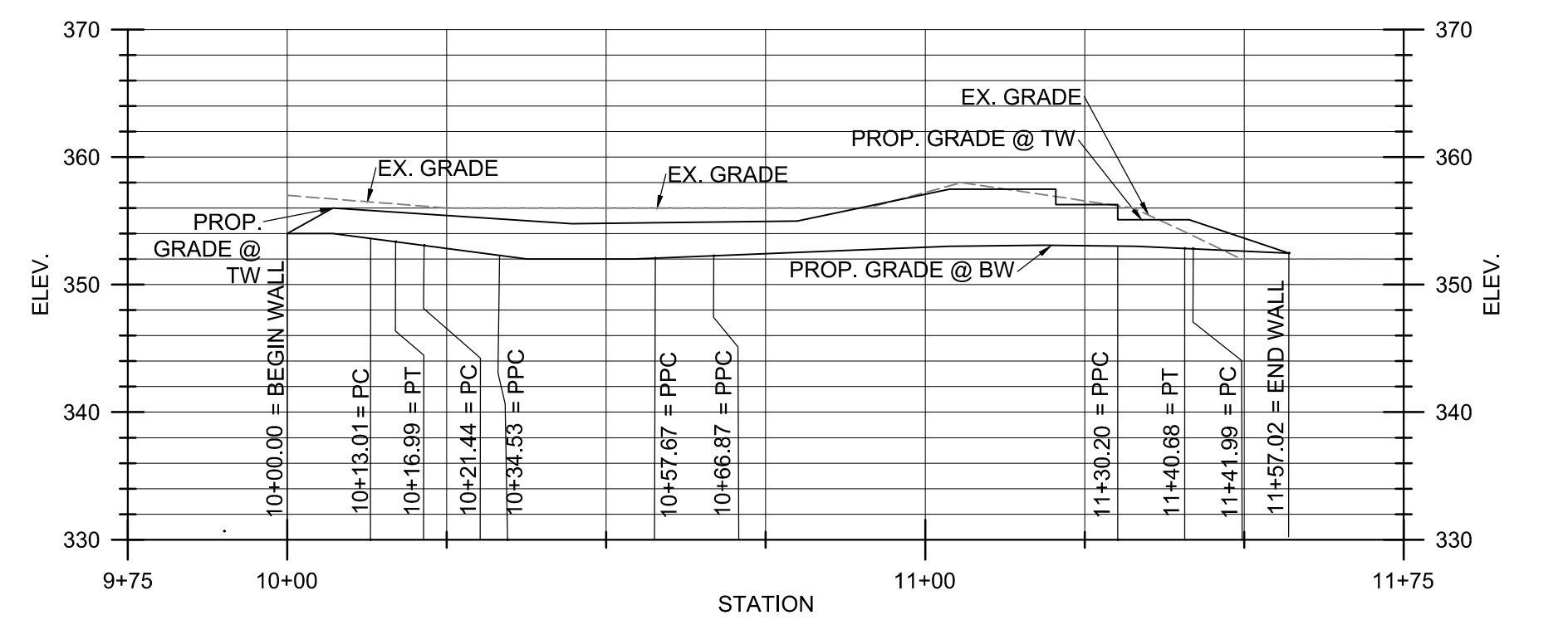
