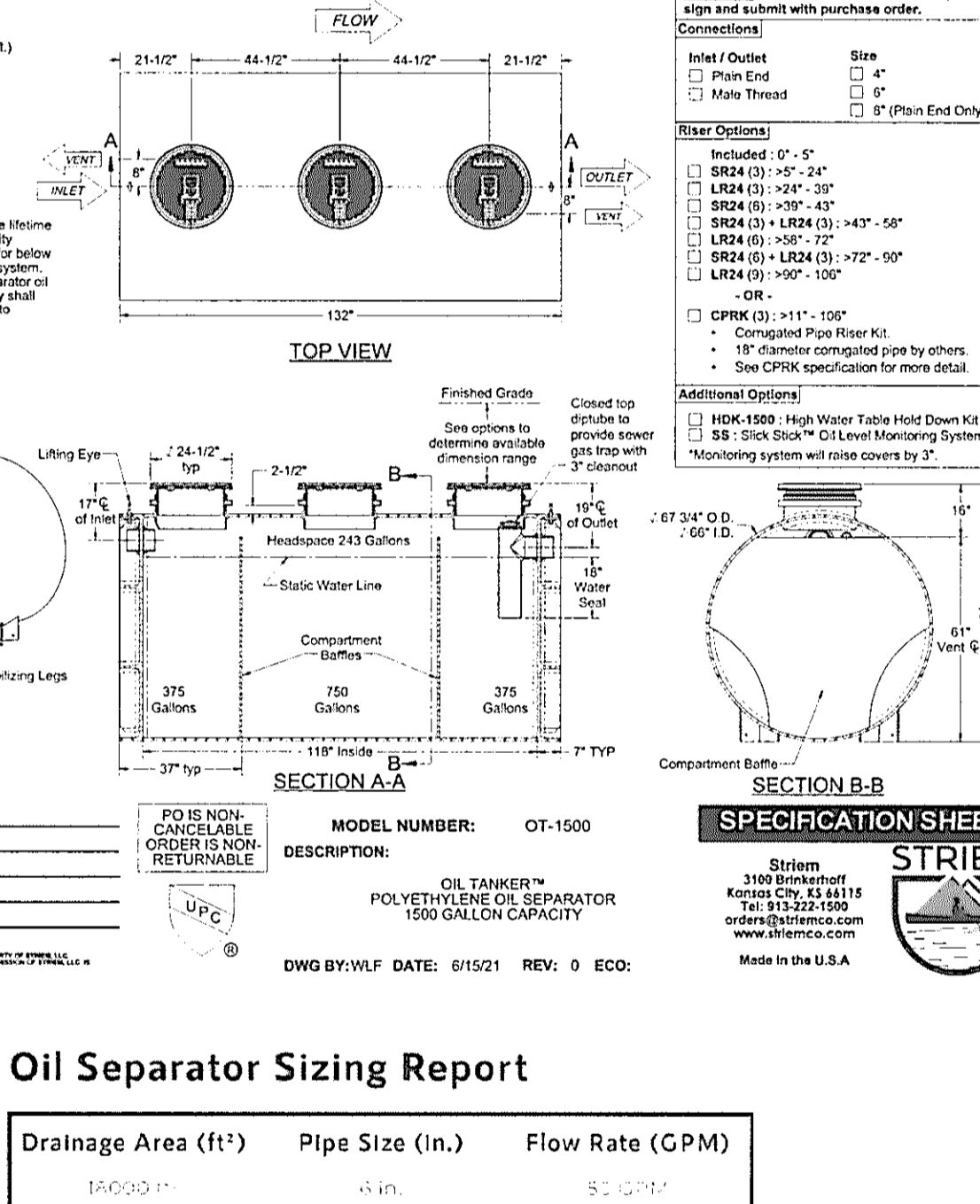
Fauquier County Water and Sanitation Authority  
 Standard Water Meter Box & Fittings Up to 1"  
 Not to Scale  
 Revised: 11/01/01



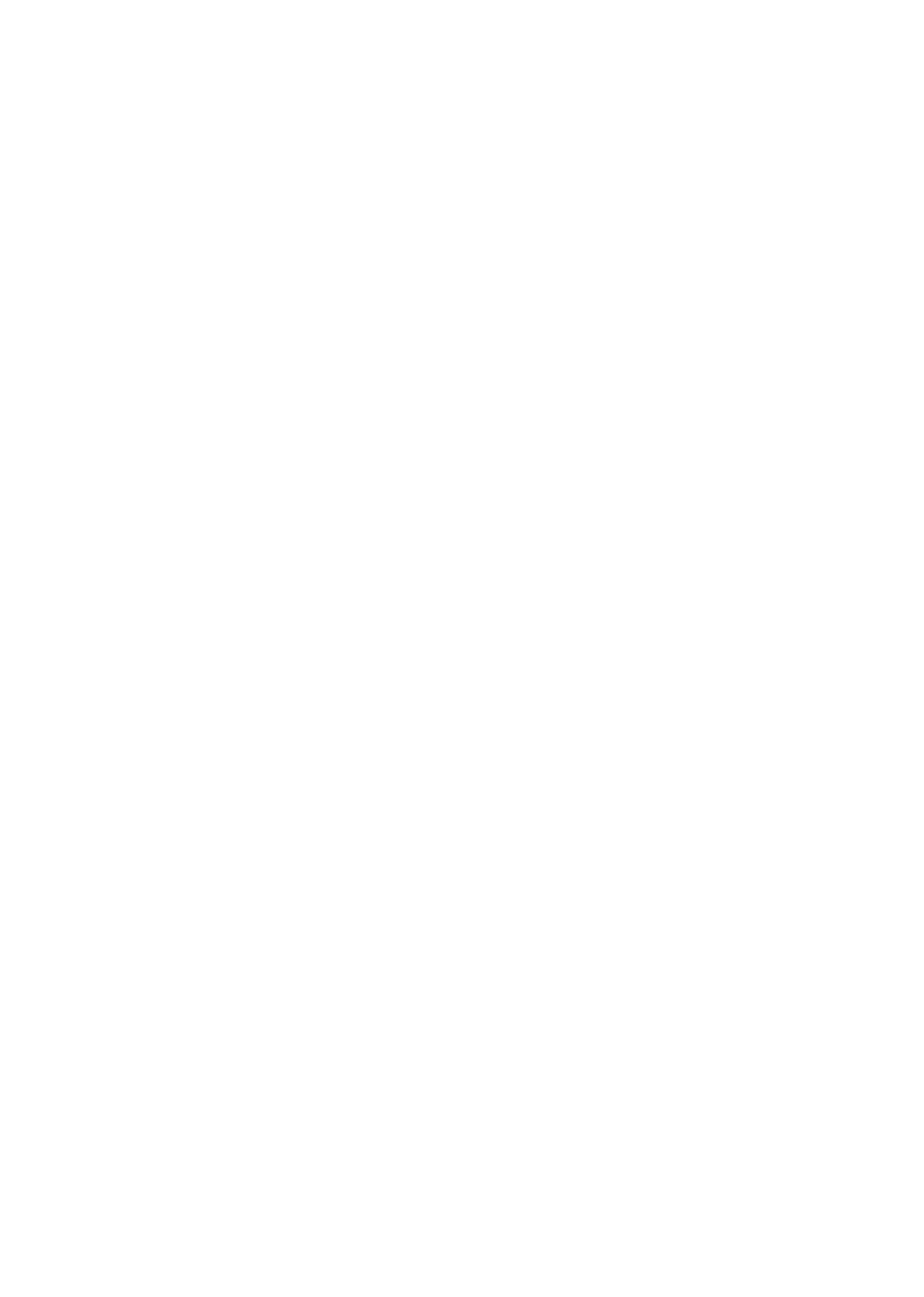
Fauquier County Water and Sanitation Authority  
 Buttresses for 45° Horizontal Bend  
 Not to Scale  
 Revised: 03/01/05



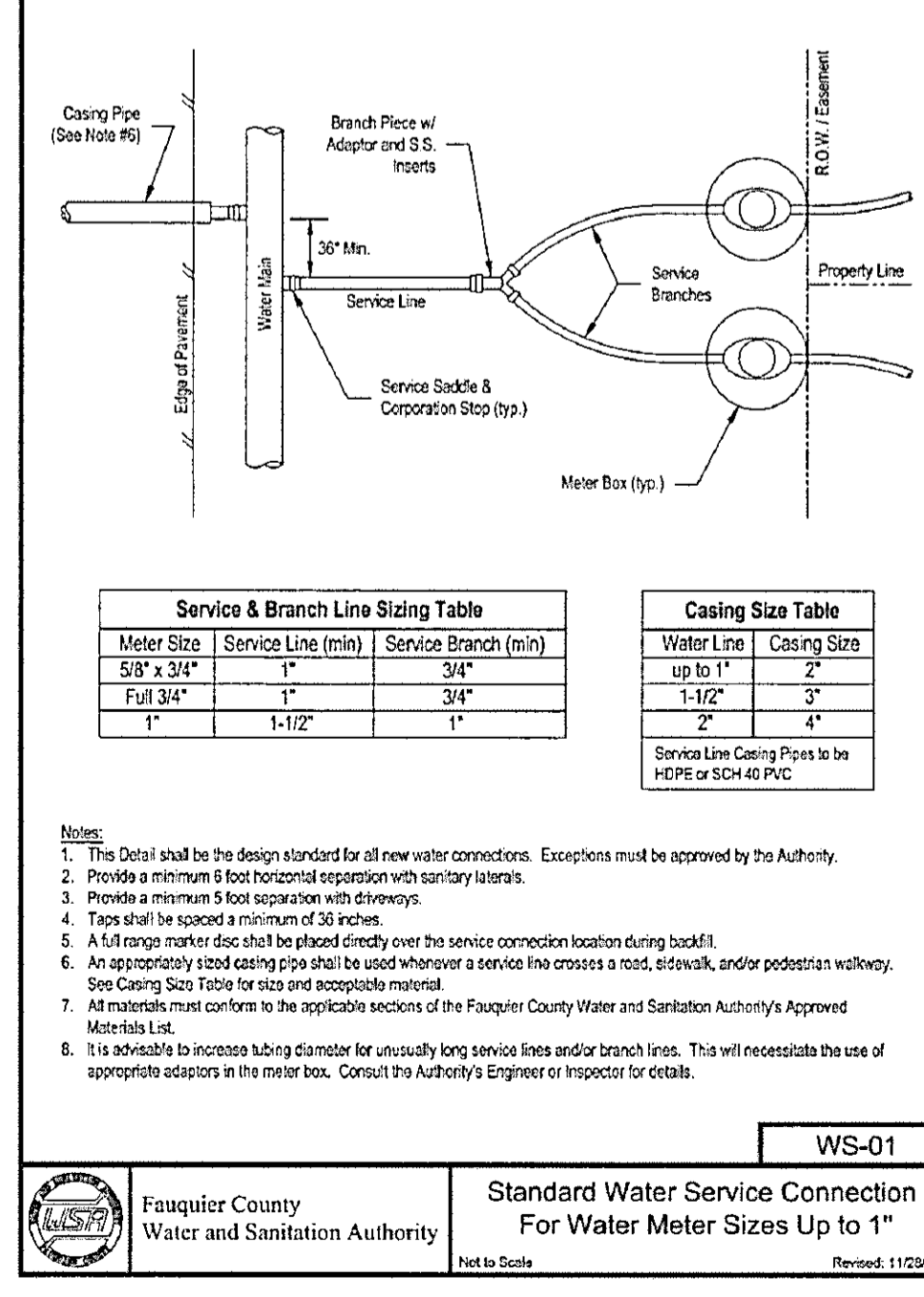
Fauquier County Water and Sanitation Authority  
 Oil Separator Sizing Report  
 Not to Scale  
 Revised: 03/01/05



