

Permit #: 70

Permit Date: 06/01/23

Permit Type: Planning Commission

Case Number: PC 23-27

PC Meeting Date: f. 1st Tuesday of July

BZA Meeting Date:

Assigned Meeting Date: 07/06/2023

Special Meeting Date:

Applicant Is: Engineer

Applicant Name: Preston Ayer

Applicant Address: 504 Autumn Springs Ct #6

Applicant City, State, ZIP: Franklin, TN 37067

Applicant Phone Number: 951-704-0890

Applicant Email: preston@sws-engr.com

Description: Proposed single family dwelling on a steep slope

Project Cost: 1250

Square Feet: 0

Lot Area: 0

Lot Coverage: 0

Heat/cooled area: 0

Proposed Height(ft.): 0

#of stories: 0

Lot Depth/Width Ratio:

Avg. front setback of adjacent homes:

Zoning District: Zone D

Radnor Lake Impact Zone: No

Steep Slope: Yes

Plat/Subdivison: No

Status: Open

Assigned To: Desiree Lohr

Property

Parcel #	Address	Legal Description	Owner Name	Owner Phone	Zoning
16010000700	5429 FRANKLIN PIKE	LOT 5 DEER RUN SUBD.1ST REV	KF LEGACY, LLC		

Fees

Fee	Description	Notes	Amount
Variance/Administrative Appeal			\$250.00
Residential Steep Slope Review Fee	(2 reviews)		\$1,000.00
		Total	\$1,250.00

Payments

Date	Paid By	Description	Payment Type	Accepted By	Amount
06/09/2023					\$1,250.00

Outstanding Balance

\$0.00



MEMORANDUM

To: Mr. Stephen Snow
From: Zac Dufour, P.E.
Kimley-Horn and Associates, Inc.
Date: May 31, 2023
Subject: PC Case 22-18, 5421 Franklin Road

We have completed our review of the Steep Slope site plan for the proposed new home located at 5429 Franklin Road. Please see below for engineering comments.

Comments

1. The elevations appear to violate the height zone requirements.
 - a. Provided.
2. Engineered retaining wall drawings and calculations must be submitted for any wall over 4' tall. Provide signed and sealed drawings.
 - a. Provided.
3. Provide total acreage of the property and square footage on the plans.
 - a. Provided.
4. Provide impervious area table based on recently adopted bulk building standard revisions. Show allowable % and SF of impervious on table.
 - a. Provided.
5. Provide Gross Floor Area Ratio on plans.
 - a. Provided.
6. Adjust Limits of Disturbance line to not show any disturbance within the tree protection zones.
 - a. Provided.
7. Adjust silt fence as needed to not impact tree protection zones.
 - a. Provided.
8. Provide tree protection fencing to be located at the drip lines of all trees that are to be saved. Include tree protection fencing detail.
 - a. Provided
9. Is there going to be gas service to the house? If so, show the routing and account for it in limits of disturbance and tree removal.
 - a. No gas service is proposed.
10. Where is the electrical service provided? Is it underground? If so, show the routing and account for it in limits of disturbance and tree removal. Adjust proposed grading to be outside of tree drip lines and outside of tree protection zones.
 - a. Provided.
11. Where is the concrete headwall detail to be used? Show on plan.
 - a. Provided.
12. Provide routing for stormwater to get to rain garden
 - a. Provided.
13. Provide underdrains for rain garden with outlet pipe and outlet protection.

- a. Due to high infiltration rates, underdrains no longer required.
- 14. Provide more detailed elevations for rain garden specific to this site with a site-specific section detail of the rain garden with elevations, inverts, section thickness and materials.
 - a. Provided.
- 15. Access easement shall be 50' wide.
 - a. Access easement for individual drives provided. There should also be a minimum 50' access easement encompassing the combined entry drive and turnaround area.
- 16. Private road must comply with Oak Hill Subdivision regulations (street section, slopes, pavement design, etc.) – 11' lanes and 2' shoulders. TDOT detail will not suffice. Provide updated drawings and details for cross section and pavement designs.
 - a. Proposed drive configuration meets requirements agreed to in city meeting.
- 17. Have landscape architect provide planting plan for rain garden.
 - a. Provided.
- 18. Provide Fire Marshal approval of plans based on driveway length, turn around, slopes, etc.
 - a. Email provided by Metro Fire Marshal. If access design changes, we will need an updated email from the Fire Marshal referring to the new design.
- 19. Provide tree replacement plan.
 - a. Provided.
- 20. Provide a consolidated list of trees to be removed on sheet C0.02 and tabulate the total number of trees to be removed and the total caliper inches.
 - a. Provided.
- 21. Provide a plan that shows trees and proposed improvements with grading and limits of disturbance so we can review and compare the LOD and tree removal plan.
 - a. Provided.
- 22. Provide exhibit showing existing canopy coverage and proposed removal of tree canopy.
 - a. Provided.
- 23. Show drainage area map for area draining to the rain garden.
 - a. Provided.
- 24. Provide residential infill worksheets on the plans.
 - a. Metro LID worksheet provided.
- 25. Provide pre vs post flow tables for each storm event on the plans.
 - a. Provided.
- 26. Add note regarding sod. All grassed areas on slopes 15% or greater will require sod.
 - a. Provided.
- 27. Provide more detail grading. Provide more spot grades around the house and in the lawn areas. Provide more wall grades. Provide proposed contours at 1' intervals.
 - a. Provided.
- 28. Provide a statement from geotechnical engineer stating that they have reviewed the current site and grading plans and they comply with the geotechnical recommendations.
 - a. Comment outstanding.
- 29. Provide a statement from structural engineer stating that they have reviewed the current site, grading plans and geotechnical report and the structural drawings are consistent with all other plans.
 - a. Provided.
- 30. Geotechnical engineer shall be on site during construction to observe conditions and report on the conditions with respect to the initial study, boring data, lab testing and provide any updated recommendations based on any deviations. Geotechnical engineer shall provide a certification letter upon completion of construction prior to the issuance of a certification of occupancy. The certification letter shall speak to the construction methods, geotechnical recommendations that were followed during construction, geotechnical engineer observations during construction and any deviations from the original recommendations that were made.
 - a. Acknowledged.

31. Add steep slope geotechnical requirements per the Steep Slope Ordinance Section 14-238. Add note, "Geotechnical Engineer shall be on site during construction to monitor construction. Engineer shall submit a geotechnical certification letter certifying the stability of the slope and the structure to the City of Oak Hill upon completion of construction and prior to the issuance of a certificate of occupancy."
 - a. Provided.
32. Additional comments may be forthcoming based on changes made from this initial review.
 - a. Acknowledged.
33. Additional comments may be forthcoming from the Geotechnical review.
 - a. Acknowledged.

Additional comments

1. Provide a Stormwater Pollution Prevention Plan (SWPPP) to the City of Oak Hill for review and provide a TDEC Notice of Coverage under the Construction General Permit.
 - a. **NOC outstanding SWPPP still under review with TDEC.**
2. Refer to plan sheets for additional markups and comments.
 - a. Provided.
3. Some trees appear to be within the limits of disturbance. Other trees appear to be right on the edge of the proposed house or walls. The contractor will need room to get the walls and foundations built and excavation which will impact the drip line of these trees. Refer to Sheets C0.02 and C1.00. Update tree removal table and canopy calculations based on the additional trees that are to be removed.
 - a. Provided
4. Rear setback is not shown in the site data table.
 - a. Provided.
5. Provide stand alone Erosion Control Plan. This plan should be a two-phases erosion control plan. Show Limits of Disturbance, silt fence, tree protection fence, and other erosion control measures to adequately handle the area draining to through the disturbed area. Diversion berms may be required to re-direct upstream area away from the disturbed area. Silt fence can only handle ¼ acre per 100 linear feet of silt fence therefore the silt fence shown on the plans does not appear to be sufficient to handle the entire drainage area.
 - a. Provided.
6. How will you prevent upstream water from running over the private drives? I would think a swale/ditch on the high side of the private drive would be required to redirect the flow. This will need to be collected near the northern end of Lot 3 and conveyed to an adequate drainage facility.
 - a. Provided.
7. Provide downstream analysis of downstream drainage infrastructure.
 - a. Provided.
8. Rain garden is not acceptable. Full LID design and calculations are required along with full detention design for all storm events.
 - a. Provided.
9. Provide recorded access easement.
 - a. **Easement documents pending. Easements will be recorded prior to PC.**
10. Provide recorded utility easement for the water lines.
 - b. **Easement documents pending. Easements will be recorded prior to PC.**

11. Provide recorded electrical easement.
 - c. a. **Easement documents pending. Easements will be recorded prior to PC.**
12. Provide TDOT permit for work within the ROW.
 - a. TDOT deferred to NDOT. NDOT asked to provide ST-322 Drive Apron detail. Detail not provided in plan. Detail Added.
 - b. Approved.
13. Is the water line connection within the roadway? Detail referenced is for asphalt repair, but the detail shown is for trench repair outside of asphalt. Clarify.
 - a. Clarified.
14. Some base information is missing on the landscape plan.
 - a. Provided.

Additional Comments - 5/10/2023

1. It's difficult to determine how storage volumes are being calculated in the Hydraflow model. The bottom of your storage does not correlate to an elevation in the bioretention detail, and only one bioretention detail is being provided on the plans. Regardless, your calculations show approximately 3' of storage height with an area equal to the surface area.

If you're modeling the storage of the amended soils and stone, porosity values of 0.25(amended soils) and 0.40(stone) should be factored into your storage volume. Additionally, you could build up the berm around the bioretention ponds and utilize all volume 0.67' above surface elevation as detention storage. Per our conversation, in order to utilize infiltration rates in an accurate Sf footprint, hydraflow modeling was done using an effective depth. Breakdown of volumes provided in bioretention calculations sheet.

If the existing undisturbed forested area was removed from the LID calculations, Rv would be below 80%. Roughly half the impervious area proposed is bypassing bioretention. A separate LID measure should be placed near the combined entrance to treat additional impervious areas. 4 acres of existing forested land to be dedicated as conservation easement.

- a. Approved.
2. Easement needed around the drive within Franklin Pike Right-of-Way that outlines maintenance responsibilities of three property owners.
 - a. Provided.
3. Description provided for sewer. Exhibit and recorded document needed for sanitary sewer on 5429 and 5425
 - a. Provided.
4. See additional comments in attached marked up plans.
 - a. Provided.

Recommendation:

This project is recommended for approval pending the following conditions:

1. Geotechnical engineer shall provide a letter stating the plans are in conformance with the recommendations in the geotechnical report.
2. Easement documents are recorded
3. NOI obtained through TDEC.
4. TDOT permit obtained prior to building permit.

5. Geotechnical engineer shall be on site during construction and shall provide a certification prior to the issuance of a certificate of occupancy speaking to the stability of the structure and the stability of the slope and the soil characteristics encountered during construction with respect to the assumptions made in the original Geotechnical Investigation and Report.



MEMORANDUM

To: Mr. Stephen Snow
From: Zac Dufour, P.E.
Kimley-Horn and Associates, Inc.
Date: May 9, 2023
Subject: PC Case 22-18, 5421 Franklin Road

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2. Easement needed around the drive within Franklin Pike Right-of-Way that outlines maintenance responsibilities of three property owners. **Maintenance easement provided around drive**
3. Description provided for sewer. Exhibit and recorded document needed for sanitary sewer on 5429 and 5425 **See exhibit provided.**
4. See additional comments in attached marked up plans. **See plan markups for additional responses.**

Resubmit plans and a comment response letter by May 17, 2023.

c: File



April 5, 2023

Mr. Jeremy Walker
Urban Development Group, LLC
P.O. Box 90288
Nashville, TN 37209

ECS Project No. 26:5679-A

Reference: Letter of Subsurface Exploration
5429 Franklin Pike
5429 Franklin Pike
Nashville, Tennessee

Dear Mr. Walker:

As authorized by your acceptance of our proposal, (ECS Proposal No. 26:10717) dated March 21, 2023, ECS Southeast, LLP (ECS) has completed the subsurface exploration, laboratory testing, and geotechnical engineering analyses for the above-referenced project. Our services were performed in general accordance with our agreed to scope of work. This letter has been prepared to provide additional information and should be considered an addendum to our initial report (ECS Report No. 26:5679) dated August 2, 2022. It should be noted that the structure layout as shown in the initial report and the Construction Plans prepared by SWS Engineering, Inc. dated April 21, 2022, are different and soils conditions may change. ECS recommends the foundation excavations be observed by the geotechnical engineer of record at the time of construction.

SITE AND SUBSURFACE CONDITIONS

Test Pits

The site subsurface conditions were evaluated with seven (7) test pits at the approximate locations shown on the Exploration Location Diagram in the Appendix. The quantity of test pits, locations, and excavation depths were determined in the field during this subsurface exploration.

A surficial layer of topsoil was measured at approximately 12- to 18- inches thick at the test pit locations. Below the topsoil, native light brown LEAN and FAT CLAY (CL, CH) was encountered. This material was typically brown in color and contained varying amounts of sand and gravel. At the structure location, refusal materials ranged from approximately 5 to 6 feet below existing grades. Test pit refusal was encountered at most test pit locations at approximate depths ranging from 2 ½ - to 7 ½-feet below the ground surface. Test Pit TP-7A did not encounter refusal and instead reached the extent of the bucket reach.

Groundwater was not encountered in the test pits at the time of excavation. It is possible for perched water to exist within the depths explored during other times of the year depending upon climatic and rainfall conditions. Additionally, discontinuous zones of perched water may exist within the overburden materials. Variations in the location of the long-term water table may occur as a result of changes in

precipitation, evaporation, surface water runoff, and other factors not immediately apparent at the time of this exploration.

Laboratory Testing Program

A geotechnical engineer classified each soil sample on the basis of texture and plasticity in general accordance with the Unified Soil Classification System (USCS, ASTM D 2487). The group symbols for each soil type are indicated in parentheses following the soil descriptions on each boring log. A brief explanation of the USCS is included in the Appendix. The engineer grouped the various soil types into the major zones noted on the test pit logs. The stratification lines designating the interfaces between materials on the exploration records should be considered approximate; in situ, the transitions may be gradual.

Representative soil samples were selected and tested in our laboratory to check field classifications and to determine pertinent index properties. The laboratory testing program included:

- Natural moisture content determinations (ASTM D 2216)
- Atterberg Limits tests (ASTM D 4318)

The soil samples will be retained in our laboratory for a period of 60 days, after which, they will be discarded unless other instructions are received as to their disposition. The results of the laboratory testing is included in the Appendix.

Laboratory index test results indicate the in-situ moisture content of the tested samples ranged from approximately 21 to 32 percent.

An Atterberg Limits test performed on a select soil sample from Test Pit TP-04A indicated LEAN CLAY (CL) with a Liquid Limit of 39 and a Plasticity Index of 21. The results have been included on the Laboratory Testing Summary in the Appendix.

Infiltration Testing

Two (2) drop rate tests were performed on March 13 and 14, 2023, in general conformance with recognized drop rate test procedures. To perform the test, an auger boring was extended to the depth shown in the table below, beneath the existing ground surface. Following completion of the auger boring, a 6-inch diameter casing was installed, generally flush with the bottom of the borehole. The casing was then filled with water to a depth of approximately 2 feet above the bottom of the hole and left to pre-soak for 24 hours. After the pre-soak period, approximately 2 feet of water was again added and the rate of water level drop was then observed for a 1 hour period. This procedure was then repeated three times over a total 4-hour period. A summary of the test results is presented in Table 1.

Table 1 - In-Situ Drop Rate Test Results

Boring No.	Boring Depth (ft)	USCS Classification	Groundwater Observations During Drilling (ft)	Average Drop Rate (inches per hour)	Last Hour Drop Rate (inches per hour)
I-1	8	CH	-	1.7	0.6
I-2	8	CH	-	2	0.6

While ECS is not aware of specific design infiltration rates desired for this project, we recommend an appropriate factor of safety be applied to the field results presented above. It is our experience that many times construction disturbance and compaction can reduce near surface pre-construction in-situ infiltration rates. Please note that the “drop rate” reported above does not equate to an in-situ permeability.

SLOPE ANALYSIS

Based on the initial test pits and the test pits completed as part of this addendum and the proposed finish floor elevation and the wall elevations, the residential structure and wall will be founded mostly on native soils. Most of the wall excavations will extend into native soil and some bedrock.

The slope stability analyses utilized for this project were based on two dimensional limit plastic equilibrium methods. In this method, a trial failure surface is assumed. The mass of soil above the failure surface is divided into vertical strips called slices. The forces acting on each slice are estimated. The forces are separated into those tending to cause failure and those tending to resist failure. The sum of the two sets of forces for a trial failure surface are tabulated and compared by dividing the forces resisting failure by those causing failure. This ratio is termed the factor of safety (FS). When the FS is 1.0, failure of the slope is imminent. When the FS exceeds 1.3, it is generally assumed the slope is adequate. However, there are certain minimum factors of safety which, by experience, are acceptable. In general, these minimum values of FS depend on the consequences of failure as well as the anticipated loading condition.

To determine the forces necessary to perform the analyses, the proposed slope geometry, stratigraphy, soil strength parameters, groundwater levels, and extraneous loads must be determined. Test pits were used in the determination of the stratigraphy of the site and the soil parameters.

The RocScience SLIDE2 computer program was used to evaluate the slope stability at each cross section. For this study, Bishop's Modified Method of Slices was used. Based on the existing grades, the slope analyzed was in mostly native soils. Native soil and rock parameters were chosen conservatively from published tables and formulas correlating soil and rock classifications with strength parameters.

Illustrations of the failure surface for the target condition is attached at the end of this report. The analysis was performed along critical slope heights and the slopes analyzed met and exceeded the target factor of safety. Our analyses indicated a minimum factor of safety for long term of 9.285.

In general, compacted soil fill embankments on stiff undisturbed soils should be constructed no steeper than a ratio of 3.0 horizontal (H) to 1.0 vertical (V). We recommend cut slopes not be steeper than a ratio of 3.0 (H) to 1.0 (V).

Surface water runoff should be routed from flowing over the slope face. For cut slopes, the area above the slope crest should be constructed with a reverse slope to reduce the likelihood of surface water runoff from flowing over the slope face. Additionally, we recommend a drainage swale or other provisions be constructed near the crest of each cut slope to divert water away from the cut face.

Material should not be stockpiled within 10 feet of the crest of cut or fill slopes. In addition, both cut and fill slope faces should be protected from erosion using a vegetative cover. Seed and mulch, or erosion matting with embedded seed, are options for developing a vegetative cover.

CONCLUSIONS AND RECOMMENDATIONS

Based on the test pit observations and laboratory test results, we offer the following conclusions and recommendations to help guide you in further decision making:

Foundations – ECS recommends that the residential foundations extend through the structural fill and be founded on the stiff native soils or bedrock. This is recommended as a concern for differential settlement exceeding acceptable tolerances for the structure. Where bedrock is encountered at the footing bearing level, we recommend undercutting the bedrock to allow for a 24 inch cushion of low plasticity lean clay soils. The soil backfill should be compacted to 95% of the standard Proctor maximum dry density.

Highly Plastic Soils – Highly-expansive and compressible FAT CLAY (CH) soils were encountered on-site during our exploration. It is our opinion that the on-site highly plastic FAT CLAY (CH) soils should not be utilized for the direct support of the proposed foundations or slab on grades and should only be re-used as engineered fill in deeper fill sections, i.e., greater than 4 feet below planned grades. If this material is encountered in cut sections, a minimum of a 2-foot cap of low plasticity clay should be placed above the highly plastic clay material.

Rock Excavation – In general, the test pits encountered shallow bedrock in the upper approximate 2 ½ - to 7 ½- feet as indicated by the Test Pit Logs. Based on our understanding of the proposed excavations required at the site, the use of special excavation techniques (i.e., blasting or hoe-ramming) will be required for excavations beyond the depth of bucket refusal.

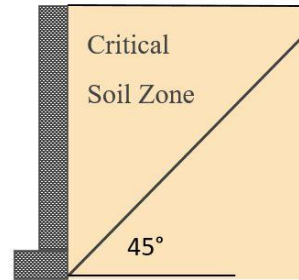
Colluvial Soils – Colluvial soils were not encountered during our test pit exploration. However, if these soils are encountered during construction, ECS recommends removing these materials to the depth of stiff residual soils or bedrock within and 10 feet outside the planned construction limits and placing and compacting adequate structural fill.

Site Retaining Walls – The retaining walls are expected to be founded on native soils and bedrock. Unlike below grade walls, site retaining walls are free to rotate at the top (not restrained). For these walls the "Active" (k_a) soil condition should be used along with a triangular distribution of earth pressures. In addition, site retaining walls should be designed to withstand lateral earth pressures exerted by the backfill and surcharge loads within the "Critical Soil Zone". The Critical Zone is defined as the area between the back of the retaining wall footing and an imaginary line projected upward and rearward at a 45-degree angle (see figure below).

The lateral earth pressures developed behind site retaining walls are a function of the backfill soil type, backfill slope angle, and surcharge loads. For the design of site retaining walls, we recommend the parameters provided below.

Retaining Wall Backfill in the Critical Zone

Soil Parameter	Select Granular Fill	No. 57 or No. 67 Stone
Coefficient of Active Earth Pressure (K_a)	0.31	0.22
Retained Soil Moist Unit Weight (γ)	130 pcf	105 pcf
Cohesion (C)	0 psf	0 psf
Angle of Internal Friction (ϕ)	32°	40°
Friction Coefficient [Concrete on Soil] (μ)	0.30	0.30
Active Equivalent Fluid Pressure	83H (psf)	72H (psf)



Foundation Parameters

Soil Parameter	Estimated value
Allowable Bearing Pressure (Native Soil)	3,000 psf
Minimum Wall Embedment Below Grade	18 inches
Coefficient of Passive Earth Pressure (K_p)	2.76
Rock Unit Weight (γ)	120 pcf
Cohesion (C)	500 psf
Interface Friction Angle [Concrete on Soil] (ϕ_f)	28°
Sliding Friction Coefficient [Concrete on Rock] (μ)	0.30
Passive Equivalent Fluid Pressure	295H (psf)

It is critical that the soils used for backfill of the retaining walls meet the soil parameters recommended above. If the soils available do not meet those parameters, then ECS should be contacted to provide revised values, and to confirm that only adequate granular materials will be used for wall backfill.

Care should be used to avoid the operation of heavy equipment to compact the wall backfill since it may overload and damage the wall. In addition, such loads are not typically considered in the design of site retaining walls, and are not provided for in our recommendations.

Wall Drainage: Retaining walls should be provided with a wall and foundation drainage system to relieve hydrostatic pressures which may develop behind the walls. This system should consist of weepholes through the wall and/or a 4-inch perforated, closed joint drain line located along the backside of the walls above the top of the footing. The drain line should be surrounded by a minimum of 6 inches of AASHTO #57 Stone wrapped with an approved non-woven geotextile, such as Mirafi 140-N or equivalent. Wall drains can consist of a 12-inch wide zone of free draining gravel, such as AASHTO #57 Stone, employed directly behind the wall and separated from the soils beyond with a non-woven geotextile. Alternatively, the wall drain can consist of an adequate geocomposite drainage board material. The wall drain should be hydraulically connected to the foundation drain.

Closing

Our professional services have been performed, our findings obtained, and our conclusions prepared in accordance with generally accepted geotechnical engineering principles and practices. ECS is not responsible for the conclusions, opinions, or recommendations made by others based on these data. No

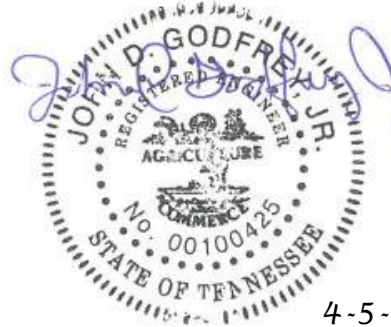
third party is given the right to rely on this report without express written permission. We appreciate this opportunity to be of service to you during the design phase of this project.

If you have any questions with regard to the information and recommendations presented in this report, please do not hesitate to contact us.

Respectfully,
ECS SOUTHEAST, LLP

Trevor Nugent

Trevor Nugent
Geotechnical Staff Project Manager



4-5-2023

John D. Godfrey Jr., P.E.
Principal Engineer

Attachments: Site Location Diagram
 Exploration Location Diagram
 Test Pit Logs
 Slope Stability Results
 Liquid and Plastic Limit Test Report
 Laboratory Test Results Summary
 Important Information

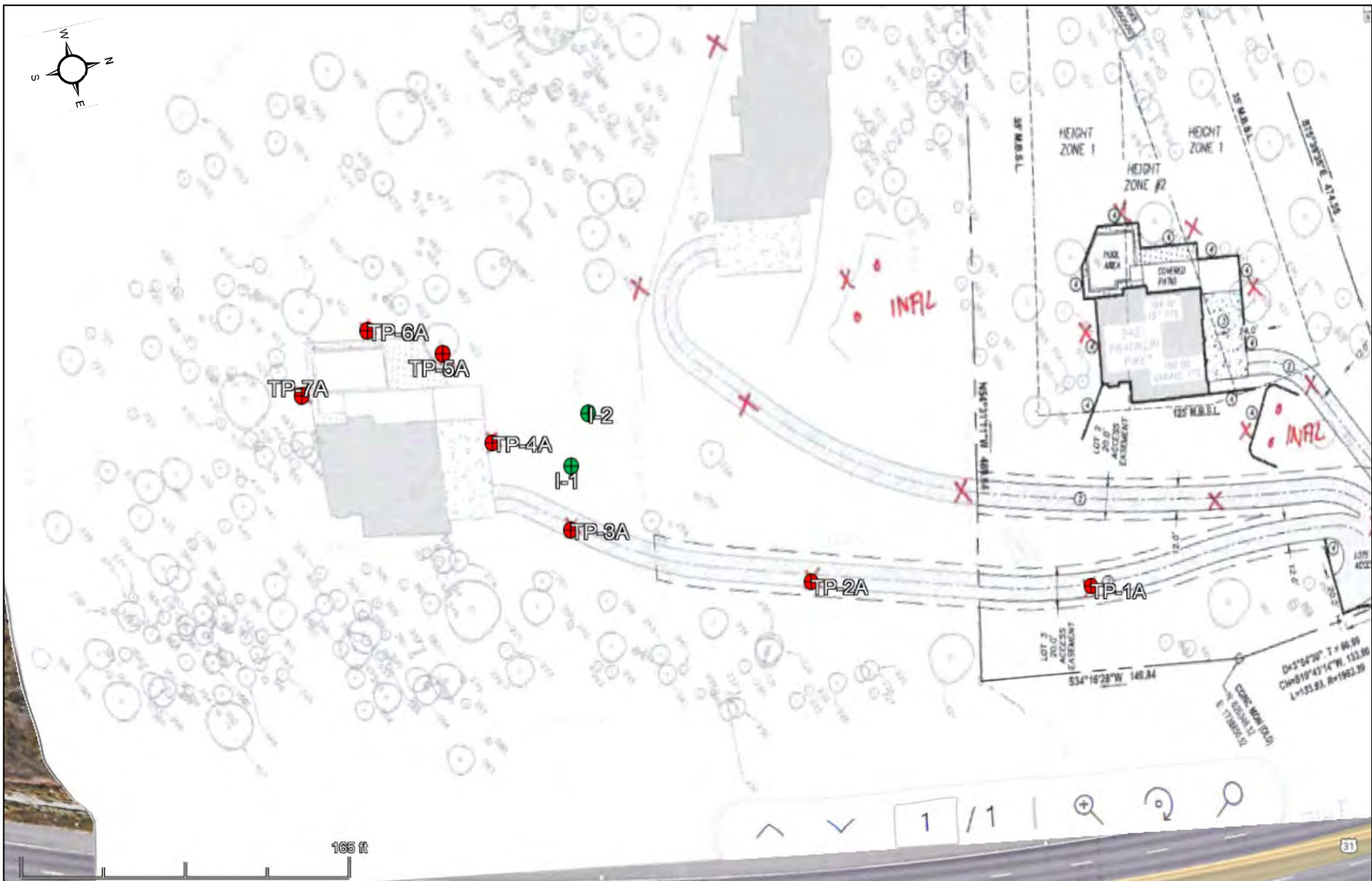


5429 Franklin Pike Geotechnical Exploration

5429 Franklin Pike
Nashville, Tennessee
ECS Project No. 26:5679-A



Site Location Diagram
(approximate site location outlined in red)



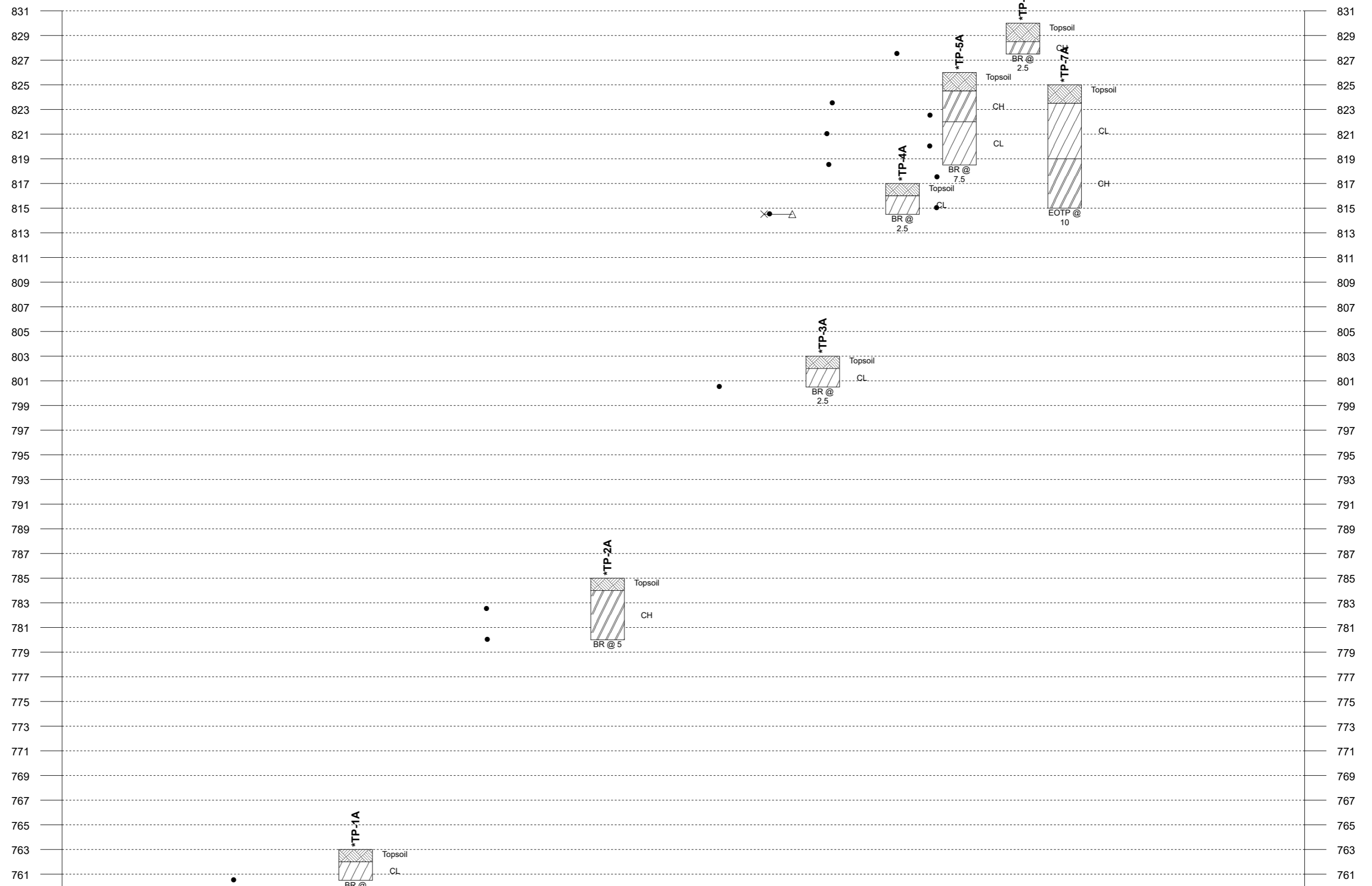
5429 Franklin Pike Geotechnical Exploration

5429 Franklin Pike
 Nashville, Tennessee
 ECS Project No. 26:5679-A

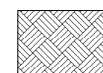
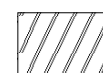



Exploration Location Diagram

- ⊕ Approximate Boring Locations
- Approximate Infiltration Locations





Legend Key





-  Topsoil
-  Fat CLAY
-  Lean CLAY

760.00

Notes:
 1- EOB: END OF BORING AR: AUGER REFUSAL SR: SAMPLER REFUSAL.
 2- THE NUMBER BELOW THE STRIPS IS THE DISTANCE ALONG THE BASELINE.
 3- SEE INDIVIDUAL BORING LOG AND GEOTECHNICAL INFORMATION.
 4- STANDARD PENETRATION TEST RESISTANCE (LEFT OF BORING) IN BLOWS PER FOOT (ASTM D1586).

Plastic Limit	Water Content	Liquid Limit
X	●	△
[FINES CONTENT%]		
	BOTTOM OF CASING	
	LOSS OF CIRCULATION	


▽	WL (First Encountered)
▼	WL (Completion)
▽	WL (Estimated Seasonal High Water)
▽	WL (Stabilized)

	Fill
	Possible Fill
	Probable Fill
	Rock



GENERALIZED SUBSURFACE SOIL PROFILE Section line A-A'	
5429 Franklin Pike Add'l Geotechnical Exploration	
Urban Development Group LLC	
5429 Franklin Pike, Nashville, Tennessee, 37220	
Project No:	26:5679-A
Date:	03/21/2023

0.00 33.47 165.3₂ 277.9₆ 319.6₇ 349.4₈ 382.7₂ 404.5₅ 438.9₇

CLIENT: Urban Development Group LLC	PROJECT NO.: 26:5679-A	SHEET: 1 of 1	
PROJECT NAME: 5429 Franklin Pike Add'l Geotechnical Exploration	TEST PIT NO.: TP-1A	SURFACE ELEVATION: 763	
SITE LOCATION: 5429 Franklin Pike, Nashville, Tennessee, 37220		STATION:	
NORTHING: 625313.4		EASTING: 1738780.9	

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DESCRIPTION OF MATERIAL	EXCAVATION EFFORT	DCP	QP (TSF)	SAMPLE NUMBER	MOISTURE CONTENT (%)
5		758	Topsoil Thickness[12"]					
			(CL) LEAN CLAY, trace gravel, trace sand, trace organics, dark brown, moist, stiff					
			BUCKET REFUSAL AT 2.5 FT				1.75	S-1
10		753						
15								

REMARKS:


THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDRY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

EXCAVATION EFFORT: E - EASY M - MEDIUM D - DIFFICULT VD - VERY DIFFICULT

<input type="checkbox"/> WL (First Encountered)	<input checked="" type="checkbox"/> WL (Seasonal High)	CONTRACTOR:	OPERATOR:	MAKE/MODEL:
<input checked="" type="checkbox"/> WL (Completion)		ECS		

ECS REP.:	DATE COMPLETED: Mar 13 2023	UNITS: English	CAVE-IN-DEPTH:
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TEST PIT LOG

CLIENT: Urban Development Group LLC	PROJECT NO.: 26:5679-A	SHEET: 1 of 1	
PROJECT NAME: 5429 Franklin Pike Add'l Geotechnical Exploration	TEST PIT NO.: TP-2A	SURFACE ELEVATION: 785	
SITE LOCATION: 5429 Franklin Pike, Nashville, Tennessee, 37220		STATION:	
NORTHING: 625202.6		EASTING: 1738703.4	

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DESCRIPTION OF MATERIAL	EXCAVATION EFFORT	DCP	QP (TSF)	SAMPLE NUMBER	MOISTURE CONTENT (%)
			Topsoil Thickness[12"]					
			(CH) FATCLAY WITH SAND, trace gravel, brown, moist				S-1	31.1
5		780	BUCKET REFUSAL AT 5 FT				S-2	31.7
10		775						
15								

REMARKS:


THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDRY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

EXCAVATION EFFORT: E - EASY M - MEDIUM D - DIFFICULT VD - VERY DIFFICULT

<input type="checkbox"/> WL (First Encountered)	<input checked="" type="checkbox"/> WL (Seasonal High)	CONTRACTOR:	OPERATOR:	MAKE/MODEL:
<input checked="" type="checkbox"/> WL (Completion)		ECS		

ECS REP.:	DATE COMPLETED: Mar 13 2023	UNITS: English	CAVE-IN-DEPTH:
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TEST PIT LOG

CLIENT: Urban Development Group LLC	PROJECT NO.: 26:5679-A	SHEET: 1 of 1	
PROJECT NAME: 5429 Franklin Pike Add'l Geotechnical Exploration	TEST PIT NO.: TP-3A	SURFACE ELEVATION: 803	
SITE LOCATION: 5429 Franklin Pike, Nashville, Tennessee, 37220		STATION: 1738622.1	
NORTHING: 625124.6		EASTING: 1738622.1	

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DESCRIPTION OF MATERIAL	EXCAVATION EFFORT	DCP	QP (TSF)	SAMPLE NUMBER	MOISTURE CONTENT (%)
5		798	Topsoil Thickness[12"]					
			(CL) LEAN CLAY WITH SAND, trace gravel, brown, moist					
			BUCKET REFUSAL AT 2.5 FT				S-1	22.1
10		793						
15								

REMARKS:


THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDRY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

EXCAVATION EFFORT: E - EASY M - MEDIUM D - DIFFICULT VD - VERY DIFFICULT

<input type="checkbox"/> WL (First Encountered)	<input checked="" type="checkbox"/> WL (Seasonal High)	CONTRACTOR:	OPERATOR:	MAKE/MODEL:
<input checked="" type="checkbox"/> WL (Completion)		ECS		

ECS REP.:	DATE COMPLETED: Mar 13 2023	UNITS: English	CAVE-IN-DEPTH:
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TEST PIT LOG

CLIENT: Urban Development Group LLC	PROJECT NO.: 26:5679-A	SHEET: 1 of 1	
PROJECT NAME: 5429 Franklin Pike Add'l Geotechnical Exploration	TEST PIT NO.: TP-4A	SURFACE ELEVATION: 817	
SITE LOCATION: 5429 Franklin Pike, Nashville, Tennessee, 37220		STATION:	
NORTHING: 625119.2		EASTING: 1738570.6	

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DESCRIPTION OF MATERIAL	EXCAVATION EFFORT	DCP	QP (TSF)	SAMPLE NUMBER	MOISTURE CONTENT (%)
5		812	Topsoil Thickness[12"]					
			(CL) LEAN CLAY WITH SAND, trace gravel, brown, moist					
			BUCKET REFUSAL AT 2.5 FT				S-1	22.3
10		807						
15								

REMARKS:


THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDRY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

EXCAVATION EFFORT: E - EASY M - MEDIUM D - DIFFICULT VD - VERY DIFFICULT

<input type="checkbox"/> WL (First Encountered)	<input checked="" type="checkbox"/> WL (Seasonal High)	CONTRACTOR:	OPERATOR:	MAKE/MODEL:
<input checked="" type="checkbox"/> WL (Completion)		ECS		

ECS REP.:	DATE COMPLETED: Mar 13 2023	UNITS: English	CAVE-IN-DEPTH:
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TEST PIT LOG

CLIENT: Urban Development Group LLC	PROJECT NO.: 26:5679-A	SHEET: 1 of 1	
PROJECT NAME: 5429 Franklin Pike Add'l Geotechnical Exploration	TEST PIT NO.: TP-5A	SURFACE ELEVATION: 826	
SITE LOCATION: 5429 Franklin Pike, Nashville, Tennessee, 37220		STATION:	
NORTHING: 625123.9	EASTING: 1738526.0		

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DESCRIPTION OF MATERIAL	EXCAVATION EFFORT	DCP	QP (TSF)	SAMPLE NUMBER	MOISTURE CONTENT (%)
			Topsoil Thickness[18"]					
			(CH) SANDY FAT CLAY, light brown, moist				S-1	26.6
5		821	(CL) LEAN CLAY WITH SAND, trace gravel, brown, moist				S-2	22.6
			BUCKET REFUSAL AT 7.5 FT				S-3	24.0
10		816						
15								

REMARKS:


THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDRY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

EXCAVATION EFFORT: E - EASY M - MEDIUM D - DIFFICULT VD - VERY DIFFICULT

<input type="checkbox"/> WL (First Encountered)	<input checked="" type="checkbox"/> WL (Seasonal High)	CONTRACTOR:	OPERATOR:	MAKE/MODEL:
<input checked="" type="checkbox"/> WL (Completion)		ECS		

ECS REP.:	DATE COMPLETED: Mar 13 2023	UNITS: English	CAVE-IN-DEPTH:
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TEST PIT LOG

CLIENT: Urban Development Group LLC	PROJECT NO.: 26:5679-A	SHEET: 1 of 1	
PROJECT NAME: 5429 Franklin Pike Add'l Geotechnical Exploration	TEST PIT NO.: TP-6A	SURFACE ELEVATION: 830	
SITE LOCATION: 5429 Franklin Pike, Nashville, Tennessee, 37220		STATION:	
NORTHING: 625102.7		EASTING: 1738500.4	

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DESCRIPTION OF MATERIAL	EXCAVATION EFFORT	DCP	QP (TSF)	SAMPLE NUMBER	MOISTURE CONTENT (%)
			Topsoil Thickness[18"]					
			(CH) FAT CLAY, trace gravel, trace sand, brown, moist, very stiff					
			BUCKET REFUSAL AT 2.5 FT				S-1	27.4
5		825						
10		820						
15								

REMARKS:


THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDRY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

EXCAVATION EFFORT: E - EASY M - MEDIUM D - DIFFICULT VD - VERY DIFFICULT

<input type="checkbox"/> WL (First Encountered)	<input type="checkbox"/> WL (Seasonal High)	CONTRACTOR:	OPERATOR:	MAKE/MODEL:
<input type="checkbox"/> WL (Completion)		ECS		

ECS REP.:	DATE COMPLETED: Mar 13 2023	UNITS: English	CAVE-IN-DEPTH:
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TEST PIT LOG

CLIENT: Urban Development Group LLC	PROJECT NO.: 26:5679-A	SHEET: 1 of 1	
PROJECT NAME: 5429 Franklin Pike Add'l Geotechnical Exploration	TEST PIT NO.: TP-7A	SURFACE ELEVATION: 825	
SITE LOCATION: 5429 Franklin Pike, Nashville, Tennessee, 37220		STATION:	
NORTHING: 625061.8		EASTING: 1738508.1	

DEPTH (FT)	WATER LEVELS	ELEVATION (FT)	DESCRIPTION OF MATERIAL	EXCAVATION EFFORT	DCP	QP (TSF)	SAMPLE NUMBER	MOISTURE CONTENT (%)
			Topsoil Thickness[18"]					
			(CL) LEAN CLAY, trace gravel, trace sand, brown, moist, very stiff			2.50	S-1	21.0
5		820					S-2	20.8
			(CH) FAT CLAY, trace gravel, trace sand, brown, moist, very stiff				S-3	26.2
10		815	END OF TEST PIT AT 10 FT				S-4	25.9
15								

REMARKS:

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDRY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL

EXCAVATION EFFORT: E - EASY M - MEDIUM D - DIFFICULT VD - VERY DIFFICULT

<input type="checkbox"/> WL (First Encountered)	<input type="checkbox"/> WL (Seasonal High)	CONTRACTOR:	OPERATOR:	MAKE/MODEL:
<input type="checkbox"/> WL (Completion)		ECS		