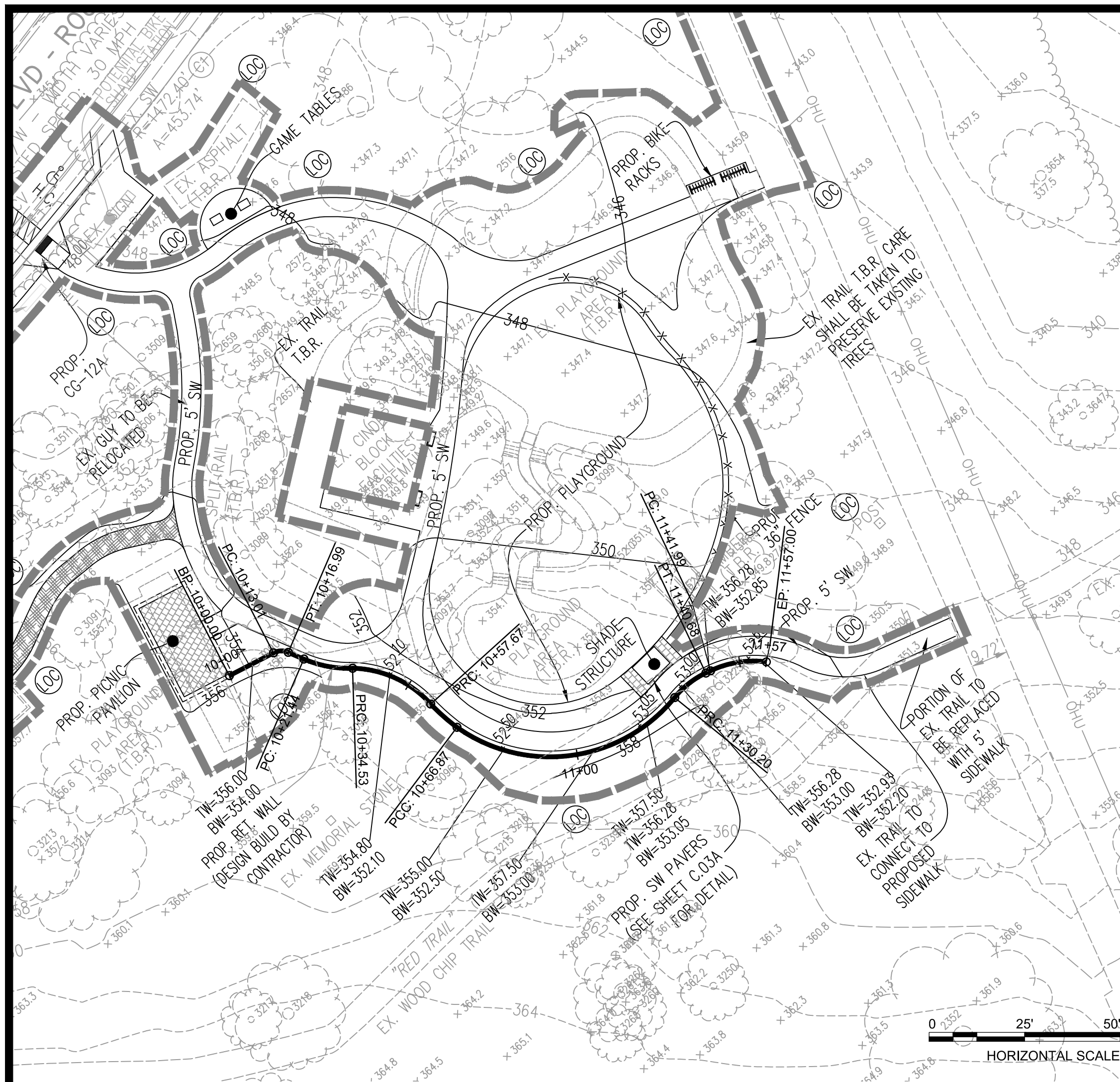
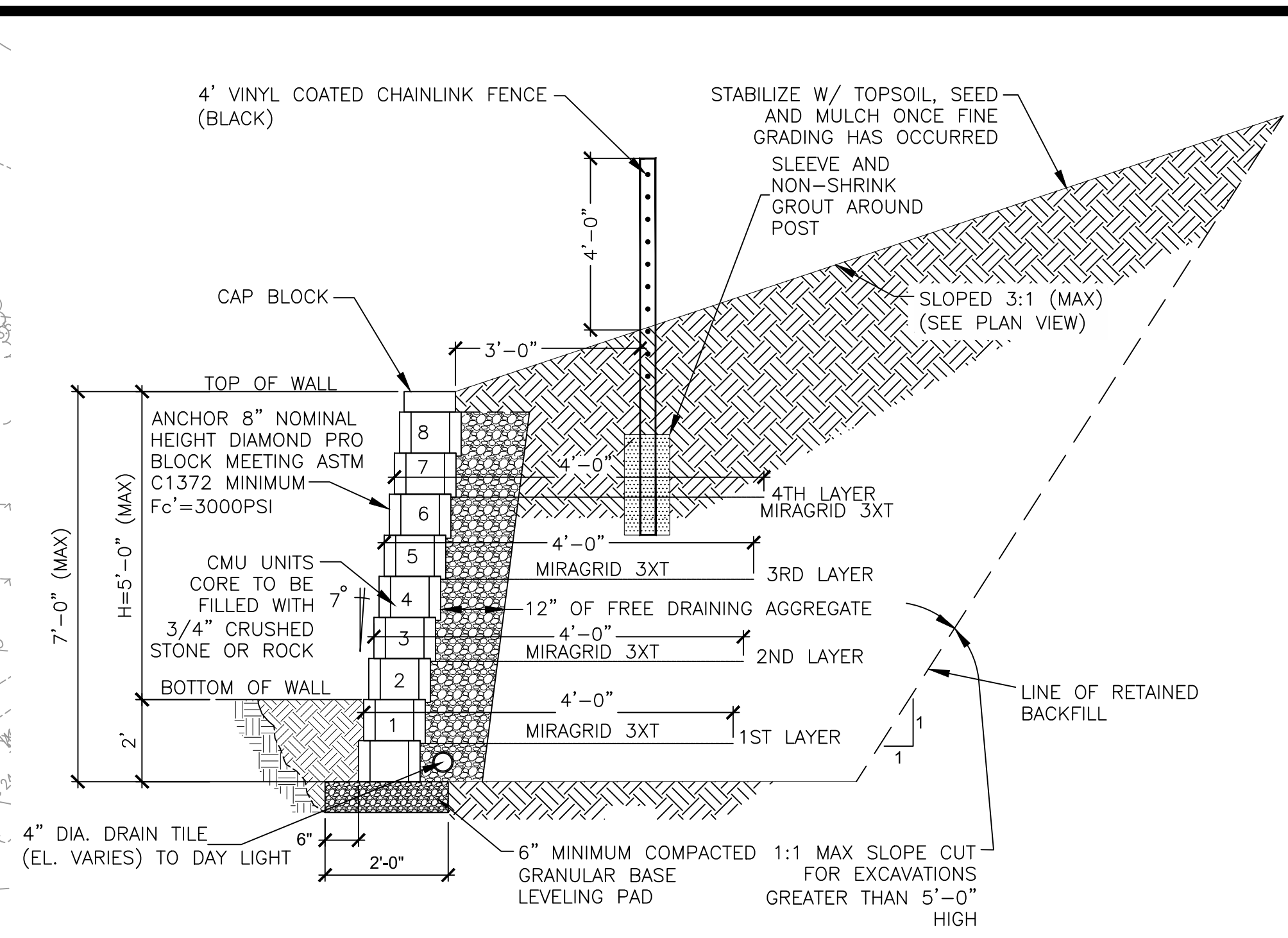
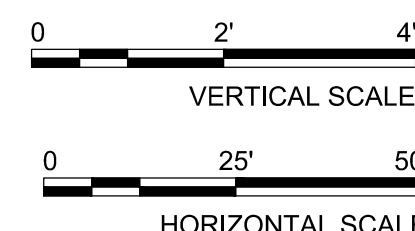