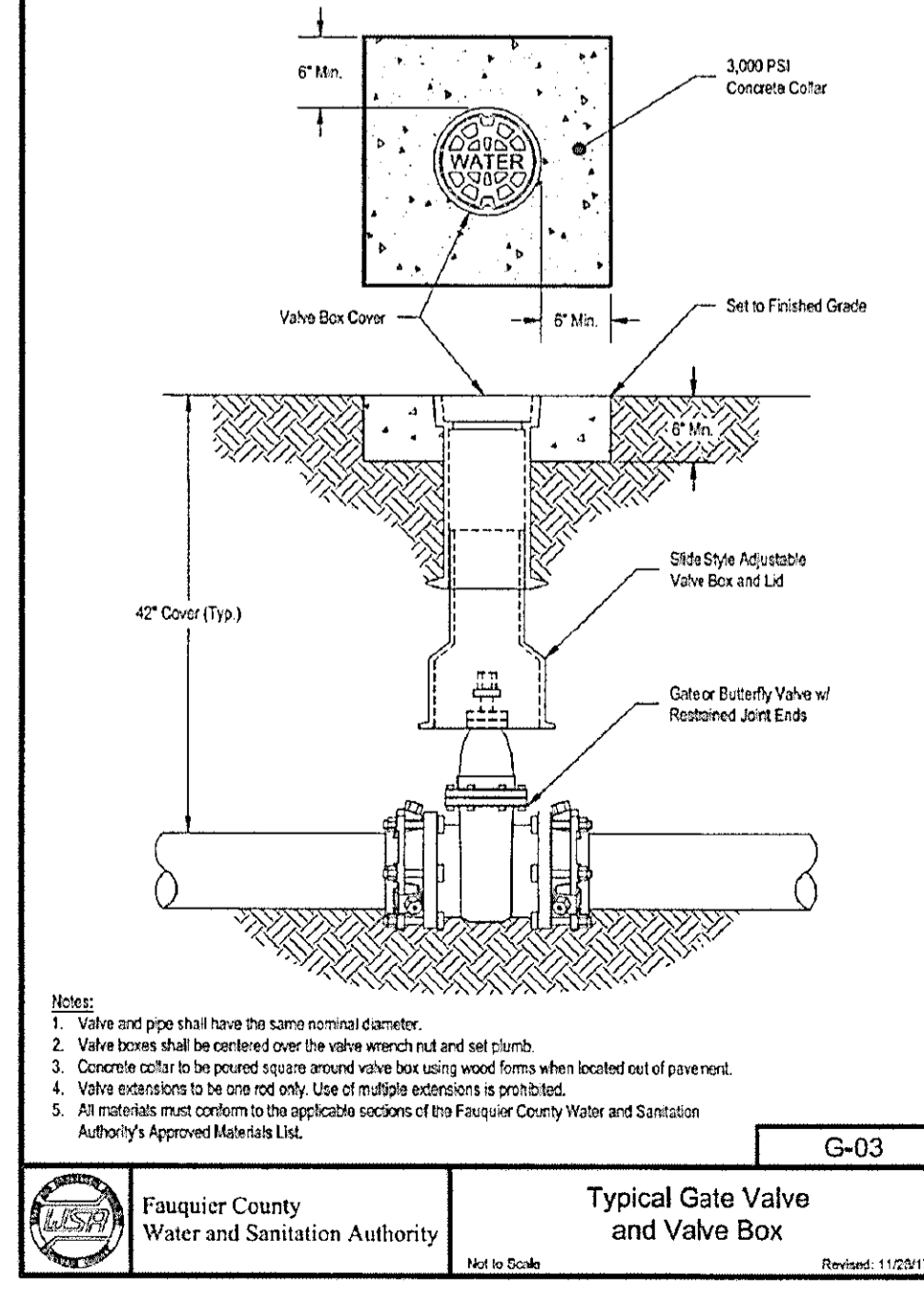
Fauquier County Water and Sanitation Authority  
 Water Distribution System Typical Fire Hydrant  
 Not to Scale  
 Revised: 11/20/01



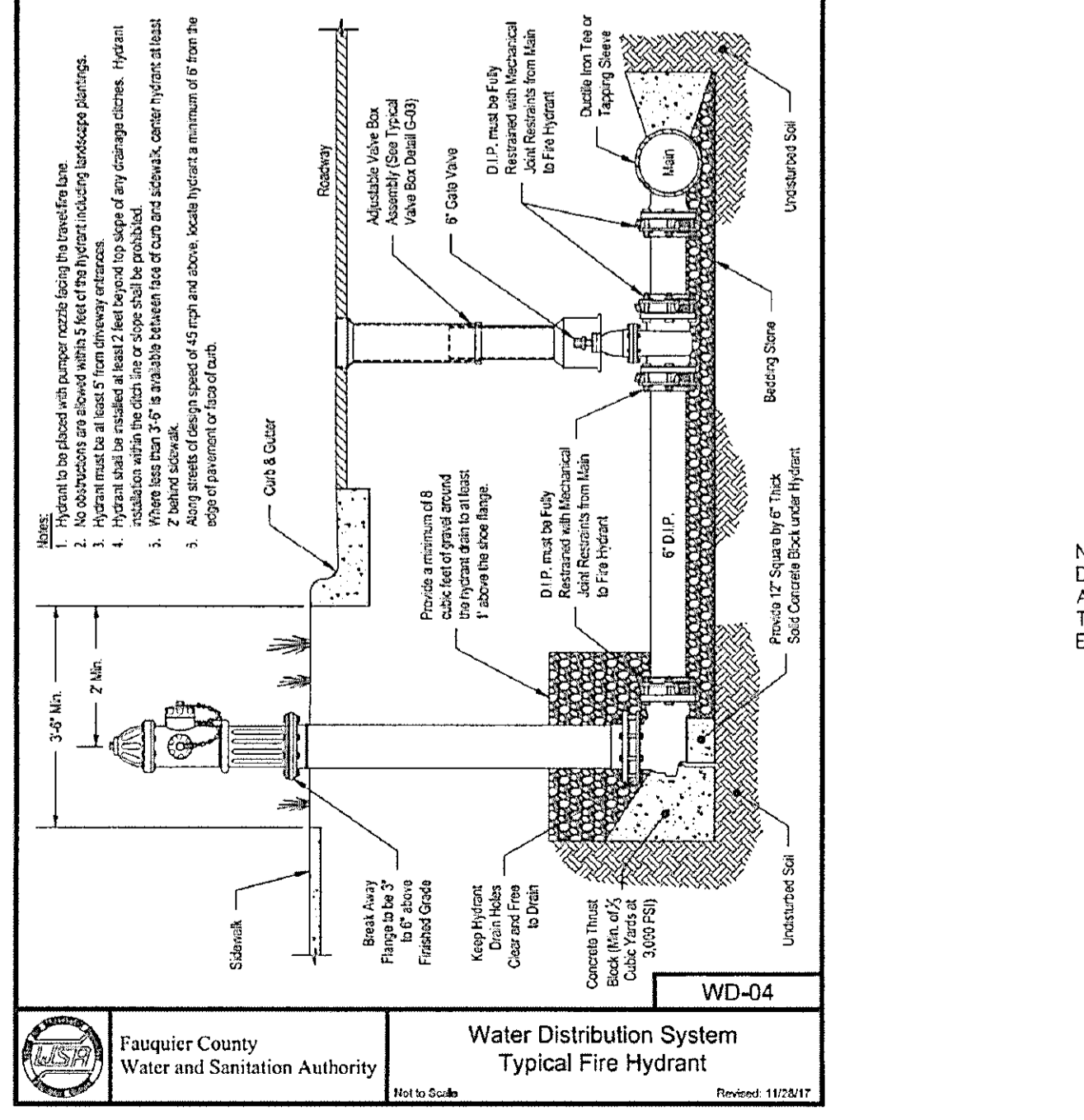
Fauquier County Water and Sanitation Authority  
 Standard Water Service Connection For Water Meter Sizes Up to 1"  
 Not to Scale  
 Revised: 03/01/05