ECS REP.:	DATE COMPLETED: Mar 13 2023	UNITS: English	CAVE-IN-DEPTH:
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TEST PIT LOG



Photo 1 – Test Pit-1A Excavation



Photo 2 – Test Pit-1A Spoils

Photolog



5429 Franklin Pike
Nashville, Tennessee
ECS Project No. 26:5679-A



Photo 3 – Test Pit-2A Excavation



Photo 4 – Test Pit-2A Spoils

Photolog



5429 Franklin Pike
Nashville, Tennessee
ECS Project No. 26:5679-A



Photo 5 – Test Pit-3A Excavation



Photo 6 – Test Pit-3A Spoils

Photolog



5429 Franklin Pike
Nashville, Tennessee
ECS Project No. 26:5679-A



Photo 7 – Test Pit-4A Excavation



Photo 8 – Test Pit-4A Spoils

Photolog



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Nashville, Tennessee
ECS Project No. 26:5679-A



Photo 9 – Test Pit-5A Excavation



Photo 10 – Test Pit-5A Spoils

Photolog



5429 Franklin Pike
Nashville, Tennessee
ECS Project No. 26:5679-A



Photo 11 – Test Pit-6A Excavation



Photo 12 – Test Pit-6A Spoils

Photolog



5429 Franklin Pike
Nashville, Tennessee
ECS Project No. 26:5679-A



Photo 13 – Test Pit-7A Excavation

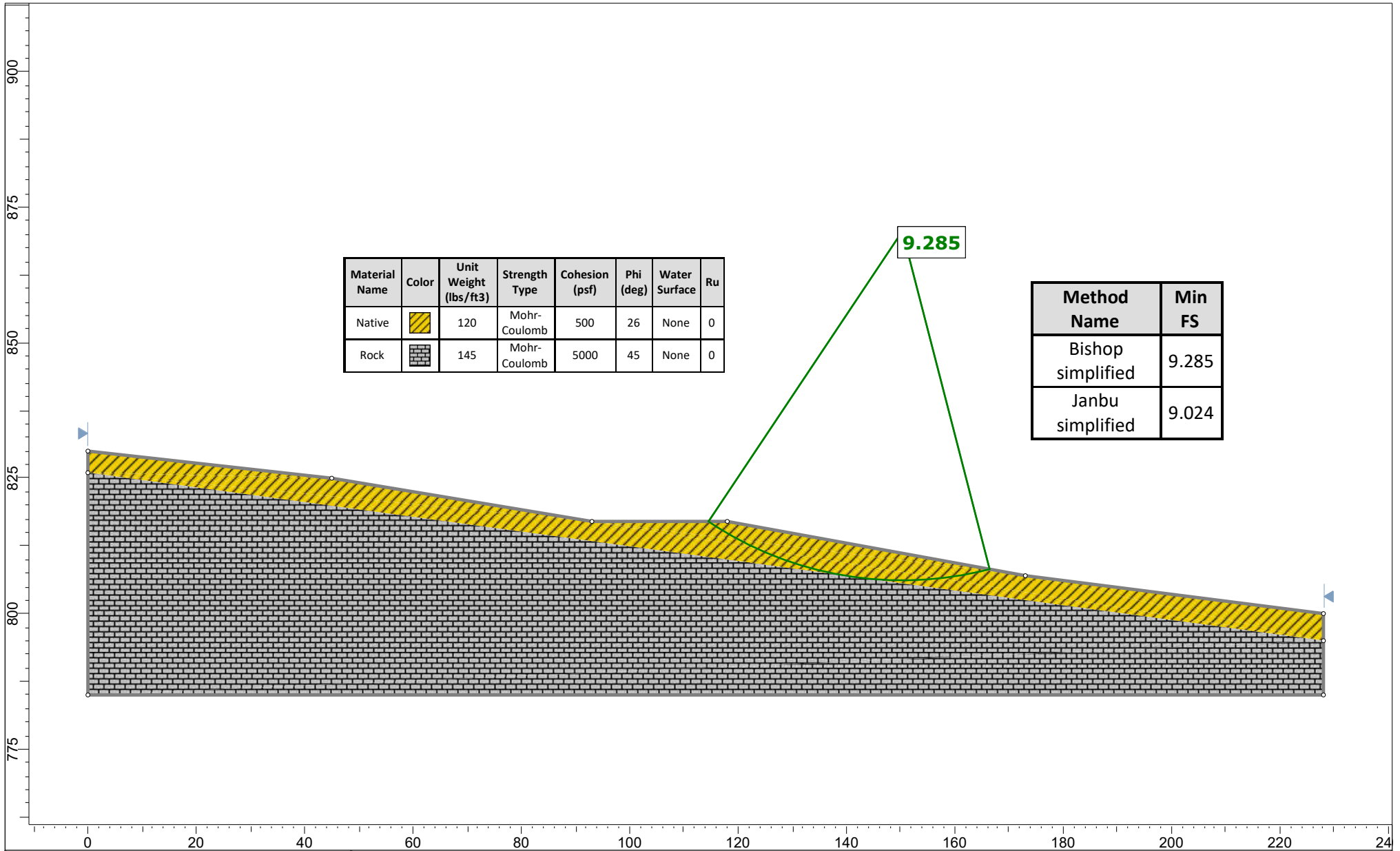


Photo 14 – Test Pit-7A Spoils

Photolog



5429 Franklin Pike
Nashville, Tennessee
ECS Project No. 26:5679-A

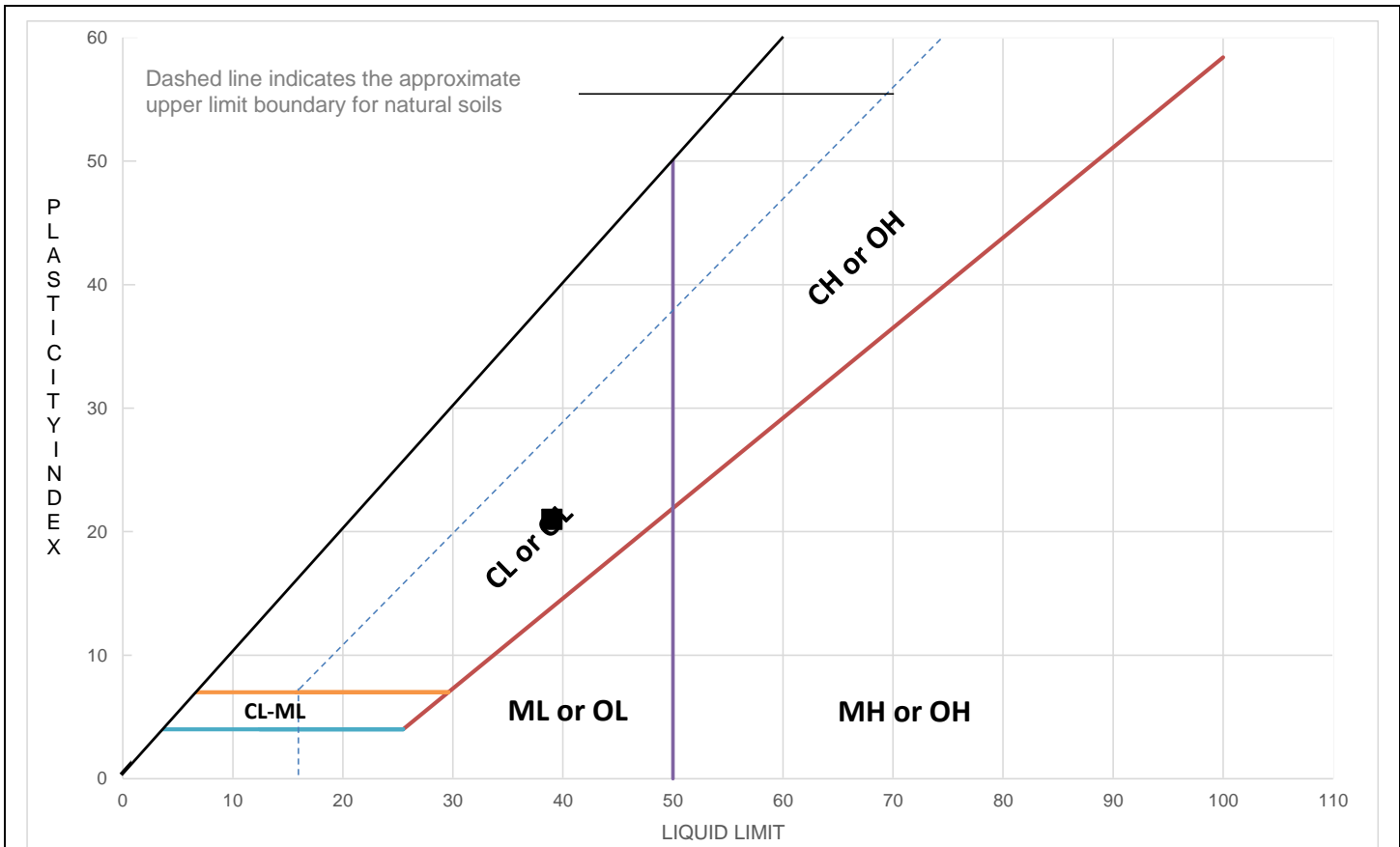


Material Name	Color	Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Ru
Native		120	Mohr-Coulomb	500	26	None	0
Rock		145	Mohr-Coulomb	5000	45	None	0

Method Name	Min FS
Bishop simplified	9.285
Janbu simplified	9.024

	Project	5429	
	Group	Group 1	Scenario Master Scenario
	Drawn By	JG	Company ECS
	Date	4/5/2023, 4:29:42 PM	File Name 5429 Lot.slmd
	SLIDEINTERPRET 9.027		

LIQUID AND PLASTIC LIMITS TEST REPORT



TEST RESULTS (ASTM D4318-10 (MULTIPOINT TEST))

#	Sample Location	Sample Number	Sample Depth (ft)	LL	PL	PI	%<#40	%<#200	AASHTO	USCS	Material Description
■	TP-4A	S-1	2.5	39	18	21					(CL) Lean Clay, Light Tannish Brown

Project: 5429 Franklin Pike Add'l Geotechnical Exploration
 Client: Urban Development Group LLC

Project No.: 26:5679-A
 Date Reported: 3/20/2023



Office / Lab
 ECS Southeast LLP - Nashville

Address
 318 Seaboard Lane
 Suite 208
 Franklin, TN 37067

Office Number / Fax
 (615)885-4983
 (615)771-4134

Tested by BHeineman	Checked by rbanner	Approved by rbanner	Date Received 3/13/2012
------------------------	-----------------------	------------------------	----------------------------

Laboratory Testing Summary

Sample Location	Sample Number	Depth (feet)	^MC (%)	Soil Type	Atterberg Limits			**Percent Passing No. 200 Sieve	Moisture - Density		CBR (%)		#Organic Content (%)
					LL	PL	PI		<Maximum Density (pcf)	<Optimum Moisture (%)	0.1 in.	0.2 in.	
TP-1A	S-1	2.5	30.4										
TP-2A	S-1	2.5	31.1										
TP-2A	S-2	5	31.7										
TP-3A	S-1	2.5	22.1										
TP-4A	S-1	2.5	22.3		39	18	21						
TP-5A	S-1	2.5	26.6										
TP-5A	S-2	5	22.6										
TP-5A	S-3	7.5	24.0										
TP-6A	S-1	2.5	27.4										
TP-7A	S-1	2.5	21.0										

Notes: See test reports for test method, ^ASTM D2216-19, *ASTM D2488, **ASTM D1140-17, #ASTM D2974-20e1 < See test report for D4718 corrected values

Definitions: MC: Moisture Content, Soil Type: USCS (Unified Soil Classification System), LL: Liquid Limit, PL: Plastic Limit, PI: Plasticity Index, CBR: California Bearing Ratio, OC: Organic Content

Project: 5429 Franklin Pike Add'l Geotechnical Exploration
Client: Urban Development Group LLC

Project No.: 26:5679-A
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Tested by	Checked by	Approved by	Date Received
LMinella	rbanner	rbanner	3/13/2012

Laboratory Testing Summary

Sample Location	Sample Number	Depth (feet)	^MC (%)	Soil Type	Atterberg Limits			**Percent Passing No. 200 Sieve	Moisture - Density		CBR (%)		#Organic Content (%)
					LL	PL	PI		<Maximum Density (pcf)	<Optimum Moisture (%)	0.1 in.	0.2 in.	
TP-7A	S-2	5	20.8										
TP-7A	S-3	7.5	26.2										
TP-7A	S-4	10	25.9										

Notes: See test reports for test method, ^ASTM D2216-19, *ASTM D2488, **ASTM D1140-17, #ASTM D2974-20e1 < See test report for D4718 corrected values

Definitions: MC: Moisture Content, Soil Type: USCS (Unified Soil Classification System), LL: Liquid Limit, PL: Plastic Limit, PI: Plasticity Index, CBR: California Bearing Ratio, OC: Organic Content

Project: 5429 Franklin Pike Add'l Geotechnical Exploration
 Client: Urban Development Group LLC

Project No.: 26:5679-A
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 (615)771-4134

Tested by	Checked by	Approved by	Date Received
LMinella	rbanner	rbanner	3/13/2012

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, clients can benefit from a lowered exposure to the subsurface problems that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed below, contact your GBA-member geotechnical engineer. Active involvement in the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Geotechnical-Engineering Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. *Those who rely on a geotechnical-engineering report prepared for a different client can be seriously misled.* No one except authorized client representatives should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one – not even you – should apply this report for any purpose or project except the one originally contemplated.*

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read it *in its entirety*. Do not rely on an executive summary. Do not read selected elements only. *Read this report in full.*

You Need to Inform Your Geotechnical Engineer about Change

Your geotechnical engineer considered unique, project-specific factors when designing the study behind this report and developing the confirmation-dependent recommendations the report conveys. A few typical factors include:

- the client's goals, objectives, budget, schedule, and risk-management preferences;
- the general nature of the structure involved, its size, configuration, and performance criteria;
- the structure's location and orientation on the site; and
- other planned or existing site improvements, such as retaining walls, access roads, parking lots, and underground utilities.

Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.*

This Report May Not Be Reliable

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, that it could be unwise to rely on a geotechnical-engineering report whose reliability may have been affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If your geotechnical engineer has not indicated an "apply-by" date on the report, ask what it should be, and, in general, if you are the least bit uncertain about the continued reliability of this report, contact your geotechnical engineer before applying it.* A minor amount of additional testing or analysis – if any is required at all – could prevent major problems.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface through various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing were performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgment to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team from project start to project finish, so the individual can provide informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, *they are not final*, because the geotechnical engineer who developed them relied heavily on judgment and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* revealed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a full-time member of the design team, to:

- confer with other design-team members,
- help develop specifications,
- review pertinent elements of other design professionals' plans and specifications, and
- be on hand quickly whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction observation.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for informational purposes only*. To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report, but they may rely on the factual data relative to the specific times, locations, and depths/elevations referenced. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may

perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely*. Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures*. If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. As a general rule, *do not rely on an environmental report prepared for a different client, site, or project, or that is more than six months old*.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, none of the engineer's services were designed, conducted, or intended to prevent uncontrolled migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, *proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration*. Confront the risk of moisture infiltration by including building-envelope or mold specialists on the design team. *Geotechnical engineers are not building-envelope or mold specialists*.



Telephone: 301/565-2733

e-mail: info@geoprofessional.org www.geoprofessional.org



June 13, 2023

Mr. Jeremy Walker
Urban Development Group, LLC
P.O. Box 90288
Nashville, TN 37209

ECS Project No. 26:5679

Reference: Letter of Subsurface Exploration
5429 Franklin Pike
5429 Franklin Pike
Nashville, Tennessee

Dear Mr. Walker:

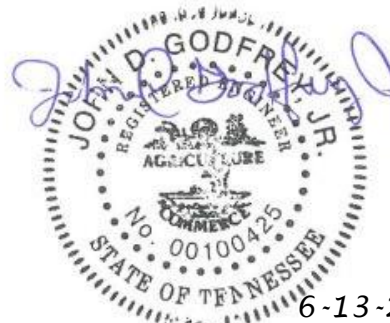
ECS Southeast, LLP (ECS) has completed the subsurface exploration, laboratory testing, and geotechnical engineering analyses for the above-referenced project. This letter has been prepared to provide additional information regarding the proposed project. The site plan set titled 5429 Franklin Pike, Nashville, TN 37220 Construction Documents, dated May 17, 2023, and prepared by SWS Engineering, Inc. was reviewed, containing the current site and grading plans, and they do comply with the geotechnical recommendations provided in ECS' initial report (ECS Report No. 26:5679) dated August 2, 2022, and the addendum report (ECS Report No. 26-5679-A) dated April 5, 2023.

If you have any questions, please do not hesitate to contact us.

Respectfully,
ECS SOUTHEAST, LLP

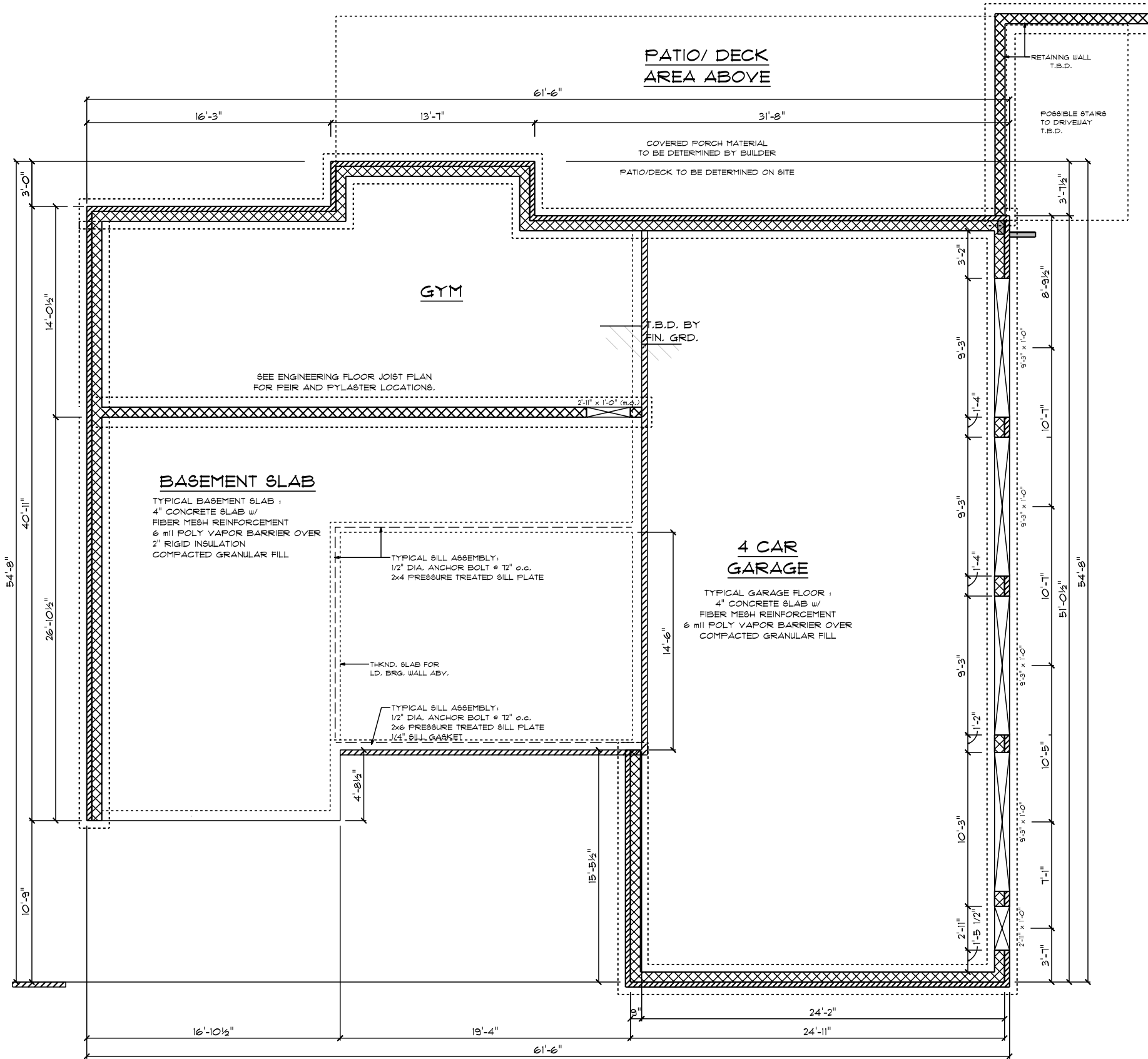
Trevor Nugent

Trevor Nugent
Geotechnical Staff Project Manager



6-13-2023

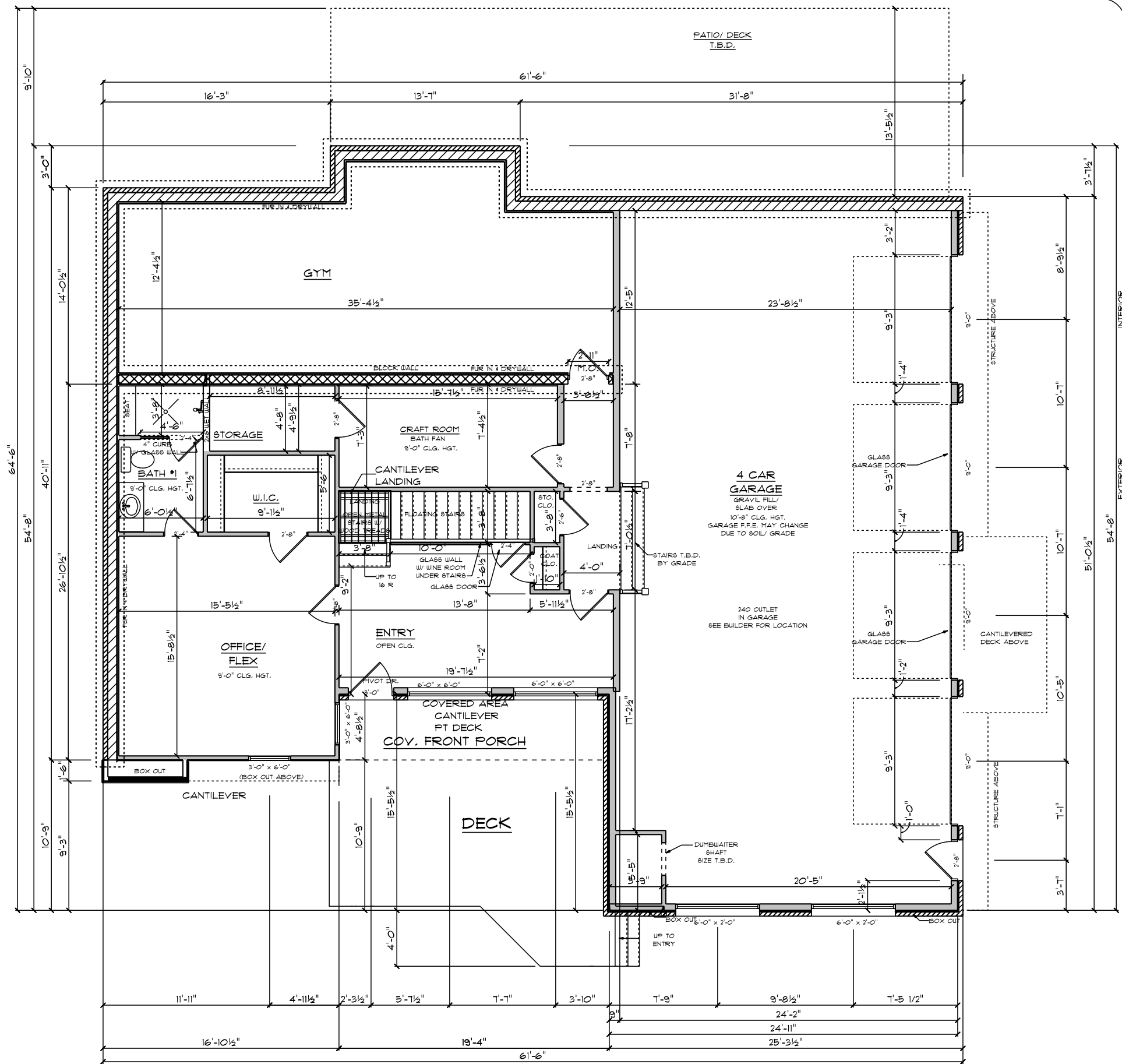
John D. Godfrey Jr., P.E.
Principal Engineer



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

<p>THESE DRAWINGS ARE FOR DESIGN INTENT ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE CONSTRUCTION MEETS OR EXCEEDS ALL CODES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL MECHANICAL SYSTEMS WITH THE FRAMEWORK AND AESTHETICS OF THIS HOME.</p>	
<p>FIN. BSMT/FIRST FLR. AREA = 1308 SQ. FT. SECOND FLOOR AREA = 2483 SQ. FT. THIRD FLOOR AREA = 1851 SQ. FT. TOTAL HEATED = 5642 SQ. FT.</p>	
<p>FIN. BSMT/FIRST FLR. = 1439 SQ. FT. 2ND FLOOR AREA = 2560 SQ. FT. THIRD FLOOR = 1922 SQ. FT. TOTAL HEATED = 5921 SQ. FT. GARAGE AREA = 1329 SQ. FT. FRONT PORCH AREA = 563 SQ. FT. DECK AREA = 311 SQ. FT. TOTAL = 9775 SQ. FT.</p>	<p>EXTERIOR</p>
<p>5429 Franklin Pike Nashville, Tennessee 37220</p>	
<p>Urban Development Group LLC</p>	<p>Drawn By: RLR</p>
<p>SCALE: AS NOTED ON II x II</p>	
<p>January 25, 2023</p>	
<p>PAGE: 1/8</p>	

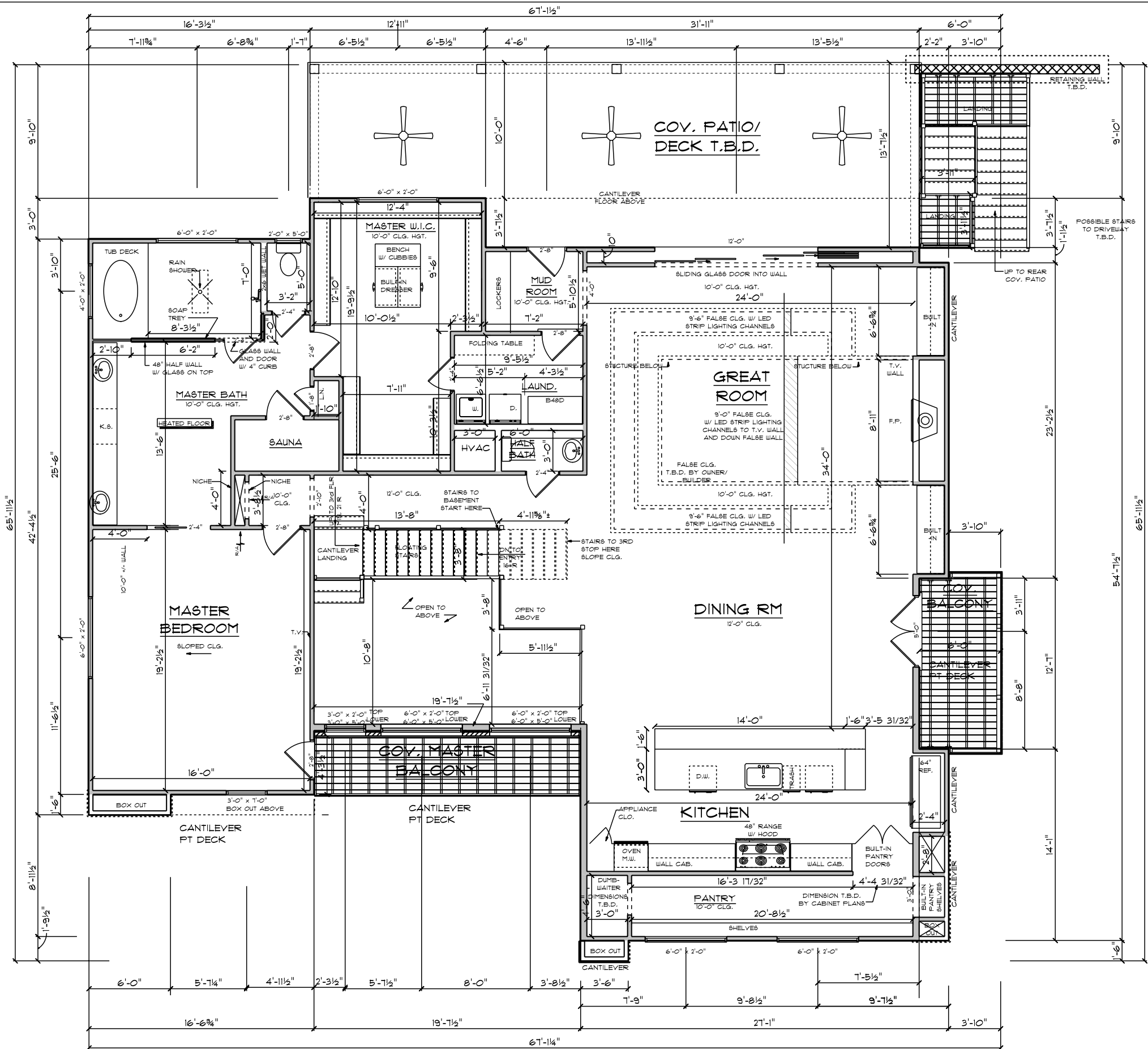
FIN. BSMNT/FIRST FLR - PLAN
SCALE: 1/8" = 1'-0"



<p>FIN. BSMNT/FIRST FLR = 1439 SQ. FT. 2ND FLOOR AREA = 2560 SQ. FT. THIRD FLOOR AREA = 1922 SQ. FT. TOTAL HEATED GARAGE AREA = 1329 SQ. FT. COVERED PORCH AREA = 563 SQ. FT. FRONT PORCH AREA = 311 SQ. FT. DECK AREA = 925 SQ. FT.</p>	<p>FIN. BSMNT/FIRST FLR AREA = 1908 SQ. FT. SECOND FLOOR AREA = 2483 SQ. FT. THIRD FLOOR AREA = 1851 SQ. FT. TOTAL HEATED = 5648 SQ. FT.</p>
<p>Urban Development Group LLC</p>	<p>5429 Franklin Pike Nashville, Tennessee 37220</p>
<p>January 25, 2023</p>	<p>SCALE: AS NOTED ON II x II Drawn By: RLR</p>
<p>PAGE:</p>	<p>2/8</p>

SECOND FLOOR - PLAN

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



THESE DRAWINGS ARE FOR DESIGN INTENT ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE CONSTRUCTION HEREIN COMPLETES ALL CODES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL MECHANICAL SYSTEMS WITH THE FRAMEWORK AND ABSTRACTS OF THIS NOTE.	
FIN. BSMT/FIRST FLR. AREA = 1308 SQ. FT. 2ND FLOOR AREA = 2483 SQ. FT. 3RD FLOOR AREA = 1851 SQ. FT. TOTAL HEATED AREA = 5642 SQ. FT.	FIN. BSMT/FIRST FLR. AREA = 1439 SQ. FT. 2ND FLOOR AREA = 2560 SQ. FT. 3RD FLOOR AREA = 1922 SQ. FT. TOTAL HEATED GARAGE AREA = 1393 SQ. FT. FRONT PORCH AREA = 563 SQ. FT. DECK AREA = 311 SQ. FT.
URBAN DEVELOPMENT GROUP LLC 5429 Franklin Pike Nashville, Tennessee 37220	SCALE: AS NOTED ON II x I I Drawn By: RLR
January 25, 2023	PAGE: 3/8



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

<p>INTERIOR</p> <p>FIN. BSMT./FIRST FLR. AREA = 1308 SQ. FT. SECOND FLOOR AREA = 2483 SQ. FT. THIRD FLOOR AREA = 1851 SQ. FT. TOTAL HEATED = 5648 SQ. FT.</p>	<p>EXTERIOR</p> <p>FIN. BSMT./FIRST FLR. = 1439 SQ. FT. 2ND FLOOR AREA = 2560 SQ. FT. THIRD FLOOR = 1922 SQ. FT. TOTAL HEATED = 5921 SQ. FT. GARAGE AREA = 1329 SQ. FT. FRONT PORCH AREA = 563 SQ. FT. DECK AREA = 311 SQ. FT. TOTAL = 9256 SQ. FT.</p>
<p>5429 Franklin Pike Nashville, Tennessee 37220</p>	
<p>Urban Development Group LLC</p>	
<p>SCALE: AS NOTED ON II x II Drawn By: RLR</p>	
<p>January 25, 2023</p>	
<p>PAGE: 4/8</p>	



RIGHT SIDE ELEVATION

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

THESE DRAWINGS ARE FOR DESIGN INTENT ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE CONSTRUCTION HERE OF EXCEEDS ALL CODES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL MECHANICAL SYSTEMS WITH THE FRAMEWORK AND AESTHETICS OF THIS HOME.

FIN. BSMT./FIRST FLR. AREA = 1308 SQ. FT.
 SECOND FLOOR AREA = 2483 SQ. FT.
 THIRD FLOOR AREA = 1851 SQ. FT.
 TOTAL HEATED = 5648 SQ. FT.

FIN. BSMT./FIRST FLR. = 1439 SQ. FT.
 2nd FLOOR AREA = 2560 SQ. FT.
 THIRD FLOOR = 1922 SQ. FT.
 TOTAL HEATED = 5921 SQ. FT.
 GARAGE AREA = 1393 SQ. FT.
 FRONT PORCH AREA = 563 SQ. FT.
 FRONT PORCH AREA = 311 SQ. FT.
 DECK AREA = 925 SQ. FT.

5429 Franklin Pike
 Nashville, Tennessee
 37220

Urban Development Group LLC
 SCALE: AS NOTED ON II x II
 Drawn By: RLR

January 25, 2023

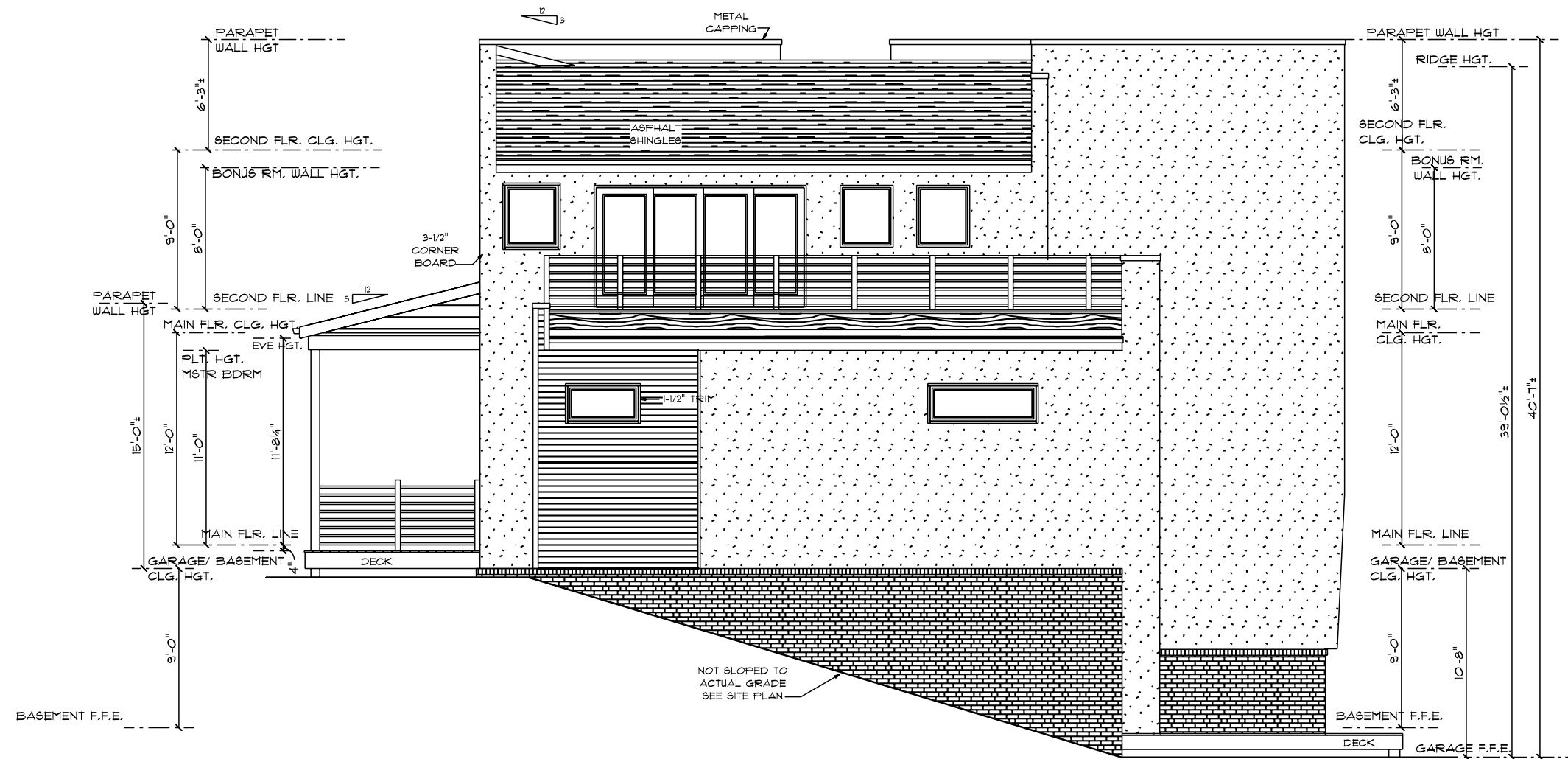
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 5/8



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

<p>INTERIOR</p> <p>FIN. BSMT./FIRST FLR. AREA = 1308 SQ. FT. SECOND FLOOR AREA = 2483 SQ. FT. THIRD FLOOR AREA = 1851 SQ. FT. TOTAL HEATED = 5648 SQ. FT.</p>	<p>EXTERIOR</p> <p>FIN. BSMT./FIRST FLR. = 1439 SQ. FT. 2ND FLOOR AREA = 2560 SQ. FT. THIRD FLOOR = 1922 SQ. FT. TOTAL HEATED = 5921 SQ. FT. GARAGE AREA = 1329 SQ. FT. CVRD PORCH AREA = 563 SQ. FT. FRONT PORCH AREA = 311 SQ. FT. DECK AREA = 925 SQ. FT.</p>
<p>5429 Franklin Pike Nashville, Tennessee 37220</p>	
<p>Urban Development Group LLC</p>	
<p>SCALE: AS NOTED ON II x II Drawn By: RLR</p>	
<p>January 25, 2023</p>	
<p>PAGE: 6/8</p>	

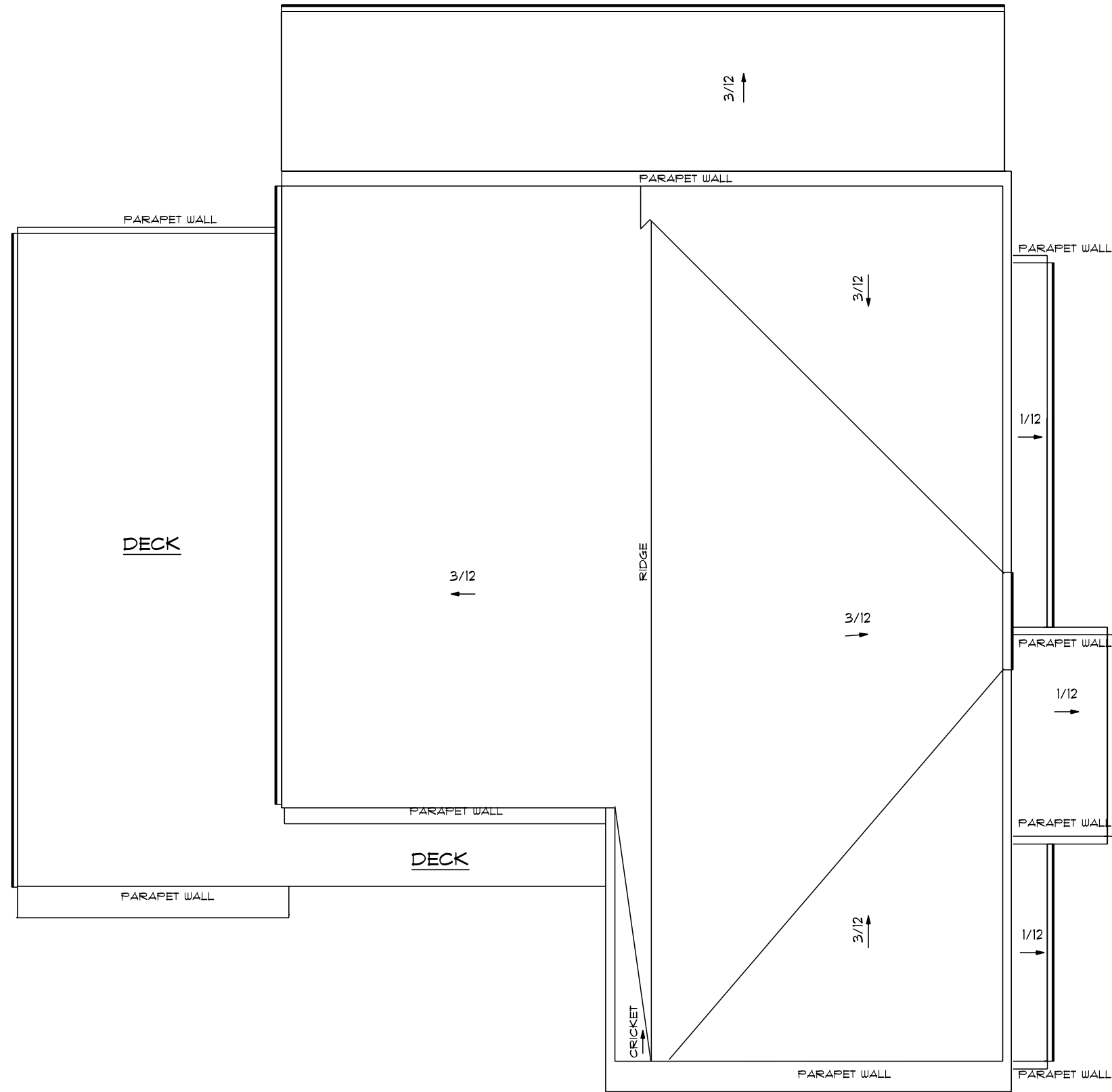
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LEFT ELEVATION
 SCALE: 1/8" = 1'-0"

INTERIOR	FIN. BSMT./FIRST FLR. AREA = 1308 SQ. FT. SECOND FLOOR AREA = 2483 SQ. FT. THIRD FLOOR AREA = 1851 SQ. FT. TOTAL HEATED = 5648 SQ. FT.
EXTERIOR	FIN. BSMT./FIRST FLR. = 1439 SQ. FT. 2nd FLOOR AREA = 2560 SQ. FT. THIRD FLOOR = 1922 SQ. FT. TOTAL HEATED = 5921 SQ. FT. GARAGE AREA = 1329 SQ. FT. FRONT PORCH AREA = 563 SQ. FT. DECK AREA = 311 SQ. FT. TOTAL = 9255 SQ. FT.
5429 Franklin Pike Nashville, Tennessee 37220	
Urban Development Group LLC SCALE: AS NOTED ON 11 x 11 Drawn By: RLJ	
January 25, 2023 PAGE: 7/8	

THESE DRAWINGS ARE FOR DESIGN INTENT ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE CONSTRUCTION MEETS OR EXCEEDS ALL CODES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL MECHANICAL SYSTEMS WITH THE FRAMEWORK AND AESTHETICS OF THIS HOME.