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RETAINING WALL PROFILE



A TYPICAL WALL "A" SECTION  
604S SCALE: 1/2" = 1'-0"

**STRUCTURAL NOTES FOR SEGMENTAL BLOCK WALL:**

**DESIGN LOADS:**  
CODE: VUSBC AND 2015 INTERNATIONAL BUILDING CODE  
WIND: WIND SPEED (3 SEC GUST) = 90 MPH  
USE 20 PSF ON VERTICAL SURFACE.  
SEISMIC: IE = 1.0, SS = 0.16, S1 = 0.053, SOIL SITE CLASS = C, SDS = 0.178, SD1 = 0.091  
DESIGN CATEGORY = II

**LATERAL ACTIVE EARTH LOAD AND BEARING PRESSURE:** RETAINING WALL IS DESIGNED FOR 40 PCF/FT OF ACTIVE EQUIVALENT FLUID PRESSURE (SELECTED BACKFILL WITH FRICTION ANGLE = 30° OR BETTER) AND A MAXIMUM ALLOWABLE SOIL BEARING PRESSURE OF 12,000 PSF ON WEATHERED ROCK AND 3000 PSF ON RESIDUAL NATIVE SOIL OR COMPACTED FILL AS PER THE GEOTECHNICAL REPORT ISSUED BY BURGESS & NIPLE, INC. DATED JANUARY, 2016. THE ALLOWABLE BEARING PRESSURE UNDER THE FOOTINGS SHALL BE VERIFIED DURING CONSTRUCTION BY A GEOTECHNICAL ENGINEER.

**SUBGRADE:**  
THE EXISTING VEGETATION AND TOPSOIL SHALL BE STRIPPED AND THE SUBGRADE PROOFROLLED. THE PLACEMENT OF FILL MATERIAL SHALL BE PLACED WITHIN 2% OF THE OPTIMUM MOISTURE CONTENT IN 8" MAX. LOOSE LIFTS WITH COMPACTION TO AT LEAST 95 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY STANDARD PROCTOR, ASTM D-698, EXCEPT THAT THE TOP 12" OF STRUCTURAL FILL SHALL BE COMPACTED TO 100% STANDARD PROCTOR. ALL SUBGRADE PREPARATION AND THE PLACEMENT OF FILL SHALL BE INSPECTED AND VERIFIED BY A GEOTECHNICAL ENGINEER.

**BACKFILL:**  
SATISFACTORY BACKFILL MATERIALS SHALL INCLUDE SM OR BETTER BUT EXCLUDE HIGHLY PLASTIC CLAY AND SILT SOIL GROUPS DEFINED BY ASTM D-2487. BACKFILL SHALL BE FREE OF TOPSOIL, ORGANIC, CONTAMINATED SOIL, AND ROCK FRAGMENTS HAVING A MAJOR DIMENSION GREATER THAN 2". ALL MATERIALS SUITABLE FOR BACKFILL ARE SUBJECT TO THE FOLLOWING RESTRICTIONS:

MAXIMUM DRY DENSITY	ASTM D-698	120	PCF
LIQUID LIMIT		< 40	
PLASTICITY INDEX		< 15	

COMPACTION EQUIPMENT USED BEHIND THE RETAINING WALL SHOULD BE RESTRICTED TO LIGHT COMPACTION EQUIPMENT SUCH AS HAND-OPERATED TAMPERS OR JUMPING JACKS TO PREVENT CRACKING OF WALLS. DESIGN STRENGTH MUST BE ACHIEVED PRIOR TO BEGINNING BACKFILL ACTIVITIES. ALL BACKFILL MATERIAL AND BACKFILL PLACEMENT SHALL BE INSPECTED AND VERIFIED BY A GEOTECHNICAL ENGINEER.

ALL BACKFILL FOR REINFORCED ZONE SHALL BE SILTYSAND SM WITH INTERNAL FRICTION ANGLE OF 30 DEG. OR WITH SOIL WITH EQUIVALENT FLUID PRESSURE OF 40 PCF/FT OF HEIGHT VERIFIED BY AN ONSITE GEOTECHNICAL ENGINEER; AND COMPACTED TO 95% OF MAXIMUM DRY DENSITY AS PER STANDARD PROCTOR & ASTM D-1557.