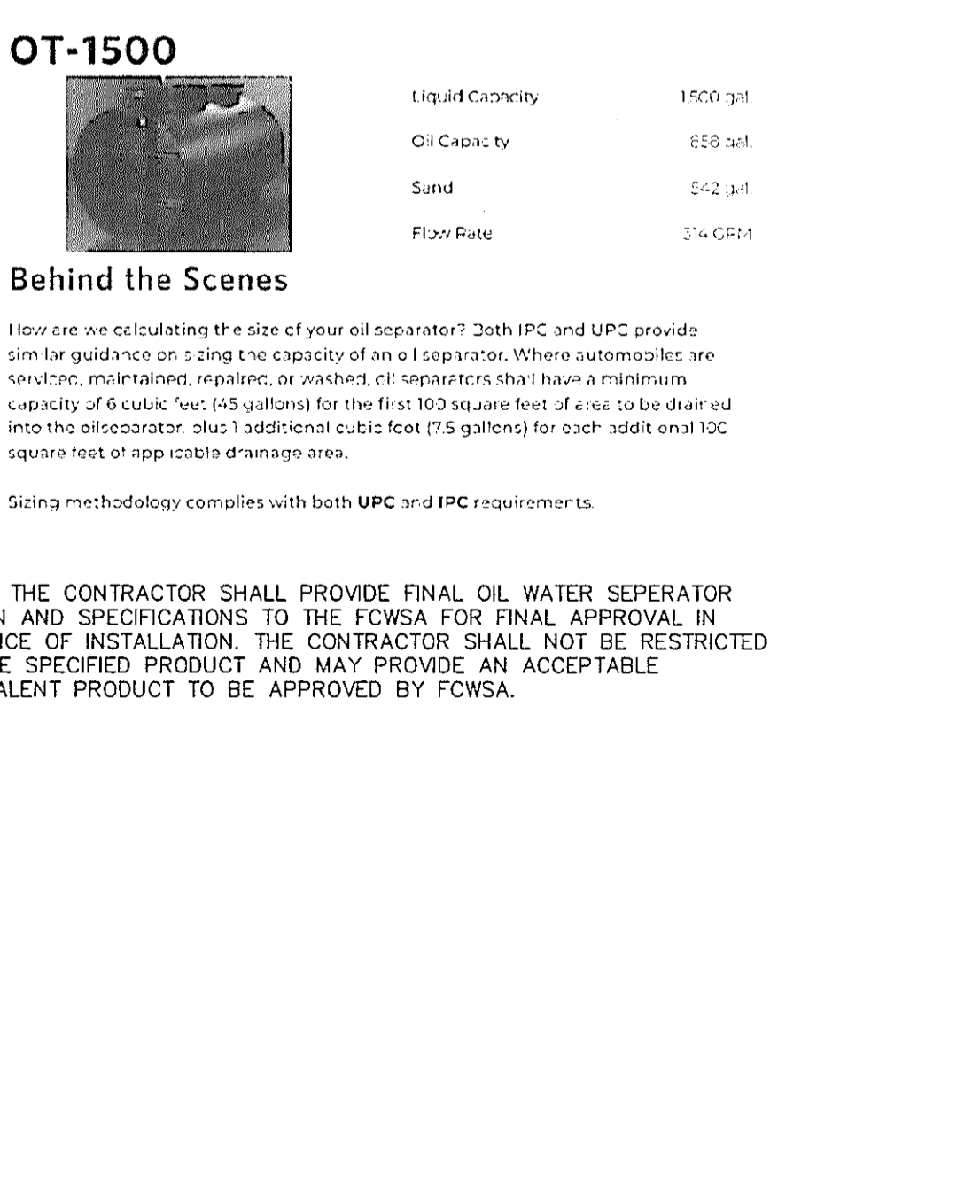
Fauquier County Water and Sanitation Authority  
 Typical Gate Valve and Valve Box  
 Not to Scale  
 Revised: 11/20/01



Fauquier County Water and Sanitation Authority  
 Water Distribution System Typical Fire Hydrant  
 Not to Scale  
 Revised: 11/20/01



Fauquier County Water and Sanitation Authority  
 Oil Separator Sizing Report  
 Not to Scale  
 Revised: 03/01/05



Fauquier County Water and Sanitation Authority  
 Water Distribution System Typical Fire Hydrant  
 Not to Scale  
 Revised: 11/20/01

DATE	BY	REVISION

DES: DWN; CHK: FW; MSL; RMM  
 FILE NO.: SP # 2040  
 SHEET 24

**Fauquier County Water & Sanitation Authority**  
7172 Kennedy Road  
Warrenton, VA 20187-1646  
Phone: (540) 349-2092  
Fax: (540) 347-7689

**Construction Plans-  
Bond Estimate Calculation Sheet**

Project Name: Vint Hill Lot 9A-1      Engineer's Initials: FW  
Phase/Section: 1       Water     Sewer

Item No.	Item Description	Quantity	Unit	Unit Price	Total Price
<b>Water Construction</b>					
<b>6" Water Main</b>					
1	6" Ductile Iron Pipe (DIP)	164	LF	\$ 60.00	\$ 9,840.00
<b>8" Water Main/Appurtenances</b>					
2	8" Ductile Iron Pipe (DIP)		LF	\$ 72.00	
3	8" Gate Valve w/ Box		Each	\$ 1,200.00	
4	8" Tee		Each	\$ 850.00	
5	8" Cross		Each	\$ 850.00	
6	8" Reducer/Bend		Each	\$ 500.00	
<b>12" Water Main/Appurtenances</b>					
7	12" Ductile Iron Pipe (DIP)		LF	\$ 96.00	
8	12" Gate Valve w/ Box		Each	\$ 2,000.00	
9	12" Tee		Each	\$ 1,000.00	
10	12" Cross		Each	\$ 1,000.00	
11	12" Reducer/Bend		Each	\$ 750.00	
<b>16" Water Main/Appurtenances</b>					
12	16" Ductile Iron Pipe (DIP)		LF	\$ 120.00	
13	16" Butterfly Valve		Each	\$ 4,000.00	
14	16" Tee		Each	\$ 1,750.00	
15	16" Cross		Each	\$ 1,750.00	
16	16" Reducer/Bend		Each	\$ 1,000.00	
<b>Connections to Existing Water Lines</b>					
17	8" thru 12" Wet Tap of Existing Water Line		Each	\$ 4,500.00	
18	Wet Tap of Existing Water Line		Each	\$ 1,500.00	
19	Connection to Existing Blow Off	1	Each	\$ 1,500.00	\$ 1,500.00
<b>Jack and Bore with Casing Pipe</b>					
20	Jack and Bore with 24" Casing Pipe		LF	\$ 800.00	
21	Jack and Bore with 30" Casing Pipe		LF	\$ 1,000.00	
22	Jack and Bore with 36" Casing Pipe		LF	\$ 1,400.00	
23	Bore Pit and Retrieval Pit		Each	\$ 3,000.00	

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**Construction Plans-  
Bond Estimate Calculation Sheet**

Project Name: Vint Hill Lot 9A-1      Engineer's Initials: FW  
Phase/Section: 1       Water     Sewer

Item No.	Item Description	Quantity	Unit	Unit Price	Total Price
<b>Miscellaneous Water Appurtenances</b>					
24	Fire Hydrant Assembly including Auxiliary Valve	1	Each	\$ 4,000.00	\$ 4,000.00
25	Gravel Bedding	164	LF	\$ 5.00	\$ 820.00
26	Select Backfill	164	LF	\$ 5.00	\$ 820.00
27	Erosion & Sedimentation (E&S) Control		LF	\$ 4.50	
28	Pressure Testing & Sampling	164	LF	\$ 1.50	\$ 246.00
29	Air Release Assembly		Each	\$ 3,000.00	
30	Blasting & Rock Excavation		VF/LF	\$ 12.00	
31	Service Connection incl. Meter Box - 3/4"		Each	\$ 750.00	
32	Service Connection incl. Meter Box - 1"	1	Each	\$ 1,000.00	\$ 1,000.00
33	Service Connection incl. Meter Box - 1-1/2"		Each	\$ 2,000.00	
34	Service Connection incl. Meter Box - 2"		Each	\$ 2,500.00	
35	Combined Meter Vault & Appurtenances		Each	\$ 50,000.00	
36	2" Temporary Blow Off Assembly	1	Each	\$ 2,000.00	\$ 2,000.00
37	4" Blow Off or Flushing Hydrant Assembly		Each	\$ 2,500.00	
38	Easement Restoration		LF	\$ 5.00	
39	Open Cut Crossing of Existing Road incl. Asphalt		LF	\$ 75.00	
40	Relocate Existing Hydrant		Each	\$ 2,500.00	
<b>Non-Standard Water Main/Appurtenances (with Prior Approval Only)</b>					
41	Ductile Iron Pipe (DIP)		LF		
42	Gate Valve	2	Each	\$ 1,000.00	\$ 2,000.00
43	Tee	3	Each	\$ 650.00	\$ 1,950.00
44	Cross		Each		
45	Reducer/Bend	3	Each	\$ 500.00	\$ 1,500.00
<b>Other</b>					
46					
47					
48					
<b>Water Total</b>					<b>\$ 25,676.00</b>

**Fauquier County Water & Sanitation Authority**  
7172 Kennedy Road  
Warrenton, VA 20187-1646  
Phone: (540) 349-2092  
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**Construction Plans-  
Bond Estimate Calculation Sheet**

Project Name: Vint Hill Lot 9A-1      Engineer's Initials: FW  
Phase/Section: 1       Water     Sewer