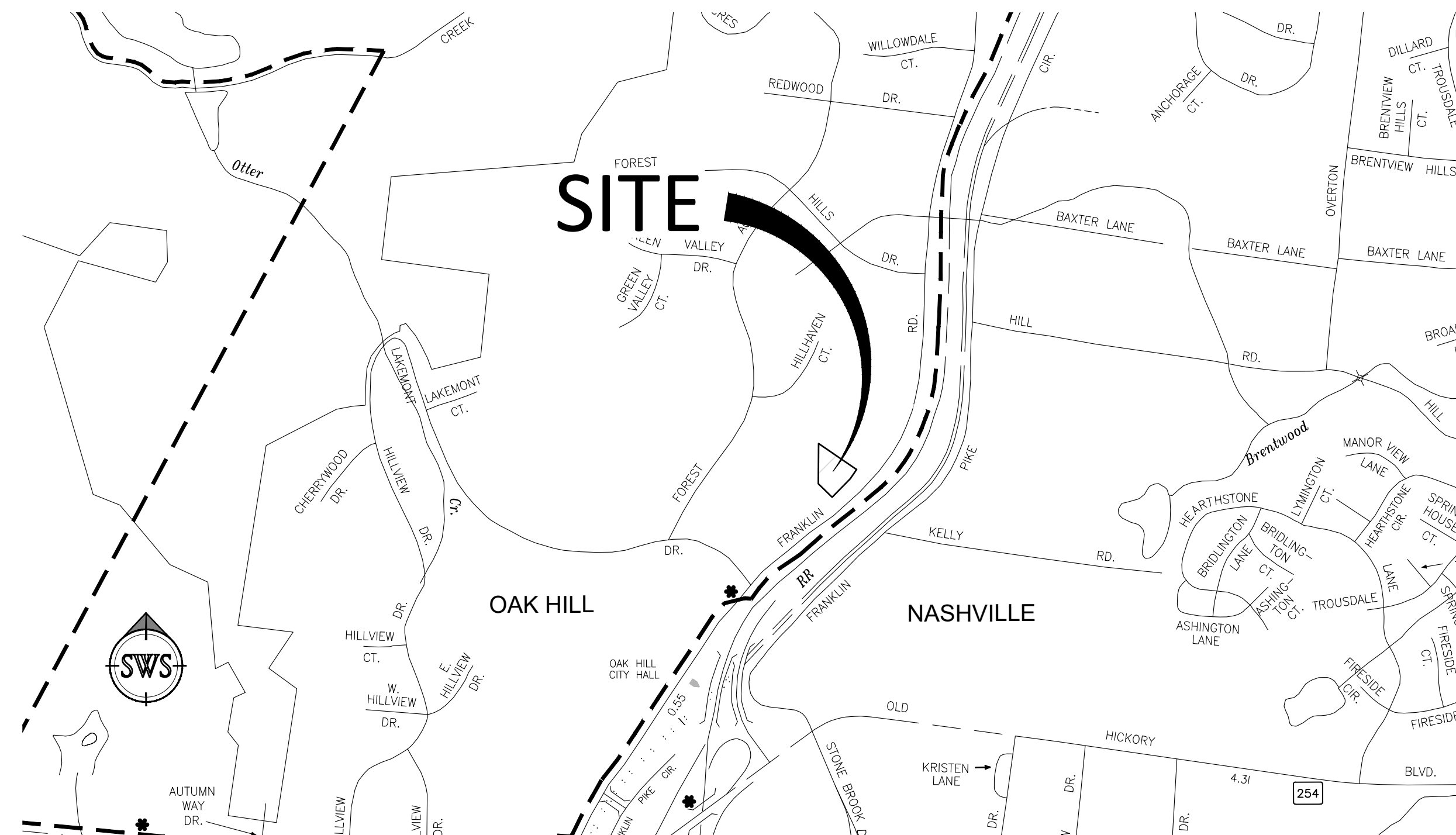
ROOF - PLAN
 SCALE: 1/8" = 1'-0"

<p>THESE DRAWINGS ARE FOR DESIGN INTENT ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE CONSTRUCTION MEETS OR EXCEEDS ALL CODES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL MECHANICAL SYSTEMS WITH THE FRAMEWORK AND AESTHETICS OF THIS HOME.</p>	
<p>FIN. BSMT/FIRST FLR. AREA = 1308 SQ. FT. SECOND FLOOR AREA = 2483 SQ. FT. THIRD FLOOR AREA = 1851 SQ. FT. TOTAL HEATED = 5648 SQ. FT.</p>	<p>FIN. BSMT/FIRST FLR. AREA = 1308 SQ. FT. SECOND FLOOR AREA = 2483 SQ. FT. THIRD FLOOR AREA = 1851 SQ. FT. TOTAL HEATED = 5648 SQ. FT.</p>
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<p>EXTERIOR</p>	<p>INTERIOR</p>
<p>5429 Franklin Pike Nashville, Tennessee 37220</p>	
<p>Urban Development Group LLC</p>	<p>SCALE: AS NOTED ON II x II Drawn By: RLK</p>
<p>January 25, 2023</p>	
<p>PAGE: 8/8</p>	

5429 FRANKLIN PKE

NASHVILLE, TN 37220

CONSTRUCTION DOCUMENTS SINGLE FAMILY LOT



VICINITY MAP
N.T.S.

DEVELOPMENT SUMMARY

OWNER: URBAN DEVELOPMENT GROUP,
JEFF LIVINGSTON

ENGINEER: MIKE SCHWEITZER, P.E.
SWS ENGINEERING, INC.
504 AUTUMN SPRINGS CT, A6
FRANKLIN, TN 37067
615-716-0683

PROPERTY ADDRESS: 5429 FRANKLIN PIKE
PARCEL ID: 1601000500
AREA: 91,139 SF, 2.092 ACRES
CURRENT ZONING: RESIDENTIAL D
FEMA FIRM: NO. 47037C0367H, EFFECTIVE DATE
APRIL 5, 2017, ZONE X

SETBACKS

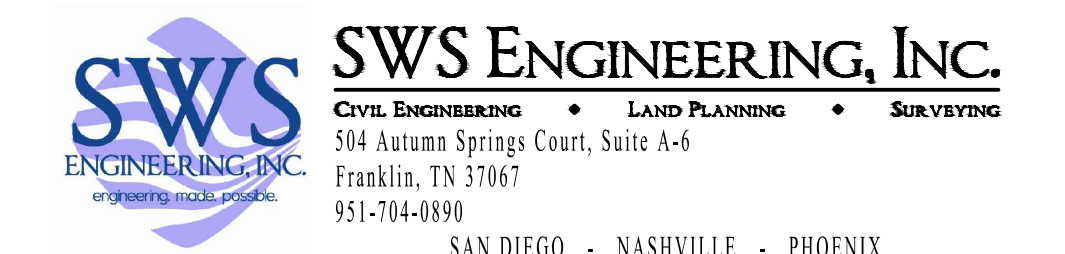
FRONT YARD: 125'
SIDE YARD: 35' (22% OF LOT WIDTH, UP TO 35' MAX)
REAR YARD: 70'

PHASING: SINGLE PHASE

SHEET SUMMARY

C0.00	-	COVER
C0.01	-	NOTES
V1.00	-	SURVEY
TS1.00	-	TREE DEMO PLAN
TS1.01	-	TREE TABLE
C1.00	-	SITE PLAN
C1.01	-	SIGHT DISTANCE PLAN
C2.00	-	OVERALL GRADING AND DRAINAGE PLAN
C2.01	-	ENLARGED GRADING AND DRAINAGE PLAN
C3.00	-	INITIAL EPSC PLAN
C3.01	-	CONSTRUCTION EPSC PLAN
C3.02	-	FINAL EPSC PLAN
C4.00	-	UTILITY PLAN
C5.00	-	SITE DETAILS
C5.10	-	GRADING AND DRAINAGE DETAILS
C5.20	-	EPSC DETAILS
C5.30	-	UTILITY DETAILS
L1.0	-	LANDSCAPE PLAN

REV:
DATE: 4/21/22
JOB NO.: 22-270T



DATE: May 17, 23 5:24pm by:preston.oyler
FILE:N:\2022\22-270T\PROJ\Construct\GP\LOT 3\22-270T_GP-C0.00 Cover.dwg

GENERAL NOTES

- EXISTING INFORMATION/TOPOGRAPHIC SURVEY WAS PREPARED BY CLINT ELLIOT SURVEYING
- PROPERTY MAP REFERENCE: 1601000700
- PROPERTY IS ZONED RD
- THE PROPERTY IS LOCATED IN ZONE "X" AREAS NOT AFFECTED BY THE 100 YEAR FLOOD PLAIN BASED ON FEMA "FLOOD RATE INSURANCE MAP" NO. 47037C0367H, EFFECTIVE ON 04/05/2017.
- BIDDER HAS VISITED THE SITE, BECOME FAMILIAR WITH LOCAL CONDITIONS UNDER WHICH WORK IS TO BE DONE, AND HAS CORRELATED THE BIDDER'S PERSONAL OBSERVATIONS WITH REQUIREMENTS OF CONTRACT DOCUMENTS. CONTRACTOR WILL NOT BE GIVEN EXTRA PAYMENT FOR DIFFERENCES BETWEEN SURVEY AND SITE CONDITIONS THAT MAY BE ENCOUNTERED.
- CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL CODES. OBTAIN, AT ITS OWN EXPENSE, ALL PERMITS AND PAY ALL FEES REQUIRED PRIOR TO BEGINNING WORK.
- THE CONTRACTOR SHALL CALL 811 OR VISIT call811.com/811-your-state AT LEAST 3 WORKING DAYS PRIOR TO ALL EXCAVATION AND/OR DEMOLITION.
- THE OWNER DOES NOT ASSUME RESPONSIBILITY FOR THE POSSIBILITY THAT DURING CONSTRUCTION, UTILITIES OTHER THAN THOSE SHOWN MAY BE ENCOUNTERED OR THAT ACTUAL LOCATIONS OF THOSE SHOWN MAY BE DIFFERENT FROM THE LOCATIONS DESIGNATED ON THE CONTRACT DRAWINGS. IN AREAS WHERE IT IS NECESSARY THAT THE EXACT LOCATION BE KNOWN OF UNDERGROUND FACILITIES, THE CONTRACTOR, AT ITS OWN EXPENSE, SHALL FURNISH ALL LABOR AND TOOLS TO EITHER VERIFY AND SUBSTANTIATE OR DEFINITELY ESTABLISH THE POSITIONS OF UNDERGROUND UTILITY LINES.
- ALL DAMAGE TO EXISTING ASPHALT PAVEMENT TO REMAIN WHICH RESULTS FROM NEW CONSTRUCTION SHALL BE REPLACED WITH LIKE MATERIALS AT CONTRACTOR'S EXPENSE.
- PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL FLAG AND PROTECT ALL TREES TO REMAIN IN ACCORDANCE WITH THE SPECIFICATIONS. DO NOT OPERATE OR STORE HEAVY EQUIPMENT, NOR HANDLE OR STORE MATERIALS, WITHIN THE DRIPLINES OF TREES OR OUTSIDE THE LIMIT OF GRADING.
- TREE PROTECTION SHALL CONSIST OF THE FOLLOWING STEPS:
 - CONTRACTOR SHALL HIRE A LICENSED LANDSCAPE CONTRACTOR TO OVERSEE TREE PROTECTION.
 - PRIOR TO ALL GRADING OPERATIONS, LOCATE TREES TO BE PROTECTED AND NEATLY CUT ROOTS TO A DEPTH OF 30" AT THE DIMENSIONED LIMITS SHOWN USING A UTILITY TRENCHING MACHINE.
 - TREAT EXPOSED ROOTS WITH A HORTICULTURAL TREE PRUNING PROTECTION PRODUCT.
 - PRUNE TREE LIMBS BY THE SAME PROPORTIONAL PERCENTAGE AS TREE ROOTS REMOVED (i.e. 25% OF ROOTS REMOVED SHALL RESULT IN 25% OF TREE LIMBS REMOVED). IT IS THE OWNER'S INTENT TO PRESERVE ALL OF THE EXISTING SITE VEGETATION OUTSIDE THE LIMITS OF GRADING.
- ALL TREES ARE TO BE PROTECTED AND SAVED IF THEY FALL OUTSIDE THE LIMITS OF GRADING, EVEN IF THEY ARE NOT LOCATED OR IDENTIFIED ON THE SURVEY.
- SELECTIVE CLEARING BEYOND THE LIMIT OF GRADING SHALL CONSIST OF REMOVAL OF HONEYSUCKLE, HERBACEOUS SHRUBS, POISON IVY, AND NOXIOUS WEEDS. GRASS SHALL BE SOWN ON THE WHOLE SITE AFTER PREPARATION, AS NOTED IN THE SPECIFICATIONS.
- THE CONTRACTOR SHALL, AT ITS OWN EXPENSE, REPAIR ALL DAMAGE CAUSED BY CONSTRUCTION OR THE CONSTRUCTION PROCESS. ALL DAMAGE SHALL BE REPAIRED ACCORDING TO CURRENT LOCAL STANDARDS AND SPECIFICATIONS. COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE COMPANY.
- EXCESS MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE OWNER'S PROPERTY AT NO ADDITIONAL COST, IN A LEGAL MANNER.
- THE CONTRACTOR SHALL CHECK EXISTING GRADES, DIMENSIONS, AND INVERTS IN THE FIELD AND REPORT ALL DISCREPANCIES TO THE ARCHITECT/ENGINEER PRIOR TO BEGINNING WORK.
- IN THE EVENT OF ANY DISCREPANCIES FOUND IN THE DRAWINGS OR IF PROBLEMS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK.
- PROVIDE AS-BUILT DRAWINGS WHICH INCLUDE AT LEAST TWO DIMENSIONS TO EACH VALVE AND MANHOLE FROM KNOWN SITE FEATURES. DRAWINGS SHALL INCLUDE VERTICAL AND HORIZONTAL INFORMATION ON ALL NEW UTILITIES AS WELL AS EXISTING UTILITIES ENCOUNTERED. AN AS-BUILT SURVEY SHALL BE PROVIDED FOR NEW SIDEWALK RAMP. AS-BUILT DRAWINGS TO BE DISTRIBUTED TO THE ARCHITECT/ENGINEER UPON COMPLETION.
- GUARD REFERENCE POINTS STAKED IN THE FIELD. ALL REFERENCE POINTS THAT ARE DESTROYED OR LOST SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

DEMOLITION NOTES

- CONTRACTOR TO OBTAIN ALL NECESSARY DEMOLITION AND TREE REMOVAL PERMITS FROM AUTHORITIES HAVING JURISDICTION PRIOR TO START OF SITE DEMOLITION.
- VERIFY THE CLEARING LIMITS AND FIELD CONDITIONS BEFORE BIDDING THIS PROJECT. NO EXTRAS WILL BE ALLOWED DUE TO THE IRREGULAR SURFACE CONDITIONS THAT MAY BE ENCOUNTERED ON THIS SITE.
- DEMOLITION AND REMOVAL OPERATIONS SHALL COMMENCE ONLY AFTER ALL EROSION AND SEDIMENTATION CONTROL MEASURES ARE IN PLACE AND FUNCTIONAL.
- PROVIDE NEAT AND STRAIGHT SAW CUTS OF EXISTING PAVEMENT ALONG ALL LIMITS OF PAVEMENT DEMOLITION.
- ALL DEMOLISHED MATERIALS BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED. DISPOSE OF OFF THE OWNER'S PROPERTY IN A LEGAL MANNER.
- ALL PAVEMENT BASE COURSES, SIDEWALK, CURBS, BUILDINGS, FOUNDATIONS, ETC. IN THE AREA TO BE REMOVED SHALL BE REMOVED TO FULL DEPTH. EXISTING BASE COURSE MATERIALS MAY BE WORKED INTO THE NEW PAVEMENT OR BUILDING SUBGRADE PROVIDED THAT THE GRADATION, CONSISTENCY, COMPACTION, SUBGRADE CONDITION, ETC. ARE IN ACCORDANCE WITH THE SPECIFICATIONS. BASE COURSE MATERIALS SHALL NOT BE WORKED INTO THE SUBGRADE OF AREAS TO RECEIVE PLANTING.
- THE CONTRACTOR SHALL USE WATER SPRINKLING AND OTHER SUITABLE METHODS AS NECESSARY TO CONTROL DUST AND DIRT CAUSED BY THE DEMOLITION WORK.
- ALL ITEMS OF CONSTRUCTION REMAINING AND SPECIFICALLY MENTIONED THAT INTERFERE WITH THE NEW CONSTRUCTION SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER.
- CAVITIES LEFT BY STRUCTURE REMOVAL SHALL BE BACKFILLED WITH SATISFACTORY MATERIAL AND COMPACTED TO 98% OF MAXIMUM DENSITY PER ASTM D698.
- PAVEMENT MARKINGS TO BE REMOVED SHALL BE PAINTED OVER TO MATCH PAVEMENT OR REMOVED WITH WIRE BRUSHING.
- EXCEPT AS SHOWN, NO TREES SHALL BE REMOVED AND/OR VEGETATION REMOVED WITHOUT APPROVAL OF THE OWNER/ENGINEER.

TREE PROTECTION NOTES

- BE RESPONSIBLE FOR THE ERECTION OF ALL BARRIERS NECESSARY TO PROTECT ANY EXISTING OR INSTALLED TREES FROM DAMAGE BOTH DURING AND AFTER CONSTRUCTION IN ACCORDANCE WITH THE STANDARDS OF THIS SUBSECTION.
- TREE PROTECTION FENCING
 - WHERE REQUIRED, ALL SPECIMEN TREES, TREES IN A TREE PROTECTION ZONE, AND TREES INTENDED FOR USE AS CREDIT TOWARDS THE LANDSCAPING SHALL BE FENCED IN ACCORDANCE WITH THIS SUBSECTION BEFORE GRADING OF OTHER LAND DISTURBING ACTIVITY BEGINS. FENCING SHALL EXTEND AT LEAST ONE FOOT IN DISTANCE FROM THE EDGE OF THE TREE FOR EACH INCH OF DIAMETER AT BREAST HEIGHT, SO THAT EACH TREE'S DRIPLINE IS PROTECTED, BUT NO LESS THAN TEN FEET FROM THE TRUNK. THE ENGINEER AND CONTRACTOR SHALL CONSIDER EXISTING SITE CONDITIONS IN DETERMINING THE EXACT LOCATION OF ANY TREE PROTECTION FENCING.
 - TYPE OF FENCING: ALL FENCING REQUIRED SHALL BE CHAIN LINK FENCING AT LEAST FOUR FEET IN HEIGHT AND SECURED USING APPROPRIATE POSTS SPACED NOT MORE THAN TEN FEET APART. SUCH CHAIN LINK FENCING IS NOT REQUIRED TO BE COATED.
 - SIGNAGE: SIGNS SHALL BE INSTALLED ON THE TREE PROTECTION FENCE VISIBLE ON ALL SIDES OF THE FENCED-IN AREA AT A RATE OF AT LEAST ONE SIGN FOR EVERY 150 LINEAR FEET. THE SIZE OF EACH SIGN MUST BE A MINIMUM OF TWO FEET BY TWO FEET TALL AND SHALL CONTAIN THE FOLLOWING LANGUAGE IN ENGLISH AND SPANISH: "TREE PROTECTION ZONE: KEEP OUT."
 - TRENCHING PRIOR TO CLEARING ACTIVITIES: THE REMOVAL OF TREE ADJACENT TO TREE SAVE AREAS CAN CAUSE INADVERTENT DAMAGE TO THE PROTECTED TREES. PRIOR TO CLEARING ACTIVITIES, TRENCHES WITH A MINIMUM DEPTH OF 12 INCHES SHALL BE CUT ALONG THE LIMITS OF THE DISTURBANCE, SO AS TO CUT, RATHER THAN TEAR TREE ROOTS.
 - INSPECTION: ALL TREE PROTECTION MEASURES SHALL BE INSPECTED AND APPROVED PRIOR TO THE START OF ANY LAND DISTURBING ACTIVITIES. FAILURE TO HAVE TREE PROTECTION MEASURES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION IS A VIOLATION OF THIS ORDINANCE.
 - NO CONSTRUCTION, GRADING, EQUIPMENT OR MATERIAL STORAGE OF ANY OTHER ACTIVITY SHALL BE ALLOWED WITHIN THE FENCED AREA. FENCING SHALL BE MAINTAINED UNTIL THE LAND DISTURBANCE ACTIVITIES ARE COMPLETE.

SITE NOTES

- THE FOLLOWING IS A MINIMUM CONSTRUCTION SEQUENCE FOR SITE WORK. IF FURTHER MEASURES ARE NEEDED, THE CONTRACTOR SHALL FURNISH AT NO ADDITIONAL COST TO THE PROJECT:
 - PROVIDE ADEQUATE TREE PROTECTION MEASURES.
 - INSTALL EROSION/SILTATION CONTROLS AS DESIGNATED ON PLANS.
 - CONSTRUCT DETENTION BASIN(S) AND STRUCTURE(S), IF REQUIRED.
 - GRADE THE ROADWAY AND BUILDING AREAS.
- CONSTRUCT STORM DRAINS AND DRAINAGE STRUCTURES. INSTALL SILTATION CONTROL MEASURES TO PREVENT SOIL FROM WASHING INTO STORM DRAINAGE STRUCTURES.
- PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING PAVEMENT AND NEW PAVEMENT. FIELD ADJUSTMENT OF FINAL GRADES MAY BE NECESSARY. INSTALL ALL UTILITIES PRIOR TO INSTALLATION OF PAVEMENT.
- DIMENSIONS AND RADII ARE TO THE FACE OF CURB, EDGE OF CONCRETE, OR TO THE FACE OF BUILDING UNLESS OTHERWISE NOTED.
- COORDINATES ARE FOR FACE OF BUILDING, CENTER LINES OF DRIVEWAYS, CENTER OF SANITARY SEWER MANHOLES, AND CENTER AT FACE OF CURB ON CURB INLETS, UNLESS OTHERWISE NOTED.
- VERIFY THE CLEARING LIMITS AND FIELD CONDITIONS BEFORE BIDDING THIS PROJECT. NO EXTRAS WILL BE ALLOWED DUE TO THE IRREGULAR SURFACE CONDITIONS THAT MAY BE ENCOUNTERED ON THIS SITE.

PUBLIC WORKS NOTES

- ALL WORK WITHIN THE PUBLIC RIGHT OF WAY REQUIRES AN EXCAVATION PERMIT FROM THE DEPARTMENT OF PUBLIC WORKS.
- PROOF-ROLLING OF ALL STREET SUBGRADES IS REQUIRED IN THE PRESENCE OF THE PUBLIC WORKS INSPECTOR. INSPECTION OF THE BINDER COURSE IS REQUIRED PRIOR TO FINAL PAVING IN THE PRESENCE OF THE PUBLIC WORKS INSPECTOR. THESE REQUESTS ARE TO BE MADE 24 HOURS IN ADVANCE.
- STOP SIGNS ARE TO BE 30 INCH BY 30 INCH.
- STREET SIGNS TO HAVE SIX INCH WHITE LETTERS ON A NINE INCH GREEN ALUMINUM BLADE, HIGH INTENSITY REFLECTIVE.
- ALL PAVEMENT MARKING ARE TO BE THERMOPLASTIC.

WATER AND SEWER NOTES

- ALL WATER AND SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH SPECIFICATIONS AND STANDARD DETAILS OF THE METRO WATER SERVICES.
- THE CONTRACTOR IS RESPONSIBLE FOR REIMBURSING THE METRO WATER SERVICES THE COST OF INSPECTION.
- THE CONTRACTOR IS TO PROVIDE AND MAINTAIN THE CONSTRUCTION IDENTIFICATION SIGN FOR PRIVATE DEVELOPMENT APPROVED.
- ALL CONNECTIONS TO EXISTING MANHOLES SHALL BE BY CORING AND RESILIENT CONNECTOR METHOD.
- REDUCED PRESSURE BACKFLOW PREVENTION DEVICES (RPBP) OR DUAL CHECK VALVE WILL BE REQUIRED ON ALL TEST AND FILL LINES (JUMPER) NEEDED FOR WATER MAIN CONSTRUCTION AND MUST BE APPROVED BY THE METRO WATER SERVICES.
- ALL WATER METERS SHALL BE A MINIMUM OF 24" NOT TO EXCEED A MAXIMUM OF 28" BELOW FINISHED GRADE.
- PRESSURE REGULATING DEVICES WILL BE REQUIRED ON THE CUSTOMER SIDE OF THE METER WHEN PRESSURES EXCEED 100 PSI.
- PRESSURE REGULATING DEVICES WILL BE REQUIRED ON THE STREET SIDE OF THE METER WHEN PRESSURES EXCEED 150 PSI.

GRADING AND DRAINAGE NOTES

- STRIP AVAILABLE TOPSOIL AND STORE ON SITE. INSTALL SILTATION CONTROL (SILT FENCE) AROUND SOIL STOCKPILES, AS NEEDED. CONTRACTOR TO FURNISH ADDITIONAL TOPSOIL OR REMOVE EXCESS TOPSOIL AT NO ADDITIONAL EXPENSE TO THE OWNER.
- PROVIDED TEMPORARY SEEDING ON STOCKPILES AND ALL OTHER AREAS OF THE SITE THAT WILL REMAIN UNDISTURBED FOR 30 DAYS OR MORE.
- PLACE TOPSOIL AND APPLY SEED AND MULCH TO ALL DISTURBED AREAS. PLACE AND RAKE TOPSOIL TO A MINIMUM DEPTH OF SIX (6) INCHES IN AREAS TO RECEIVE LANDSCAPING.
- IT IS THE OWNER'S INTENT TO PRESERVE ALL OF THE EXISTING SITE VEGETATION OUTSIDE THE LIMITS OF GRADING.
- ALL GRADED AREAS SHALL BE SEEDED AND MULCHED WITHIN 14 DAYS AFTER GRADING IS COMPLETED. SLOPES 3:1 AND STEEPER WITHIN 7 DAYS.
- ALL DRAINAGE STRUCTURES, PIPES WITHIN THE LIMITS OF CONSTRUCTION, AND DETENTION PONDS SHALL HAVE SEDIMENT REMOVED PRIOR TO FINAL ACCEPTANCE.
- TOP OF GRATE ELEVATIONS FOR CURB INLETS ARE GIVEN TO THE CENTER OF THE INLETS AT THE FACE OF CURB. THE GRATES SHALL SLOPE LONGITUDINALLY WITH THE PAVEMENT GRADE. ADJUST THE CASTING TO FALL ALONG THE CURB LINE.
- SPOT ELEVATIONS AND CONTOURS REPRESENT PROPOSED FINISHED GRADE AND TOP OF FINISHED PAVEMENT.
- CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS AND INVERTS PRIOR TO BEGINNING WORK.
- CONTOUR LINES AND SPOT ELEVATIONS ARE THE RESULT OF A DETAILED ENGINEERING GRADING DESIGN AND REFLECT A PLANNED INTENT WITH REGARD TO DRAINAGE. SHOULD THE CONTRACTOR HAVE QUESTIONS OF THIS INTENT OR PROBLEMS WITH CONTINUITY OF GRADES, THE ARCHITECT/ENGINEER SHALL BE CONTACTED PRIOR TO BEGINNING WORK.
- ALL CURBS AND SIDEWALKS SHALL BE BACKFILLED WITH TOPSOIL, SEEDED AND MULCHED, UNLESS OTHERWISE NOTED.

EROSION PREVENTION AND SEDIMENT CONTROL

- THE OWNER AND THE CONTRACTOR ARE REQUIRED TO SUBMIT A NOTICE OF INTENT (NOI) APPLICATION TO DISCHARGE CONSTRUCTION-ACTIVITY STORMWATER TO THE LOCAL TENNESSEE ENVIRONMENTAL ASSISTANCE CENTER AT LEAST 30 DAYS PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR AND OWNER SHALL PROVIDE (WITH THE NOI FOR THIS PROJECT) EXISTING NPDES PERMIT TRACKING NUMBERS FOR SITES WHERE BORROW MATERIAL MAY BE OBTAINED AND WHERE SPOIL MATERIAL MAY BE PLACED. SHOULD PERMITS NOT EXIST FOR BORROW AND SPOIL SITES, SEPARATE NOIS SHALL BE PROVIDED BY THE OWNER AND CONTRACTOR.
- THE NOTICE OF COVERAGE (NOC) OF THE PERMIT TO DISCHARGE CONSTRUCTION-ACTIVITY STORMWATER SHALL BE POSTED NEAR THE CONSTRUCTION ENTRANCE. THE CONTRACTOR SHALL HAVE A SET OF APPROVED EROSION CONTROL PLANS ON SITE DURING ALL CONSTRUCTION.
- THE RECEIVING WATER/STORM SEWER OPERATOR IS METRO NASHVILLE
- CONSTRUCTION SHALL BE SEQUENCED TO MINIMIZE EXPOSURE TIME OF CLEARED SURFACE AREA. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND FUNCTIONAL PRIOR TO EARTH MOVING OPERATIONS. ALL CONTROL MEASURES SHALL BE CHECKED AND REPAIRED AS NECESSARY, AT MAXIMUM 14 CALENDAR DAYS IN DRY PERIODS, AND WITHIN 24 HOURS OF ALL RAINFALL EXCEEDING 0.25 INCH PER 24 HOUR PERIOD.
- THE CONTRACTOR SHALL DESIGNATE IN WRITING THE NAME AND PHONE NUMBER OF THE INDIVIDUAL RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS.
- PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE REMOVED MORE THAN 20 CALENDAR DAYS PRIOR TO GRADING. ALL GRADED AREAS EXPECTED TO REMAIN UNFINISHED AND UNWORKED FOR MORE THAN 7 CALENDAR DAYS SHALL BE COVERED WITH TEMPORARY GRASS, SOD, STRAW, MULCH OR FABRIC MATERIAL. PERMANENT SOIL STABILIZATION SHALL BE INSTALLED WITHIN 15 CALENDAR DAYS OF FINAL GRADING.
- THE CONTRACTOR SHALL MAINTAIN RECORDS OF EROSION CONTROL INSPECTIONS AND REPAIRS FOR A MINIMUM OF 3 YEARS AFTER COMPLETION OF CONSTRUCTION.
- TEMPORARY SEEDING FOR TENNESSEE PROJECTS INCLUDE THE FOLLOWING OPTIONS:
 - JAN 1-MAY 1 ITALIAN RYE/KOREAN LESPEDEZA/SUMMER OATS
 - MAY 1-JULY 1 SUDAN OR STARR MILLET
 - JULY 15-JAN 1 BALBOA RYE/ITALIAN RYE
- SILT BARRIERS AND SEDIMENT TRAPS SHALL BE CLEANED OF ACCUMULATED SEDIMENT WHEN APPROXIMATELY 50% FILLED.
- STOCKPILES SHALL BE STABILIZED AND PROTECTED FROM EROSION.
- UPON COMPLETION OF SITE STABILIZATION, THE OWNER AND CONTRACTOR SHALL PROVIDE A NOTICE OF TERMINATION (NOT) FOR THE PROJECT TO THE LOCAL ENVIRONMENTAL ASSISTANCE CENTER. A COPY OF THE NOTICE OF TERMINATION SHALL BE PROVIDED TO THE ENGINEER.
- COMPLY WITH ALL LOCAL AND STATE SOIL EROSION AND SEDIMENT CONTROL REQUIREMENTS. PREVENT ALL SOIL EROSION ONTO PUBLIC ROADS OR INTO EXISTING DRAINAGE DITCHES OR WATERWAYS AS PER INSTRUCTIONS IN THE APPROVED STATE STORM WATER POLLUTION PREVENTION PLAN (SWPPP). ALL SOIL EROSION AND SEDIMENT CONTROL COSTS, AS WELL AS REGULAR INSPECTIONS BY A STATE CERTIFIED INSPECTOR, SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE INCLUDED IN THE PROJECT BID.
- MAINTAIN CRUSHED STONE AT THE SITE ACCESS. CONSTRUCTION VEHICLES SHALL NOT TRACK SOIL ONTO PUBLIC STREETS.
- INSTALL AND MAINTAIN EROSION/SILTATION CONTROL DEVICES, AS DESIGNATED ON THE PLAN, UNTIL ADEQUATE VEGETATION IS PRESENT TO PREVENT EROSION.
- ALL LOCATIONS OF TEMPORARY EROSION CONTROL DEVICES SHALL BE SUBJECT TO ADJUSTMENT.
- WHEN THE TEMPORARY EROSION CONTROL DEVICES ARE NO LONGER REQUIRED THEY SHALL BE REMOVED.
- EXISTING DETENTION POND SHALL BE CLEANED TO THE ORIGINAL DESIGN CONTOURS AND RESTABILIZED AFTER THE CONSTRUCTION SITE IS STABILIZED AT THE END OF PROJECT.
- REPLACE DAMAGED AND WORN OUT SILT BARRIERS.
- I CERTIFY THAT THESE PLANS HAVE BEEN PREPARED BY ME AND/OR UNDER MY DIRECT SUPERVISION. THIS PROJECT IS PLANNED TO DISTURB MORE THAN ONE ACRE. IT THEREFORE FALLS UNDER THE TENNESSEE DIVISION OF WATER POLLUTION CONTROL'S GENERAL NPDES PERMIT TO DISCHARGE STORM WATER ASSOCIATED WITH CONSTRUCTION ACTIVITY. SWS ENGINEERING, INC. WILL ASSIST THE CONTRACTOR IN SUBMITTING THE NOTICE OF INTENT (NOI) TO CONSTRUCT TO THE STATE AT LEAST 30 DAYS PRIOR TO BEGINNING LAND DISTURBANCE.

SWS ENGINEERING, INC.
 Civil, Environmental, Surveying, Land Planning, Construction Management
 514 Atlanta Springs Court, Suite A-4
 Franklin, TN 37067
 931-714-0891
 SAN DIEGO • NASHVILLE • PHOENIX



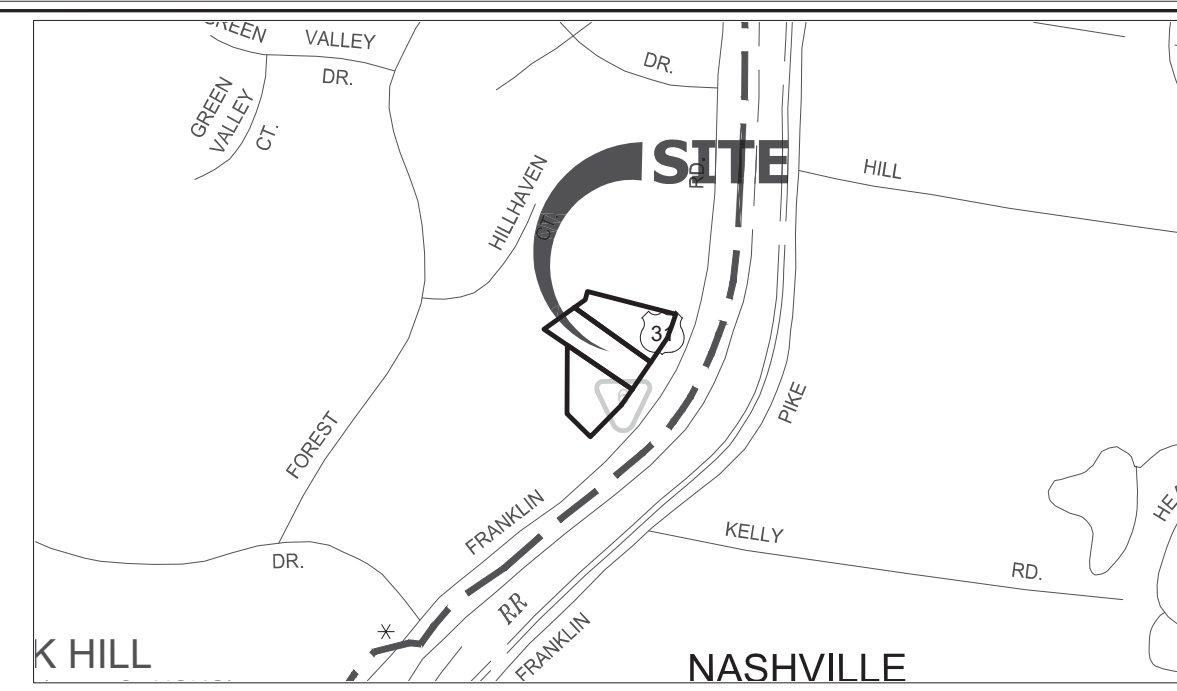
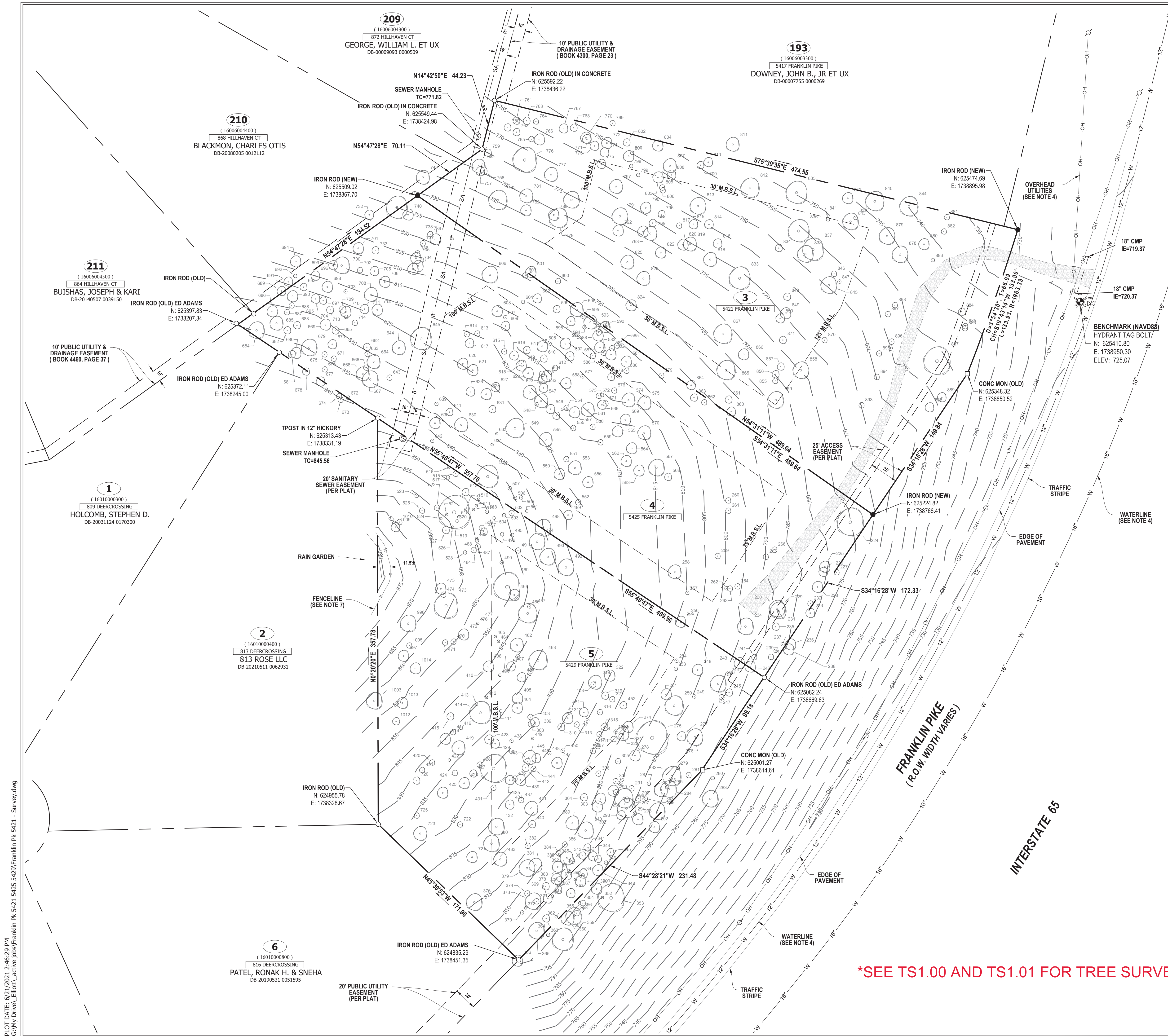
CIVIL NOTES
 CONSTRUCTION DOCUMENTS
5429 FRANKLIN PIKE
 NASHVILLE, TENNESSEE 37220

REV.	COMMENTS	DATE

C0.01

JOB NO.: 22-270T

DRAWN BY: DMO CHKD BY: PDA



TOTAL LOT AREA
 93,002 SF OR 2.135 ACRES± (LOT 3)
 92,996 SF OR 2.134 ACRES± (LOT 4)
 91,139 SF OR 2.092 ACRES± (LOT 5)

MAP REFERENCE
 Parcel ID for subject property is (16010000500) on Davidson County Property Map. (LOT 3)
 Parcel ID for subject property is (16010000600) on Davidson County Property Map. (LOT 4)
 Parcel ID for subject property is (16010000700) on Davidson County Property Map. (LOT 5)

DEED REFERENCE
 Owner: KF Legacy LLC, as of record in Instrument 20210602 0073777 Registers Office, Davidson County, Tennessee.

PLAT REFERENCE
 Being Lot Nos. 3, 4, & 5 on the First Revision of Deer Run Subdivision, as of record in Book 9700, Page 825, Register's Office for Davidson County, TN.

- SURVEYOR'S NOTES**
- This Property is located in the 34th Council District of Davidson County Tennessee.
 - Bearings, Elevations and Coordinates shown are based on Tennessee State Plane NAD83. (NAVD88)
 - The property is located in areas designated as "Zone X" (areas determined to be outside the 0.2 % annual chance floodplain) as noted on the current FEMA Firm Community Panel # 47037C0367H, effective on 4-5-2017.
 - Utilities shown hereon were taken from visible structures and other sources available to me at this time. Verification of existence, size, location and depth should be confirmed with the appropriate utility sources.
 - A Title Report was not provided for the preparation of this survey. Therefore this survey is subject to the findings of an accurate title search.
 - No Stream determinations were provided to this surveyor, therefore this survey does not address the existence or non-existence of any water of the state, jurisdictional stream buffers or wetlands.
 - This survey does not address the owner of any fence nor address any adverse claim of ownership of any adjoining property. Removal of any property line fence should be coordinated with adjacent owner.
 - Property is currently Zoned "Residential D". Setbacks per current zoning. **Verify with City of Oak Hill Zoning Ordinance.**
 Front Building Setback = Contextual Average = 75' Minimum & 125' Minimum (Per Plat)
 Rear Building Setback = 100' Minimum (Per Plat)
 Side Building Setback = 30' Minimum (Per Plat)
 - This survey was prepared for the exclusive use of the persons or entities named on the certification hereon. Said certificate does not extend to any unnamed person or entity without an express re-certification by the surveyor.

- GPS NOTES**
- The (TDOT) Tennessee Geodetic Reference Network was used for this survey
 - GPS locations used for this survey were established using a VRS network consisting of multiple reference stations
 - GPS data was collected with a Spectra Precision 80 receiver.
 - This survey was prepared without the use of a scale factor. Except in the instance of initial survey control, all distances or coordinates were derived from measurements taken by a total station. Coordinates used for the initial survey control were generated with the use of GPS observations and used as the basis for the coordinate system used for this survey.
 - The date of this survey is: 5/12/2021.