MINIMUM SOIL BEARING CAPACITY SHALL BE 3000 PSF FOR THE LEVELING PAD AND UNDER REINFORCED ZONE.

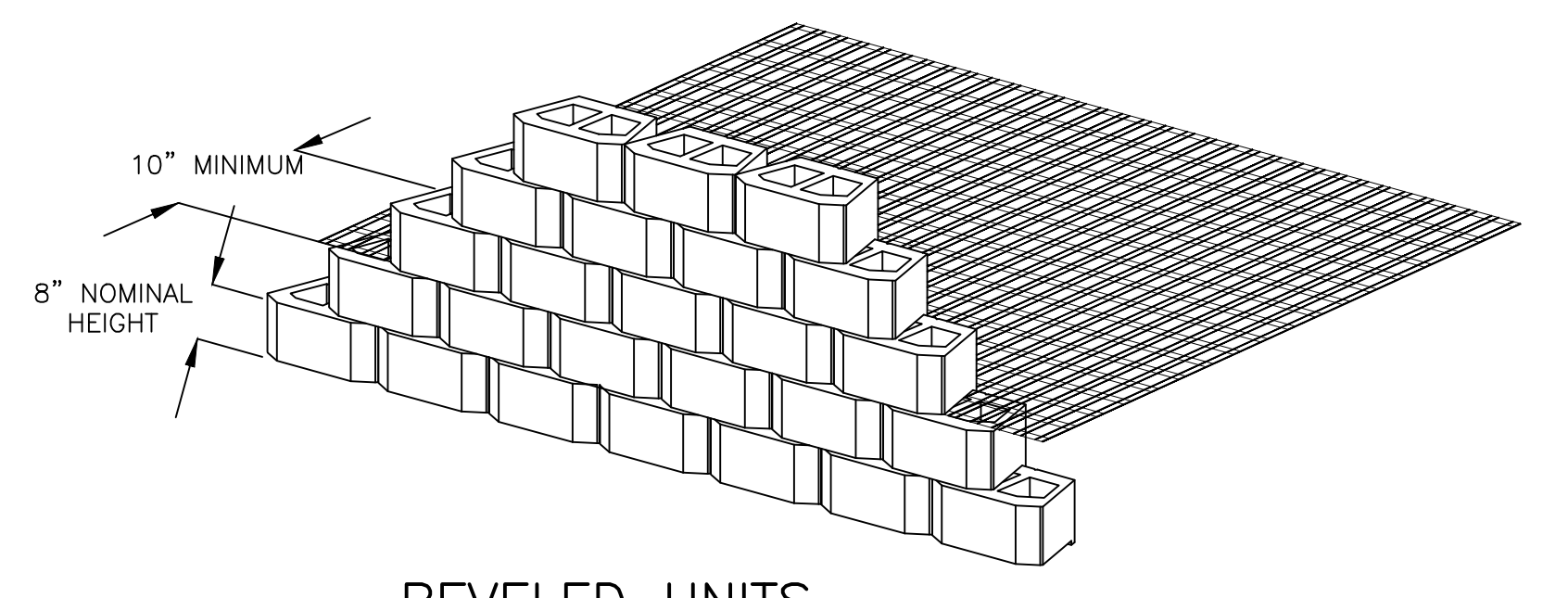
**CONSTRUCTION BRACING:**  
CONTRACTOR SHALL ADEQUATELY BRACE WALL EXCAVATION AND WALL TO WITHSTAND WIND AND CONSTRUCTION LOADS UNTIL THE RETAINING WALL IS INSTALLED AND SECURELY IN PLACE.

**INSPECTIONS:**  
INSPECTION SHALL BE PERFORMED IN ACCORDANCE TO FAIRFAX COUNTY SPECIAL INSPECTION PROGRAM AND REQUIREMENTS.