Item No.	Item Description	Quantity	Unit	Unit Price	Total Price
<b>Sanitary Sewer Construction</b>					
<b>Force Main</b>					
49	4" Low Pressure Force Main		LF	\$ 25.00	
<b>Gravity Sanitary Sewer Pipe</b>					
50	8" C-900 PVC Gravity Sewer		LF	\$ 55.00	
51	10" C-900 PVC Gravity Sewer		LF	\$ 65.00	
52	12" C-900 PVC Gravity Sewer		LF	\$ 75.00	
53	15" C-900 PVC Gravity Sewer		LF	\$ 85.00	
54	18" C-900 PVC Gravity Sewer		LF	\$ 95.00	
55	8" DIP Gravity Sewer, Less than 10 feet Deep		LF	\$ 85.00	
56	8" DIP Gravity Sewer, 10+ Feet Deep		LF	\$ 100.00	
57	10" DIP Gravity Sewer, Less than 10 feet Deep		LF	\$ 75.00	
58	10" DIP Gravity Sewer, 10+ Feet Deep		LF	\$ 110.00	
59	12" DIP Gravity Sewer, Less than 10 feet Deep		LF	\$ 85.00	
60	12" DIP Gravity Sewer, 10+ Feet Deep		LF	\$ 120.00	
61	16" DIP Gravity Sewer, Less than 10 feet Deep		LF	\$ 95.00	
62	16" DIP Gravity Sewer, 10+ Feet Deep		LF	\$ 130.00	
63	18" DIP Gravity Sewer, Less than 10 feet Deep		LF	\$ 105.00	
64	18" DIP Gravity Sewer, 10+ Feet Deep		LF	\$ 140.00	
<b>Manholes</b>					
65	4' Inside Diameter, up to 6' Depth		Each	\$ 3,500.00	
66	4' Inside Diameter, Height Above 6'		VF	\$ 350.00	
67	5' Inside Diameter, up to 6' Depth		Each	\$ 5,000.00	
68	5' Inside Diameter, Height Above 6'		VF	\$ 500.00	
69	6' Inside Diameter, up to 6' Depth		Each	\$ 6,000.00	
70	6' Inside Diameter, Height Above 6'		VF	\$ 600.00	
71	Manhole Frame & Cover Assembly		Each	\$ 400.00	
72	Core Connection to Existing Manhole		Each	\$ 1,500.00	
73	Connection by Cut-in of New Manhole		Each	\$ 10,000.00	
<b>Manhole Drop Connections</b>					
74	6" Drop Connection		Each	\$ 1,251.00	
75	10" Drop Connection		Each	\$ 1,312.00	
76	12" Drop Connection		Each	\$ 1,362.00	
77	15" or 18" Drop Connection		Each	\$ 1,445.00	
78	18" Drop Connection		Each	\$ 1,530.00	

**Fauquier County Water & Sanitation Authority**  
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Warrenton, VA 20187-1646  
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**Construction Plans-  
Bond Estimate Calculation Sheet**

Project Name: Vint Hill Lot 9A-1      Engineer's Initials: FW  
Phase/Section: 1       Water     Sewer

Item No.	Item Description	Quantity	Unit	Unit Price	Total Price
<b>Jack and Bore with Casing Pipe</b>					
79	Jack and Bore with 24" Casing Pipe		LF	\$ 800.00	
80	Jack and Bore with 30" Casing Pipe		LF	\$ 1,000.00	
81	Jack and Bore with 36" Casing Pipe		LF	\$ 1,400.00	
82	Bore Pit and Retrieval Pit		Each	\$ 3,000.00	
<b>Miscellaneous Sanitary Sewer Appurtenances</b>					
83	4" Sanitary Lateral Connection		Each	\$ 1,000.00	
84	6" Sanitary Lateral Connection	2	Each	\$ 1,200.00	\$ 2,400.00
85	Gravel Bedding	288	LF	\$ 6.00	\$ 1,728.00
86	Select Backfill	288	LF	\$ 6.00	\$ 1,728.00
87	Erosion & Sedimentation (E&S) Control		LF	\$ 4.50	
88	Pipe Testing	288	LF	\$ 1.50	\$ 432.00
89	Manhole Testing		Each	\$ 100.00	
90	Easement Restoration		LF	\$ 4.00	
91	Concrete Pipe Encasement		LF	\$ 100.00	
92	Blasting & Rock Excavation		VF/LF	\$ 12.00	
93	Turnmeling		LF	\$ 695.00	
94	Automatic Air Release/Vacuum Valve		Each	\$ 2,500.00	
95	Grease Trap		Each	\$ 4,500.00	
<b>Other</b>					
96					
97					
98					
<b>Sanitary Sewer Total</b>					<b>\$ 6,288.00</b>
<b>Bond Estimate Calculation Summary</b>					
Water Total =					\$ 25,676.00
Sanitary Sewer Total =					\$ 6,288.00
Sub-Total (Water + Sewer) =					\$ 31,964.00
Mobilization/Demobilization of Construction Equipment =					\$ 10,000.00
10% Contingency, Overhead, Legal and Administration =					\$ 3,196.40
<b>Total Bond Amount =</b>					<b>\$ 45,160.40</b>

**Fauquier County Water & Sanitation Authority**  
7172 Kennedy Road, Vint Hill  
Warrenton, VA 20187-1646  
Telephone: (540) 349-2092  
Fax: (540) 347-7689

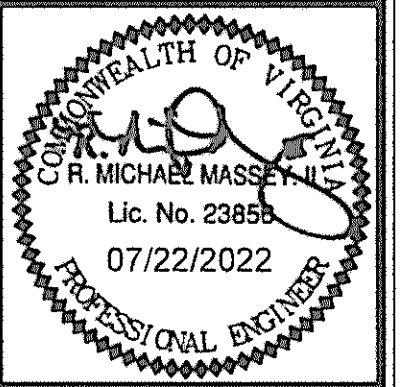
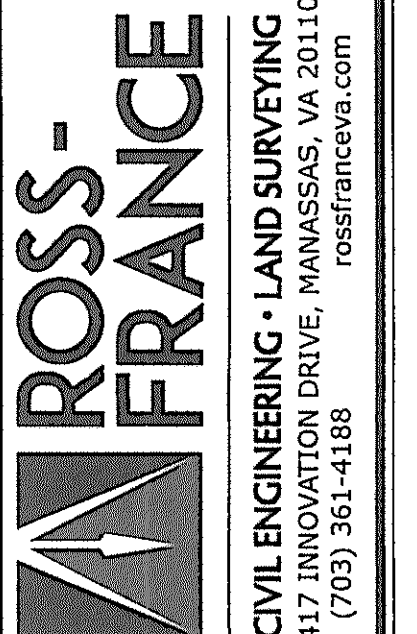
**Worksheet for Commercial Water Meter Sizing**

Project Name: Vint Hill Lot 9A-1  
Customer / Builder Name: \_\_\_\_\_  
Property Address: \_\_\_\_\_

Fixture	Unit Fixture	Value	Number of Fixtures	Fixture Value
Bathtub		8.0		
Shower Head (Shower Only)		2.5		
Toilet, Tank Type		4.0	6	24
Toilet, Flushing Valve Type		35.0		
Bidet		2.0		
Urinal (Pedestal Flush Valve)		35.0		
Urinal (Wall Flush Valve)		16.0	2	32
Urinal (Trough, 2ft Unit)		2.0		
Bathroom Sink (Lavatory)		1.5	6	9
Kitchen Sink		2.2	2	4
Service Sink		4.0	1	4
Wash Sink (Each set of Faucets)		4.0		
Drinking Fountain (Public)		2.0		4
Dishwasher		2.0	1	2
Washing Machine (1/2" Connection)		6.0		
Washing Machine (3/4" Connection)		12.0		
Hose Connection (1/2")		5.0		
Hose Connection (5/8")		9.0		
Hose Connection (3/4")		12.0	7	84
Bedpan Washers		10.0		
Combination Sink and Tray		3.0		
Dental Unit		2.0		
Other (Assign Unit Fixture Value)		0.5	2	1
<b>COMBINED FIXTURE VALUE</b>				<b>164</b>
<b>Peak Domestic Demand</b>				<b>55 gpm</b>
<b>Dedicated Irrigation Demand</b>		<b>Irrigated Area (SF)</b>	<b>Zones</b>	<b>Irrigation Demand</b>
				<b>0 gpm</b>
<b>TOTAL FIXED DEMAND (Domestic plus Irrigation)</b>				<b>55 gpm</b>
<b>REQUIRED WATER METER SIZE</b>				<b>1-1/2 Inch</b>

- GENERAL NOTES: SANITARY LATERAL CONSTRUCTION**
- All sanitary lateral construction shall conform to the requirements and specifications of the Fauquier County Water and Sanitation Authority's (FCWSA) Utility Standards Manual (USM), latest revision.
  - All sanitary lateral materials to be owned by FCWSA shall be approved by FCWSA prior to installation and shall be in accordance with Appendix D of the USM.
  - The contractor performing sanitary sewer construction must attend a mandatory pre-construction meeting with FCWSA prior to the start of construction. The meeting must be scheduled beforehand with the FCWSA Inspector.
  - Sewer line inspections and testing must be scheduled a minimum of 48 hours (two business days) in advance with the FCWSA Inspector.
  - Non-shrink grout must be used for any sanitary sewer use, excluding inverts and benches.
  - No dry mix concrete shall be used in conjunction with the installation of the sanitary sewer.
  - Backfill compaction:
    - Within street rights-of-way, backfill compaction shall be a minimum of 95% of maximum density in accordance with AASHTO Method T-180.
    - Grading within easement areas shall comply with the lines and grades indicated on the plans. In general, all trenches and subgrade of easements shall be compacted to a density equal to the surrounding ground.
  - Sanitary sewer laterals located outside of the public right-of-way or easement, are to be maintained by the landowner whom they serve.
  - Gravity sanitary sewer service laterals:
    - All gravity sanitary sewer laterals shall be PVC C900 DR 25, unless otherwise indicated, and it shall meet Fauquier County, Health Department and the Virginia Uniform Statewide Building Code (USBC).
    - Lateral connections to the main shall be a minimum of two feet from any pipe joint (center to center). This spacing shall also apply to the distance between two laterals along the main.
    - All new construction of the sanitary sewer main will require the installation of a prefabricated solid wye fitting for service lateral connections. The wye fitting shall be made of the same pipe material as the sanitary sewer main.
    - Service connections to an existing sewer main shall use a service saddle suitable for a gravity collection system as specified in the USM.