SURVEYOR'S CERTIFICATE
 To: Brandon C. Knox and KF Legacy, LLC

I hereby certify that this survey was actually made on the ground under my direct supervision, using the latest recorded deeds, and other information; that there are no encroachments or projections other than those shown; and that this survey exceeds the minimum requirements for a Category 1 Urban Land Survey pursuant to Chapter 0820-3, Section .05 of the Department of Insurance Standards of Practice for Land Surveyors; and that this survey is true and correct to the best of my knowledge and belief.

Jason A. Garrett, TN RLS # 2861

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 DIG - DRILL - BLAST - BORE
 CALL 811, OR (800) 351-1111
 (615) 367-1110
 TENNESSEE - ONE CALL CENTER

Symbol Legend

Symbol	Denotes
(Circle with dot)	IRON ROD (OLD)
(Circle with cross)	BENCHMARK
(Circle with X)	CATCH BASIN
(Circle with Y)	FIRE HYDRANT
(Circle with Z)	SEWER MANHOLE
(Circle with A)	EXISTING TREE
(Circle with B)	WATER VALVE
(Circle with C)	WATER METER
(Circle with D)	IRON ROD (NEW)
(Circle with E)	UTILITY POLE
(Circle with F)	CONCRETE
(Circle with G)	ASPHALT
(Circle with H)	GRAVEL

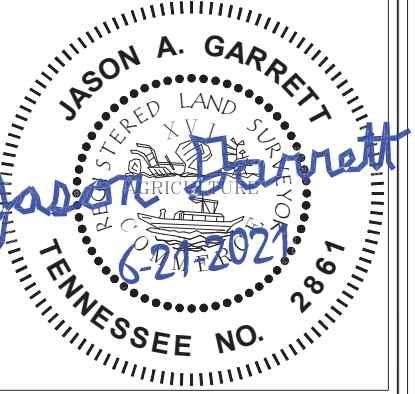
GRAPHIC SCALE (IN FEET)
 1 inch = 40 ft.

P.O. Box 331875
 Nashville, TN 37203
 clintheilottsurvey.com
 (615) 490-3236

CLINT ELLIOTT SURVEY

Boundary & Topographic Survey
 5421, 5425, & 5429 Franklin Pike
 Nashville, Davidson County, Tennessee 37220

Rev.	Date	Revision Description



Issue Date: 6-21-2021
 Project ID: FRANKLIN PK 5421
 Drafted By: KW/SS
 Field Crew: AK
 Checked By: KW

Sheet Title:
Boundary & Topographic Survey

Sheet No.
V-1.00

PLOT DATE: 6/21/2021 2:46:29 PM
 G:\My Drive\Elliott_active_jobs\Franklin PK 5421 - Survey.dwg

***SEE TS1.00 AND TS1.01 FOR TREE SURVEY INFO**

DEMOLITION LEGEND

- EXISTING TREES TO BE REMOVED
- EXISTING TREES TO BE REMOVED - MARKED BY ARBORIST AS DEAD, DECLINING OR DAMAGED
- EXISTING TREES TO REMAIN

LOT 1 - 5421

SF LOT 1: 93,002 SF
 EXISTING TREE COVERAGE AREA/PERCENTAGE: 47,856 SF/51.4%
 REMOVED TREE AREA/PERCENTAGE: 11,500 SF/24%
 PERCENTAGE OF TREE CANOPY REMAINING: 75.9%, 60% Req.

LOT 2 - 5425

SF LOT 2: 92,996 SF
 TREE COVERAGE AREA/PERCENTAGE: 49,646 SF/53.4%
 REMOVED TREE AREA/PERCENTAGE: 18,612 SF/37.5%
 PERCENTAGE OF TREES REMAINING: 62.5%, 60% Req.

LOT 3 - 5429

SF LOT 3: 91,139 SF
 TREE COVERAGE AREA/PERCENTAGE: 63,709 SF/70.0%
 REMOVED TREE AREA/PERCENTAGE: 8,100 SF/17.6%
 PERCENTAGE OF TREES REMAINING: 82.4%, 57% Req.



5429 TOTAL - 23 TREES

5421 TOTAL - 30 TREES

5425 TOTAL - 57 TREES

#	Species	Diameter	Tree Status	Lot #	Species	Diameter	Tree Status	Lot
50	Hackberry	13	x trunk defects	3	285 ash	23	x declining	1
51	Hackberry	14	x branch dieback	3	286 ash	22	x almost dead	1
194	Hackberry	10		3	287 ash	16	x declining	1
195	sugar maple	10	x mechanical damage	3	288 ash	17	x almost dead	1
196	Hackberry	20		3	294 ash	17	x declining	1
202	sugar maple	20	x almost dead one sucker remains	3	295 cedar	9		1
203	ash	15	x declining	3	296 cedar	8		1
204	elm	14	x declining	3	297 red oak	15		1
205	elm	11		3	298 ash	20	x almost dead	1
206	Hackberry	11		3	299 ash	22	x declining	1
207	sugar maple	8		3	300 ash	20	x declining	1
208	Hackberry	11		3	301 Hackberry	20		1
209	Hackberry	8		3	302 Hackberry	12	x hollow trunk	1
210	Hackberry	8		3	303 cedar	10		1
211	Hackberry	10		3	304 ash	8	x declining trunk damage	1
212	Hackberry	8	x trunk defect	3	305 Hackberry	14	x declining branch dieback	1
213	shagbark Hickory	10		3	313 Hackberry	19		1
215	Hackberry	9	trunk defect	3	315 Hackberry	17	x hollow trunk	1
218	ash	9	x declining	3	316 Hackberry	12	x hollow	1
219	ash	8	x declining	3	317 sugar maple	8	trunk defect	1
241	ash	26	x declining	3	318 black locust	10	x split	1
242	elm	8		3	319 Osage orange	9	@3 branch dieback	1
1	247 Hackberry	10		3	320 black locust	11	x base hollow	1
					321 Hackberry	8		1
					322 Hackberry	15	x trunk defects dead branches	1
					323 chinquapin oak	8		1
					324 ash	9	x declining	1
					325 Osage orange	8	x declining	1
					326 Hackberry	14	x leaning	1
					327 walnut	24	x leaning base defect	1

#	Species	Diameter	Tree Status	Lot
248	Hackberry	10	x dead top	2
263	Hackberry	10		2
306	Hackberry	19	x hollow trunk	2
307	ash	9	x almost dead	2
308	persimmon	17		2
369	redbud	9		2
370	Osage orange	13		2
371	ash	17	x almost dead	2
372	sugar maple	8	x trunk mechanical damage	2
373	ash	11	x declining	2
374	ash	8	x almost dead	2
375	Hackberry	12		2
376	Osage orange	18	x declining	2
377	Hackberry	9		2
378	Hackberry	16	x almost dead trunk defects	2
379	ash	8	x declining	2
380	ash	12	x declining	2
381	ash	15	x declining	2
382	ash	18	x declining	2
392	Osage orange	12	branch dieback	2
393	Hackberry	14		2
394	elm	8	x trunk damage inclusion with Hcd	2
395	Hackberry	13		2
396	shagbark Hickory	8		2
397	Hackberry	17	x hollow trunk	2
398	Hackberry	14		2
399	Hackberry	8		2
400	Hackberry	15		2
401	Hackberry	15	x trunk damage	2
402	elm	22	x main branch hollow	2
403	Hackberry	9		2
405	Hackberry	8	x mechanical damage	2
406	Hackberry	13	dead branches	2
407	Hackberry	16		2
408	Hackberry	8		2
409	Hackberry	14		2
410	Hackberry	8	x bark splitting	2
411	Hackberry	16		2
412	Hackberry	14	branch dieback	2
413	Hackberry	9		2
414	Hackberry	10	x mechanical damage	2
416	Mulberry	9	x almost dead	2
417	Hackberry	10		2
418	Hackberry	12	x hollow trunk	2
419	Hackberry	21	x hollow trunk	2
420	Hackberry	16		2
421	Hackberry	11	x trunk damage	2
422	ash	10	x mechanical damage declining	2
423	Hackberry	8		2
424	Osage orange	9	tip dieback	2
425	boxelder	8	x trunk damage	2
426	Hackberry	36	x @3 hollow declining	2
427	elm	9		2
428	ash	14	x declining trunk damage	2
429	ash	8	x declining	2
430	Mulberry	8	x almost dead	2
431	ash	25	x trunk damage almost dead	2

NOTE: TREE SURVEY PROVIDED BY PANTHER CREEK FORESTRY

MAP NO. 16.01 - PARCEL 07.00

PROJECT BENCHMARK
 BENCHMARK DESCRIPTION: HYDRANT TAG BOLT
 N: 625410.80 ELEVATION: 725.07
 E: 1738950.30 (NAVD88)

30' 15' 0' 30' 60'

SCALE IN FEET
 GRAPHIC SCALE 1"=30'

SWS ENGINEERING, INC.
 CIVIL ENGINEERING • LAND PLANNING • SURVEYING
 514 Atlanta Springs Court, Suite A-6
 Franklin, TN 37067
 931-714-0891

TS1.00

JOB NO.: 22-270T

DRAWN BY: DMO CHK BY: PDA

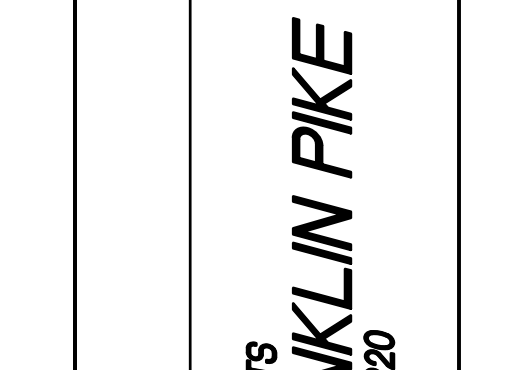
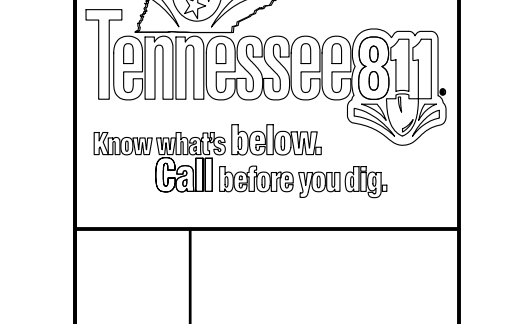
DATE: _____

COMMENTS: _____

REV. _____

DEMO AND TREE PLAN
 CONSTRUCTION DOCUMENTS
5421, 5425, 5429 FRANKLIN PIKE
 NASHVILLE, TENNESSEE 37220

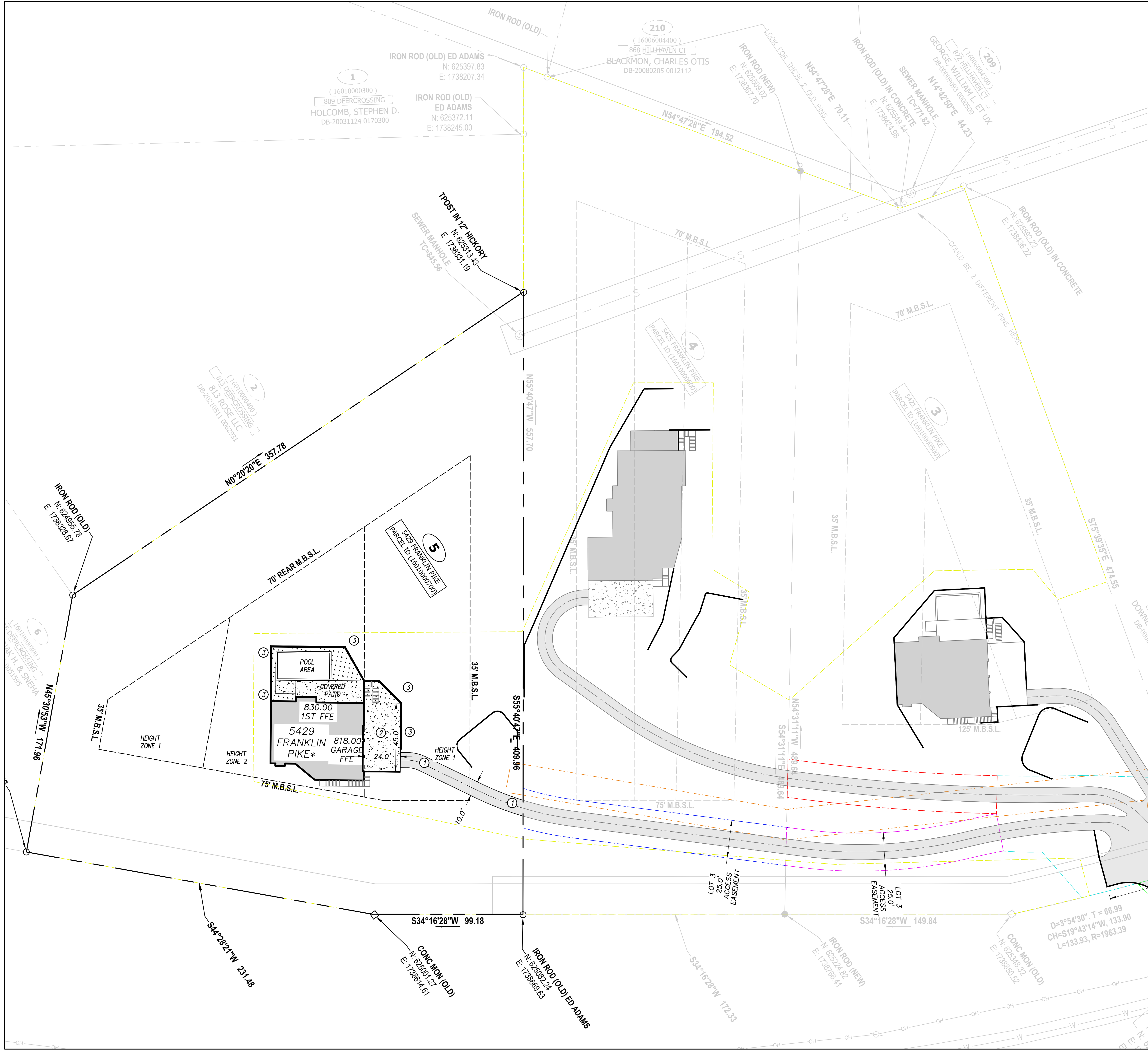
FID	Species	Diameter	Tree_stat_
0	ash	15	x almost dead
1	cedar	10	
2	cedar	8	
3	cedar	11	
4	Hackberry	18	x hollow
5	Hackberry	19	x hollow
6	ash	9	x declining
7	wamp white oa	8	
8	ash	28	x declining
9	cedar	10	bent top
10	cedar	8	trunk damage
11	redbud	8	
12	chinquapin oak	30	minor tip dieback
13	red oak	9	
14	red oak	12	
15	Osage orange	10	leaning
16	red oak	8	
17	ash	9	x declining
18	ash	12	x declining
19	ash	10	x declining
20	ash	11	x almost dead
21	elm	8	
22	elm	8	
23	Hackberry	14	x trunk defects
24	cedar	8	
25	cedar	10	
26	ash	10	x declining
27	ash	8	x declining
28	elm	13	x broken branches
29	ash	17	x declining
30	ash	8	x trunk damage almost dead
31	ash	8	x declining
32	ash	9	x almost dead
33	ash	9	x almost dead
34	ash	11	x almost
35	ash	9	x declining
36	ash	11	x declining
37	ash	9	x almost dead
38	ash	9	x declining
39	ash	12	x declining
40	ash	12	x declining
41	ash	18	x declining
42	cedar	9	
43	ash	15	x declining
44	ash	13	x declining
45	ash	8	x trunk defect almost dead
46	ash	13	x almost dead
47	red oak	37	x base trunk defect
48	ash	16	x declining
49	ash	10	x declining
50	Hackberry	13	x trunk defects
51	Hackberry	14	x branch dieback
52	ash	8	x declining
53	sugar maple	8	
54	ash	12	x declining
55	ash	17	x declining
56	ash	19	x almost dead
57	ash	13	x declining
58	ash	12	x declining
59	ash	10	x declining
60	ash	15	x almost dead
61	ash	14	x almost dead
62	ash	12	x almost dead
63	ash	11	x almost dead
64	ash	11	x almost dead
65	ash	8	x declining
66	ash	8	x almost dead
67	ash	8	x almost dead
68	ash	17	x declining
69	ash	8	x almost dead
70	sugar maple	17	x hollow fire damage
71	ash	13	x declining
72	elm	15	
73	sugar maple	10	
74	sugar maple	11	
75	ash	16	x almost dead
76	Hackberry	8	
77	elm	9	
78	Hackberry	10	
79	chinquapin oak	13	
80	Hackberry	10	x broken main branch
81	Hackberry	16	
82	Hackberry	12	
83	Hackberry	9	
84	Hackberry	10	
85	Hackberry	14	
86	sugar maple	8	
87	Hackberry	8	
88	ash	10	x declining
89	elm	8	
90	Hackberry	10	
91	chinquapin oak	12	tip dieback
92	ash	8	x almost dead
93	Hackberry	10	
94	Hackberry	8	
95	boxelder	9	
96	Hackberry	9	
97	Hackberry	8	x hollow base
98	Hackberry	8	x trunk damage
99	chinquapin oak	13	
100	elm	8	



CONSTRUCTION DOCUMENTS
5421, 5425, 5429 FRANKLIN PIKE
NASHVILLE, TENNESSEE 37220

REV.	COMMENTS	DATE

TS1.01
JOB NO: 22-270T
DRAWN BY: DMO CHKD BY: PDA



SITE LEGEND

- ASPHALT
- CONCRETE
- ① PRIVATE ASPHALT DRIVEWAY
- ② CONCRETE DRIVEWAY
- ③ RETAINING WALL, STRUCTURAL DESIGN BY OTHERS

SITE DATA TABLE

REQUIREMENT	REQUIRED	PROPOSED
MINIMUM LOT AREA	2 ACRE	2.09 ACRES
MINIMUM FRONT LOT LINE	150 FEET	330.66 FT
MAXIMUM LOT DEPTH LOT WIDTH RATIO	4:1	1.24:1
MAXIMUM LOT COVERAGE	---	---
FOR LOTS LESS THAN THE MINIMUM LOT AREA	13,000SF UP TO 20%	N/A
FOR LOTS GREATER THAN THE MINIMUM LOT AREA	20% UP TO 35,000SF	7700 SF
MAXIMUM GROSS FLOOR AREA (GAR)	14% WITH A MAXIMUM OF 18,000 SF	6.6%
MINIMUM YARD REQUIREMENTS FOR PRIMARY STRUCTURE	---	---
FRONT SETBACK	75 FT	75 FT
SIDE/BACK : INTERIOR LOT LINE	20 FEET SIDE YARD OF 22% OF LOT WIDTH, WHICHEVER IS GREATER. UP TO 35 FEET	35'
---	---	---
SIDE SETBACK: SIDE STREET	40 FT	N/A
REAR SETBACK	70 FT	N/A
MAXIMUM PRIMARY STRUCTURE HEIGHT - OVERALL	---	---
MAXIMUM STORIES	2 FLOORS	2 FLOORS
---	---	---
MAXIMUM HEIGHT	VARIES	VARIES
---	---	---
HEIGHT ZONE 1 HEIGHT MAXIMUM	28 FT	28'
HEIGHT ZONE 2 HEIGHT MAXIMUM	40 FT	40'
HEIGHT ZONE 3 HEIGHT MAXIMUM	NOT APPLICABLE	N/A
---	---	---
MINIMUM YARD REQUIREMENTS FOR ACCESSORY STRUCTURES, POOL HOUSES, POOLS, AND POOL DECK	D	D
---	BEHIND THE PRIMARY STRUCTURE	BEHIND HOUSE
---	---	---
FRONT SETBACK	25 FT	25'
SIDE SETBACK	40 FT	40'
SIDE SETBACK: SIDE STREET	40 FT	40'
REAR SETBACK	40 FT	40'
---	---	---
POOL HOUSE	MAXIMUM FOOTPRINT OF 25% OF THE PRIMARY STRUCTURE	---
---	---	---
MAXIMUM HEIGHT	25 FEET & 1 FLOOR	---

EASEMENT LEGEND

- LOT 5421,5425,5429 MAINTENANCE EASEMENT
- LOT 5421,5425,5429 SHARED ACCESS/UTILITY EASEMENT
- LOT 5425 ACCESS AND UTILITY EASEMENT
- LOT 5429 ACCESS AND UTILITY EASEMENT
- LOT 5429 ACCESS AND UTILITY EASEMENT
- NES EASEMENT
- CONSERVATION EASEMENT

MAP NO. 16.01 - PARCEL 07.00

PROJECT BENCHMARK
 BENCHMARK DESCRIPTION: HYDRANT TAG BOLT
 N: 625410.80 ELEVATION: 725.07
 E: 1738950.30 (NAVD88)

30' 15' 0' 30' 60'
 SCALE IN FEET
 GRAPHIC SCALE 1"=30'

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STATE OF TENNESSEE
 MICHAEL D. SCHWETTER
 Registered Professional Engineer
 No. 22457
 Exp. 08/31/2025

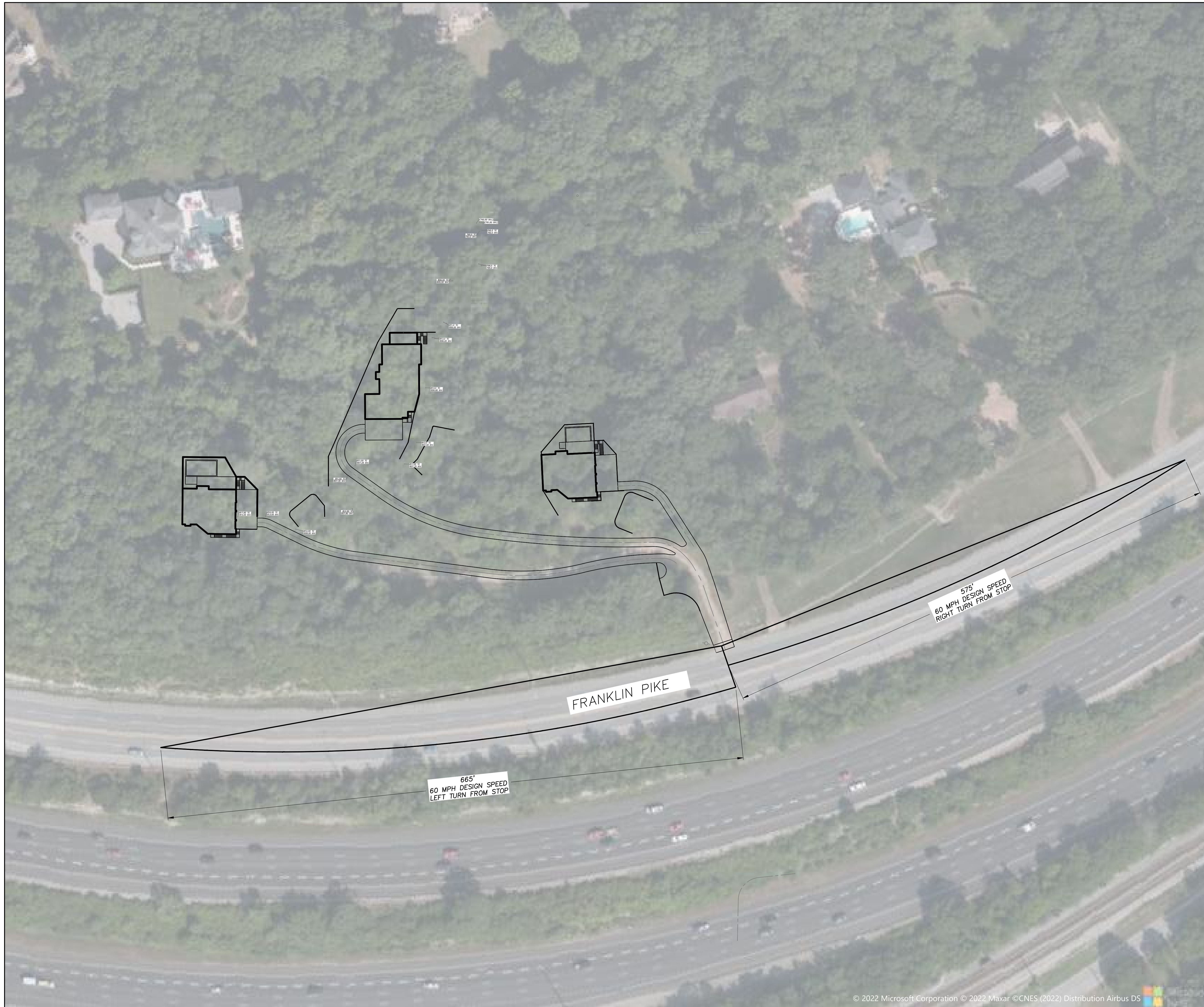
Tennessee
 Know what's below.
 Call before you dig.

SITE PLAN
 CONSTRUCTION DOCUMENTS
5429 FRANKLIN PIKE
 NASHVILLE, TENNESSEE 37220

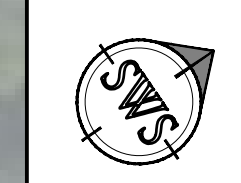
REV.	COMMENTS	DATE

C1.00

JOB NO.: 22-270T
 DRAWN BY: DMO
 CHECKED BY: PDA



MAP NO. 16.01 - PARCEL 07.00



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DATE

COMMENTS

REV.

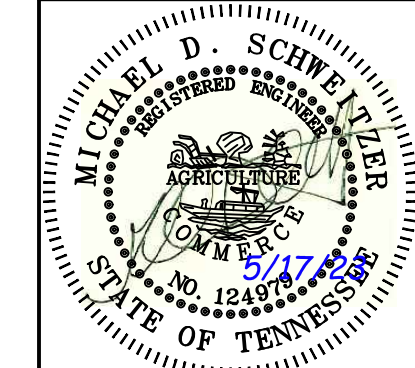
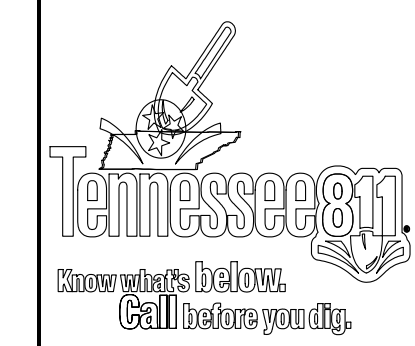
C1.01

JOB NO.: 22-270T

DRAWN BY: DMO
 CHKD BY: PDA

SIGHT DISTANCE PLAN

CONSTRUCTION DOCUMENTS
5429 FRANKLIN PIKE
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GRADING/DRAINAGE, EROSION CONTROL LEGEND

- XXX EXISTING CONTOUR
- XXX PROPOSED CONTOUR
- SD STORM PIPE
- XXX.XX TW TOP OF WALL
- XXX.XX BW BOTTOM OF WALL

- ① LEVEL 1 BIORETENTION BASIN
- ② RETAINING WALL, STRUCTURAL DESIGN BY OTHERS
- ③ CONCRETE HEADWALL, #2/CS.10
- ④ 2' WIDE, 6" DEEP SWALE

NOTE:

ALL PERIMETER MEASURES MUST BE IN PLACE BEFORE GRADING.

CONTRACTOR SHALL PROVIDE AN AREA FOR CONCRETE WASH DOWN AND EQUIPMENT FUELING IN ACCORDANCE WITH METRO CP-10 AND CP-13, RESPECTIVELY. CONTRACTOR TO COORDINATE EXACT LOCATION WITH NPDES DEPARTMENT DURING PRECONSTRUCTION MEETING. CONTROL OF OTHER SITE WASTES SUCH AS DISCARDED BUILDING MATERIALS, CHEMICALS, LITTER, AND SANITARY WASTES THAT MAY CAUSE ADVERSE IMPACTS TO WATER QUALITY IS ALSO REQUIRED BY THE GRADING PERMITEE.

ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED ACCORDING TO TDEC'S SPECIFICATIONS.

PROVIDE EROSION CONTROL MATTING ON ALL SLOPES 3:1 OR GREATER.

SITE CONTAINS 15% OR GREATER SLOPES ACROSS THE PROPERTY.

ALL GRASSED AREAS ON SLOPES 15% OR GREATER WILL REQUIRE SOD.

GEOTECHNICAL ENGINEER SHALL BE ON SITE DURING CONSTRUCTION TO MONITOR CONSTRUCTION. ENGINEER SHALL SUBMIT A GEOTECHNICAL CERTIFICATION LETTER CERTIFYING THE STABILITY OF THE SLOPE AND THE STRUCTURE TO THE CITY OF OAK HILL UPON COMPLETION OF CONSTRUCTION AND PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

PRE/POST SITE RUNOFF		
	PRE (CFS)	POST (CFS)
2 YEAR	9.487	9.235
5 YEAR	16.01	15.44
10 YEAR	20.58	20.43
25 YEAR	26.73	26.17
50 YEAR	31.38	30.50
100 YEAR	36.01	35.90

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OVERALL GRADING AND DRAINAGE PLAN
 CONSTRUCTION DOCUMENTS
5421, 5425, 5429 FRANKLIN PIKE
 NASHVILLE, TENNESSEE 37220

REV.	COMMENTS	DATE

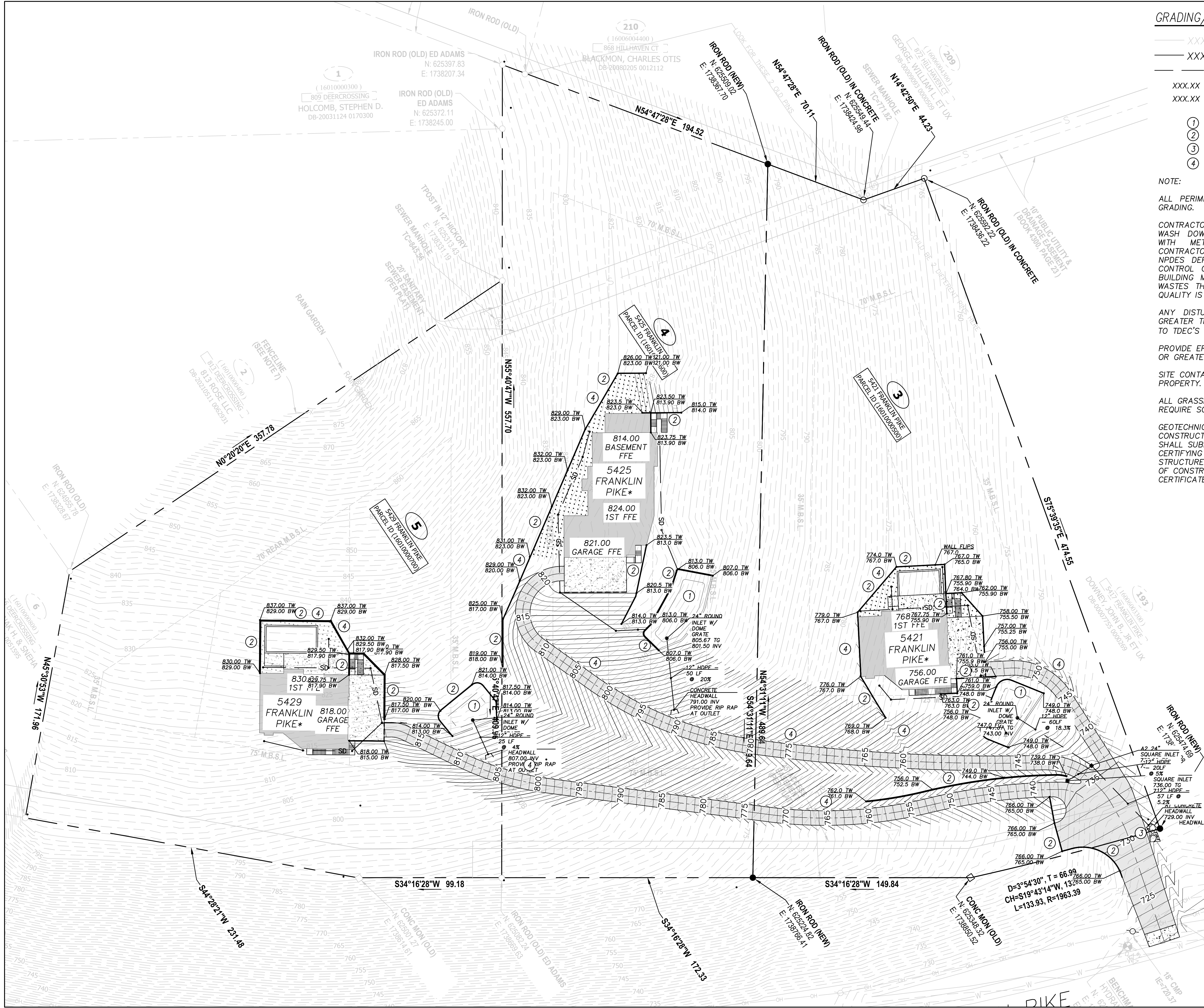
MAP NO. 16.01 - PARCEL 07.00

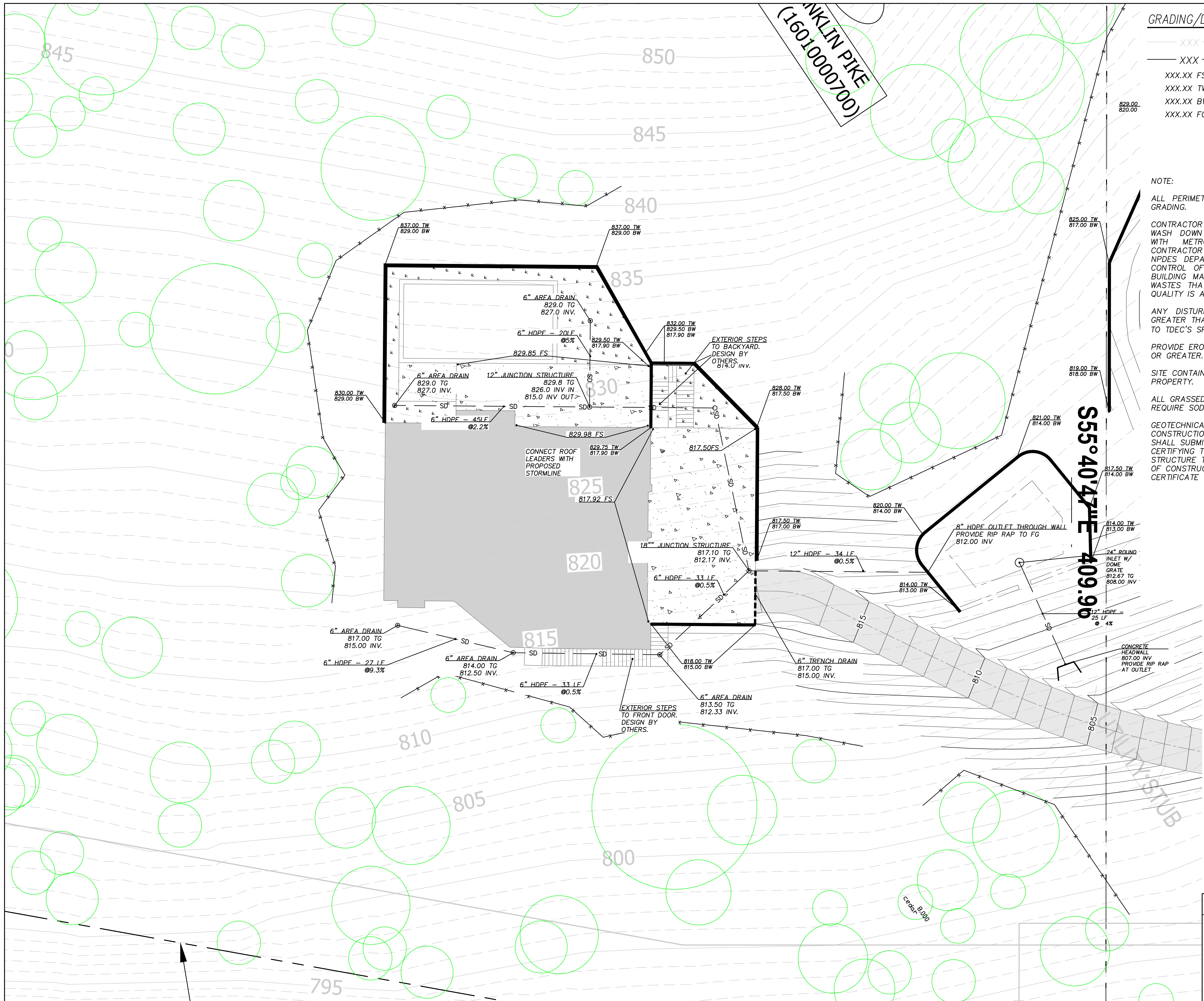
PROJECT BENCHMARK
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 N: 625410.80 ELEVATION: 725.07
 E: 1738950.30 (NAVD88)

30' 15' 0' 30' 60'
 SCALE IN FEET
 GRAPHIC SCALE 1"=30'

C2.00

JOB NO.: 22-270T
 DRAWN BY: DMO CHK BY: PDA





GRADING/DRAINAGE, EROSION CONTROL LEGEND

- XXX ——— EXISTING CONTOUR
- XXX ——— PROPOSED CONTOUR
- XXX.XX FS FINISHED SURFACE
- XXX.XX TW TOP OF WALL
- XXX.XX BW BOTTOM OF WALL
- XXX.XX FG FINISHED GRADE

NOTE:
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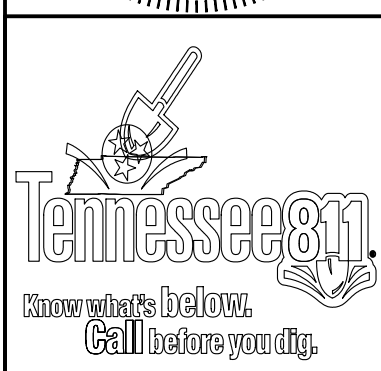
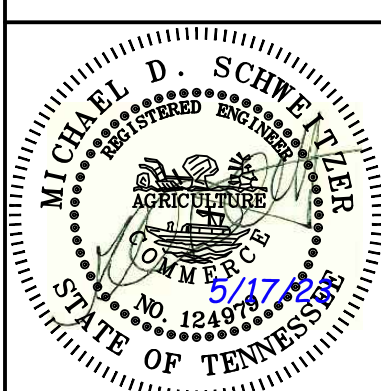
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ENLARGED GRADING AND DRAINAGE PLAN
 CONSTRUCTION DOCUMENTS
5429 FRANKLIN PIKE
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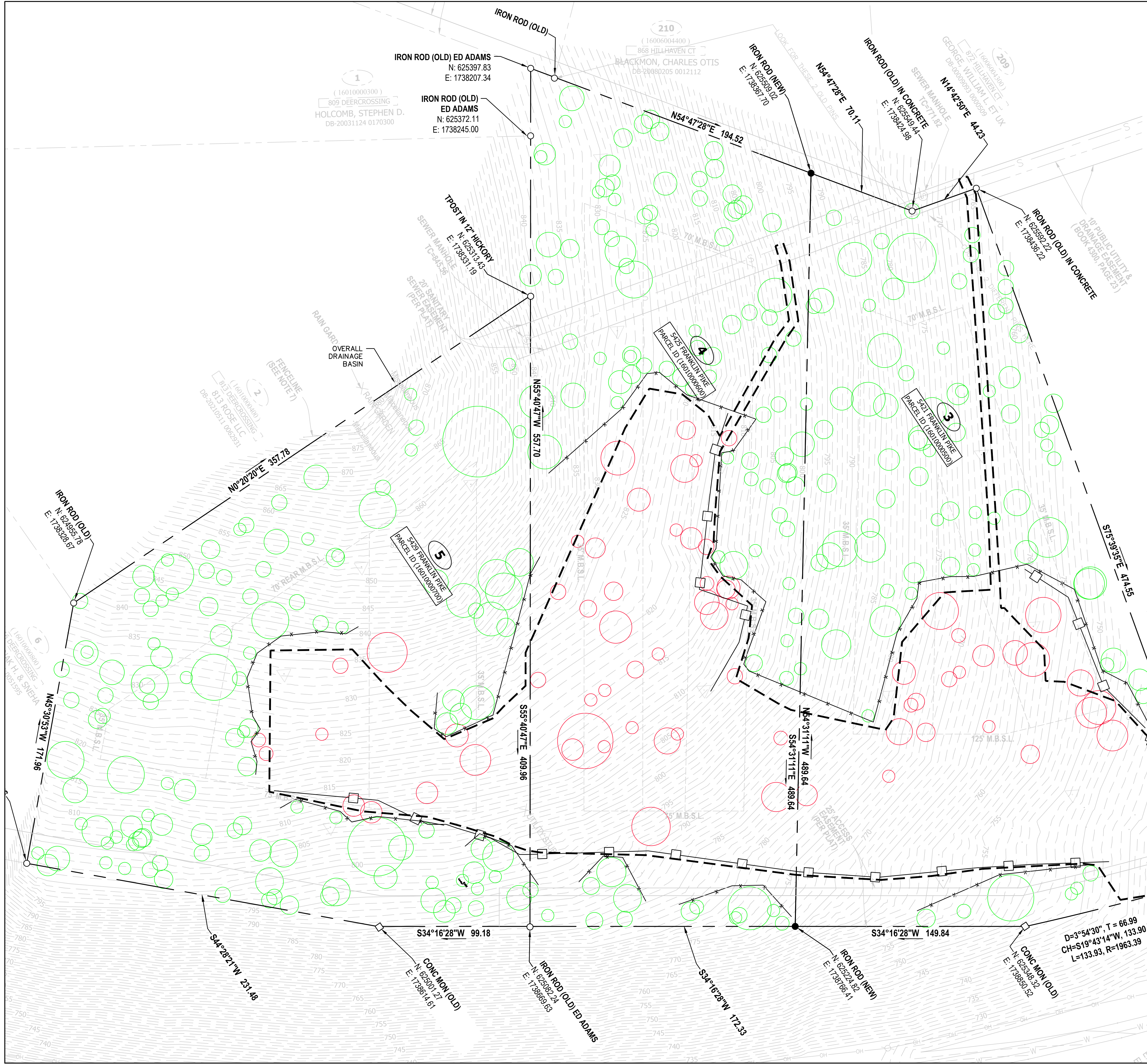
REV.	COMMENTS	DATE

MAP NO. 16.01 - PARCEL 07.00

PROJECT BENCHMARK
 BENCHMARK DESCRIPTION: HYDRANT TAG BOLT
 N: 625410.80 ELEVATION: 725.07
 E: 1738950.30 (NAVD88)

10' 5' 0' 10' 20'
 SCALE IN FEET
 GRAPHIC SCALE 1"=10'

C2.01
 JOB NO.: 22-270T
 DRAWN BY: DMO CHK BY: PDA



EROSION CONTROL LEGEND

DESCRIPTION	SYMBOL
SILT FENCE, TCP-13	[Symbol: Dashed line with rectangular blocks]
STABILIZED CONSTRUCTION ENTRANCE, TCP-03	[Symbol: Dashed line with rectangular blocks]
CONCRETE WASHOUT	[Symbol: Square with 'CW' inside]
SLOPE MATTING, TCP-09	[Symbol: Cross-hatched area]
SEDIMENT TUBE, TCP-14	[Symbol: Dashed line with rectangular blocks]
OUTLET PROTECTION, PESC - 07	[Symbol: Rectangular area with cross-hatching]
LIMITS OF DISTURBANCE = 2.21 ACRES	[Symbol: Dashed line]