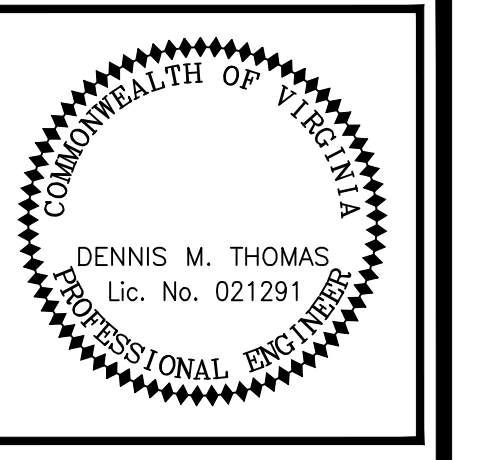
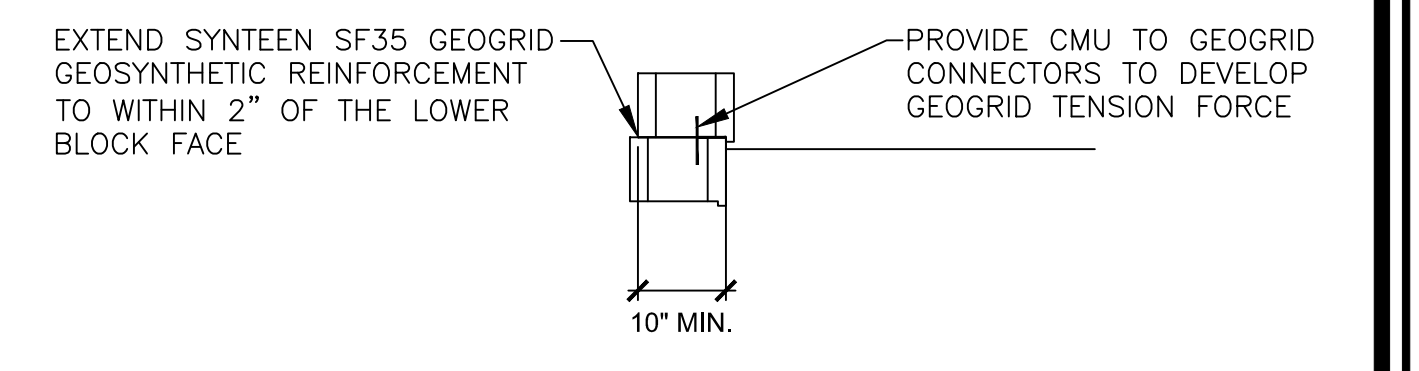
**SHOP DRAWINGS AND SUBMITTALS:**  
CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR CONCRETE BLOCK SEGMENTAL WALL GEOGRID REINFORCING LAYOUT, INCLUDING CONNECTORS FOR BLOCK CMU TO GEOGRID FOR APPROVAL FROM BURGESS AND NIPLE.

CONTRACTOR SHALL PROVIDE MANUFACTURER'S DATA SHEETS AND SPECIFICATIONS FOR THE TYPE OF GEOGRID TO BE USED FOR APPROVAL FROM BURGESS AND NIPLE.

CONTRACTOR SHALL PROVIDE MANUFACTURER'S DATA SHEETS AND SPECIFICATIONS FOR ALL ANCHOR WALL CONCRETE BLOCK FOR APPROVAL FROM BURGESS AND NIPLE.



BEVELED UNITS



**BURGESS & NIPLE**  
14520 AVION PARKWAY, SUITE 100  
CHANTILLY, VIRGINIA 20151  
PHONE: (703) 631-9630 FAX: (703) 631-6041

PLAN AND PROFILE  
UPTON

NO.	DESCRIPTION	DATE

DATE:	SEPTEMBER 2019
SCALE:	
DESIGNED BY:	ANC
DRAWN BY:	ANC
CHECKED BY:	RC
APPROVED BY:	RC
B&N PN:	PR57022
SHEET:	OF
B&N FN:	-