- GENERAL NOTES: WATERLINE CONSTRUCTION**
- All waterline construction shall conform to the requirements and specifications in the Fauquier County Water and Sanitation Authority's (FCWSA) Utility Standards Manual (USM), latest revision.
  - All water construction materials shall be approved by FCWSA prior to installation and shall be in accordance with Appendix D of the USM.
  - The contractor performing water line construction must attend a mandatory pre-construction meeting with FCWSA prior to the start of construction. The meeting must be scheduled beforehand with the FCWSA Inspector.
  - Waterline inspections and testing must be scheduled a minimum of 48 hours (two business days) in advance with the FCWSA Inspector.
  - All water lines shall be designed for 42 inches of cover. Water services shall be designed for 36 inches of cover.
  - Water service lines crossing underneath a public road and/or sidewalk must be installed in a HDPE or Schedule 40 PVC casing pipe in accordance with FCWSA Detail WS-01.
  - Water service lines are to be constructed of copper pipe or SDR-9, 200 PSI, cross-linked polyethylene pipe as specified in the USM.
  - The water meter box and accessories therein necessary for meter installation and as shown in the Details (Appendix B) of the USM shall be furnished and installed by the developer or owner. Meters 5/8" by 3/4" will be installed by the Authority upon construction approval and payment of appropriate fees.
  - Private water service connections from the outlet of the meter to the building are regulated by the Virginia Uniform Statewide Building Code (USBC) and will be maintained by the property owner.
  - Compaction requirements for waterline construction are to be the same as those required for sewer construction.
  - Valve boxes shall be set and adjusted such that covers shall be exposed 1" to 2" above finished grade with a concrete collar extended a minimum of 6" around the valve box. Where valve boxes are permitted to be placed in the pavement, the covers shall be flush with the pavement surface.
  - All new pipelines shall be disinfected by chlorination in accordance with the latest revision of AWWA Specification C651-92 and Section 4.11 of the USM.



**VINT HILL  
LOT 9A-1**

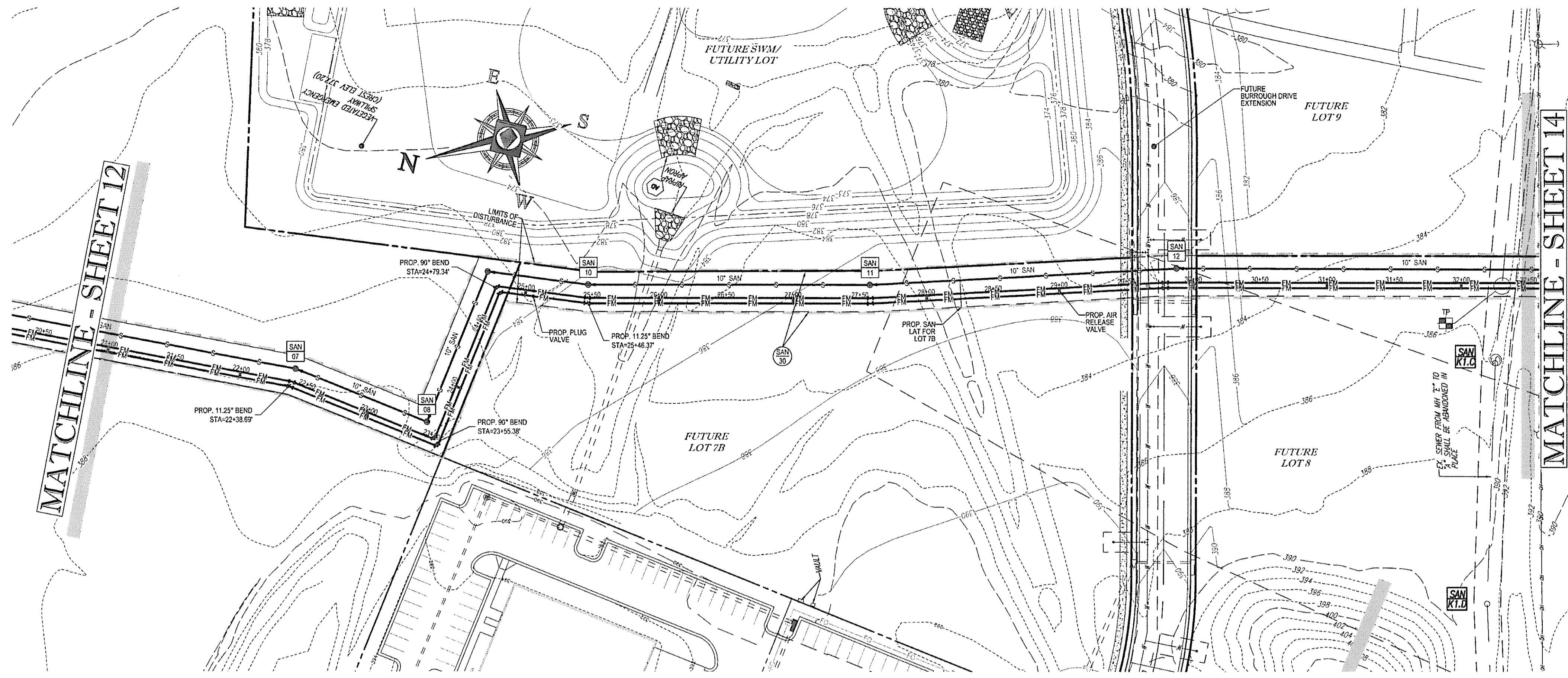
SCOTT M. GESTRAL  
FAUQUIER COUNTY, VIRGINIA

SEPTEMBER 14, 2020  
SCALE: NO SCALE

**STANDARD WATER &  
SANITARY SEWER LATERAL  
CONNECTION NOTES**

DATE	BY	REVISION





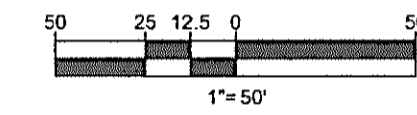
**RESTRICTIONS DURING CONSTRUCTION ACTIVITIES WITHIN THE CONTAMINATION PLUME**

1. PROPERLY MANAGE ANY EXCAVATED SOIL THAT CONTAINS GREATER THAN 100 PARTS PER MILLION (PPM) OF TOTAL PETROLEUM HYDROCARBONS (TPH) OFFSITE.
2. MONITOR EXPOSURE TO WORKERS DURING EXCAVATION OR OTHER INTRUSIVE ACTIVITIES AND PROVIDE APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT (PPE).
3. NO GROUNDWATER TO BE USED FOR ANY PURPOSE OTHER THAN ENVIRONMENTAL MONITORING.
4. NO RESIDENTIAL DEVELOPMENT ALLOWED.

**FUTURE IMPROVEMENTS SHOWN ARE PROPOSED WITH "VINT HILL LANDBAY K PHASE II CONSTRUCTION PLAN AMENDMENT". SEE COVER SHEET FOR PLAN REFERENCE.**

**FORCEMAIN NOTES**

1. ALL FORCEMAIN SHOWN SHALL BE DUAL 8" CLASS 52 D.I.P. AND COATED WITH PROTECTO 401.
2. ALL FORCEMAIN BENDS LISTED ARE DUAL 8" DIP. AT THE ANGLE NOTED.
3. ALL FORCEMAIN BENDS SHALL HAVE CONC. BUTTRESSING. SEE DETAILS ON SHEET 18.
4. FORCEMAIN SIZING PER PUMP STATION DESIGN. SEE PLAN REFERENCE ON COVER SHEET.
5. RESTRAINED JOINTS SHALL BE INSTALLED AT ALL FORCEMAIN BENDS AND VALVES.
6. ALL BURIED DIP AND FITTINGS SHALL BE ENCASED WITH POLYETHYLENE ENCASEMENT TUBING.



**REVISIONS**

REV	DATE	COMMENT	BY
1	07/31/15	ESI COMMENTS	CEY
2	11/09/15	ADDRESS COUNTY COMMENTS	CEY
3	03/18/16	ADDRESS COUNTY COMMENTS	CEY
4	05/16/16	SIGNATURE SUBMISSION	CEY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO PICTURE THE EARTH'S SURFACE ANYWHERE IN THE STATE OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, NORTH CAROLINA AND DELAWARE CALL: 811 (WV 1-800-242-4849) (PA 1-800-242-1776) (DC 1-800-237-7777) (VA 1-800-552-7001) (MD 1-800-552-7777) (DE 1-800-282-8559)