NOTE:
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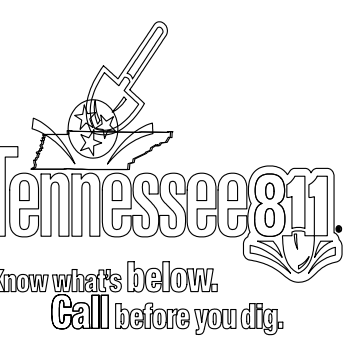
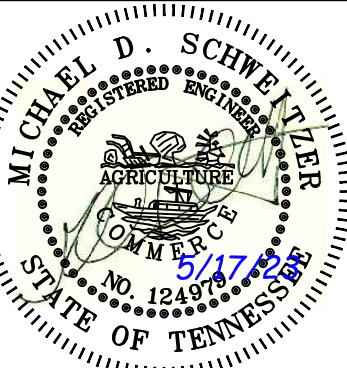
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INITIAL EPSC PLAN
CONSTRUCTION DOCUMENTS
5421, 5425, 5429 FRANKLIN PIKE
NASHVILLE, TENNESSEE 37220

REV.	COMMENTS	DATE

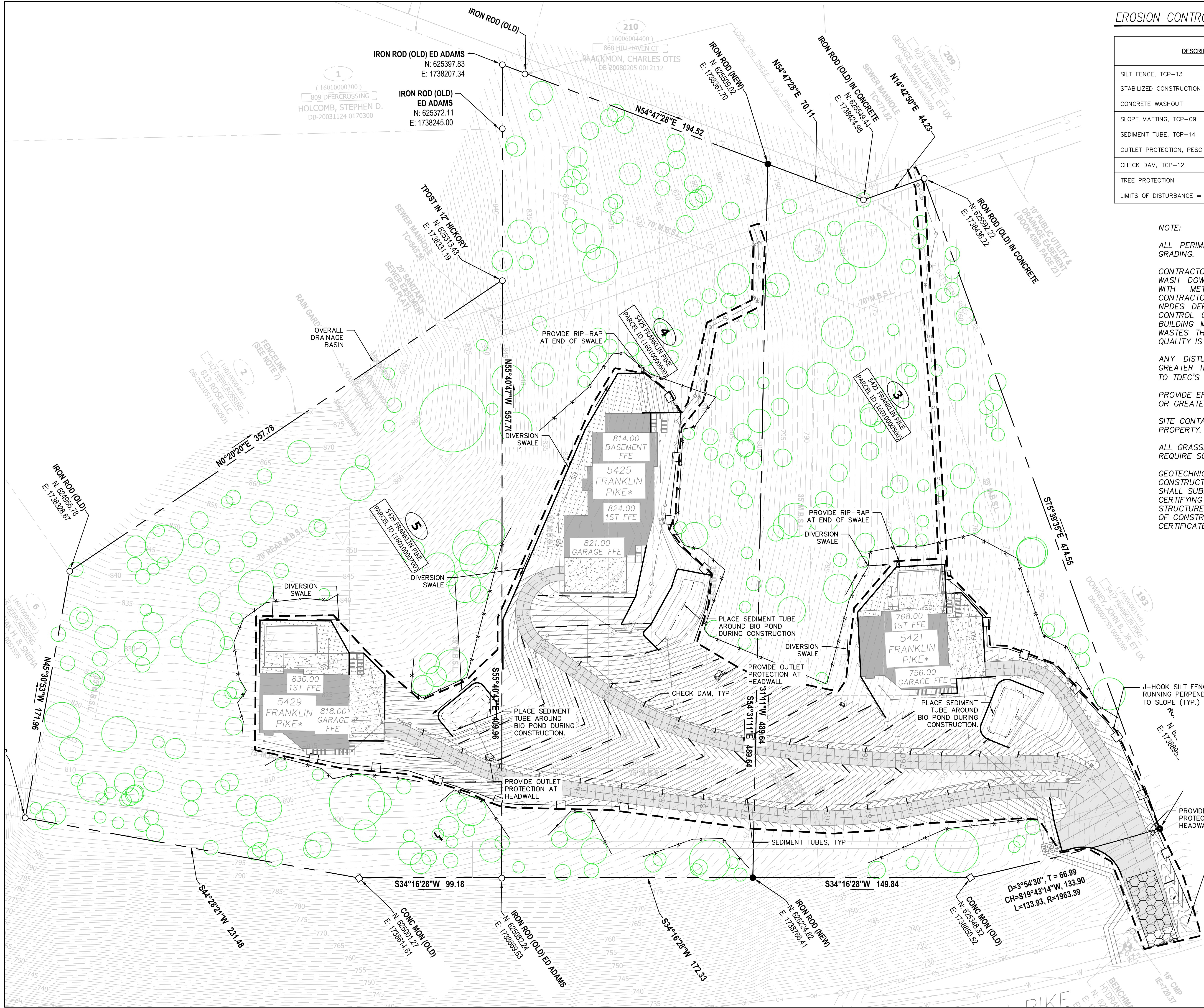
MAP NO. 16.01 - PARCEL 07.00

PROJECT BENCHMARK
BENCHMARK DESCRIPTION: HYDRANT TAG BOLT
N: 625410.80 ELEVATION: 725.07
E: 1738950.30 (NAVD88)

SCALE IN FEET
GRAPHIC SCALE 1"=30'

C3.00

JOB NO.: 22-270T
DRAWN BY: DMO CHK BY: PDA



EROSION CONTROL LEGEND

DESCRIPTION	SYMBOL
SILT FENCE, TCP-13	[Symbol: Dashed line with cross-ticks]
STABILIZED CONSTRUCTION ENTRANCE, TCP-03	[Symbol: Dashed line with cross-ticks]
CONCRETE WASHOUT	[Symbol: Box with 'CW']
SLOPE MATTING, TCP-09	[Symbol: Box with 'X' pattern]
SEDIMENT TUBE, TCP-14	[Symbol: Dashed line with cross-ticks]
OUTLET PROTECTION, PESC - 07	[Symbol: Box with 'X' pattern]
CHECK DAM, TCP-12	[Symbol: Solid black bar]
TREE PROTECTION	[Symbol: 'X' marks]
LIMITS OF DISTURBANCE = 2.21 ACRES	[Symbol: Dashed line]

NOTE:

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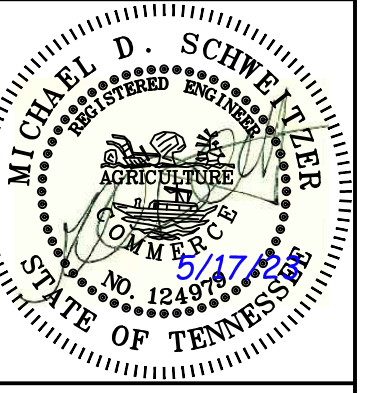
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CONSTRUCTION EPSC PLAN
 CONSTRUCTION DOCUMENTS
5421, 5425, 5429 FRANKLIN PIKE
 NASHVILLE, TENNESSEE 37220

REV.	COMMENTS	DATE

C3.01

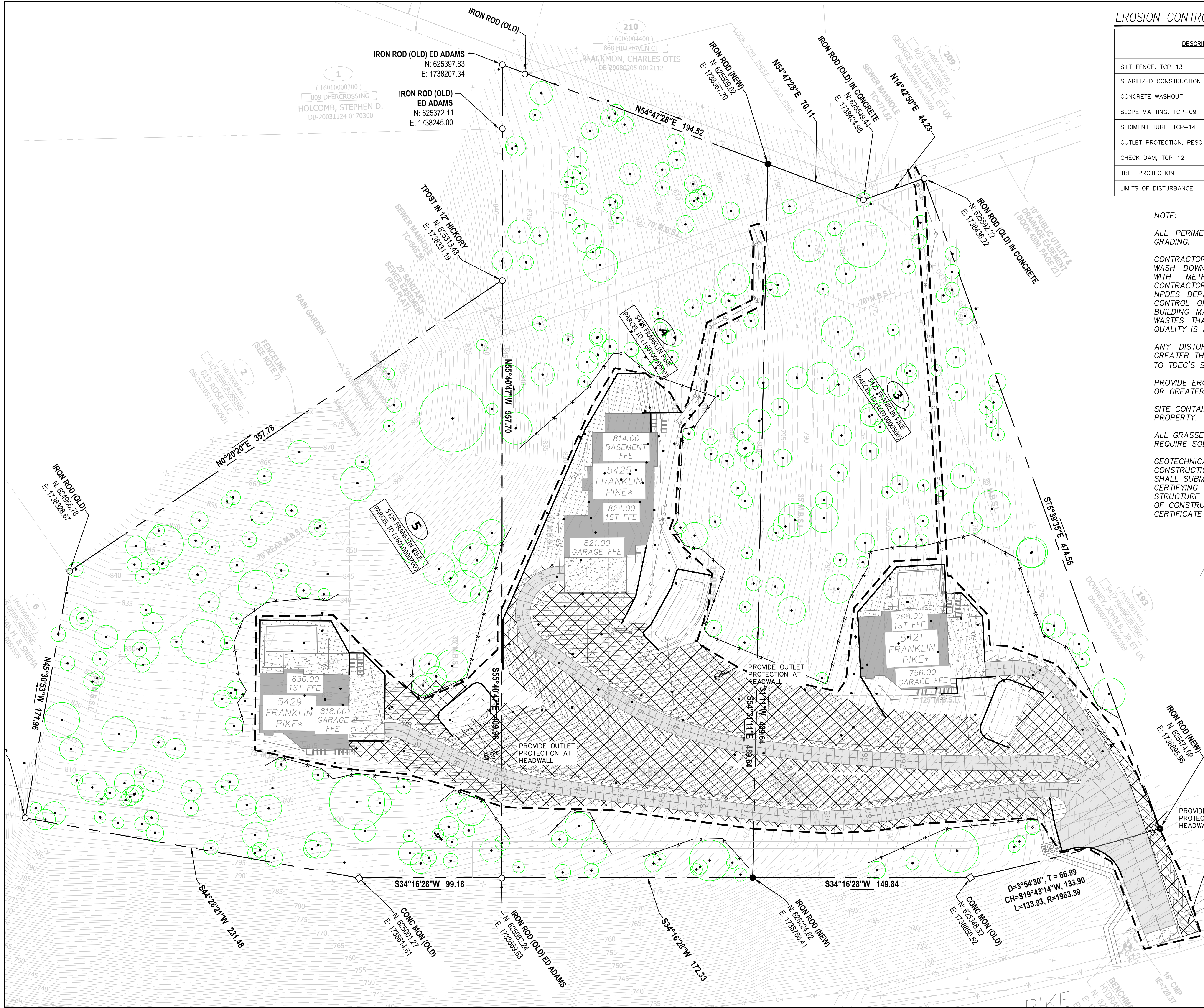
JOB NO.: 22-270T
 DRAWN BY: DMO
 CHECK BY: PDA

MAP NO. 16.01 - PARCEL 07.00

PROJECT BENCHMARK
 BENCHMARK DESCRIPTION: HYDRANT TAG BOLT
 N: 625410.80 ELEVATION: 725.07
 E: 1738950.30 (NAVD88)

30' 15' 0' 30' 60'
 SCALE IN FEET
 GRAPHIC SCALE 1"=30'

OUTFALL
 LAT: 36.0491
 LONG: -86.7765



EROSION CONTROL LEGEND

DESCRIPTION	SYMBOL
SILT FENCE, TCP-13	[Symbol]
STABILIZED CONSTRUCTION ENTRANCE, TCP-03	[Symbol]
CONCRETE WASHOUT	[Symbol]
SLOPE MATTING, TCP-09	[Symbol]
SEDIMENT TUBE, TCP-14	[Symbol]
OUTLET PROTECTION, PESC - 07	[Symbol]
CHECK DAM, TCP-12	[Symbol]
TREE PROTECTION	[Symbol]
LIMITS OF DISTURBANCE = 2.21 ACRES	[Symbol]

NOTE:

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FINAL EPSC PLAN
 CONSTRUCTION DOCUMENTS
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 NASHVILLE, TENNESSEE 37220

REV.	COMMENTS	DATE

C3.02

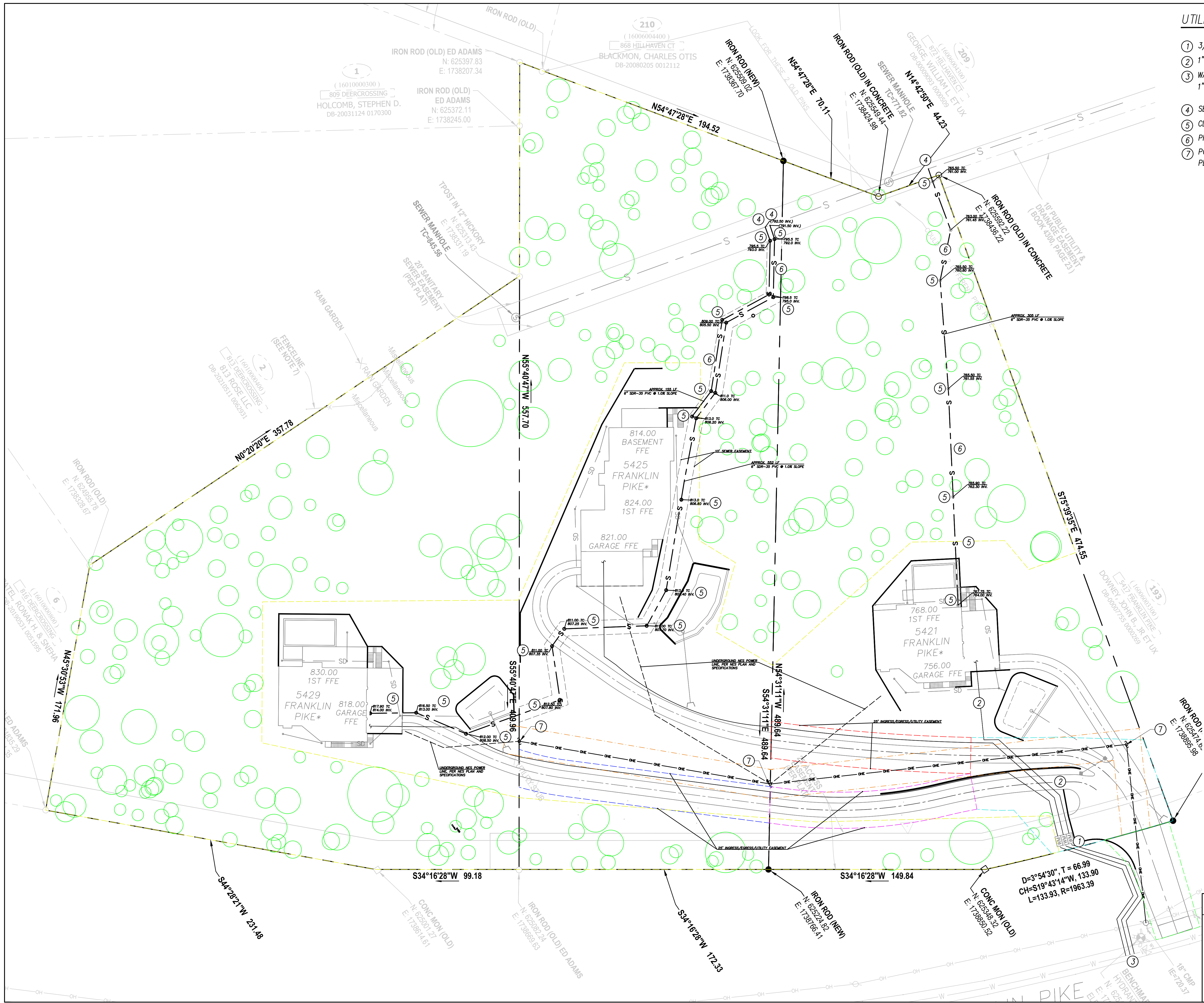
JOB NO.: 22-270T
 DRAWN BY: DMO
 CHECK BY: PDA

MAP NO. 16.01 - PARCEL 07.00

PROJECT BENCHMARK
 BENCHMARK DESCRIPTION: HYDRANT TAG BOLT
 N: 625410.80 ELEVATION: 725.07
 N: 1738950.30 (NAVD88)

SCALE IN FEET
 GRAPHIC SCALE 1"=30'

OUTFALL
 LAT: 36.0491
 LONG: -86.7765



- UTILITY LEGEND**
- ① 3/4" WATER METER. #1/C5.30
 - ② 1" WATER SERVICE LINE
 - ③ WATER SERVICE CONNECTION POINT (TYP.), 1" CORPORATION STOP
 - ④ SEWER SERVICE CONNECTION POINT (TYP.)
 - ⑤ CLEANOUT, #2/C5.30
 - ⑥ PRIVATE SDR-35 PVC SEWER SERVICE LINE
 - ⑦ POWER POLE, OVERHEAD ELECTRIC/UNDERGROUND ELECTRIC PER NES PLANS, 20' NES EASMENT

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UTILITY PLAN
 CONSTRUCTION DOCUMENTS
5421, 5425, 5429 FRANKLIN PIKE
 NASHVILLE, TENNESSEE 37220

REV.	COMMENTS	DATE

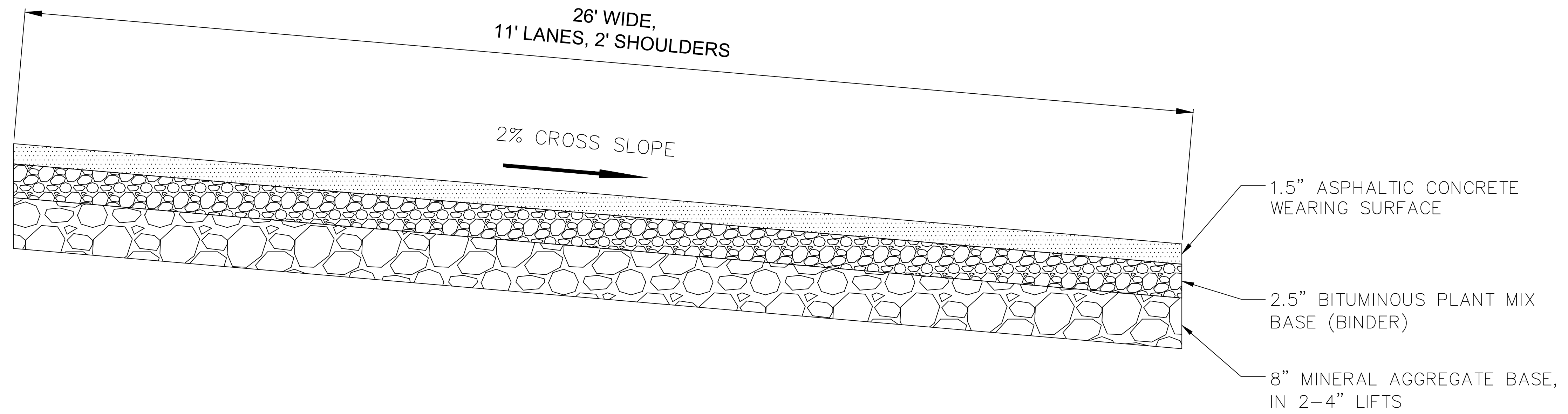
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PROJECT BENCHMARK
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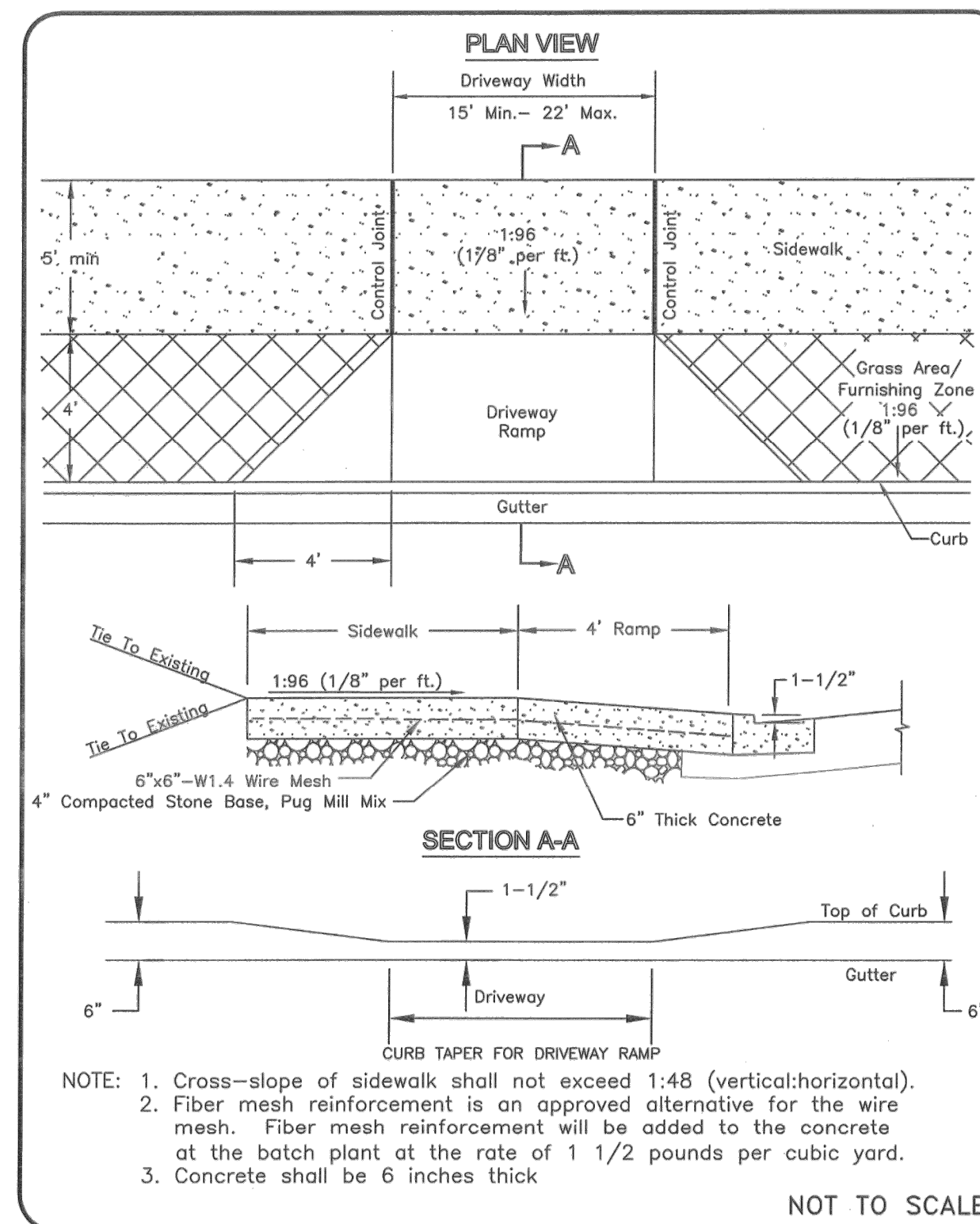
30' 15' 0' 30' 60'
 SCALE IN FEET
 GRAPHIC SCALE 1"=30'

C4.00

JOB NO.: 22-270T
 DRAWN BY: DMO
 CHECKED BY: PDA



DETAIL #1 - ENTRANCE DRIVE



NOTE: 1. Cross-slope of sidewalk shall not exceed 1:48 (vertical:horizontal).
 2. Fiber mesh reinforcement is an approved alternative for the wire mesh. Fiber mesh reinforcement will be added to the concrete at the batch plant at the rate of 1 1/2 pounds per cubic yard.
 3. Concrete shall be 6 inches thick

NOT TO SCALE

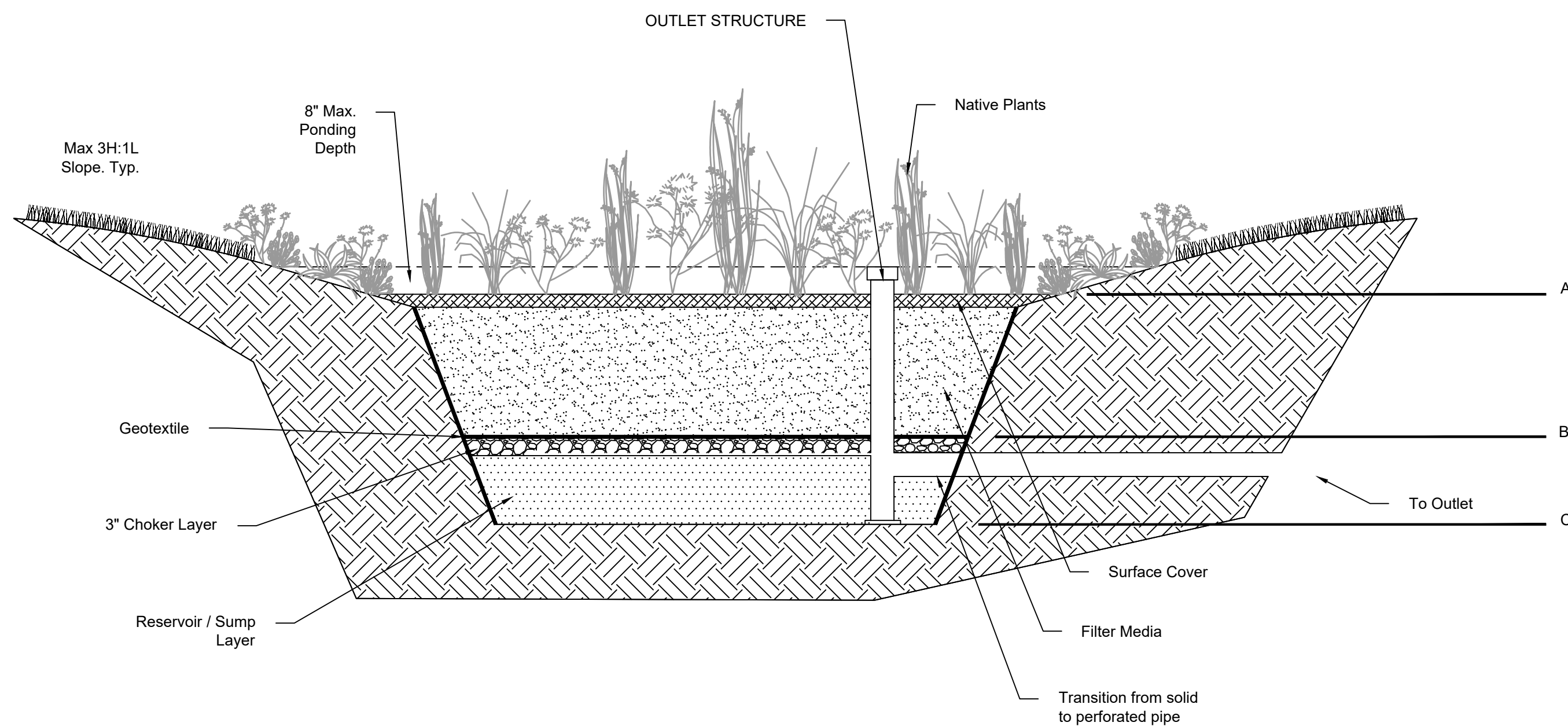
METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY DEPARTMENT OF PUBLIC WORKS	NEW CONSTRUCTION RESIDENTIAL DRIVEWAY RAMP	DWG. NO. ST-322
DIR. OF ENG.: <i>Mark May</i>	DATE: 5/12/03	REVISED: 07/27/02 REVISED: 05/08/03

DETAIL #2 - DRIVEWAY RAMP

REV.	COMMENTS

C5.00

LEVEL 1 BIORETENTION



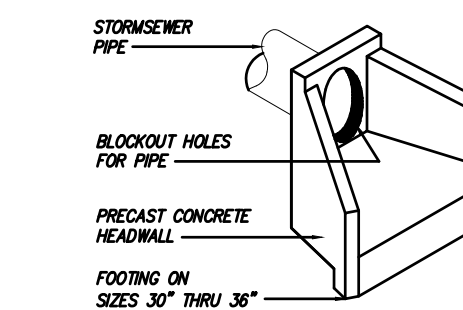
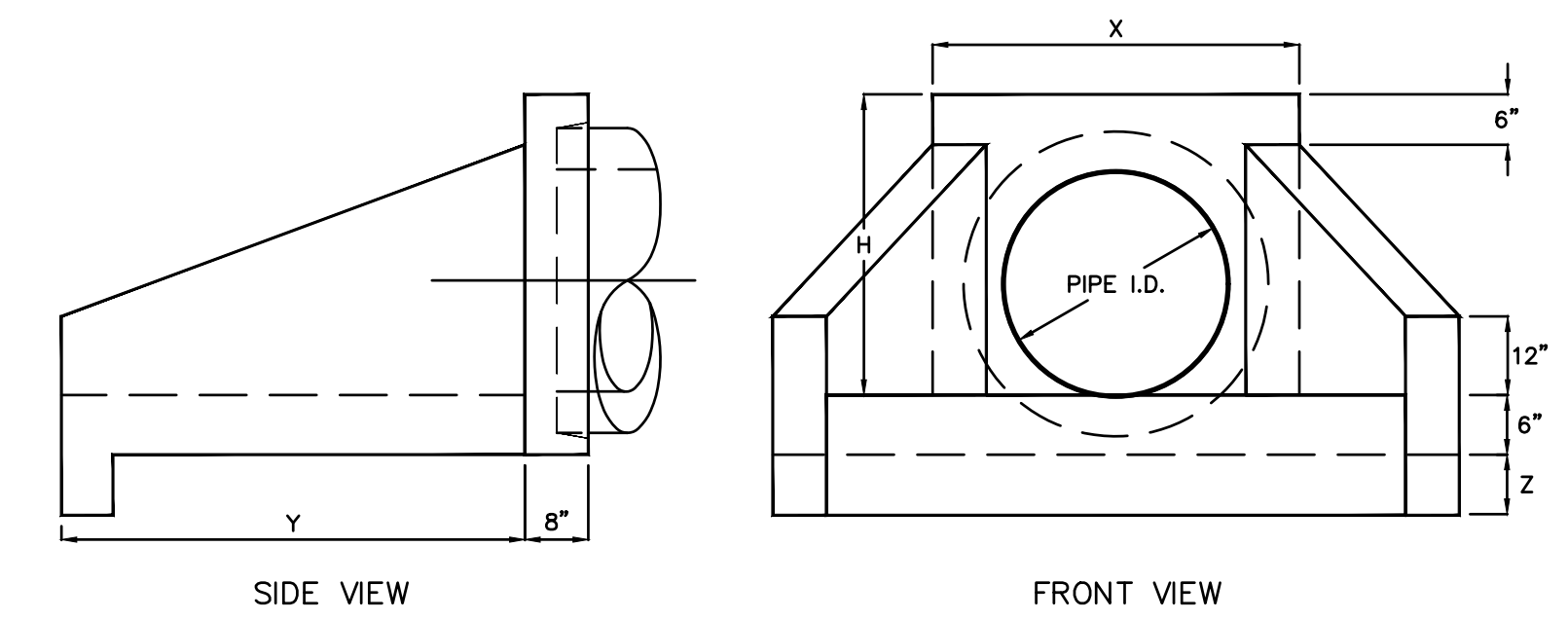
- DETAIL NOTE:**
- Contractor, Engineer, or Owners Representative shall notify MWS NPDES Staff at least 48 hours prior to the installation of the bioretention filter media. At the completion of installation, the above referenced person will collect one sample per bioretention area for analysis and confirmation of the filter media as defined by GIP-01. Media testing not required when using a certified media product.
 - Vehicular traffic shall be prohibited on the planting bed in order to prevent compactions.
 - Minimum 2' separation between subgrade and water table / bedrock required.

Bioretention Number : 5429		
	Design	As-Built
Treatment Volume (Tv), CF	943	
Surface Area, SF	360	
Top of Bank Elevation	813.0	
Emergency Spillway Elevation*	N/A	
Overflow (TOC) Elevation*	812.67	
(A) GIP Surface Elevation	812.0	
(B) Top of Stone Elevation	808.75	
Underdrain Invert*	N/A	
Outlet Elevation*	808.0	
(C) Subgrade Elevation	805.75	

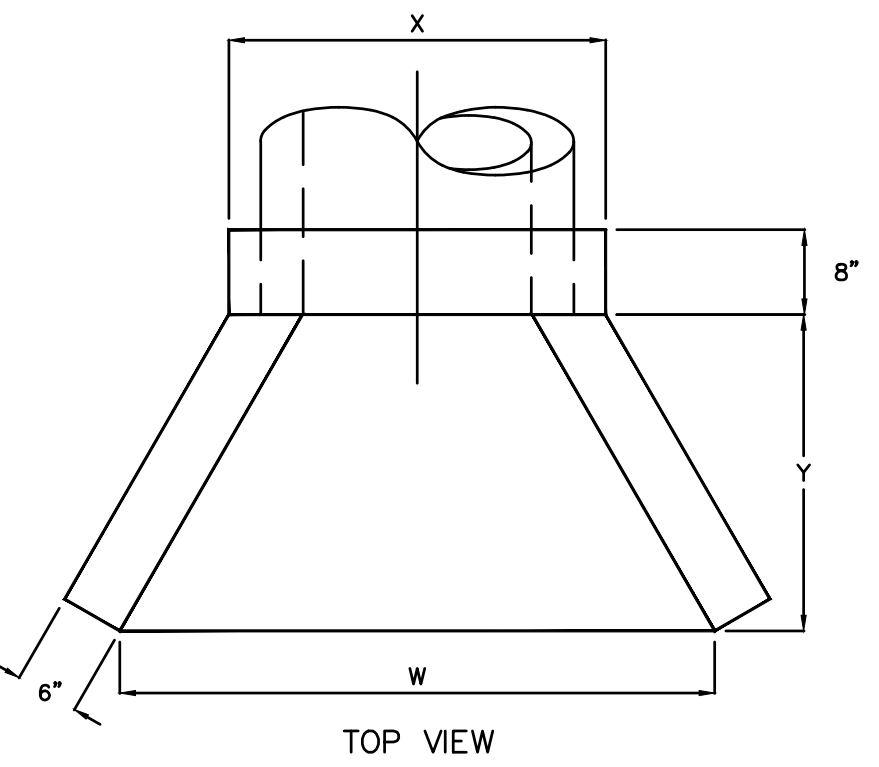
* N/A if not required
All elevations shall be NAVD88

Bioretention With Underdrain Material Specifications		
Material	Specifications	Notes
Surface Cover	<ul style="list-style-type: none"> Shredded hardwood Hardwood bark River stone Coir or jute matting Turf 	Lay a 3 inch layer on the surface of the filter bed in order to suppress weed growth & prevent erosion. Stone shall not comprise more than 50% of the surface area.
Filter Media * Composition	<ul style="list-style-type: none"> 70% - 85% sand; 10%-30% silt + clay, with clay < 10%; and > 5% to 10% organic matter 	The volume of filter media based on 110% of the plan volume, to account for settling or compaction. Contact staff for testing procedures.
Geotextile	Use a non-woven geotextile fabric with a flow rate of > 110 gal./min./ft ² (e.g., Geotex 351 or equivalent)	Apply to the sides and above the underdrain (2'-4" wide strip).
Choker Layer *	#8 or #9 clean washed stone	Meet TDOT Construction Specifications.
Reservoir Layer *	#57 clean washed stone	Meet TDOT Construction Specifications.
Underdrain	6-inch dual wall HDPE or SDR 35 PVC pipe with 3/8-inch perforations at 6 inches on center	AASHTO M 252 Place perforated pipe at base of reservoir layer.
Cleanout	6-inch SDR 35 PVC pipe with vented cap	Provide cleanouts at the upper end of the underdrain.
Observation Well	6-inch SDR 35 PVC pipe with vented cap and anchor plate	Number of wells equals the number of test pits required for infiltration testing (see Appendix 1-A)
Sump Layer	#57 clean washed stone	Meet TDOT Construction Specifications.

*Item receipts may be required to be included with as-built submittal.

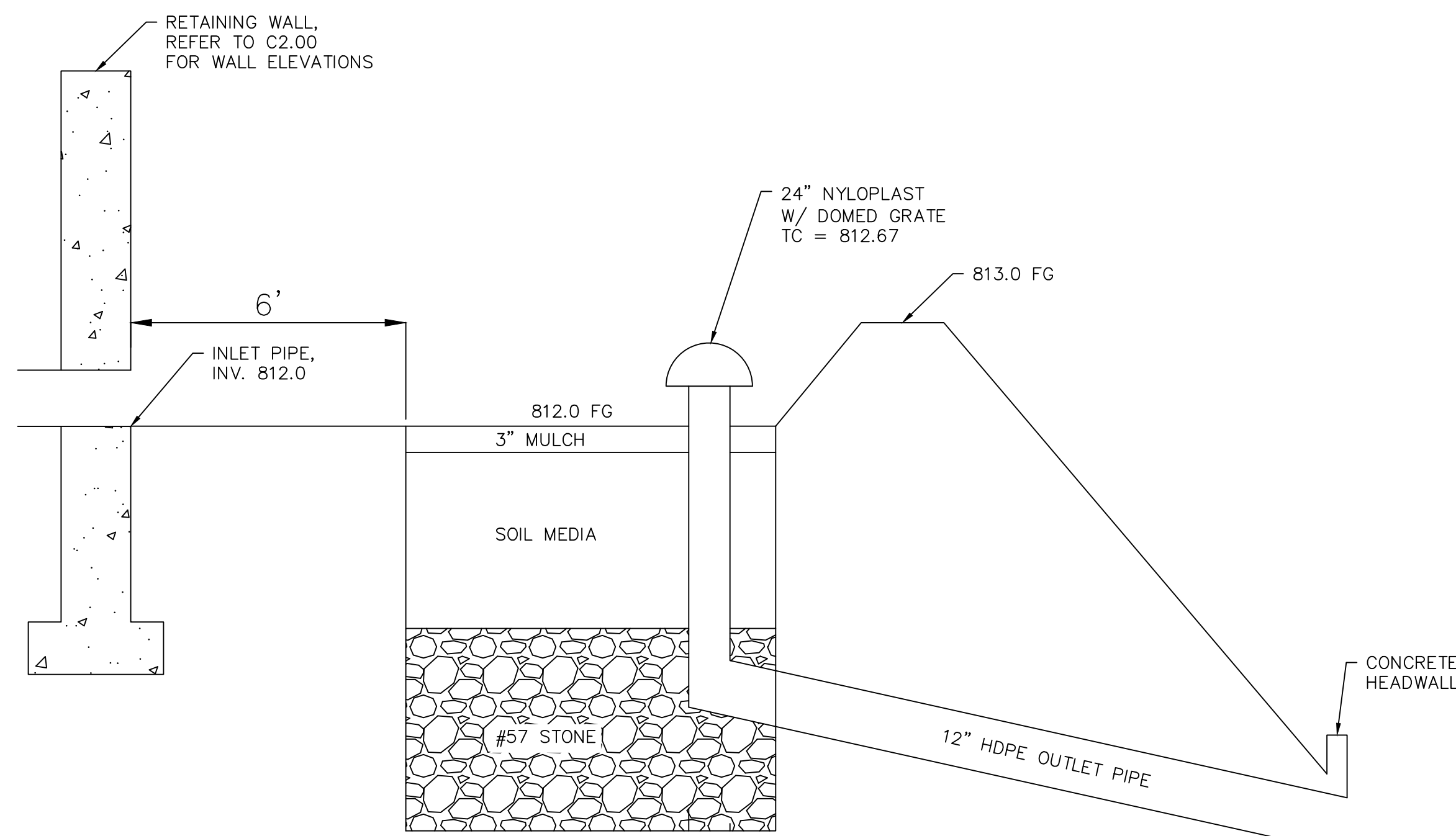


MODEL	PIPE DIA	DIMENSIONS					WEIGHT (LBS)
		H	W	X	Y	Z	
HW-12	12"	2'-6"	4'-3"	3'-0"	2'-0"	N/A	2,700
HW-15	15"	2'-6"	4'-3"	3'-0"	2'-0"	N/A	2,700
HW-18	18"	2'-6"	4'-3"	3'-0"	2'-0"	N/A	2,600
HW-21	21"	3'-0"	5'-10"	3'-2"	3'-0"	N/A	4,300
HW-24	24"	3'-0"	5'-10"	3'-2"	3'-0"	N/A	4,200
HW-30	30"	3'-6"	7'-6"	4'-11"	4'-0"	9"	6,200
HW-36	36"	4'-11"	9'-3"	4'-8"	5'-0"	9"	8,100
HW-42	42"	4'-11"	12'-6"	5'-10"	6'-0"	12"	11,000
HW-48	48"	4'-11"	12'-6"	5'-10"	6'-0"	12"	11,000



SPECIFICATIONS
CONCRETE: CLASS II CONCRETE WITH OF DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. UNIT IS OF MONOLITHIC CONSTRUCTION INCLUDING WALLS AND FLOOR.
REINFORCEMENT: GRADE 60 REINFORCED. NO. 4 STEEL REBAR TO CONFORM TO ASTM A615 ON REQUIRED CENTERS OR EQUAL. BAR BENDING AND PLACEMENT SHALL WITH THE LATEST ACI STANDARDS.

DETAIL #2 - CONCRETE HEADWALL

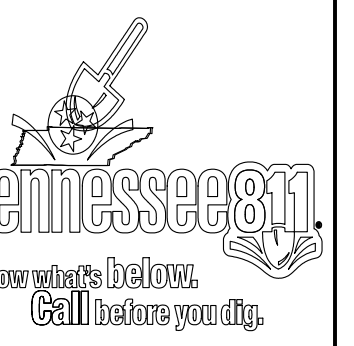
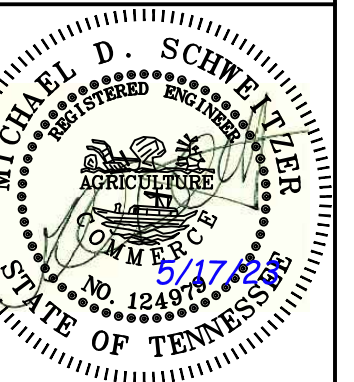


DETAIL NOTES:

- The main goal of pretreatment filtering is to capture floatables, debris, grease, oils, silt and sediment where they can be easily cleaned at the surface of the GIP through regular maintenance, and before they have the opportunity to clog the practice.
- When concentrated flow is directed at a GIP through curb turnouts or pipe outlets, a sediment forebay shall be used to allow material to be captured where it can be easily cleaned.
- A sediment forebay shall be designed so that it is integrated into the GIP.
- Direct maintenance access to the forebay must be provided.
- Exit velocities from the forebay must be non-erosive. Velocities over the weir shall be provided. If high runoff velocity is a potential problem, some type of energy dissipation device must be incorporated.
- Sediment removal in the forebay shall occur in accordance with the long-term maintenance plan.
- A fixed vertical sediment depth marker shall be installed in the forebay to measure sediment deposition over time. The marker shall be made of durable, non-corroding material (not steel). The elevation at which sediment removal is required shall be marked with a line in contrasting color or shade.
- All disturbed areas must be immediately stabilized after construction to minimize erosion.