**NOT APPROVED FOR CONSTRUCTION**

PROJECT No.: V142019  
 DRAWN BY: CBC  
 CHECKED BY: MAJ  
 DATE: 07/10/15  
 SCALE: AS NOTED  
 CAD I.D.: PF4

**PUBLIC UTILITY IMPROVEMENT PLAN FOR VINT HILL VILLAGE, LLC**

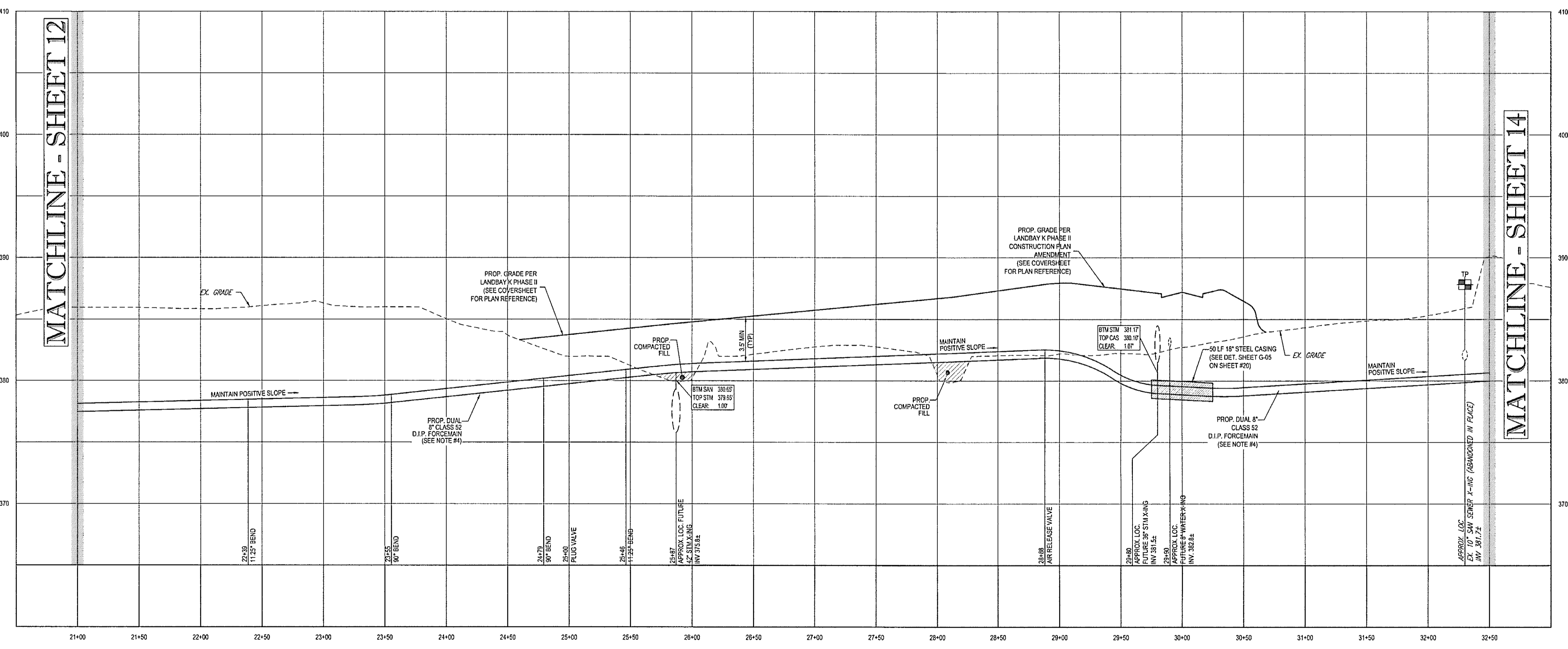
LOCATION OF SITE  
 KENNEDY ROAD  
 VINT HILL  
 FAUQUIER COUNTY, VA 20187  
 GPINS 7915-77-5324 & 7915-65-7469

**BOHLER ENGINEERING**  
 28 BLACKWELL PARK LANE, SUITE 201  
 WARRENTON, VIRGINIA 20186  
 Phone: (540) 349-4500  
 Fax: (540) 349-0321  
 www.BohlerEngineering.com

COMMONWEALTH OF VIRGINIA  
 CHARLES E. YOWELL, II  
 Lic. No. 047731  
 05/16/16  
 PROFESSIONAL ENGINEER

**FORCE MAIN PLAN AND PROFILES**

SHEET NUMBER: **13**



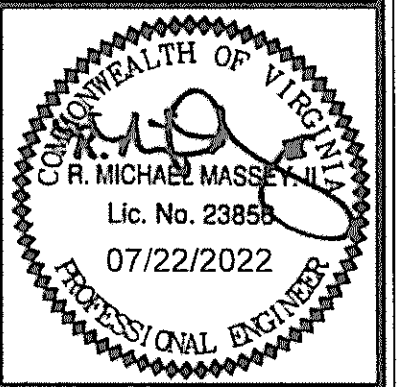
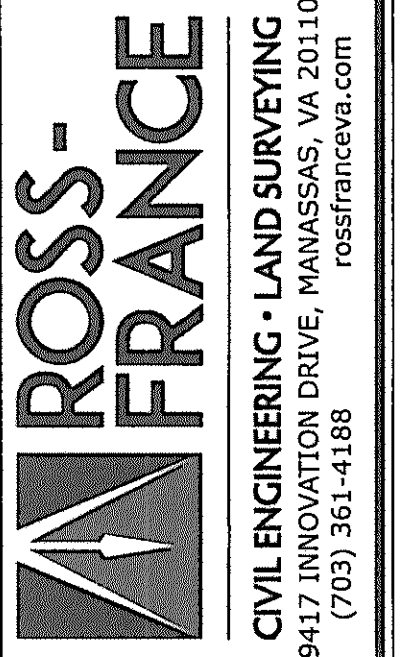
**SANITARY FORCEMAIN (PART 2)**  
 SCALE: 1" = 50' HORIZONTAL  
 1" = 6' VERTICAL

**FOR INFORMATION ONLY PURPOSES ONLY !!!**

DATE	BY	REVISION

DES: FWN    DWN: MSL    CHK: RMM  
 FILE NO.: SP # 2040  
 SHEET 27





VINT HILL LOT 9A-1  
SCOTT MAGISTERIAL DISTRICT  
FAUQUER COUNTY, VIRGINIA  
SEPTEMBER 14, 2020  
SCALE: NO SCALE

REVISION

DATE BY

DES: FW DWN: MSL CHK: RMM  
FILE NO.: SP # 2040  
SHEET 29

UNIT PRICE LIST

FAUQUER COUNTY BOND ESTIMATE REVIEW

Project and Case Number: STTP-20-014425  
Date Prepared: January 13, 2022

Table with columns: Co. Quantity, Co. Unit Price, Co. Total. Includes items like Landscaping, Fencing, T-Post, Baseball/Softball Fields, Courts, Tennis Courts, Soccer Fields, Swimming Pool, and Other.

Subtotal \$52,025.00  
Total \$489,125.10

FAUQUER COUNTY BOND ESTIMATE REVIEW

Project and Case Number: STTP-20-014425  
Date Prepared: January 13, 2022

Table with columns: Co. Quantity, Co. Unit Price, Co. Total. Includes items like 12" x 12" Z-Box Culvert, 12" x 12" Concrete Pipe (RCP), 12" x 12" Corrugated Metal Pipe (CMP), 12" x 12" High Density Polyethylene (HDPE), End Walls, and End Sections (ES-1).

Subtotal \$11,400.00

FAUQUER COUNTY BOND ESTIMATE REVIEW

Project and Case Number: STTP-20-014425  
Date Prepared: January 13, 2022

Table with columns: Co. Quantity, Co. Unit Price, Co. Total. Includes items like 12" x 12" Z-Box Culvert, 12" x 12" Concrete Pipe (RCP), 12" x 12" Corrugated Metal Pipe (CMP), 12" x 12" High Density Polyethylene (HDPE), End Walls, and End Sections (ES-1).

Subtotal \$4,400.00

FAUQUER COUNTY BOND ESTIMATE REVIEW

Project and Case Number: STTP-20-014425  
Date Prepared: January 13, 2022

Table with columns: Co. Quantity, Co. Unit Price, Co. Total. Includes items like Site Works, Clearing and Grubbing, Earthwork, Erosion and Sediment Controls, Rip Rap, Sodded Ditch, SWM BMP, and As-Built Certification.

Subtotal \$63,658.00

FAUQUER COUNTY BOND ESTIMATE REVIEW

Project and Case Number: STTP-20-014425  
Date Prepared: January 13, 2022

Table with columns: Co. Quantity, Co. Unit Price, Co. Total. Includes items like 10% Admin & Contingency, Land Disturbance Permit Fee, and \*Revised 08/31/8.

Subtotal \$538,038.61

FAUQUER COUNTY BOND ESTIMATE REVIEW

Project and Case Number: STTP-20-014425  
Date Prepared: January 13, 2022

Table with columns: Co. Quantity, Co. Unit Price, Co. Total. Includes items like 12" x 12" Z-Box Culvert, 12" x 12" Concrete Pipe (RCP), 12" x 12" Corrugated Metal Pipe (CMP), 12" x 12" High Density Polyethylene (HDPE), End Walls, and End Sections (ES-1).

Subtotal \$11,400.00

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Project and Case Number: STTP-20-014425  
Date Prepared: January 13, 2022

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Subtotal \$4,400.00

FAUQUER COUNTY BOND ESTIMATE REVIEW

Project and Case Number: STTP-20-014425  
Date Prepared: January 13, 2022

Table with columns: Co. Quantity, Co. Unit Price, Co. Total. Includes items like EC-1, EC-2, EC-3, Sodded Ditch, SWM BMP, and As-Built Certification.

Subtotal \$39,646.00

FAUQUER COUNTY BOND ESTIMATE REVIEW

Project and Case Number: STTP-20-014425  
Date Prepared: January 13, 2022

Table with columns: Co. Quantity, Co. Unit Price, Co. Total. Includes items like 4" x 4" Z-Box Culvert, 4" x 4" Concrete Pipe (RCP), 4" x 4" Corrugated Metal Pipe (CMP), 4" x 4" High Density Polyethylene (HDPE), End Walls, and End Sections (ES-1).

Subtotal \$1,500.00

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Project and Case Number: STTP-20-014425  
Date Prepared: January 13, 2022

Table with columns: Co. Quantity, Co. Unit Price, Co. Total. Includes items like 12" x 12" Z-Box Culvert, 12" x 12" Concrete Pipe (RCP), 12" x 12" Corrugated Metal Pipe (CMP), 12" x 12" High Density Polyethylene (HDPE), End Walls, and End Sections (ES-1).

Subtotal \$4,400.00

FAUQUER COUNTY BOND ESTIMATE REVIEW

Project and Case Number: STTP-20-014425  
Date Prepared: January 13, 2022

Table with columns: Co. Quantity, Co. Unit Price, Co. Total. Includes items like Roadway/Parking Lot/Alleys, Underdrains, Storm Drain Structures, and Surveying.

Subtotal \$130,000.00

Mr. J. Mitchell Neitzey, EFO Capital Management, Inc. 21 Dupont Circle, N.W. Suite 410 Washington, DC 20036

On November 8, 2018, the Fauquier County Board of Supervisors voted to approve your Rezoning Amendment Project. A copy of the adopted ordinance is attached.