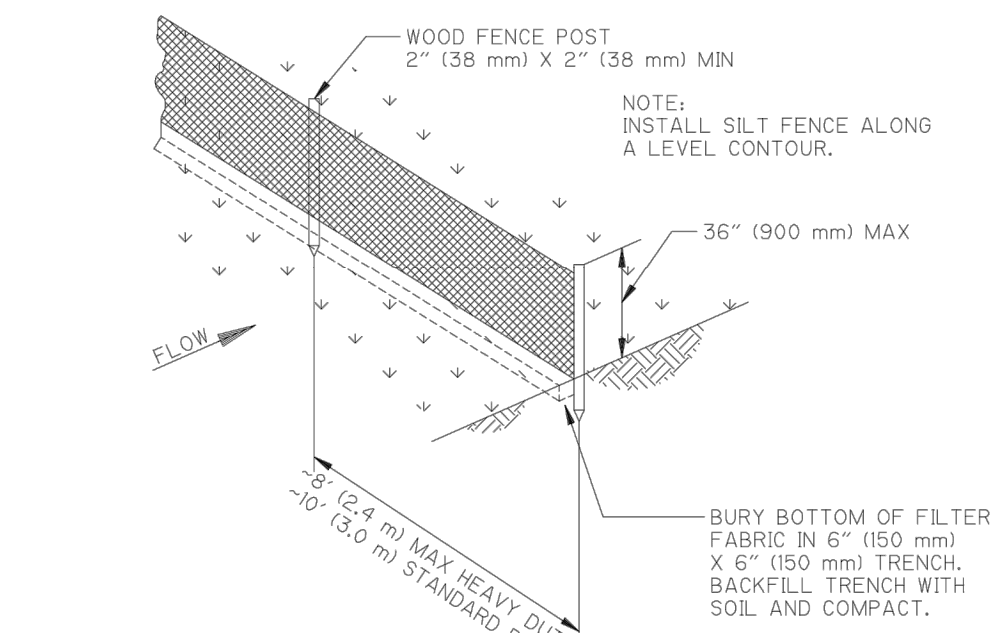
SECTION VIEW

DETAIL #1 - 5429 BIORETENTION POND



REV.	COMMENTS	DATE

C5.10



TYPICAL PREFABRICATED
SILT FENCE INSTALLATION
N.T.S.

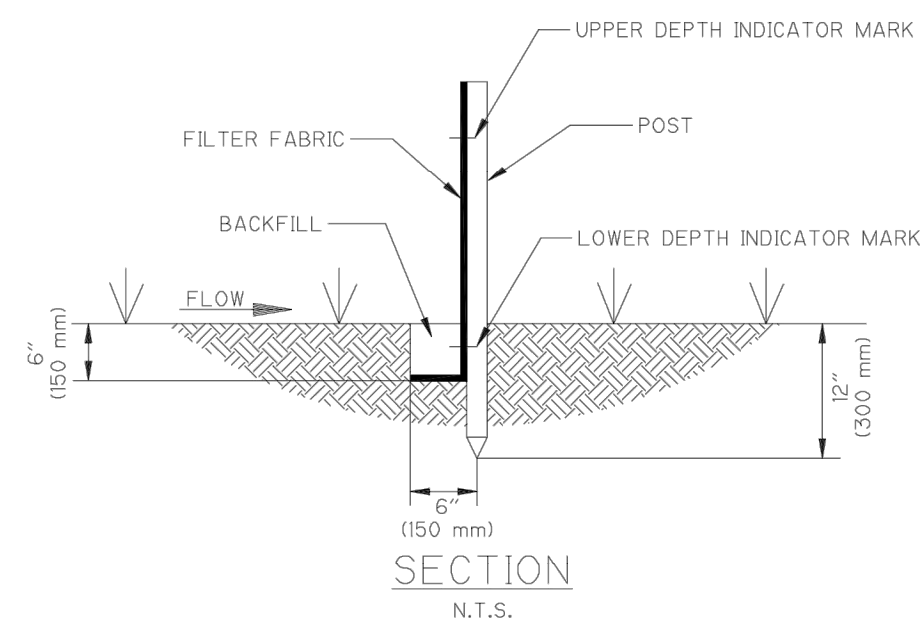


Figure TCP-13-1
Silt Fence Anchoring

DETAIL #1 - SILT FENCE

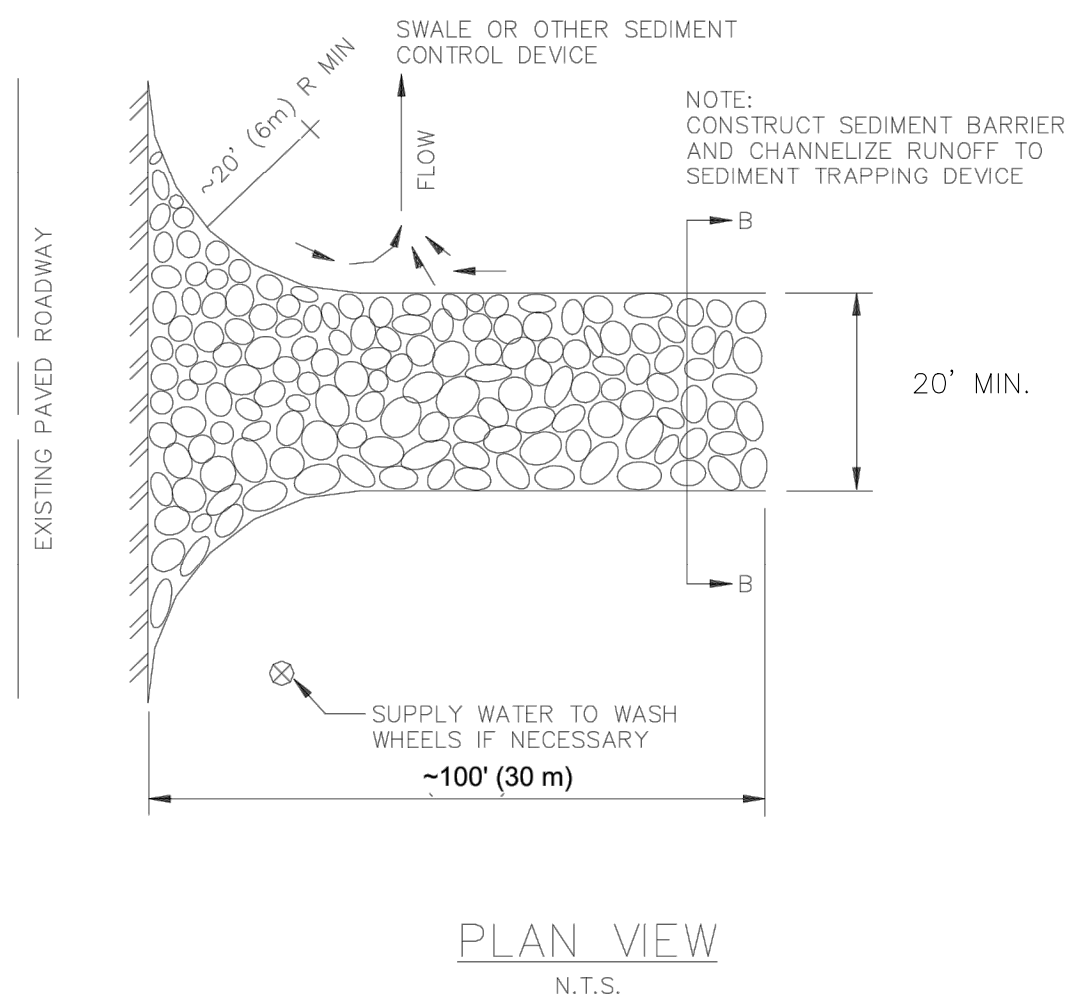
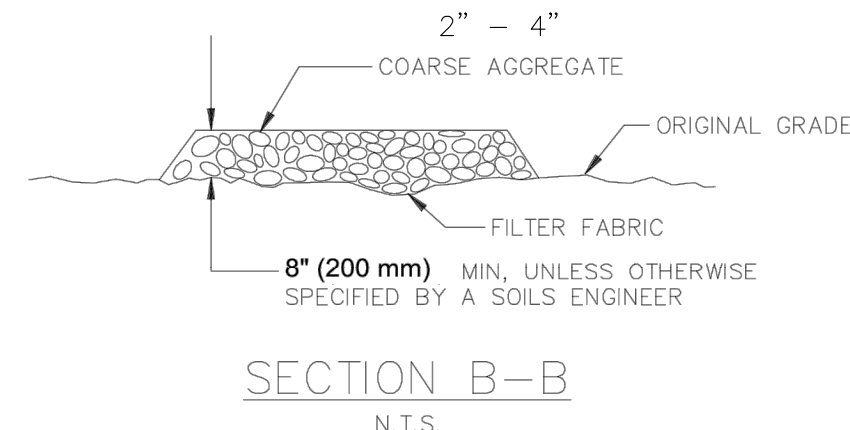
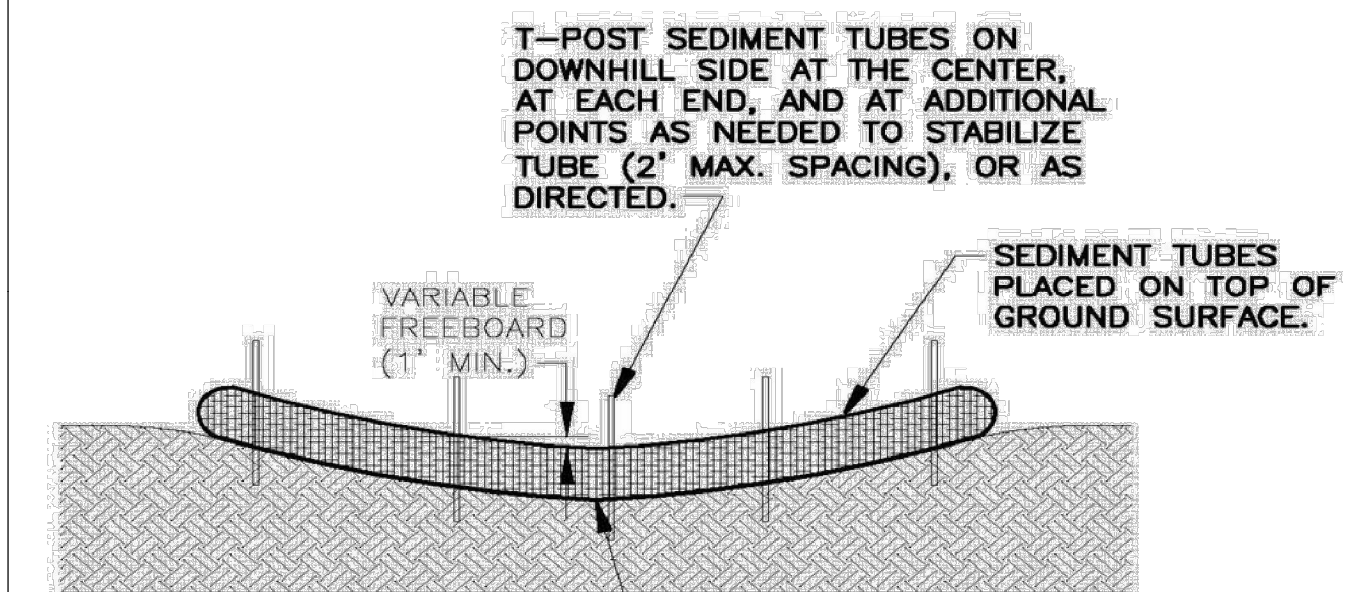


Figure TCP-03-1
Stabilized Construction Entrance

DETAIL #2 - CONSTRUCTION ENTRANCE

NOTE:
SLIGHTLY ANGLE STAKES
WITH TOP FACING TOWARDS
DIRECTION OF FLOW.

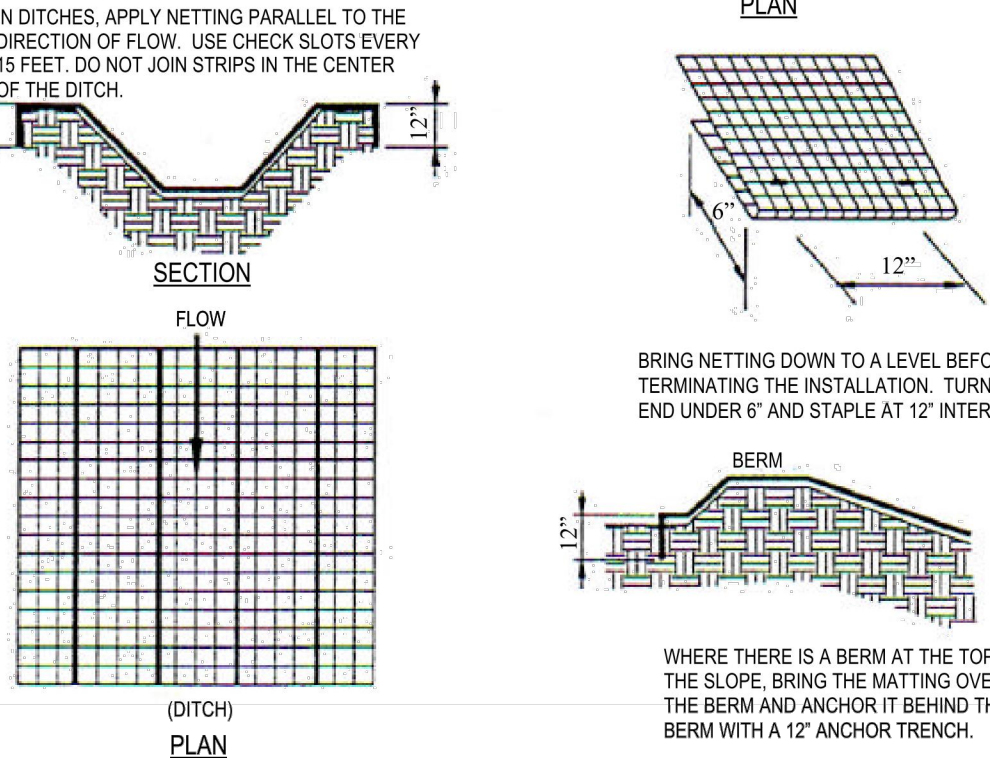
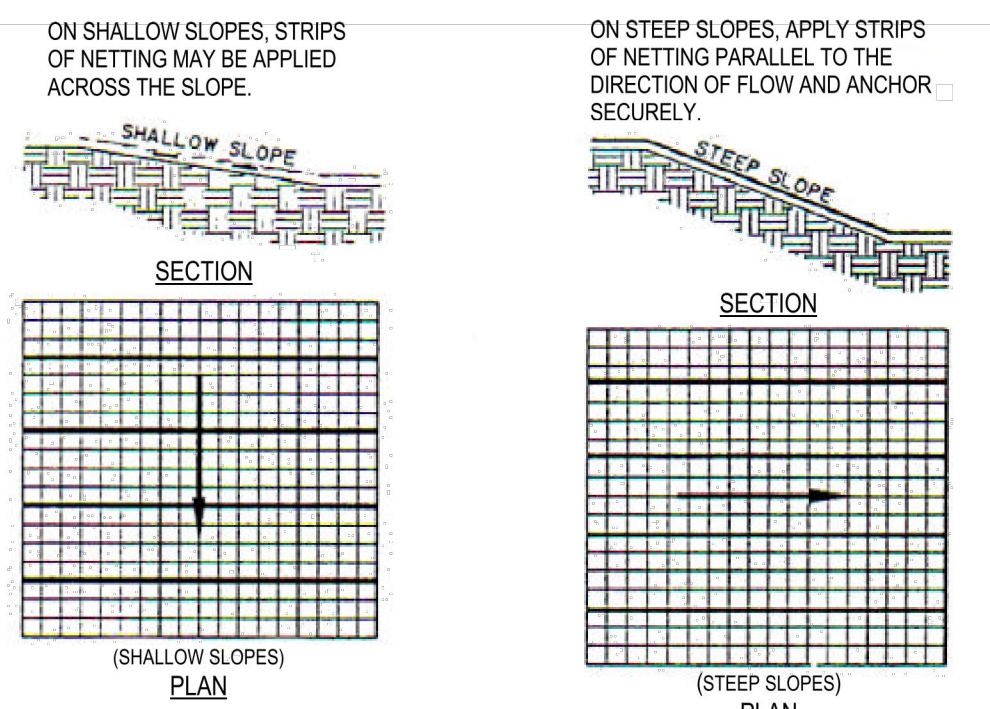


NOTE:
APPLICABLE TO SMALL WIDTH
DITCHES WITH TOTAL WIDTH
THAT REQUIRES ONLY ONE
TUBE LENGTH TO SPAN.

IF SOIL BENEATH TUBE IS
SOFT OR LOOSE, COMPACT
BY HAND TAMPING OR OTHER
APPROVED MEANS.

Figure TCP-14-1
Small Ditch Checks for Sediment Tubes

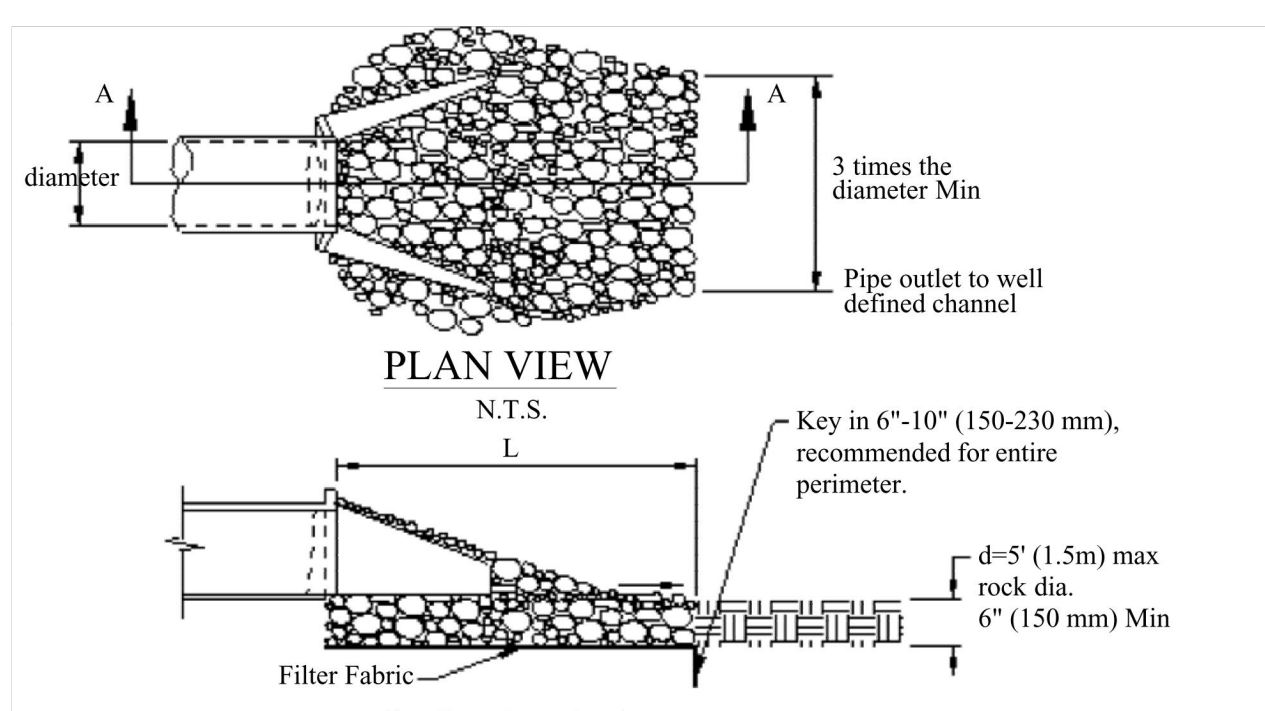
DETAIL #3 - SEDIMENT TUBE



ORIENTATION OF NETTING AND MATTING

Figure TCP-09-2
Mat Anchoring and Layout

DETAIL #4 - EROSION CONTROL MATTING



Adapted from: Virginia Erosion & Sediment Control Handbook, 1992

Pipe Diameter in (mm)	Discharge ft ³ /s (m ³ /s)	Apron Length, L ft (m)	Rip-Rap D ₅₀ Diameter Min in (mm)
12 (300)	4.9 (0.14)	10 (3)	4 (100)
	9.89 (0.28)	13 (4)	6 (150)
	19.78 (0.56)	16 (5)	8 (200)
18 (450)	9.89 (0.28)	10 (3)	6 (150)
	20.13 (0.57)	16 (5)	8 (200)
	30.01 (0.85)	23 (7)	12 (300)
24 (600)	39.90 (1.13)	26 (8)	16 (400)
	30.01 (0.85)	16 (5)	8 (200)
	39.90 (1.13)	26 (8)	8 (200)
	50.14 (1.42)	26 (8)	12 (300)
	60.03 (1.70)	30 (9)	16 (400)

For larger or higher flows,
consult a registered civil engineer

Source: Adapted from USDA-SCS

Figure PESC-07-1
Outlet Protection Sizing

DETAIL #5 - OUTLET PROTECTION

NOTE:

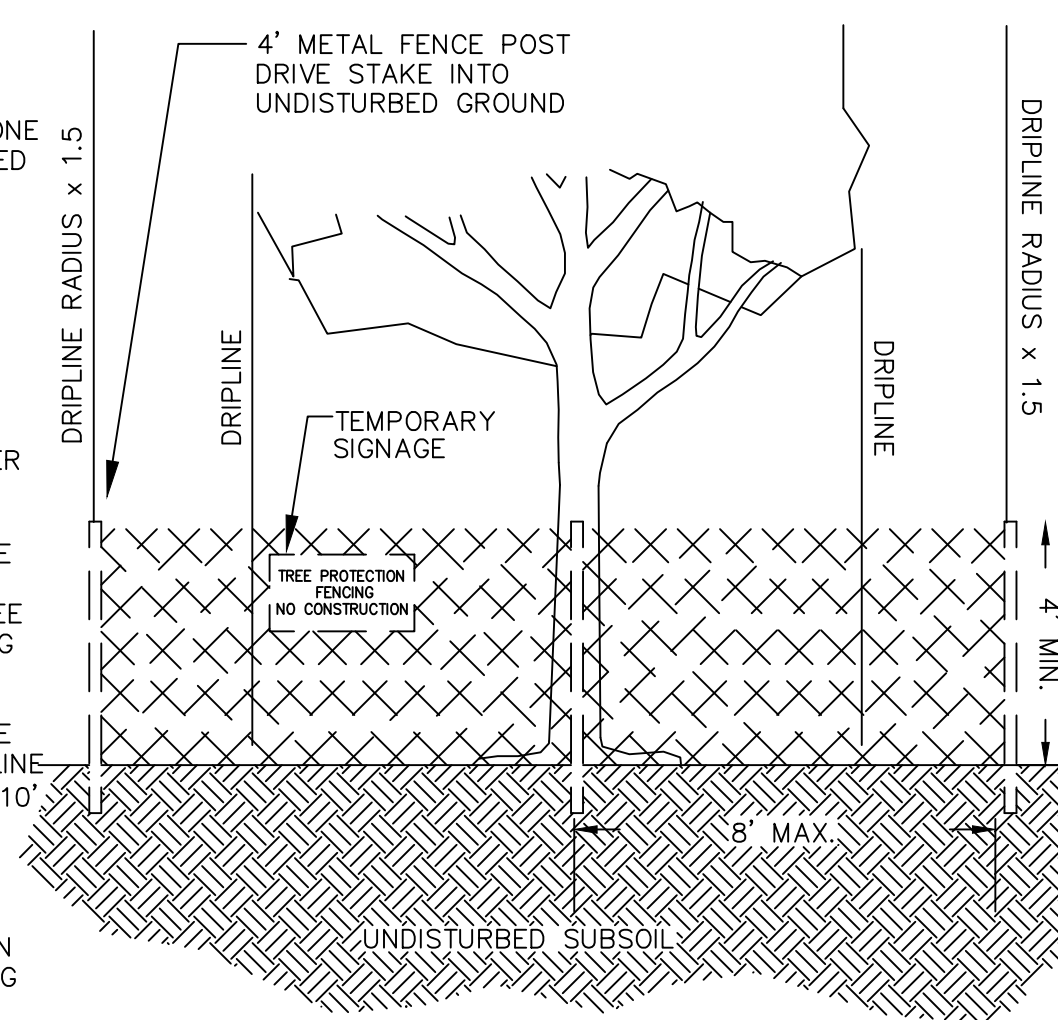
ANY REQUIRED
EXCAVATION WITHIN
THE PROTECTION ZONE
SHALL BE EXCAVATED
BY HAND.

NO STOCKPILING OR
STORAGE OF
MATERIALS IS
PERMITTED WITHIN
THE LIMITS OF THE
PROTECTION AREA.

CONTINUOUS BARRIER
OF 4' HIGH CHAIN
LINK FENCING WITH
TEMPORARY SIGNAGE
DELINEATING
BOUNDARIES OF TREE
PROTECTION FENCING
TO ENCOMPASS THE
CRITICAL ROOT ZONE
OR 1.5 x THE DRIPLINE
OF THE TREE, MIN. 10'
SQUARE PROTECTED
AREA REQUIRED.

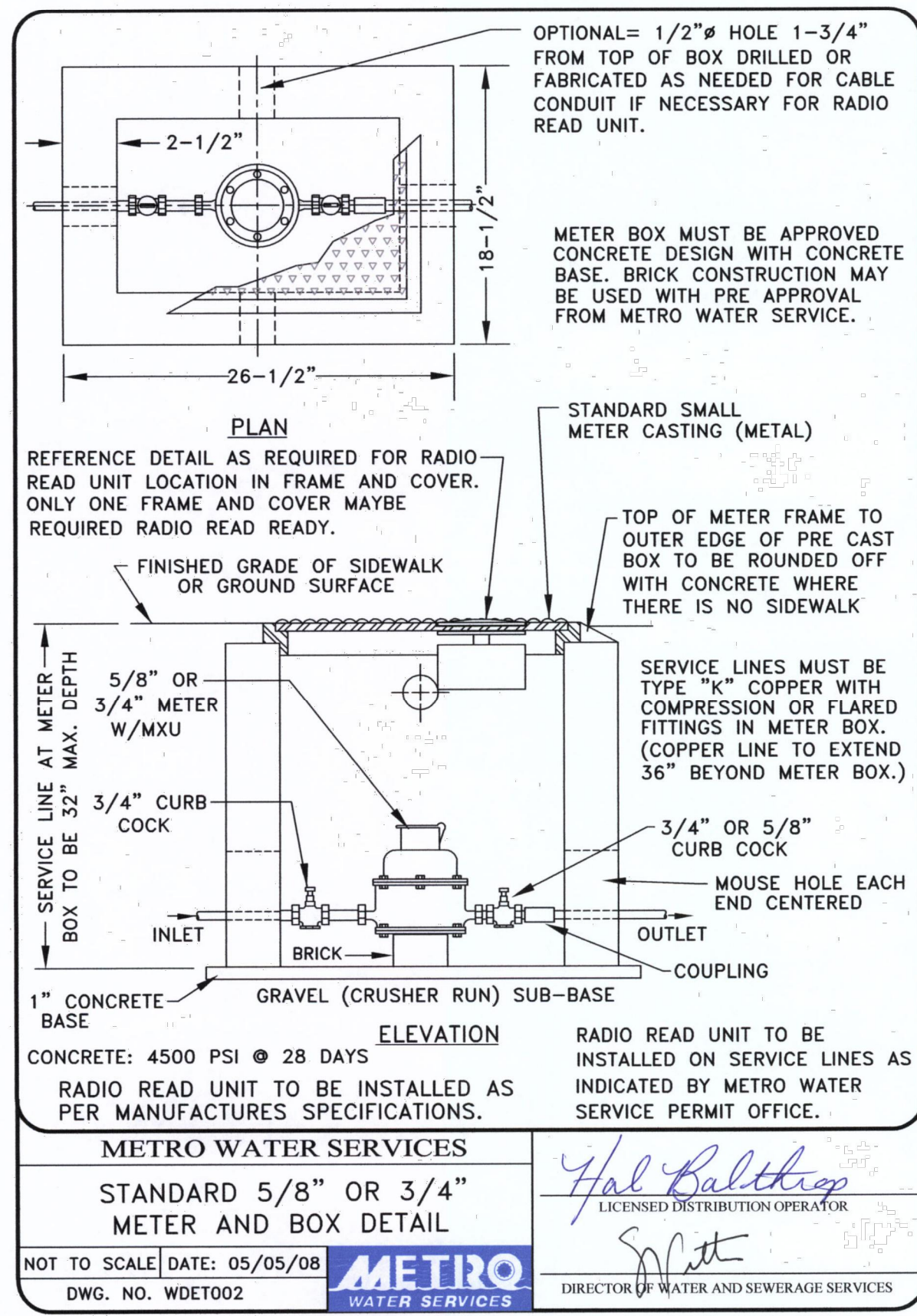
FILLING MAY BE
ALLOWED IN CERTAIN
AREAS, SEE GRADING
PLANS

CONTRACTORS RESPONSIBILITY TO ACQUIRE TREE REMOVAL PERMITS

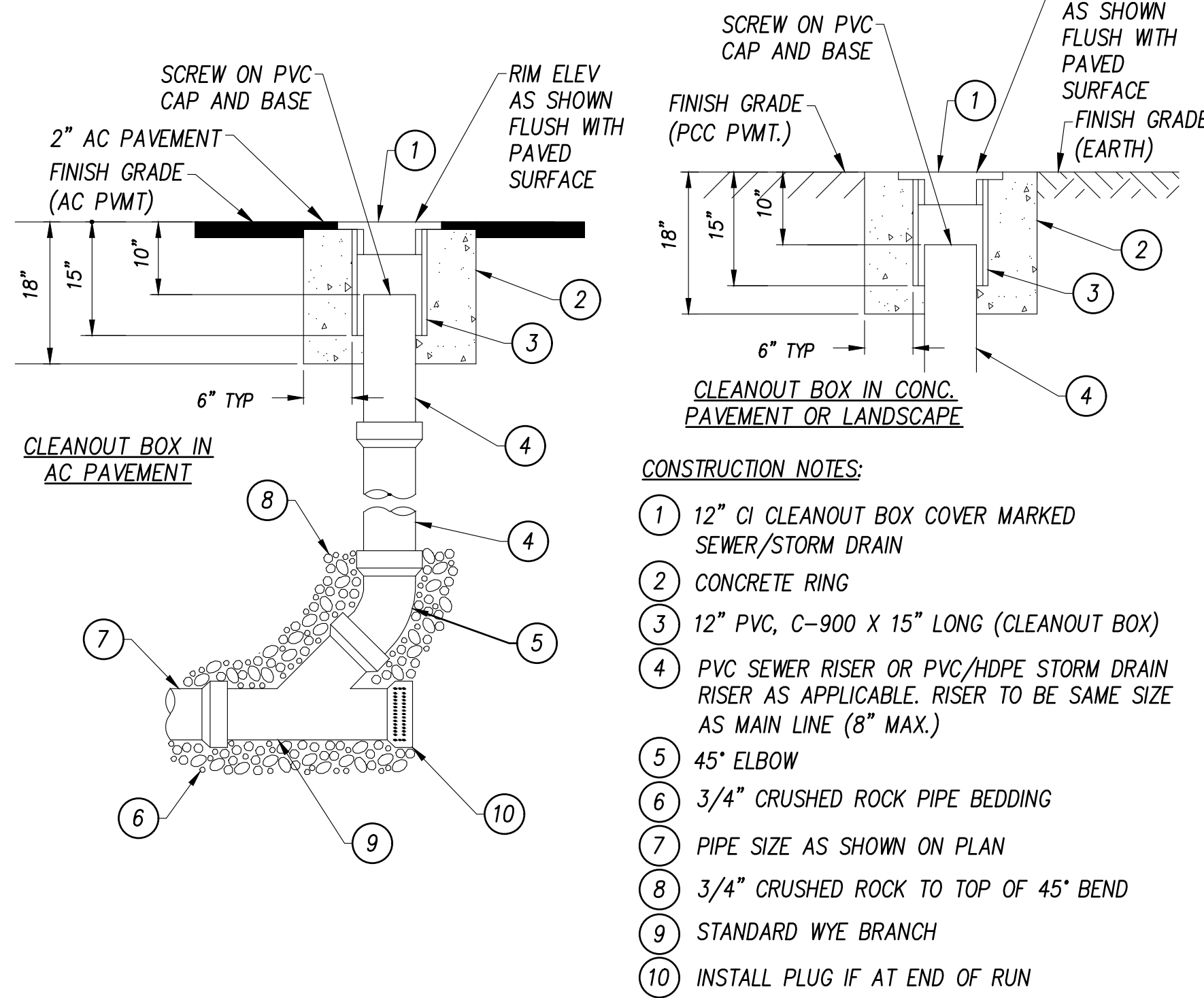


DETAIL #6 - TREE PROTECTION

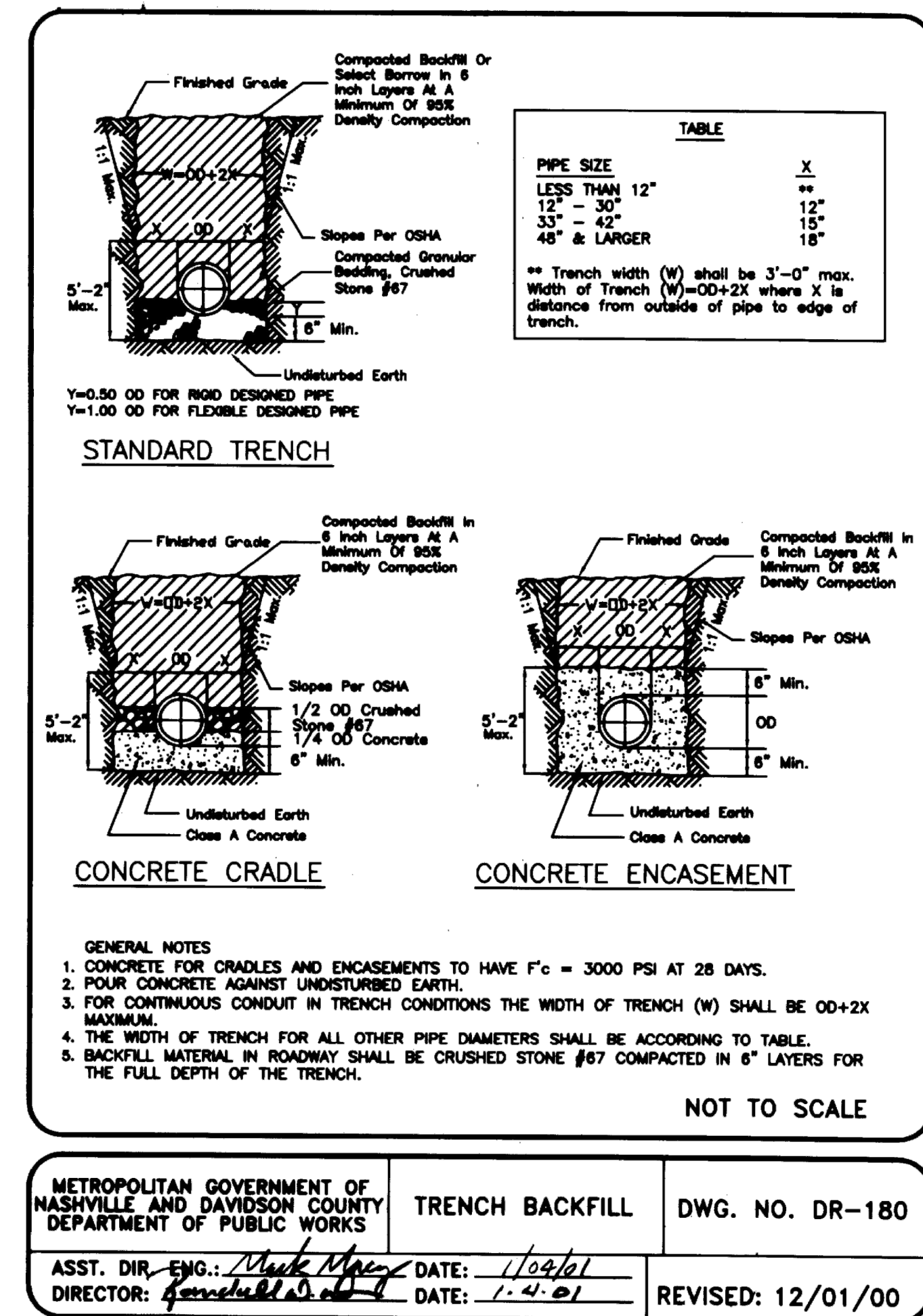
REV.	COMMENTS	DATE



DETAIL #1 - WATER METER



DETAIL #2 - CLEANOUT



DETAIL #3 - TRENCH BACKFILL

REV.	COMMENTS	DATE

LANDSCAPE NOTES

PRIOR TO EXCAVATION AND INSTALLATION FIELD VERIFY ALL UTILITIES.

NEW PLANTING BEDS SHALL HAVE A MINIMUM OF 3" DEPTH OF SHREDDED BARK MULCH. FINELY GROUND, NO NUGGETS, 1/2" DIAMETER MAX. PIECES. REFUSE & STONE FREE. PINE STRAW ACCEPTABLE PER CLIENT APPROVAL, NO PINE NUGGETS OR SYNTHETIC MULCH.

IN THE EVENT OF A DISCREPANCY, CONTACT THE DESIGNER.

ALL DISTURBED AREAS SHALL BE PLANTED WITH TURF AS INDICATED ON THE MATERIALS SCHEDULE.

NO PLANT MATERIALS SHOULD BE SUBSTITUTED WITHOUT AUTHORIZATION.

PLANT SIZES SHOWN ARE MINIMUMS REQUIRED BY THE LOCAL MUNICIPALITY AND MATERIALS SHOWN HAVE BEEN SELECTED SPECIFICALLY FOR THIS PROJECT.

WIRE BASKETS SHALL BE COMPLETELY REMOVED, BURLAP SHALL BE CUT TOP TO BOTTOM IN 5 PLACES. BURY NATURAL TWINE. DISPOSE OF SYNTHETIC ROPE AND TRUNK WRAP OFFSITE.

SUB-GRADE STAKE TREES IN PLACE PER DETAIL - NO GUYING, NO ABOVE GROUND STAKES..

NO CANOPY TREE SHALL BE LOCATED WITHIN A GAS, WATER, SEWER, UNDERGROUND ELECTRIC, CABLE, FIBER, OR PUBLIC UTILITY EASEMENT WITHOUT SIGNING OF A RELEASE WAIVER AND APPROVAL BY THE EASEMENT HOLDER.

TREE REMEDIATION

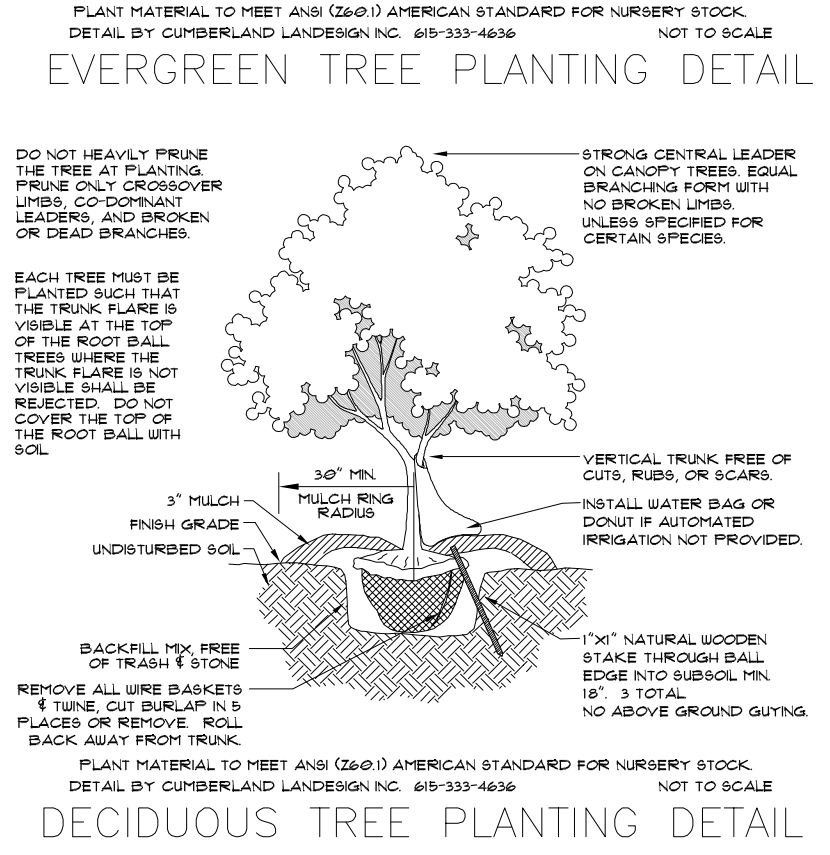
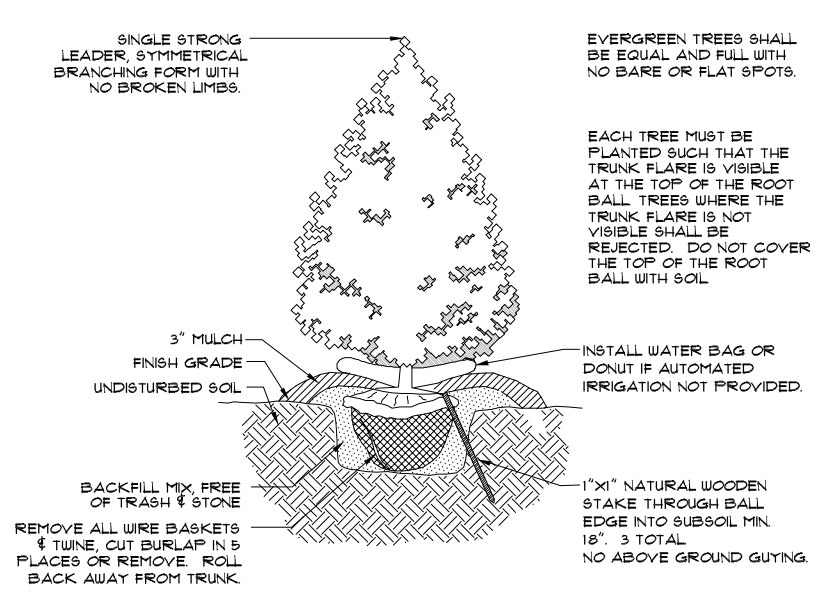
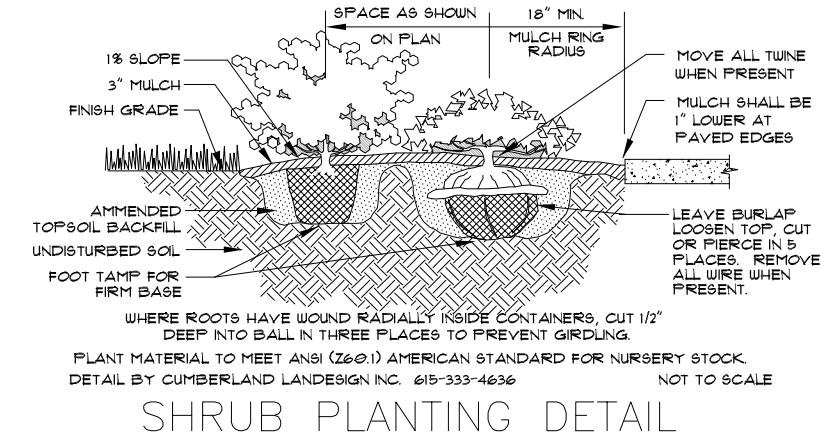
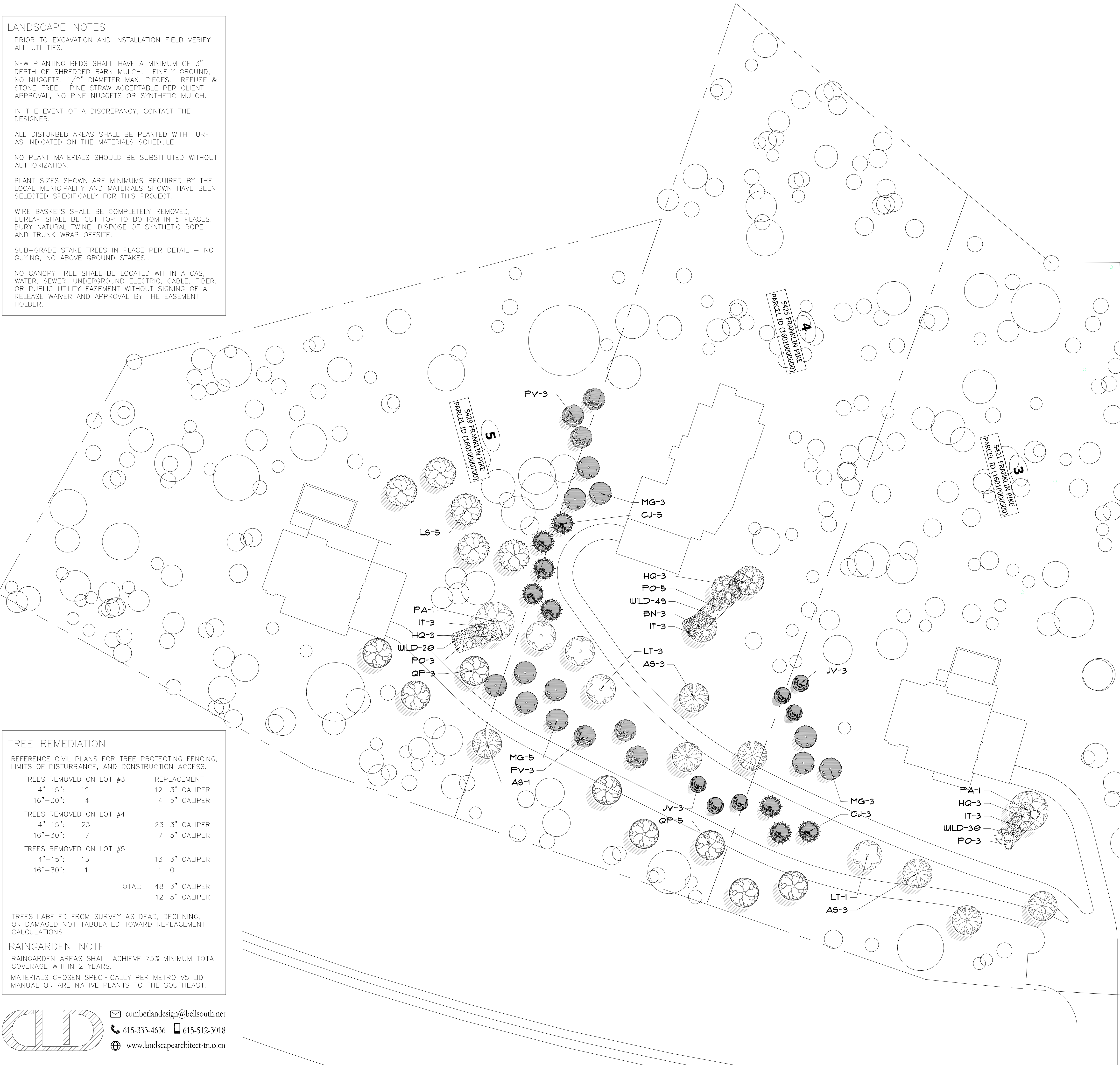
REFERENCE CIVIL PLANS FOR TREE PROTECTING FENCING, LIMITS OF DISTURBANCE, AND CONSTRUCTION ACCESS.