If you have any questions feel free to contact me. Sincerely, Holly Madsen, Assistant Director

cc: Mr. Charles A. Floyd, AICP, Welford Engineering Associates, Inc., representative

B. The development of the Property shall be in conformance with the Compilation of Requested Zoning Ordinance Revisions, Modifications and Exemptions for the First Hill PCID and PRD Rezoning Application submitted on July 14, 1999 and approved by the County in December of 1999.

C. The total Floor Area Ratio (hereinafter "FAR") for the PCID zoned, non-residential acreage of Vint Hill shall not exceed a gross FAR of 0.21. The Owner shall be permitted to develop a total of 5,024 square feet ("SF") of gross FAR within the PCID zoning district. FAR limitations shall be allocated when each parcel is developed and shall be stated in the deeds when the property is sold by the Owner.

21 Page

operations of the pool. The VEHDA will not be required to operate the swimming pool should an organization not be found to lease pool #1. The pool will be available for lease prior to Phase 1.

7) The VEHDA professes that all open space areas and recreational facilities provided for the exclusive use of site tenants and property owners shall be conveyed and maintained by a Vint Hill Conservancy.

Vint Hill Profiler Statement Page 4 of 12

Vint Hill Village, LLC, a Virginia Limited Liability Company, By: EFO Capital Management, Inc., Manager A Delaware Sub S Corporation

STATE OF VIRGINIA CITY/COUNTY OF FAUQUIER, to wit:

Witness my hand and official seal. Notary Public in and for said County and State.

My Commission Expires: 12-13-2022

21 Page

1) Landmarks Standards The VEHDA shall retain a 50-foot wide natural vegetated buffer, where such is currently existing, along the boundary between non-residential and residential areas on Vint Hill and existing adjacent residential subdivisions.

J. Residential Sites and Residential Units The VEHDA professes to limit total single-family residential redevelopment to sites for 24 housing units to the Fauquier Family Shelter Services for use in a transitional housing program. This proffer shall be available beginning in Phase 1.

Vint Hill Profiler Statement Page 10 of 12

Revision Date Original Submission: July 14, 1999 Revised: Oct. 13, 1999 Revised: Nov. 17, 1999 Revised: Dec. 1, 1999 Revised: Dec. 15, 1999

VINT HILL ECONOMIC DEVELOPMENT AUTHORITY

By: J. Mark Robinson, Jr., Chairman

Witness my hand and official seal. Notary Public in and for said County and State.

My Commission Expires: 12-13-2022

Vint Hill Profiler Statement Page 10 of 12

ORDINANCE ORD-18-031

AN ORDINANCE TO APPROVE REZONING AMENDMENT REZN-18-009772, VINT HILL AN APPLICATION TO REVISE THE APPROVED CONCEPT DEVELOPMENT PLAN AND PROFFERS TO ALLOW FOR INCREASED NON-RESIDENTIAL DEVELOPMENT

WHEREAS, Vint Hill Village, LLC and Vint Hill Land 1, LLC (Owner) and EFO Capital Management, Inc. (Applicant) have requested to amend the previously approved Concept Development Plan and Proffers on properties located within the New Baltimore Service District at the intersection of Alden Drive and Kennedy Road, north of Vint Hill Parkway, Scott District (various PNs); and

WHEREAS, the Applicant is seeking a total of approximately 751,265 square feet of development in Land Bays A, B and K restricted to dual center or commercial uses; and

WHEREAS, on October 18, 2018, the Fauquier County Planning Commission held a public hearing on the application and unanimously recommended approval; and

WHEREAS, on November 8, 2018, the Fauquier County Board of Supervisors held a public hearing on application REZN-18-009772 and considered both oral and written testimony; and

WHEREAS, the application will assist new businesses, which will assist with growing a balanced economy here for Fauquier County; and

WHEREAS, by adoption of this Ordinance, the Board of Supervisors has determined that the public necessity, convenience, general welfare, and good zoning practice are satisfied by this amendment to the Fauquier County Zoning Map; now, therefore, be it

ORDAINED by the Fauquier County Board of Supervisors this 8th day of November 2018, That the Rezoning Amendment request (REZN-18-009772) to amend the Concept Development Plan and Proffers on PNs 7915-18-001, 7915-17-025, 7915-16-109, 7915-16-188, 7915-16-224, 7915-16-830, 7915-16-839, 7915-16-840, 7915-16-295, 7915-16-382, 7915-16-410, 7915-16-548, 7915-16-599, 7915-16-600, and 7915-16-601 be, and is hereby, approved subject to the Proffer Statement dated October 22, 2018, and the "Zoning Map and Proffer Amendment for Vint Hill" package dated September 24, 2018.

APPROVED BY FC BZA ON NOVEMBER 8, 2018. Holly Madsen, Assistant Director

APPROVED BY VINT HILL LAND 1, LLC BZA ON NOVEMBER 8, 2018. ORIGINALY APPROVED 1999

Vint Hill Village, LLC and Vint Hill Land 1, LLC the owners of ten (10) parcels in Fauquier County identified as Parcel Identification Number(s) ("PIN") 7915-08-242-000, 7915-08-330-000, 7915-17-025-000, 7915-16-839-000, 7915-16-830-000, 7915-16-840-000, 7915-16-295-000, 7915-16-382-000, 7915-16-410-000, 7915-16-548-000, 7915-16-599-000, 7915-16-600-000, 7915-16-601-000, hereinafter the "Owner", hereby submits these amended proffers with respect to the Rezoning approved by the Fauquier County Board of Supervisors (hereinafter referred to as the "County") in case number RZ99-CR-07 in accordance with the uses and densities set for in these proffers and the Conceptual Development Plan filed herewith and incorporated herein by reference (the "Concept Development Plan or CD").

1. GENERAL PROFFERS A. The property shall be developed in conformance with the Conceptual Development Plan ("CDP") entitled "Vint Hill Conceptual Development Plan", dated September 24, 2018, as prepared by Welford Engineering Associates, Inc. and approved by the Fauquier County Board of Supervisors on October 22, 2018.

ORDINANCE ORD-18-031

WHEREAS, Vint Hill Village, LLC and Vint Hill Land 1, LLC (Owner) and EFO Capital Management, Inc. (Applicant) have requested to amend the previously approved Concept Development Plan and Proffers on properties located within the New Baltimore Service District at the intersection of Alden Drive and Kennedy Road, north of Vint Hill Parkway, Scott District (various PNs); and

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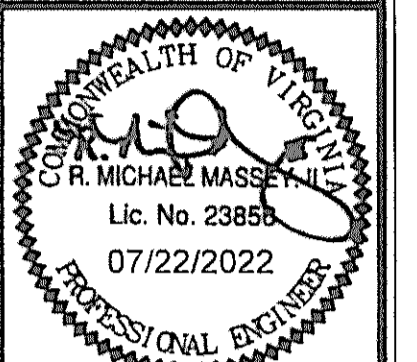
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APPROVED BY VINT HILL LAND 1, LLC BZA ON NOVEMBER 8, 2018. ORIGINALY APPROVED 1999

Vint Hill Village, LLC and Vint Hill Land 1, LLC the owners of ten (10) parcels in Fauquier County identified as Parcel Identification Number(s) ("PIN") 7915-08-242-000, 7915-08-330-000, 7915-17-025-000, 7915-16-839-000, 7915-16-830-000, 7915-16-840-000, 7915-16-295-000, 7915-16-382-000, 7915-16-410-000, 7915-16-548-000, 7915-16-599-000, 7915-16-600-000, 7915-16-601-000, hereinafter the "Owner", hereby submits these amended proffers with respect to the Rezoning approved by the Fauquier County Board of Supervisors (hereinafter referred to as the "County") in case number RZ99-CR-07 in accordance with the uses and densities set for in these proffers and the Conceptual Development Plan filed herewith and incorporated herein by reference (the "Concept Development Plan or CD").

1. GENERAL PROFFERS A. The property shall be developed in conformance with the Conceptual Development Plan ("CDP") entitled "Vint Hill Conceptual Development Plan", dated September 24, 2018, as prepared by Welford Engineering Associates, Inc. and approved by the Fauquier County Board of Supervisors on October 22, 2018.

ROSS-FRANCE CIVIL ENGINEERING • LAND SURVEYING 9417 INNOVATION DRIVE, MANASSAS, VA 20110 (703) 361-4188 rossfrance.com



VINT HILL LOT 9A-1 SCOTT MAGISTERIAL DISTRICT FAUQUIER COUNTY, VIRGINIA

VINT HILL EDA PCID AND PRD REZONING APPLICATION PROFFERS

Table with columns: DATE, BY, REVISION, DES, DWN, CHK, FW, MSL, RMM. Includes SHEET 30.

**STATUS REPORT ON VINT HILL PROFFERS**  
Updated: September 24, 2018

KEY: Shaded boxes are completed proffers.  
Shaded Boxes have not been Triggered.  
 have not been completed.  
All Others are Ongoing.