TREES REMOVED ON LOT #3	REPLACEMENT
4"-15": 12	12 3" CALIPER
16"-30": 4	4 5" CALIPER
TREES REMOVED ON LOT #4	REPLACEMENT
4"-15": 23	23 3" CALIPER
16"-30": 7	7 5" CALIPER
TREES REMOVED ON LOT #5	REPLACEMENT
4"-15": 13	13 3" CALIPER
16"-30": 1	1 0
TOTAL:	48 3" CALIPER 12 5" CALIPER

TREES LABELED FROM SURVEY AS DEAD, DECLINING, OR DAMAGED NOT TABULATED TOWARD REPLACEMENT CALCULATIONS

RAINGARDEN NOTE

RAINGARDEN AREAS SHALL ACHIEVE 75% MINIMUM TOTAL COVERAGE WITHIN 2 YEARS.
MATERIALS CHOSEN SPECIFICALLY PER METRO VS. LID MANUAL OR ARE NATIVE PLANTS TO THE SOUTHEAST.



MATERIALS SCHEDULE

KEY	AMOUNT	SCIENTIFIC NAME / COMMON NAME	HEIGHT	SPREAD	TRUNK	NOTES
3" TREES						
CJ	8	Cryptomeria japonica / Japanese Cryptomeria	9' Min.	3'-4'	3.0"	FTB
JV	6	Juniperus virginiana / Eastern Red Cedar	9' Min.	3'-4'	3.0"	FTB
LS	5	Liquidambar styraciflua / American Sweetgum	13'-15'	6'-7'	3.0"	
LT	4	Liriodendron tulipifera / Tulip Poplar	13'-15'	6'-7'	3.0"	
MG	11	Magnolia grandiflora "B.B.B." / Bracken's Brown Magnolia	9' Min.	3'-4'	3.0"	FTB
PV	6	Pinus virginiana / Virginia Pine	9' Min.	3'-4'	3.0"	FTB, Sheered
QP	8	Quercus muehlenbergii / Chinkapin Oak	13'-15'	6'-7'	3.0"	
5" TREES						
AS	7	Acer saccharum / Sugar Maple	20' Min.	8'-9'	5.0"	
BN	3	Betula nigra / River Birch	11'-13'	5'-6'	5 Cane, 1" Each	
PA	2	Platanus occidentalis / American Sycamore	20' Min.	8'-9'	5.0"	
SHRUBS						
HQ	9	Hydrangea quercifolia / Oakleaf Hydrangea	18" Min.	15"-18"	F.T.B.	
IT	9	Itea virginica / Itea	18" Min.	15"-18"	F.T.B.	
PO	11	Physocarpus opulifolius / Common Ninebark	18" Min.	15"-18"	F.T.B.	
WILD						
Equal thirds of wildflowers below. Install 4" Peat Pots 24" O.C. in triangular pattern in groupings of 5, 7, or 9 of each species.						
	33	Echinacea purpurea / Purple Coneflower				
	33	Rudbeckia hirta / Black-Eyed Susan				
	33	Symphyotrichum novae-angliae / New England Aster				
TURF						
SEED		Fine Bladed Fescue		Seed at 5 lbs per 1,000 sf		
MISCELLANEOUS						
		Mulch Bed		Hardwood Bark Mulch		Minimum 3" depth throughout.
NOTES						
FTB = Full To Bottom						

MAP NO. 16.01 - PARCEL 06.00

PROJECT BENCHMARK
BENCHMARK DESCRIPTION: HYDRANT TAG BOLT
N: 625410.80 ELEVATION: 725.07
E: 1738950.30 (NAVD88)

30' 15' 0' 30' 60'

SCALE IN FEET
GRAPHIC SCALE 1"=30'

L1.0

JOB NO.: LANDSCT

DATE

REV.

COMMENTS

DRAWN BY: DMO

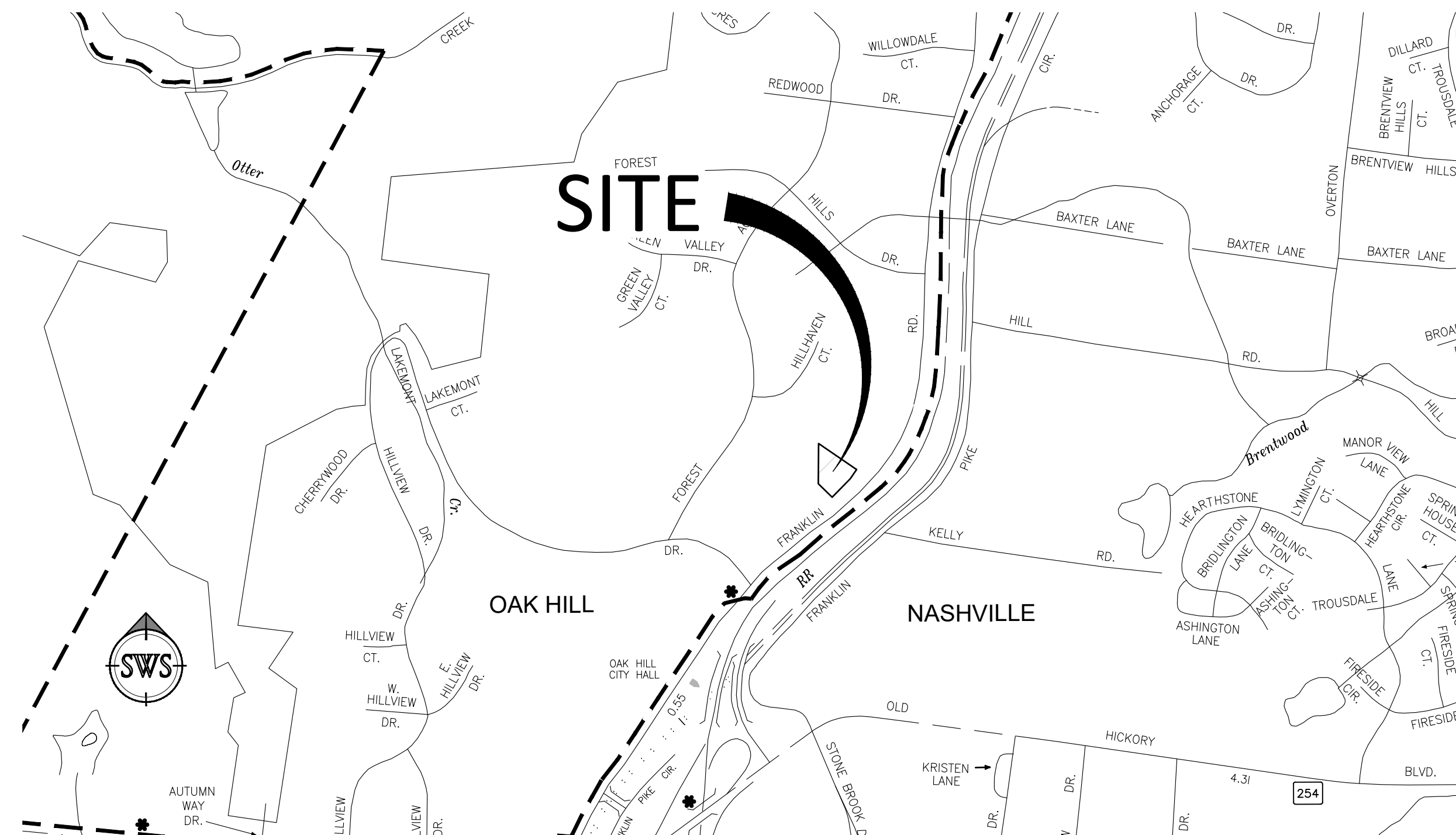
CHKD BY: PDA



5429 FRANKLIN PKE

NASHVILLE, TN 37220

CONSTRUCTION DOCUMENTS SINGLE FAMILY LOT



VICINITY MAP
N.T.S.

DEVELOPMENT SUMMARY

OWNER: URBAN DEVELOPMENT GROUP,
JEFF LIVINGSTON

ENGINEER: MIKE SCHWEITZER, P.E.
SWS ENGINEERING, INC.
504 AUTUMN SPRINGS CT, A6
FRANKLIN, TN 37067
615-716-0683

PROPERTY ADDRESS: 5429 FRANKLIN PIKE
PARCEL ID: 1601000500
AREA: 91,139 SF, 2.092 ACRES
CURRENT ZONING: RESIDENTIAL D
FEMA FIRM: NO. 47037C0367H, EFFECTIVE DATE
APRIL 5, 2017, ZONE X

SETBACKS

FRONT YARD: 125'
SIDE YARD: 35' (22% OF LOT WIDTH, UP TO 35' MAX)
REAR YARD: 70'

PHASING: SINGLE PHASE

SHEET SUMMARY

C0.00	-	COVER
C0.01	-	NOTES
V1.00	-	SURVEY
TS1.00	-	TREE DEMO PLAN
TS1.01	-	TREE TABLE
C1.00	-	SITE PLAN
C1.01	-	SIGHT DISTANCE PLAN
C2.00	-	OVERALL GRADING AND DRAINAGE PLAN
C2.01	-	ENLARGED GRADING AND DRAINAGE PLAN
C3.00	-	INITIAL EPSC PLAN
C3.01	-	CONSTRUCTION EPSC PLAN
C3.02	-	FINAL EPSC PLAN
C4.00	-	UTILITY PLAN
C5.00	-	SITE DETAILS
C5.10	-	GRADING AND DRAINAGE DETAILS
C5.20	-	EPSC DETAILS
C5.30	-	UTILITY DETAILS
L1.0	-	LANDSCAPE PLAN

REV:
DATE: 4/21/22
JOB NO.: 22-270T



DATE: Apr 18, 23 4:46pm by dan.oshaughnessy
FILE: C:\Users\GAN-1\OneDrive\AppData\Local\Temp\AcPublish_233328\22-270T_OP-00.00 Cover.dwg

GENERAL NOTES

- EXISTING INFORMATION/TOPOGRAPHIC SURVEY WAS PREPARED BY CLINT ELLIOT SURVEYING
- PROPERTY MAP REFERENCE: 1601000700
- PROPERTY IS ZONED RD
- THE PROPERTY IS LOCATED IN ZONE "X" AREAS NOT AFFECTED BY THE 100 YEAR FLOOD PLAIN BASED ON FEMA "FLOOD RATE INSURANCE MAP" NO. 47037C0367H, EFFECTIVE ON 04/05/2017.
- BIDDER HAS VISITED THE SITE, BECOME FAMILIAR WITH LOCAL CONDITIONS UNDER WHICH WORK IS TO BE DONE, AND HAS CORRELATED THE BIDDER'S PERSONAL OBSERVATIONS WITH REQUIREMENTS OF CONTRACT DOCUMENTS. CONTRACTOR WILL NOT BE GIVEN EXTRA PAYMENT FOR DIFFERENCES BETWEEN SURVEY AND SITE CONDITIONS THAT MAY BE ENCOUNTERED.
- CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL CODES. OBTAIN, AT ITS OWN EXPENSE, ALL PERMITS AND PAY ALL FEES REQUIRED PRIOR TO BEGINNING WORK.
- THE CONTRACTOR SHALL CALL 811 OR VISIT call811.com/811-your-state AT LEAST 3 WORKING DAYS PRIOR TO ALL EXCAVATION AND/OR DEMOLITION.
- THE OWNER DOES NOT ASSUME RESPONSIBILITY FOR THE POSSIBILITY THAT DURING CONSTRUCTION, UTILITIES OTHER THAN THOSE SHOWN MAY BE ENCOUNTERED OR THAT ACTUAL LOCATIONS OF THOSE SHOWN MAYBE DIFFERENT FROM THE LOCATIONS DESIGNATED ON THE CONTRACT DRAWINGS. IN AREAS WHERE IT IS NECESSARY THAT THE EXACT LOCATION BE KNOWN OF UNDERGROUND FACILITIES, THE CONTRACTOR, AT ITS OWN EXPENSE, SHALL FURNISH ALL LABOR AND TOOLS TO EITHER VERIFY AND SUBSTANTIATE OR DEFINITELY ESTABLISH THE POSITIONS OF UNDERGROUND UTILITY LINES.
- ALL DAMAGE TO EXISTING ASPHALT PAVEMENT TO REMAIN WHICH RESULTS FROM NEW CONSTRUCTION SHALL BE REPLACED WITH LIKE MATERIALS AT CONTRACTOR'S EXPENSE.
- PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL FLAG AND PROTECT ALL TREES TO REMAIN IN ACCORDANCE WITH THE SPECIFICATIONS. DO NOT OPERATE OR STORE HEAVY EQUIPMENT, NOR HANDLE OR STORE MATERIALS, WITHIN THE DRILINES OF TREES OR OUTSIDE THE LIMIT OF GRADING.
- TREE PROTECTION SHALL CONSIST OF THE FOLLOWING STEPS:
 - CONTRACTOR SHALL HIRE A LICENSED LANDSCAPE CONTRACTOR TO OVERSEE TREE PROTECTION.
 - PRIOR TO ALL GRADING OPERATIONS, LOCATE TREES TO BE PROTECTED AND NEATLY CUT ROOTS TO A DEPTH OF 30" AT THE DIMENSIONED LIMITS SHOWN USING A UTILITY TRENCHING MACHINE.
 - TREAT EXPOSED ROOTS WITH A HORTICULTURAL TREE PRUNING PROTECTION PRODUCT.
 - PRUNE TREE LIMBS BY THE SAME PROPORTIONAL PERCENTAGE AS TREE ROOTS REMOVED (i.e. 25% OF ROOTS REMOVED SHALL RESULT IN 25% OF TREE LIMBS REMOVED). IT IS THE OWNER'S INTENT TO PRESERVE ALL OF THE EXISTING SITE VEGETATION OUTSIDE THE LIMITS OF GRADING.
- ALL TREES ARE TO BE PROTECTED AND SAVED IF THEY FALL OUTSIDE THE LIMITS OF GRADING, EVEN IF THEY ARE NOT LOCATED OR IDENTIFIED ON THE SURVEY.
- SELECTIVE CLEARING BEYOND THE LIMIT OF GRADING SHALL CONSIST OF REMOVAL OF HONEYSUCKLE, HERBACEOUS SHRUBS, POISON IVY, AND NOXIOUS WEEDS. GRASS SHALL BE SOWN ON THE WHOLE SITE AFTER PREPARATION, AS NOTED IN THE SPECIFICATIONS.
- THE CONTRACTOR SHALL, AT ITS OWN EXPENSE, REPAIR ALL DAMAGE CAUSED BY CONSTRUCTION OR THE CONSTRUCTION PROCESS. ALL DAMAGE SHALL BE REPAIRED ACCORDING TO CURRENT LOCAL STANDARDS AND SPECIFICATIONS. COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE COMPANY.
- EXCESS MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE OWNER'S PROPERTY AT NO ADDITIONAL COST, IN A LEGAL MANNER.
- THE CONTRACTOR SHALL CHECK EXISTING GRADES, DIMENSIONS, AND INVERTS IN THE FIELD AND REPORT ALL DISCREPANCIES TO THE ARCHITECT/ENGINEER PRIOR TO BEGINNING WORK.
- IN THE EVENT OF ANY DISCREPANCIES FOUND IN THE DRAWINGS OR IF PROBLEMS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK.
- PROVIDE AS-BUILT DRAWINGS WHICH INCLUDE AT LEAST TWO DIMENSIONS TO EACH VALVE AND MANHOLE FROM KNOWN SITE FEATURES. DRAWINGS SHALL INCLUDE VERTICAL AND HORIZONTAL INFORMATION ON ALL NEW UTILITIES AS WELL AS EXISTING UTILITIES ENCOUNTERED. AN AS-BUILT SURVEY SHALL BE PROVIDED FOR NEW SIDEWALK RAMP. AS-BUILT DRAWINGS TO BE DISTRIBUTED TO THE ARCHITECT/ENGINEER UPON COMPLETION.
- GUARD REFERENCE POINTS STAKED IN THE FIELD. ALL REFERENCE POINTS THAT ARE DESTROYED OR LOST SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

DEMOLITION NOTES

- CONTRACTOR TO OBTAIN ALL NECESSARY DEMOLITION AND TREE REMOVAL PERMITS FROM AUTHORITIES HAVING JURISDICTION PRIOR TO START OF SITE DEMOLITION.
- VERIFY THE CLEARING LIMITS AND FIELD CONDITIONS BEFORE BIDDING THIS PROJECT. NO EXTRAS WILL BE ALLOWED DUE TO THE IRREGULAR SURFACE CONDITIONS THAT MAY BE ENCOUNTERED ON THIS SITE.
- DEMOLITION AND REMOVAL OPERATIONS SHALL COMMENCE ONLY AFTER ALL EROSION AND SEDIMENTATION CONTROL MEASURES ARE IN PLACE AND FUNCTIONAL.
- PROVIDE NEAT AND STRAIGHT SAW CUTS OF EXISTING PAVEMENT ALONG ALL LIMITS OF PAVEMENT DEMOLITION.
- ALL DEMOLISHED MATERIALS BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED. DISPOSE OF OFF THE OWNER'S PROPERTY IN A LEGAL MANNER.
- ALL PAVEMENT BASE COURSES, SIDEWALK, CURBS, BUILDINGS, FOUNDATIONS, ETC. IN THE AREA TO BE REMOVED SHALL BE REMOVED TO FULL DEPTH. EXISTING BASE COURSE MATERIALS MAY BE WORKED INTO THE NEW PAVEMENT OR BUILDING SUBGRADE PROVIDED THAT THE GRADATION, CONSISTENCY, COMPACTION, SUBGRADE CONDITION, ETC. ARE IN ACCORDANCE WITH THE SPECIFICATIONS. BASE COURSE MATERIALS SHALL NOT BE WORKED INTO THE SUBGRADE OF AREAS TO RECEIVE PLANTING.
- THE CONTRACTOR SHALL USE WATER SPRINKLING AND OTHER SUITABLE METHODS AS NECESSARY TO CONTROL DUST AND DIRT CAUSED BY THE DEMOLITION WORK.
- ALL ITEMS OF CONSTRUCTION REMAINING AND SPECIFICALLY MENTIONED THAT INTERFERE WITH THE NEW CONSTRUCTION SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER.
- CAVITIES LEFT BY STRUCTURE REMOVAL SHALL BE BACKFILLED WITH SATISFACTORY MATERIAL AND COMPACTED TO 98% OF MAXIMUM DENSITY PER ASTM D698.
- PAVEMENT MARKINGS TO BE REMOVED SHALL BE PAINTED OVER TO MATCH PAVEMENT OR REMOVED WITH WIRE BRUSHING.
- EXCEPT AS SHOWN, NO TREES SHALL BE REMOVED AND/OR VEGETATION REMOVED WITHOUT APPROVAL OF THE OWNER/ENGINEER.

TREE PROTECTION NOTES

- BE RESPONSIBLE FOR THE ERECTION OF ALL BARRIERS NECESSARY TO PROTECT ANY EXISTING OR INSTALLED TREES FROM DAMAGE BOTH DURING AND AFTER CONSTRUCTION IN ACCORDANCE WITH THE STANDARDS OF THIS SUBSECTION.
- TREE PROTECTION FENCING
 - WHERE REQUIRED, ALL SPECIMEN TREES, TREES IN A TREE PROTECTION ZONE, AND TREES INTENDED FOR USE AS CREDIT TOWARDS THE LANDSCAPING SHALL BE FENCED IN ACCORDANCE WITH THIS SUBSECTION BEFORE GRADING OF OTHER LAND DISTURBING ACTIVITY BEGINS. FENCING SHALL EXTEND AT LEAST ONE FOOT IN DISTANCE FROM THE EDGE OF THE TREE FOR EACH INCH OF DIAMETER AT BREAST HEIGHT, SO THAT EACH TREE'S DRIFLINE IS PROTECTED, BUT NO LESS THAN TEN FEET FROM THE TRUNK. THE ENGINEER AND CONTRACTOR SHALL CONSIDER EXISTING SITE CONDITIONS IN DETERMINING THE EXACT LOCATION OF ANY TREE PROTECTION FENCING.
 - TYPE OF FENCING: ALL FENCING REQUIRED SHALL BE CHAIN LINK FENCING AT LEAST FOUR FEET IN HEIGHT AND SECURED USING APPROPRIATE POSTS SPACED NOT MORE THAN TEN FEET APART. SUCH CHAIN LINK FENCING IS NOT REQUIRED TO BE COATED.
 - SIGNAGE: SIGNS SHALL BE INSTALLED ON THE TREE PROTECTION FENCE VISIBLE ON ALL SIDES OF THE FENCED-IN AREA AT A RATE OF AT LEAST ONE SIGN FOR EVERY 150 LINEAR FEET. THE SIZE OF EACH SIGN MUST BE A MINIMUM OF TWO FEET BY TWO FEET TALL AND SHALL CONTAIN THE FOLLOWING LANGUAGE IN ENGLISH AND SPANISH: "TREE PROTECTION ZONE: KEEP OUT."
 - TRENCHING PRIOR TO CLEARING ACTIVITIES: THE REMOVAL OF TREE ADJACENT TO TREE SAVE AREAS CAN CAUSE INADVERTENT DAMAGE TO THE PROTECTED TREES. PRIOR TO CLEARING ACTIVITIES, TRENCHES WITH A MINIMUM DEPTH OF 12 INCHES SHALL BE CUT ALONG THE LIMITS OF THE DISTURBANCE, SO AS TO CUT, RATHER THAN TEAR TREE ROOTS.
 - INSPECTION: ALL TREE PROTECTION MEASURES SHALL BE INSPECTED AND APPROVED PRIOR TO THE START OF ANY LAND DISTURBING ACTIVITIES. FAILURE TO HAVE TREE PROTECTION MEASURES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION IS A VIOLATION OF THIS ORDINANCE.
 - NO CONSTRUCTION, GRADING, EQUIPMENT OR MATERIAL STORAGE OF ANY OTHER ACTIVITY SHALL BE ALLOWED WITHIN THE FENCED AREA. FENCING SHALL BE MAINTAINED UNTIL THE LAND DISTURBANCE ACTIVITIES ARE COMPLETE.

SITE NOTES

- THE FOLLOWING IS A MINIMUM CONSTRUCTION SEQUENCE FOR SITE WORK. IF FURTHER MEASURES ARE NEEDED, THE CONTRACTOR SHALL FURNISH AT NO ADDITIONAL COST TO THE PROJECT:
 - PROVIDE ADEQUATE TREE PROTECTION MEASURES.
 - INSTALL EROSION/SILTATION CONTROLS AS DESIGNATED ON PLANS.
 - CONSTRUCT DETENTION BASIN(S) AND STRUCTURE(S), IF REQUIRED.
 - GRADE THE ROADWAY AND BUILDING AREAS.
- CONSTRUCT STORM DRAINS AND DRAINAGE STRUCTURES. INSTALL SILTATION CONTROL MEASURES TO PREVENT SOIL FROM WASHING INTO STORM DRAINAGE STRUCTURES.
- PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING PAVEMENT AND NEW PAVEMENT. FIELD ADJUSTMENT OF FINAL GRADES MAY BE NECESSARY. INSTALL ALL UTILITIES PRIOR TO INSTALLATION OF PAVEMENT.
- DIMENSIONS AND RADII ARE TO THE FACE OF CURB, EDGE OF CONCRETE, OR TO THE FACE OF BUILDING UNLESS OTHERWISE NOTED.
- COORDINATES ARE FOR FACE OF BUILDING, CENTER LINES OF DRIVEWAYS, CENTER OF SANITARY SEWER MANHOLES, AND CENTER AT FACE OF CURB ON CURB INLETS, UNLESS OTHERWISE NOTED.
- VERIFY THE CLEARING LIMITS AND FIELD CONDITIONS BEFORE BIDDING THIS PROJECT. NO EXTRAS WILL BE ALLOWED DUE TO THE IRREGULAR SURFACE CONDITIONS THAT MAY BE ENCOUNTERED ON THIS SITE.

PUBLIC WORKS NOTES

- ALL WORK WITHIN THE PUBLIC RIGHT OF WAY REQUIRES AN EXCAVATION PERMIT FROM THE DEPARTMENT OF PUBLIC WORKS.
- PROOF-ROLLING OF ALL STREET SUBGRADES IS REQUIRED IN THE PRESENCE OF THE PUBLIC WORKS INSPECTOR. INSPECTION OF THE BINDER COURSE IS REQUIRED PRIOR TO FINAL PAVING IN THE PRESENCE OF THE PUBLIC WORKS INSPECTOR. THESE REQUESTS ARE TO BE MADE 24 HOURS IN ADVANCE.
- STOP SIGNS ARE TO BE 30 INCH BY 30 INCH.
- STREET SIGNS TO HAVE SIX INCH WHITE LETTERS ON A NINE INCH GREEN ALUMINUM BLADE, HIGH INTENSITY REFLECTIVE.
- ALL PAVEMENT MARKING ARE TO BE THERMOPLASTIC.

WATER AND SEWER NOTES

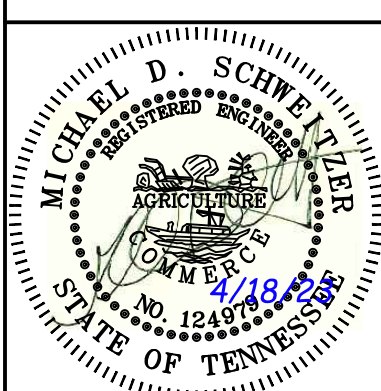
- ALL WATER AND SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH SPECIFICATIONS AND STANDARD DETAILS OF THE METRO WATER SERVICES.
- THE CONTRACTOR IS RESPONSIBLE FOR REIMBURSING THE METRO WATER SERVICES THE COST OF INSPECTION.
- THE CONTRACTOR IS TO PROVIDE AND MAINTAIN THE CONSTRUCTION IDENTIFICATION SIGN FOR PRIVATE DEVELOPMENT APPROVED.
- ALL CONNECTIONS TO EXISTING MANHOLES SHALL BE BY CORING AND RESILIENT CONNECTOR METHOD.
- REDUCED PRESSURE BACKFLOW PREVENTION DEVICES (RPBP) OR DUAL CHECK VALVE WILL BE REQUIRED ON ALL TEST AND FILL LINES (JUMPER) NEEDED FOR WATER MAIN CONSTRUCTION AND MUST BE APPROVED BY THE METRO WATER SERVICES.
- ALL WATER METERS SHALL BE A MINIMUM OF 24" NOT TO EXCEED A MAXIMUM OF 28" BELOW FINISHED GRADE.
- PRESSURE REGULATING DEVICES WILL BE REQUIRED ON THE CUSTOMER SIDE OF THE METER WHEN PRESSURES EXCEED 100 PSI.
- PRESSURE REGULATING DEVICES WILL BE REQUIRED ON THE STREET SIDE OF THE METER WHEN PRESSURES EXCEED 150 PSI.

GRADING AND DRAINAGE NOTES

- STRIP AVAILABLE TOPSOIL AND STORE ON SITE. INSTALL SILTATION CONTROL (SILT FENCE) AROUND SOIL STOCKPILES, AS NEEDED. CONTRACTOR TO FURNISH ADDITIONAL TOPSOIL OR REMOVE EXCESS TOPSOIL AT NO ADDITIONAL EXPENSE TO THE OWNER.
- PROVIDED TEMPORARY SEEDING ON STOCKPILES AND ALL OTHER AREAS OF THE SITE THAT WILL REMAIN UNDISTURBED FOR 30 DAYS OR MORE.
- PLACE TOPSOIL AND APPLY SEED AND MULCH TO ALL DISTURBED AREAS. PLACE AND RAKE TOPSOIL TO A MINIMUM DEPTH OF SIX (6) INCHES IN AREAS TO RECEIVE LANDSCAPING.
- IT IS THE OWNER'S INTENT TO PRESERVE ALL OF THE EXISTING SITE VEGETATION OUTSIDE THE LIMITS OF GRADING.
- ALL GRADED AREAS SHALL BE SEEDED AND MULCHED WITHIN 14 DAYS AFTER GRADING IS COMPLETED. SLOPES 3:1 AND STEEPER WITHIN 7 DAYS.
- ALL DRAINAGE STRUCTURES, PIPES WITHIN THE LIMITS OF CONSTRUCTION, AND DETENTION PONDS SHALL HAVE SEDIMENT REMOVED PRIOR TO FINAL ACCEPTANCE.
- TOP OF GRATE ELEVATIONS FOR CURB INLETS ARE GIVEN TO THE CENTER OF THE INLETS AT THE FACE OF CURB. THE GRATES SHALL SLOPE LONGITUDINALLY WITH THE PAVEMENT GRADE. ADJUST THE CASTING TO FALL ALONG THE CURB LINE.
- SPOT ELEVATIONS AND CONTOURS REPRESENT PROPOSED FINISHED GRADE AND TOP OF FINISHED PAVEMENT.
- CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS AND INVERTS PRIOR TO BEGINNING WORK.
- CONTOUR LINES AND SPOT ELEVATIONS ARE THE RESULT OF A DETAILED ENGINEERING GRADING DESIGN AND REFLECT A PLANNED INTENT WITH REGARD TO DRAINAGE. SHOULD THE CONTRACTOR HAVE QUESTIONS OF THIS INTENT OR PROBLEMS WITH CONTINUITY OF GRADES, THE ARCHITECT/ENGINEER SHALL BE CONTACTED PRIOR TO BEGINNING WORK.
- ALL CURBS AND SIDEWALKS SHALL BE BACKFILLED WITH TOPSOIL, SEEDED AND MULCHED, UNLESS OTHERWISE NOTED.

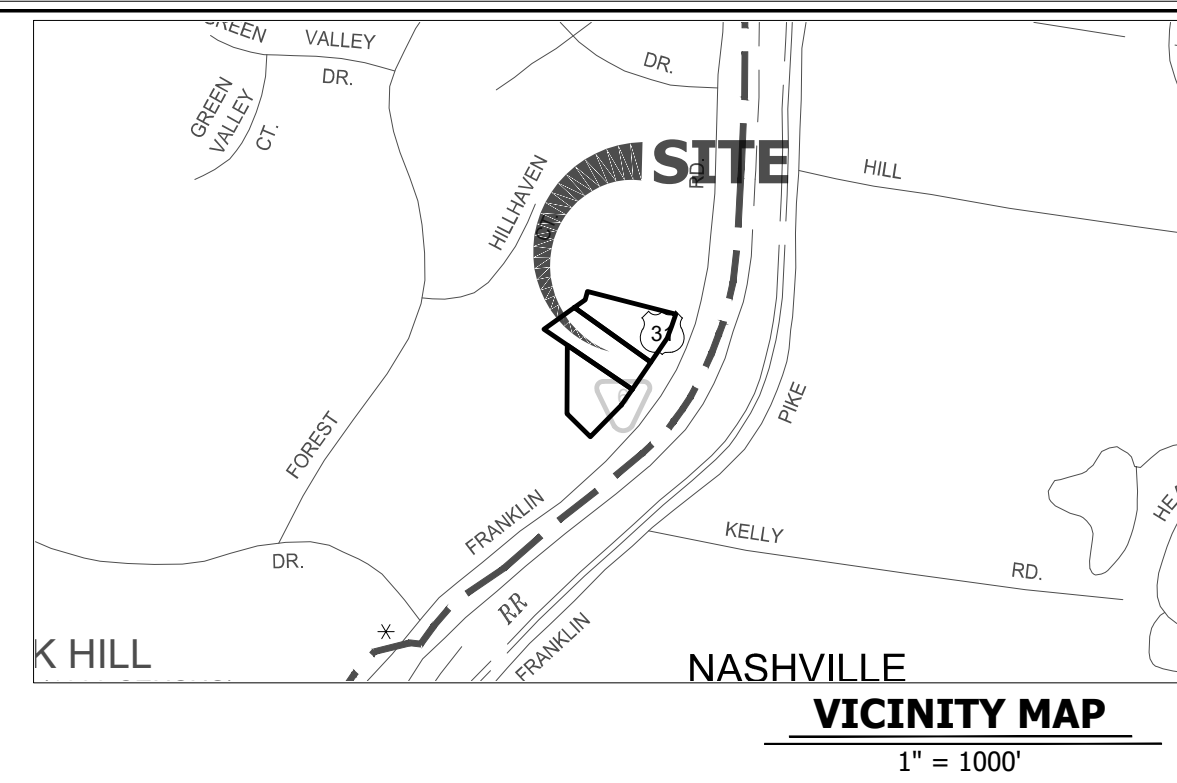
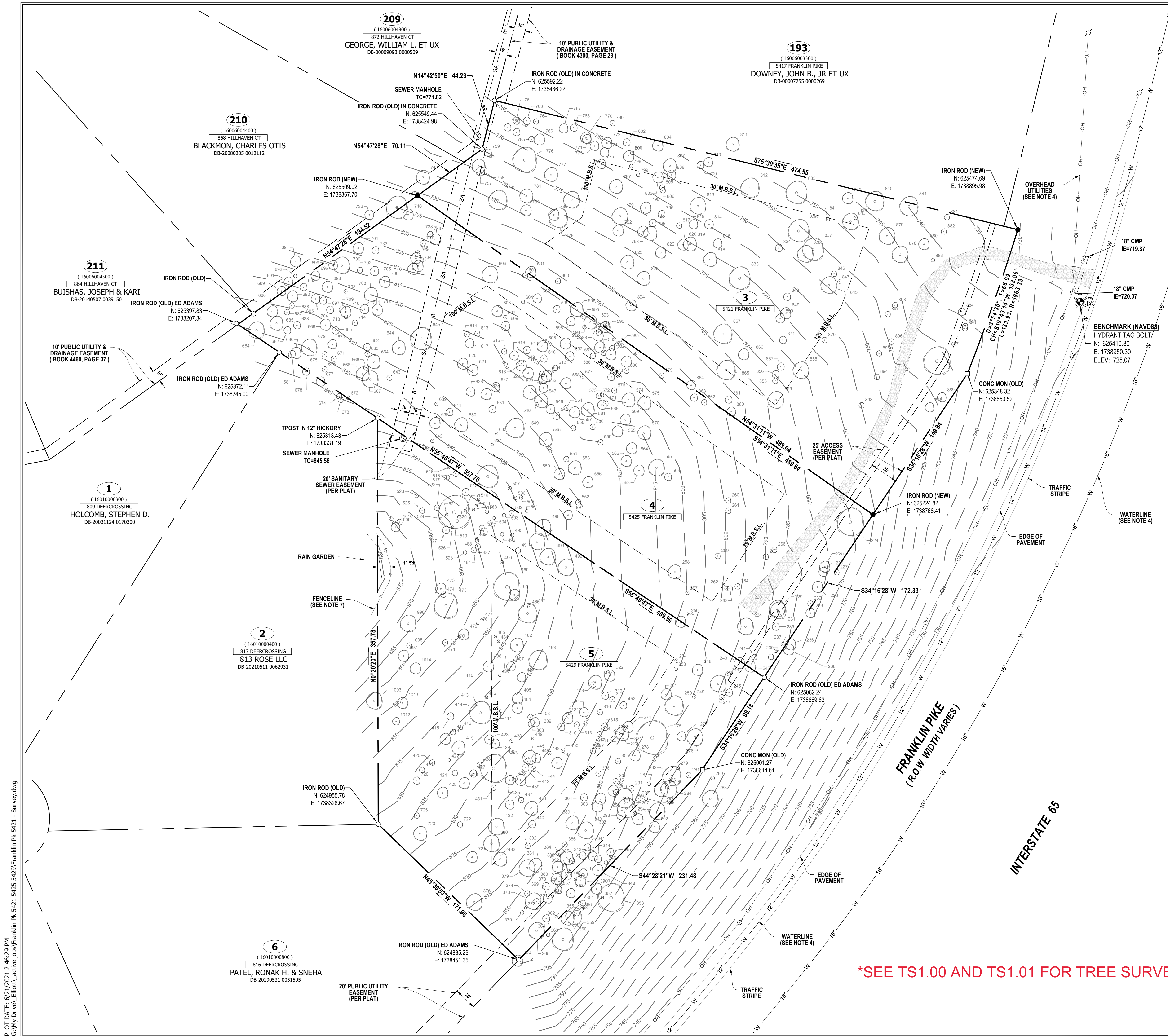
EROSION PREVENTION AND SEDIMENT CONTROL

- THE OWNER AND THE CONTRACTOR ARE REQUIRED TO SUBMIT A NOTICE OF INTENT (NOI) APPLICATION TO DISCHARGE CONSTRUCTION-ACTIVITY STORMWATER TO THE LOCAL TENNESSEE ENVIRONMENTAL ASSISTANCE CENTER AT LEAST 30 DAYS PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR AND OWNER SHALL PROVIDE (WITH THE NOI FOR THIS PROJECT) EXISTING NPDES PERMIT TRACKING NUMBERS FOR SITES WHERE BORROW MATERIAL MAY BE OBTAINED AND WHERE SPOIL MATERIAL MAY BE PLACED. SHOULD PERMITS NOT EXIST FOR BORROW AND SPOIL SITES, SEPARATE NOI'S SHALL BE PROVIDED BY THE OWNER AND CONTRACTOR.
- THE NOTICE OF COVERAGE (NOC) OF THE PERMIT TO DISCHARGE CONSTRUCTION-ACTIVITY STORMWATER SHALL BE POSTED NEAR THE CONSTRUCTION ENTRANCE. THE CONTRACTOR SHALL HAVE A SET OF APPROVED EROSION CONTROL PLANS ON SITE DURING ALL CONSTRUCTION.
- THE RECEIVING WATER/STORM SEWER OPERATOR IS METRO NASHVILLE
- CONSTRUCTION SHALL BE SEQUENCED TO MINIMIZE EXPOSURE TIME OF CLEARED SURFACE AREA. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND FUNCTIONAL PRIOR TO EARTH MOVING OPERATIONS. ALL CONTROL MEASURES SHALL BE CHECKED AND REPAIRED AS NECESSARY, AT MAXIMUM 14 CALENDAR DAYS IN DRY PERIODS, AND WITHIN 24 HOURS OF ALL RAINFALL EXCEEDING 0.25 INCH PER 24 HOUR PERIOD.
- THE CONTRACTOR SHALL DESIGNATE IN WRITING THE NAME AND PHONE NUMBER OF THE INDIVIDUAL RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS.
- PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE REMOVED MORE THAN 20 CALENDAR DAYS PRIOR TO GRADING. ALL GRADED AREAS EXPECTED TO REMAIN UNFINISHED AND UNWORKED FOR MORE THAN 7 CALENDAR DAYS SHALL BE COVERED WITH TEMPORARY GRASS, SOD, STRAW, MULCH OR FABRIC MATERIAL. PERMANENT SOIL STABILIZATION SHALL BE INSTALLED WITHIN 15 CALENDAR DAYS OF FINAL GRADING.
- THE CONTRACTOR SHALL MAINTAIN RECORDS OF EROSION CONTROL INSPECTIONS AND REPAIRS FOR A MINIMUM OF 3 YEARS AFTER COMPLETION OF CONSTRUCTION.
- TEMPORARY SEEDING FOR TENNESSEE PROJECTS INCLUDE THE FOLLOWING OPTIONS:
 - JAN 1-MAY 1 ITALIAN RYE/KOREAN LESPEDEZA/SUMMER OATS
 - MAY 1-JULY 1 SUDAN OR STARR MILLET
 - JULY 15-JAN 1 BALBOA RYE/ITALIAN RYE
- SILT BARRIERS AND SEDIMENT TRAPS SHALL BE CLEANED OF ACCUMULATED SEDIMENT WHEN APPROXIMATELY 50% FILLED.
- STOCKPILES SHALL BE STABILIZED AND PROTECTED FROM EROSION.
- UPON COMPLETION OF SITE STABILIZATION, THE OWNER AND CONTRACTOR SHALL PROVIDE A NOTICE OF TERMINATION (NOT) FOR THE PROJECT TO THE LOCAL ENVIRONMENTAL ASSISTANCE CENTER. A COPY OF THE NOTICE OF TERMINATION SHALL BE PROVIDED TO THE ENGINEER.
- COMPLY WITH ALL LOCAL AND STATE SOIL EROSION AND SEDIMENT CONTROL REQUIREMENTS. PREVENT ALL SOIL EROSION ONTO PUBLIC ROADS OR INTO EXISTING DRAINAGE DITCHES OR WATERWAYS AS PER INSTRUCTIONS IN THE APPROVED STATE STORM WATER POLLUTION PREVENTION PLAN (SWPPP). ALL SOIL EROSION AND SEDIMENT CONTROL COSTS, AS WELL AS REGULAR INSPECTIONS BY A STATE CERTIFIED INSPECTOR, SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE INCLUDED IN THE PROJECT BID.
- MAINTAIN CRUSHED STONE AT THE SITE ACCESS. CONSTRUCTION VEHICLES SHALL NOT TRACK SOIL ONTO PUBLIC STREETS.
- INSTALL AND MAINTAIN EROSION/SILTATION CONTROL DEVICES, AS DESIGNATED ON THE PLAN, UNTIL ADEQUATE VEGETATION IS PRESENT TO PREVENT EROSION.
- ALL LOCATIONS OF TEMPORARY EROSION CONTROL DEVICES SHALL BE SUBJECT TO ADJUSTMENT.
- WHEN THE TEMPORARY EROSION CONTROL DEVICES ARE NO LONGER REQUIRED THEY SHALL BE REMOVED.
- EXISTING DETENTION POND SHALL BE CLEANED TO THE ORIGINAL DESIGN CONTOURS AND RESTABILIZED AFTER THE CONSTRUCTION SITE IS STABILIZED AT THE END OF PROJECT.
- REPLACE DAMAGED AND WORN OUT SILT BARRIERS.
- I CERTIFY THAT THESE PLANS HAVE BEEN PREPARED BY ME AND/OR UNDER MY DIRECT SUPERVISION. THIS PROJECT IS PLANNED TO DISTURB MORE THAN ONE ACRE. IT THEREFORE FALLS UNDER THE TENNESSEE DIVISION OF WATER POLLUTION CONTROL'S GENERAL NPDES PERMIT TO DISCHARGE STORM WATER ASSOCIATED WITH CONSTRUCTION ACTIVITY. SWS ENGINEERING, INC. WILL ASSIST THE CONTRACTOR IN SUBMITTING THE NOTICE OF INTENT (NOI) TO CONSTRUCT TO THE STATE AT LEAST 30 DAYS PRIOR TO BEGINNING LAND DISTURBANCE.