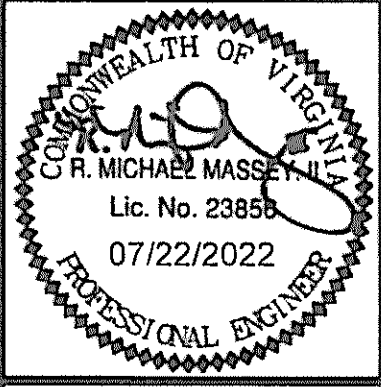
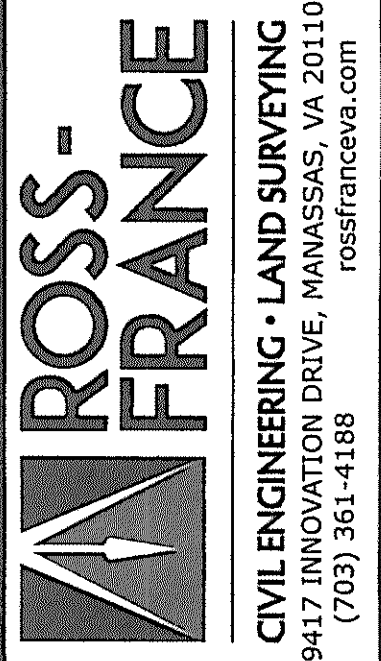
Category	Proffer#	Proffer	Status	Status Notes	
GENERAL	1.A.	Project to be in compliance with PCID & PRD at time of rezoning.	Ongoing		
	1.B.	Waivers as approved with rezoning.	Ongoing		
	1.C	Total FAR for non-residential space capped at 0.21 = 3,100,000 SF	Ongoing	852,582 currently constructed and utilized. 10,825 SF additional under construction with Aaron's Towing, LLC (PIN 7915-66-9476-000)	
	1.D	Total # of SFDU cannot exceed 324	Completed	All DUs Completed (324)	
	2.A.	Phasing: Meaningless	Unenforceable	Would be removed as part of the Zoning Amendment being proposed.	
	2.B.1	Provide to Fauquier County: 18.48 acres w/rec building, rec facilities and theater building plus misc. furniture/office equipment	Completed	DB 1048/PG 826	
	2.B.2	Provide to Fauquier County 9.7 acres of rec fields in Phase I	Completed		
OPEN SPACE & RECREATION	2.B.3	Provide to Fauquier County 3.5 acre site w/9,750 SF building (#137) for public recreation use	Completed		
	2.B.4	Provide to Fauquier County 2.4 acre site for public open space or recreation when EDA relinquishes site and use of buildings #101 and #102 and after Phase VIII.	Not Triggered	Buildings are to be conveyed to the County on or about October 1, 2018.	
	2.B.5.	Lease pool to non-profit.	Completed	In compliance as facility is leased to a non-profit.	
	2.B.6.	Dedicate or establish 170 acres of O.S. May include up to 15 acres in 30-acre on-site school property.	Ongoing	Currently working on this through the conveyance of property to the Conservancy. Proposed Rezoning Amendment includes 170 acres of identified open space.	
	2.B.7	Open Space to be conveyed to and maintained by Conservancy	Ongoing	All open space areas are being conveyed to the Conservancy or Fauquier County.	
	FIRE & RESCUE SERVICES	2.C.1	Provide Fauquier fire & rescue equipment from former fire & rescue department on base	Completed	

Category	Proffer#	Proffer	Status	Status Notes
	2.C.2	Provide Fire & Rescue Association the hazardous materials handling personal property from Vint Hill	Completed	
	2.C.3	Provide use of existing emergency services building (#271) for an interim fire station; obligation terminates if not used within 2 years.	Completed	Memo sent on 4/27/2000 from Fauquier County to VHEDA stating not able to use station; obligation has terminated.
	2.C.4	Provide use of 5,824 SF building (#316) as interim emergency services training facility for Fauquier County DFES and Volunteer Association. Proffer terminates when site is needed for redevelopment or site is voluntarily vacated.	Completed	Site voluntarily vacated; obligation terminated.
	2.C.5	Provide Fauquier 2.0 acre site for new public facilities (fire & rescue station, library or sheriff substation. Site to be transferred during Phase VII or earlier if sufficient infrastructure is available for its development.	Not Triggered	We are in the process of conveying both PIN 7915-56-6014-000 and 7915-55-5890-000. We have met with the Kevin Burke, County Attorney with the intent of conveying these properties before the end of the year.
LIBRARY	2.D.1	Provide library shelving to County Libraries	Completed	
	2.D.2	Reiterate 2.C.5 Possible site for Library.	Completed	Completed per letter 3/19/15
TRANSPORTATION	2.E.1.a	Contribute \$0.50 per new heated SF to Transportation Fund, with amount adjusted annually for inflation (2010 adjusted amount is \$0.62 per heated SF)	Ongoing	
	2.E.1.b	Advance funds to Transportation Fund for design and construction of the traffic signals in the SB lane of Route 29 at US 29 and Route 215 within 7 years of rezoning.	Completed	Funds were advanced and subsequently were refunded.
	2.E.2.b	Identify by survey centerline of planned Vint Hill Parkway during Phase I	Completed	
	2.E.2.c	Construct two lanes of Parkway from Route 215 for 1990 linear feet (to Macintosh Drive) during Phase I. Value=\$997,000	Completed	VDOT has accepted.
	2.E.2.d	Construct two lane street from Route 602 toward Parkway for 1,680 linear feet (Watson Drive) before end of Phase III. Value \$398,000	Completed	Completed. This is Watson Drive
	2.E.2.e	Construct two lanes of Parkway additional 1,880 linear feet (to corner of FAA property) by sale of 675,000 SF. Value=\$564,000.	Completed	
	2.E.2.f.	Construct lanes 3 & 4 of Vint Hill Connector from Route 215 to the corner of the FAA property by sale of 1,000,000 SF. Value=\$398,000.	Not Triggered	

Category	Proffer#	Proffer	Status	Status Notes	
	2.E.2.g.	Construct remainder of street connecting 602 to Parkway (Watson Drive before end of phase IV or sale of 1,000,000 SF. Value=\$288,000	Not yet triggered	COMPLETED	
	2.E.2.h,j	Construct 2 lanes of Parkway and intersection (traffic circle) of Parkway with 652 (Kennedy Road) by sale of 2,000,000 SF. Value=\$762,000	Not yet triggered	COMPLETED	
	2.E.2.j	Reserve for Fauquier County ROW from Parkway (traffic circle) to the boundary of Vint Hill for the future extension of the Vint Hill Connector by the end of Phase VI or sale of 2,500,000 SF. Value=\$243,000	Not yet triggered	COMPLETED	
	2.E.2.k	Reconstruct 2,450 linear feet of current Aiken Drive (formerly Harrison Road) from Shepherdstown Road to the Vint Hill Connector as a two lane road by the sale of 3,000,000 SF. Value=\$735,000	Not yet triggered	COMPLETED	
	2.E.2.l	Construct 3rd & 4th lane of Parkway from Watson Drive to the Traffic Circle by Phase VII or the sale of 2,500,000 SF. Value=\$884,000	Not Triggered		
	2.E.2.m	Provide up to \$500,000 for installation of traffic signals at five intersections immediately adjacent to Vint Hill as required by VDOT. Amount will be adjusted per CPI commencing 12/15/2009. Any residue will be contributed to VDOT for traffic signals by VDOT as needed.	Not Warranted by VDOT	The 605/602 improvement project included a \$420,000 contribution from the Vint Hill Transportation Escrow Fund from the \$0.50 /sf proffer (E.1.a)	
	2.E.2.n,o	Build all roads as public streets to VDOT standards, unless SE obtained for private street, including rebuilding all existing substandard roads to VDOT standards or removing them.	Ongoing	This has been done with new development as it comes online.	
	2.E.2.p	Dedicate 1/2 the ROW necessary to expand Rte 215 to a four lane road during Phase III or before the sale of 675,000, or when requested by VDOT, whichever occurs first.	Completed	Recorded in DB 916/655	
	2.E.2.q	Dedicate ROW for required street improvements in conjunction with each site plan for development.	Ongoing		
	SIDEWALKS & WALKWAYS	2.F.1.2	Provide sidewalks in conjunction with each building to create network within Vint Hill.	Ongoing	

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	2.F.3	Sidewalks and walkways will be extended in phases to Vint Hill's boundaries with Route 793, Brookside property, Route 602 and Route 215 for future connections to off-site walkways and sidewalks by others w/phasing to match that of extension of Parkways and other road connections to boundaries.	Ongoing	
	PUBLIC UTILITIES	2.G.1	Vint Hill will be developed on public water & sewer at Vint Hill's own expense.	Ongoing
	2.G.2	Water and waste-water connection fees for the 24 Fauquier Family Shelter to be waived.	Completed	
ENVIRONMENTAL PROTECTION	2.H.1	Stormwater Management ponds may be regional, in open space, or on individual parcels.	Ongoing	
LANDSCAPING	2.I.1	A 50-foot wide natural vegetated buffer will be maintained along the boundary between non-residential and residential areas within Vint Hill and adjacent residential subdivisions.	Ongoing	
RESIDENTIAL SITES & UNITS	2.J.1	Maximum of 324 units on site, with no more than 300 SFDU; no increase in units will be requested	Completed	
	J.2	24 units shall be provided at nominal lease cost to Fauquier Family Shelter Services beginning in Phase I, with title to the 24 units dedicated to FFSS not later than 20 years after rezoning, if such units are still being utilized by FFSS in a transitional housing program.	Completed	Title transferred.
	J.3	Existing 220 housing units on Vint Hill will be removed (all but 24 FFSS)	Completed	All housing units have been removed.
	2.J.4	At least 100 age-restricted units in allowed 324 units.	Completed.	
	2.J.5	Contribute \$0.50 per heated square foot.	Ongoing	Additional amounts collected w/some improvements on existing houses.
SCHOOLS	K.1-6	30 acre site will be provided to Fauquier County for Middle School in general location shown on CDP. Shall be deeded to County within 1 year of rezoning. Limited to school or other public use for period of 30 years from the date of rezoning. Alternate site may be provided with approval of County and School Board.	Completed	Alternate site at Brookside provided.
MISCELLANEOUS	2.L.1	Proffers binding on VHEDA and its successors and assigns.	Ongoing	
	2.L.2	Proffer amounts increased annually per CIP	Ongoing	

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	2.L.3	VHEDA not required to operate transitional housing program.	Completed	The Fauquier Family Shelter operates the transitional units.
	2.L.4	Upon dissolution of VHEDA, all remaining assets, real estate, monetary or other assets will be transferred in accord with Section 15.2-6319 of the Code of Virginia	Completed	



VINT HILL  
LOT 9A-1  
SCOTT MAGISTERIAL DISTRICT  
FAUQUIER COUNTY, VIRGINIA

**PROFFER ANALYSIS**

DATE	BY	REVISION

DES: FW DWN: MSL CHK: RMM  
FILE NO.: SP # 2040  
SHEET 31