REV.	COMMENTS	DATE

C0.01



TOTAL LOT AREA
 93,002 SF OR 2.135 ACRES± (LOT 3)
 92,996 SF OR 2.134 ACRES± (LOT 4)
 91,139 SF OR 2.092 ACRES± (LOT 5)

MAP REFERENCE
 Parcel ID for subject property is (16010000500) on Davidson County Property Map. (LOT 3)
 Parcel ID for subject property is (16010000600) on Davidson County Property Map. (LOT 4)
 Parcel ID for subject property is (16010000700) on Davidson County Property Map. (LOT 5)

DEED REFERENCE
 Owner : KF Legacy LLC, as of record in Instrument 20210602 0073777 Registers Office, Davidson County, Tennessee.

PLAT REFERENCE
 Being Lot Nos. 3, 4, & 5 on the First Revision of Deer Run Subdivision, as of record in Book 9700, Page 825, Register's Office for Davidson County, Tn.

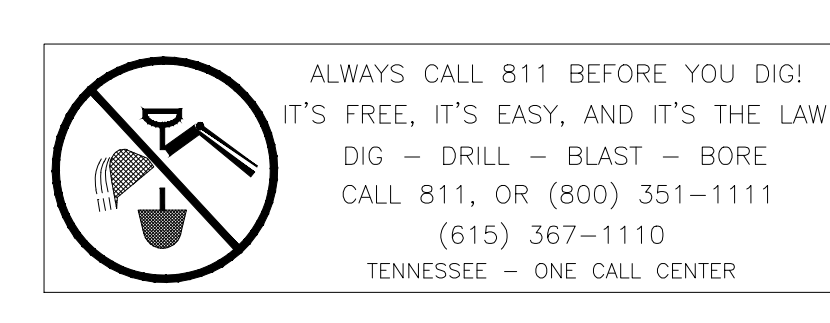
- SURVEYOR'S NOTES**
- This Property is located in the 34th Council District of Davidson County Tennessee.
 - Bearings, Elevations and Coordinates shown are based on Tennessee State Plane NAD83. (NAVD88)
 - The property is located in areas designated as "Zone X" (areas determined to be outside the 0.2 % annual chance floodplain) as noted on the current FEMA Firm Community Panel # 47037C0367H, effective on 4-5-2017.
 - Utilities shown hereon were taken from visible structures and other sources available to me at this time. Verification of existence, size, location and depth should be confirmed with the appropriate utility sources.
 - A Title Report was not provided for the preparation of this survey. Therefore this survey is subject to the findings of an accurate title search.
 - No Stream determinations were provided to this surveyor, therefore this survey does not address the existence or non-existence of any water of the state, jurisdictional stream buffers or wetlands.
 - This survey does not address the owner of any fence nor address any adverse claim of ownership of any adjoining property. Removal of any property line fence should be coordinated with adjacent owner.
 - Property is currently Zoned "Residential D". Setbacks per current zoning. **Verify with City of Oak Hill Zoning Ordinance.**
 Front Building Setback = Contextual Average = 75' Minimum & 125' Minimum (Per Plat)
 Rear Building Setback = 100' Minimum (Per Plat)
 Side Building Setback = 30' Minimum (Per Plat)
 - This survey was prepared for the exclusive use of the persons or entities named on the certification hereon. Said certificate does not extend to any unnamed person or entity without an express re-certification by the surveyor.

- GPS NOTES**
- The (TDOT) Tennessee Geodetic Reference Network was used for this survey
 - GPS locations used for this survey were established using a VRS network consisting of multiple reference stations
 - GPS data was collected with a Spectra Precision 80 receiver.
 - This survey was prepared without the use of a scale factor. Except in the instance of initial survey control, all distances or coordinates were derived from measurements taken by a total station. Coordinates used for the initial survey control were generated with the use of GPS observations and used as the basis for the coordinate system used for this survey.
 - The date of this survey is: 5/12/2021.

SURVEYOR'S CERTIFICATE
 To: Brandon C. Knox and KF Legacy, LLC

I hereby certify that this survey was actually made on the ground under my direct supervision, using the latest recorded deeds, and other information; that there are no encroachments or projections other than those shown; and that this survey exceeds the minimum requirements for a Category 1 Urban Land Survey pursuant to Chapter 0820-3, Section .05 of the Department of Insurance Standards of Practice for Land Surveyors; and that this survey is true and correct to the best of my knowledge and belief.

Jason A. Garrett, TN RLS # 2861



Symbol Legend

Symbol	Denotes
(Circle with dot)	IRON ROD (OLD)
(Circle with cross)	BENCHMARK
(Circle with X)	CATCH BASIN
(Circle with Y)	FIRE HYDRANT
(Circle with Z)	SEWER MANHOLE
(Circle with A)	EXISTING TREE
(Circle with B)	WATER VALVE
(Circle with C)	WATER METER
(Circle with D)	IRON ROD (NEW)
(Circle with E)	UTILITY POLE
(Circle with F)	CONCRETE
(Circle with G)	ASPHALT
(Circle with H)	GRAVEL

GRAPHIC SCALE (IN FEET)
 1 inch = 40 ft.

GRID NORTH
 (SEE NOTE 2)

P.O. Box 331875
 Nashville, TN 37203
 clintheilottsurvey.com
 (615) 490-3236

CLINT ELLIOTT SURVEY

Boundary & Topographic Survey

5421, 5425, & 5429 Franklin Pike
 Nashville, Davidson County, Tennessee 37220

Rev.	Date	Revision Description

Issue Date: 6-21-2021
 Project ID: FRANKLIN PK 5421
 Drafted By: KW/SS
 Field Crew: AK
 Checked By: KW

Sheet Title:
Boundary & Topographic Survey

Sheet No.
V-1.00

PLOT DATE: 6/21/2021 2:46:29 PM
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***SEE TS1.00 AND TS1.01 FOR TREE SURVEY INFO**

DEMOLITION LEGEND

- EXISTING TREES TO BE REMOVED
- EXISTING TREES TO BE REMOVED - MARKED BY ARBORIST AS DEAD, DECLINING OR DAMAGED
- EXISTING TREES TO REMAIN

LOT 1 - 5421

SF LOT 1: 93,002 SF
 EXISTING TREE COVERAGE AREA/PERCENTAGE: 47,856 SF/51.4%
 REMOVED TREE AREA/PERCENTAGE: 11,500 SF/24%
 PERCENTAGE OF TREE CANOPY REMAINING: 75.9%, 60% Req.

LOT 2 - 5425

SF LOT 2: 92,996 SF
 TREE COVERAGE AREA/PERCENTAGE: 49,646 SF/53.4%
 REMOVED TREE AREA/PERCENTAGE: 18,612 SF/37.5%
 PERCENTAGE OF TREES REMAINING: 62.5%, 60% Req.

LOT 3 - 5429

SF LOT 3: 91,139 SF
 TREE COVERAGE AREA/PERCENTAGE: 63,709 SF/70.0%
 REMOVED TREE AREA/PERCENTAGE: 8,100 SF/17.6%
 PERCENTAGE OF TREES REMAINING: 82.4%, 57% Req.



#	Species	Diameter	Tree Status	Lot
50	Hackberry	13	x trunk defects	1
51	Hackberry	14	x branch dieback	1
194	Hackberry	10		1
195	sugar maple	10	x mechanical damage	1
196	Hackberry	20		1
202	sugar maple	20	x almost dead one sucker remains	1
203	ash	15	x declining	1
204	elm	14	x declining	1
205	elm	11		1
206	Hackberry	11		1
207	sugar maple	8		1
208	Hackberry	11		1
209	Hackberry	8		1
210	Hackberry	8		1
211	Hackberry	10		1
212	Hackberry	8		1
213	shagbark Hickory	10		1
215	Hackberry	9	x trunk defect	1
218	ash	9	x declining	1
219	ash	8	x declining	1
241	ash	26	x declining	1
242	elm	8		1

5429 TOTAL - 22 TREES

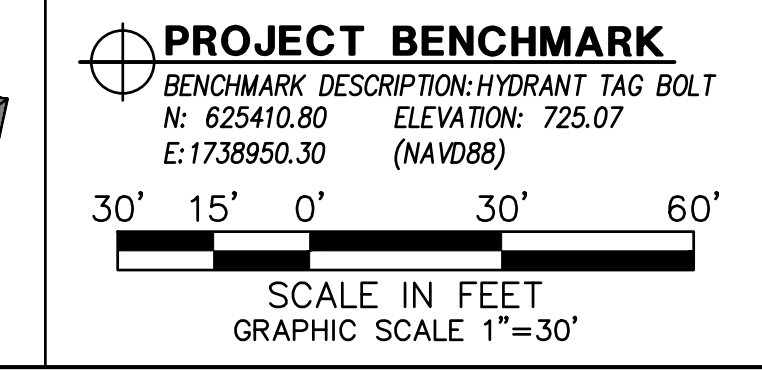
5421 TOTAL - 29 TREES

#	Species	Diameter	Tree Status	Lot
248	Hackberry	10	x dead top	2
263	Hackberry	10		2
306	Hackberry	19	x hollow trunk	2
307	ash	9	x almost dead	2
308	persimmon	17		2
370	Osage orange	13		2
371	ash	17	x almost dead	2
372	sugar maple	8	x trunk mechanical damage	2
373	ash	11	x declining	2
374	ash	8	x almost dead	2
375	Hackberry	12		2
376	Osage orange	18	x declining	2
377	Hackberry	9		2
378	Hackberry	16	x almost dead trunk defects	2
379	ash	8	x declining	2
380	ash	12	x declining	2
381	ash	15	x declining	2
382	ash	18	x declining	2
392	Osage orange	12	branch dieback	2
393	Hackberry	14		2
394	elm	8	x trunk damage inclusion with Hcd	2
395	Hackberry	8		2
396	shagbark Hickory	17	x hollow trunk	2
397	Hackberry	14		2
398	Hackberry	8		2
399	Hackberry	15		2
400	Hackberry	15		2
401	Hackberry	15	x trunk damage	2
402	elm	22	x main branch hollow	2
403	Hackberry	9		2
405	Hackberry	8	x mechanical damage	2
406	Hackberry	13	dead branches	2
407	Hackberry	16		2
408	Hackberry	8		2
409	Hackberry	14		2
410	Hackberry	8	x bark splitting	2
411	Hackberry	16		2
412	Hackberry	14	branch dieback	2
413	Hackberry	9		2
414	Hackberry	10	x mechanical damage	2
416	Mulberry	9	x almost dead	2
417	Hackberry	10		2
418	Hackberry	12	x hollow trunk	2
419	Hackberry	21	x hollow trunk	2
420	Hackberry	16		2
421	Hackberry	11	x trunk damage	2
422	ash	10	x mechanical damage declining	2
423	Hackberry	8		2
424	Osage orange	9	tip dieback	2
425	boxelder	8	x trunk damage	2
426	Hackberry	36	x @3 hollow declining	2
427	elm	9		2
428	ash	14	x declining trunk damage	2
429	ash	8	x declining	2
430	Mulberry	8	x almost dead	2
431	ash	25	x trunk damage almost dead	2

5425 TOTAL - 56 TREES

NOTE: TREE SURVEY PROVIDED BY PANTHER CREEK FORESTRY

MAP NO. 16.01 - PARCEL 07.00



SWS ENGINEERING, INC.
 CIVIL ENGINEERING LAND PLANNING SURVEYING
 504 Atlanta Springs Court, Suite A-4
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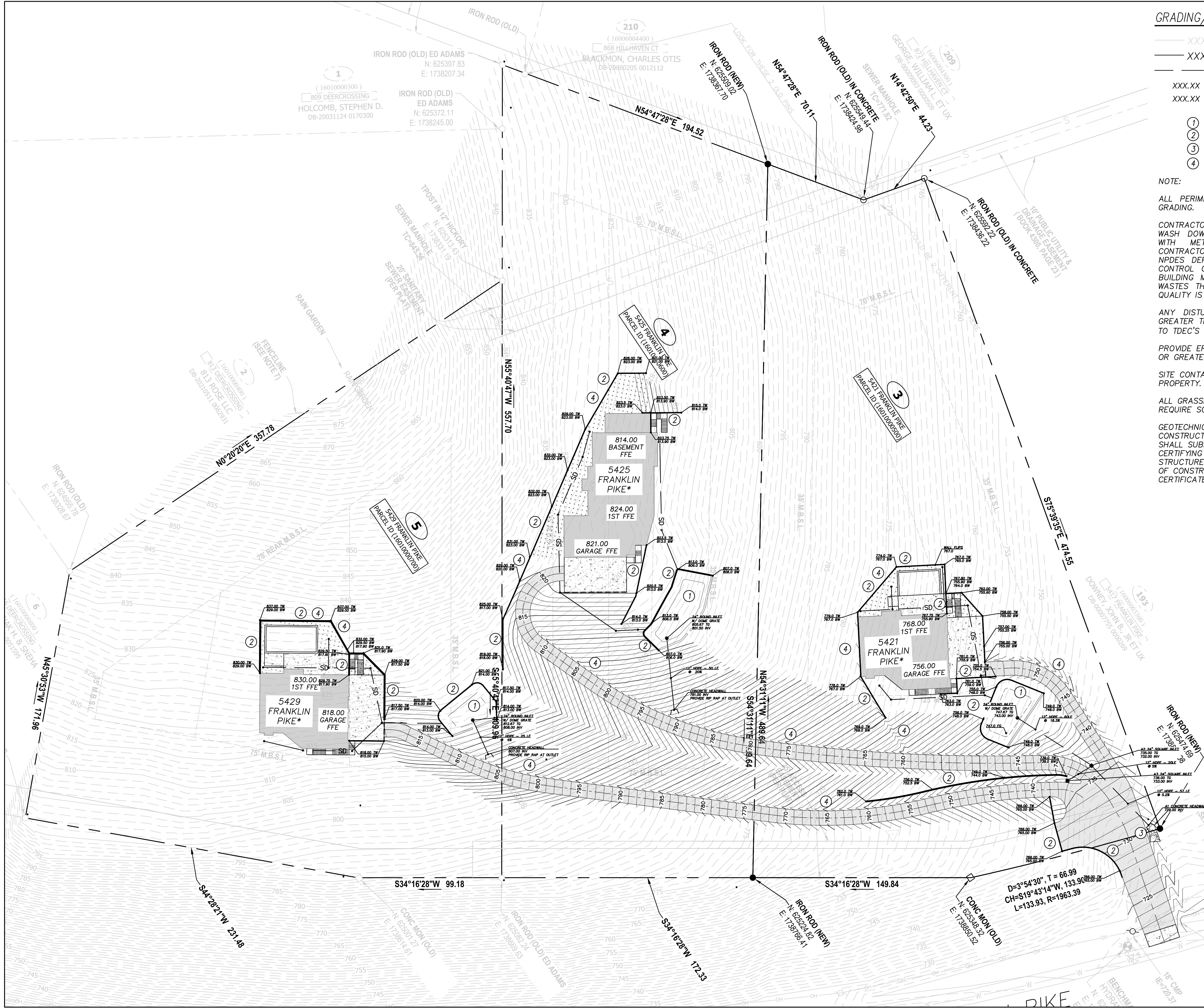
THE GREAT SEAL OF THE STATE OF TENNESSEE
 JAMES W. ROBERTSON
 GOVERNOR
 JANUARY 1820

Tennessee
 Know what's below.
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DEMO AND TREE PLAN
 CONSTRUCTION DOCUMENTS
5421, 5425, 5429 FRANKLIN PIKE
 NASHVILLE, TENNESSEE 37220

REV.	COMMENTS	DATE

TS1.00
 JOB NO.: 22-270T
 DRAWN BY: DMO CHD BY: PDA



GRADING/DRAINAGE, EROSION CONTROL LEGEND

- XXX ——— EXISTING CONTOUR
- XXX ——— PROPOSED CONTOUR
- SD ——— STORM PIPE
- XXX.XX TW ——— TOP OF WALL
- XXX.XX BW ——— BOTTOM OF WALL

- ① LEVEL 1 BIORETENTION BASIN
- ② RETAINING WALL, STRUCTURAL DESIGN BY OTHERS
- ③ CONCRETE HEADWALL, #2/CS.10
- ④ 2' WIDE, 6" DEEP SWALE

NOTE:
ALL PERIMETER MEASURES MUST BE IN PLACE BEFORE GRADING.

CONTRACTOR SHALL PROVIDE AN AREA FOR CONCRETE WASH DOWN AND EQUIPMENT FUELING IN ACCORDANCE WITH METRO CP-10 AND CP-13, RESPECTIVELY. CONTRACTOR TO COORDINATE EXACT LOCATION WITH NPDES DEPARTMENT DURING PRECONSTRUCTION MEETING. CONTROL OF OTHER SITE WASTES SUCH AS DISCARDED BUILDING MATERIALS, CHEMICALS, LITTER, AND SANITARY WASTES THAT MAY CAUSE ADVERSE IMPACTS TO WATER QUALITY IS ALSO REQUIRED BY THE GRADING PERMITEE.

ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED ACCORDING TO TDEC'S SPECIFICATIONS.

PROVIDE EROSION CONTROL MATTING ON ALL SLOPES 3:1 OR GREATER.

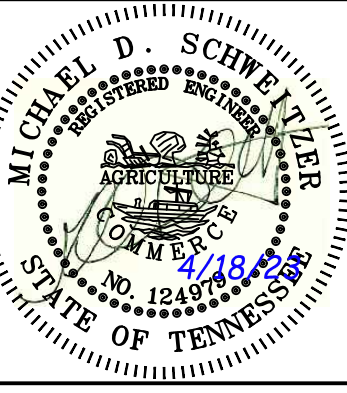
SITE CONTAINS 15% OR GREATER SLOPES ACROSS THE PROPERTY.

ALL GRASSED AREAS ON SLOPES 15% OR GREATER WILL REQUIRE SOD.

GEOTECHNICAL ENGINEER SHALL BE ON SITE DURING CONSTRUCTION TO MONITOR CONSTRUCTION. ENGINEER SHALL SUBMIT A GEOTECHNICAL CERTIFICATION LETTER CERTIFYING THE STABILITY OF THE SLOPE AND THE STRUCTURE TO THE CITY OF OAK HILL UPON COMPLETION OF CONSTRUCTION AND PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

PRE/POST SITE RUNOFF		
	PRE (CFS)	POST (CFS)
2 YEAR	9.487	9.235
5 YEAR	16.01	15.44
10 YEAR	20.58	20.43
25 YEAR	26.73	26.17
50 YEAR	31.38	30.50
100 YEAR	36.01	35.90

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P.O. Box 22-2707 Commerce Street, Nashville, TN 37202-0227 Overall Quality and Drainage Permitting



OVERALL GRADING AND DRAINAGE PLAN
CONSTRUCTION DOCUMENTS
5421, 5425, 5429 FRANKLIN PIKE
NASHVILLE, TENNESSEE 37220

REV.	COMMENTS	DATE

MAP NO. 16.01 - PARCEL 07.00

PROJECT BENCHMARK
BENCHMARK DESCRIPTION: HYDRANT TAG BOLT
N: 625410.80 ELEVATION: 725.07
E: 1738950.30 (NAVD88)

30' 15' 0' 30' 60'
SCALE IN FEET
GRAPHIC SCALE 1"=30'

C2.00

JOB NO.: 22-2707
DRAWN BY: DMO CHK BY: PDA



DESCRIPTION	SYMBOL
SILT FENCE, TCP-13	[Symbol]
STABILIZED CONSTRUCTION ENTRANCE, TCP-03	[Symbol]
CONCRETE WASHOUT	[Symbol]
SLOPE MATTING, TCP-09	[Symbol]
SEDIMENT TUBE, TCP-14	[Symbol]
OUTLET PROTECTION, PESC - 07	[Symbol]
CHECK DAM, TCP-12	[Symbol]
TREE PROTECTION	[Symbol]
LIMITS OF DISTURBANCE = 2.21 ACRES	[Symbol]

NOTE:

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PROVIDE EROSION CONTROL MATTING ON ALL SLOPES 3:1 OR GREATER.

SITE CONTAINS 15% OR GREATER SLOPES ACROSS THE PROPERTY.

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SCALE IN FEET
 GRAPHIC SCALE 1"=30'

OUTFALL
 LAT: 36.0491
 LONG: -86.7765

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STATE OF TENNESSEE
 M. CHELSEA D. SCHWELTZER
 REGISTERED PROFESSIONAL ENGINEER
 No. 24583
 EXPIRES 12/31/2025

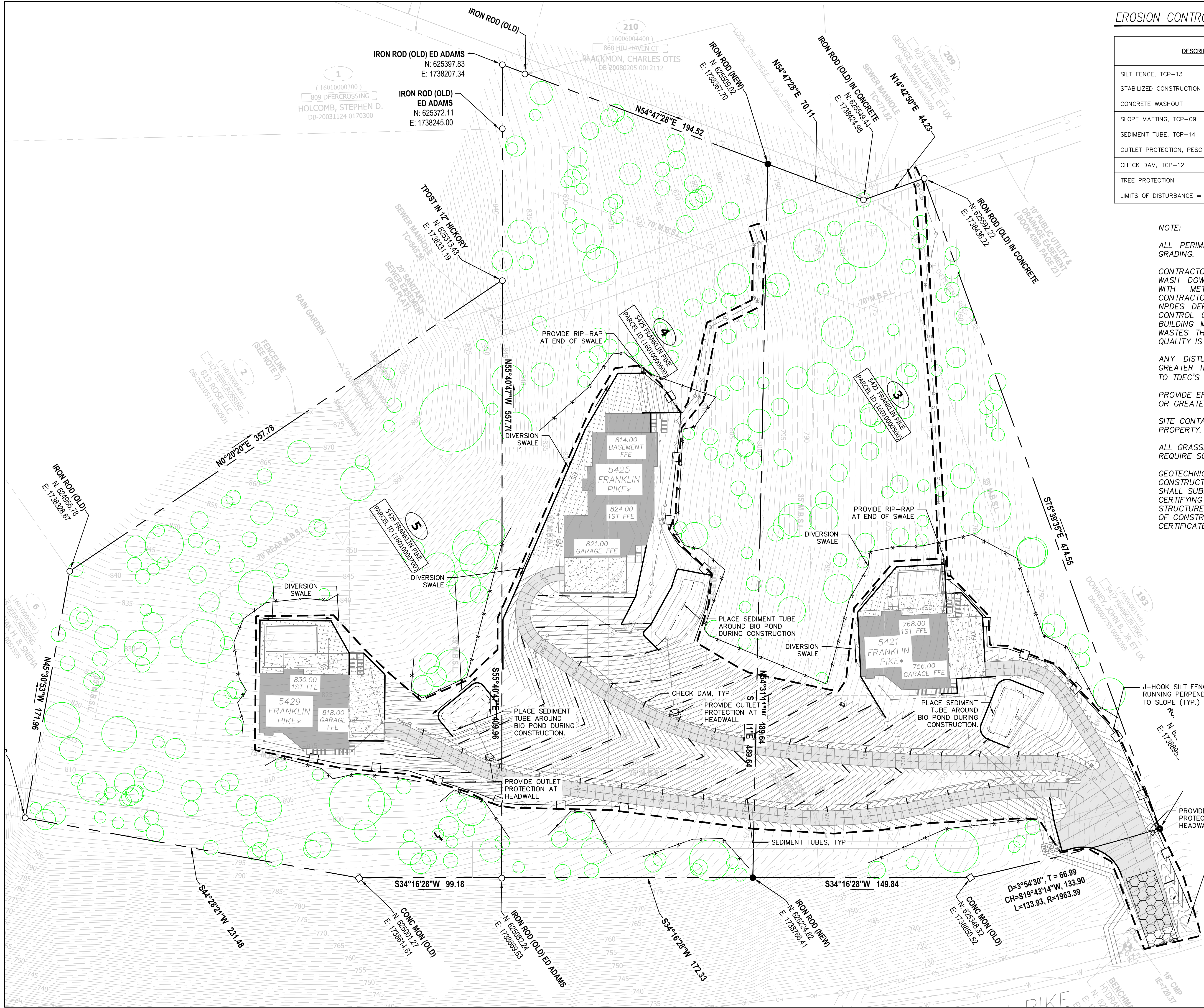
Tennessee
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INITIAL EPSC PLAN
 CONSTRUCTION DOCUMENTS
5421, 5425, 5429 FRANKLIN PIKE
 NASHVILLE, TENNESSEE 37220

REV.	COMMENTS	DATE

C3.00

JOB NO.: 22-270T
 DRAWN BY: DMO CHD BY: PDA



EROSION CONTROL LEGEND

DESCRIPTION	SYMBOL
SILT FENCE, TCP-13	[Symbol]
STABILIZED CONSTRUCTION ENTRANCE, TCP-03	[Symbol]
CONCRETE WASHOUT	[Symbol]
SLOPE MATTING, TCP-09	[Symbol]
SEDIMENT TUBE, TCP-14	[Symbol]
OUTLET PROTECTION, PESC - 07	[Symbol]
CHECK DAM, TCP-12	[Symbol]
TREE PROTECTION	[Symbol]
LIMITS OF DISTURBANCE = 2.21 ACRES	[Symbol]

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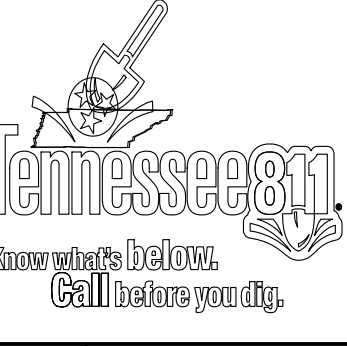
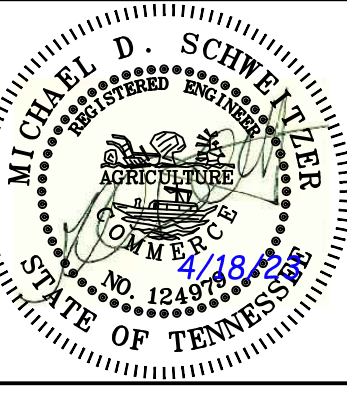
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CONSTRUCTION EPSC PLAN
 CONSTRUCTION DOCUMENTS
5421, 5425, 5429 FRANKLIN PIKE
 NASHVILLE, TENNESSEE 37220

REV.	COMMENTS	DATE

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 SCALE IN FEET
 GRAPHIC SCALE 1"=30'

C3.01

JOB NO.: 22-270T
 DRAWN BY: DMO CHK BY: PDA



EROSION CONTROL LEGEND

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STABILIZED CONSTRUCTION ENTRANCE, TCP-03	[Symbol]
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FINAL EPSC PLAN
 CONSTRUCTION DOCUMENTS
5421, 5425, 5429 FRANKLIN PIKE
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REV.	COMMENTS	DATE

C3.02

JOB NO.: 22-270T

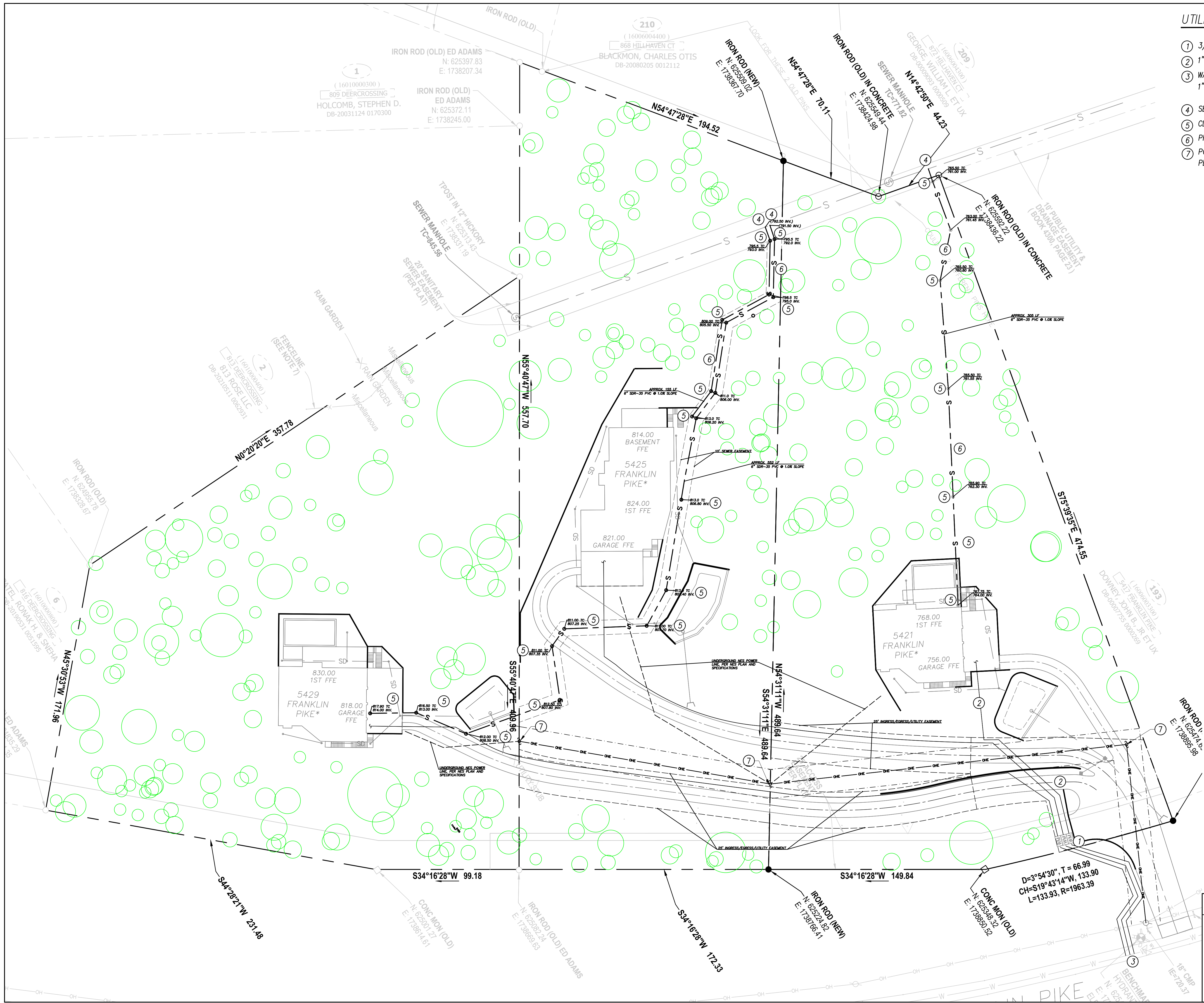
DRAWN BY: DMO CHKD BY: PDA

MAP NO. 16.01 - PARCEL 07.00

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30' 15' 0' 30' 60'

SCALE IN FEET
 GRAPHIC SCALE 1"=30'



- ### UTILITY LEGEND
- ① 3/4" WATER METER. #1/C5.30
 - ② 1" WATER SERVICE LINE
 - ③ WATER SERVICE CONNECTION POINT (TYP.), 1" CORPORATION STOP
 - ④ SEWER SERVICE CONNECTION POINT (TYP.)
 - ⑤ CLEANOUT, #2/C5.30
 - ⑥ PRIVATE SDR-35 PVC SEWER SERVICE LINE
 - ⑦ POWER POLE, OVERHEAD ELECTRIC/UNDERGROUND ELECTRIC PER NES PLANS, 20' NES EASMENT

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UTILITY PLAN
 CONSTRUCTION DOCUMENTS
5421, 5425, 5429 FRANKLIN PIKE
 NASHVILLE, TENNESSEE 37220

REV.	COMMENTS	DATE

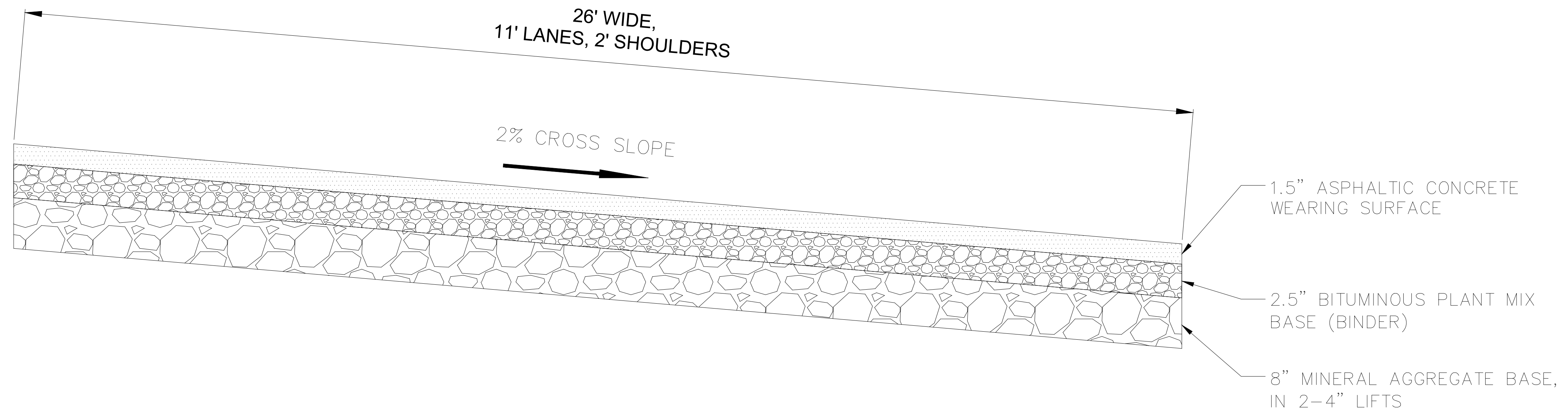
C4.00

JOB NO.: 22-270T
 DRAWN BY: DMO CHKD BY: PDA

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DETAIL #1 - ENTRANCE DRIVE

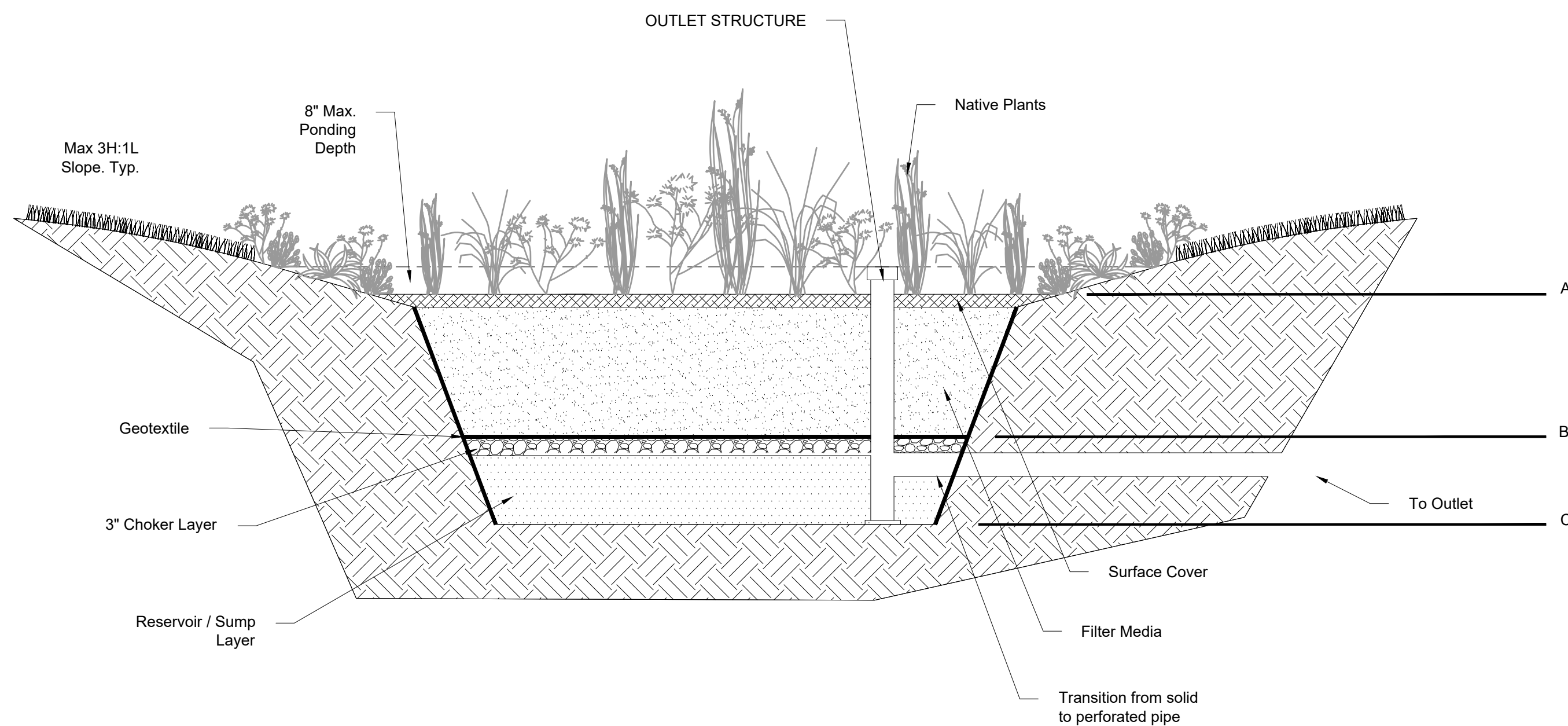
provide NDOT ST-322
Drive Apron detail

added

REV.	COMMENTS	DATE

C5.00

LEVEL 1 BIORETENTION



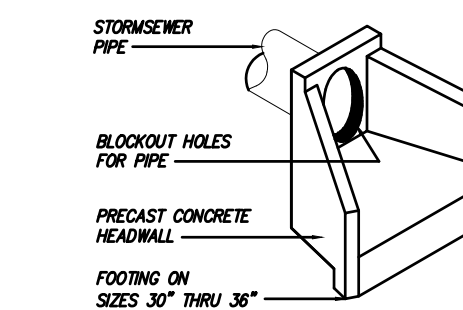
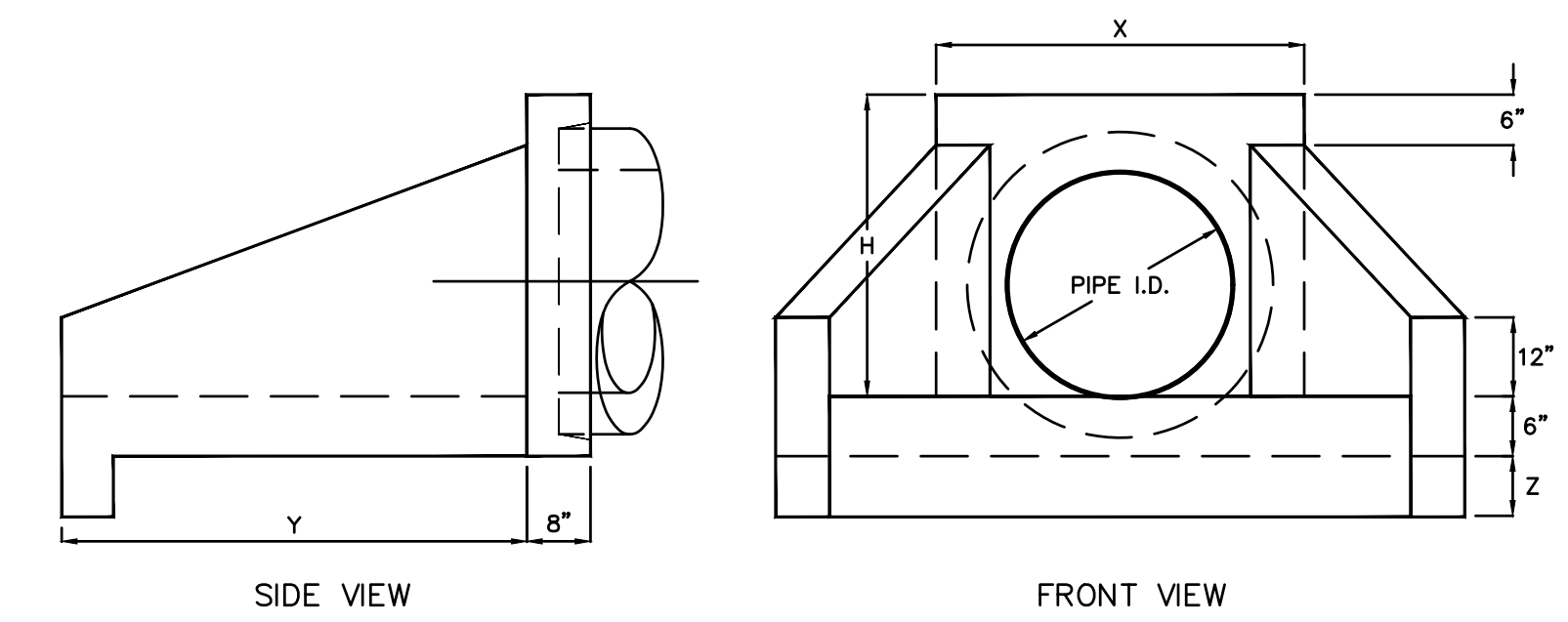
- DETAIL NOTE:**
- Contractor, Engineer, or Owners Representative shall notify MWS NPDES Staff at least 48 hours prior to the installation of the bioretention filter media. At the completion of installation, the above referenced person will collect one sample per bioretention area for analysis and confirmation of the filter media as defined by GIP-01. Media testing not required when using a certified media product.
 - Vehicular traffic shall be prohibited on the planting bed in order to prevent compactions.
 - Minimum 2' separation between subgrade and water table / bedrock required.

Bioretention Number: 5429		
	Design	As-Built
Treatment Volume (Tv), CF	943	
Surface Area, SF	360	
Top of Bank Elevation	813.0	
Emergency Spillway Elevation*	N/A	
Overflow (TOC) Elevation*	812.67	
(A) GIP Surface Elevation	812.0	
(B) Top of Stone Elevation	808.75	
Underdrain Invert*	N/A	
Outlet Elevation*	808.0	
(C) Subgrade Elevation	805.75	

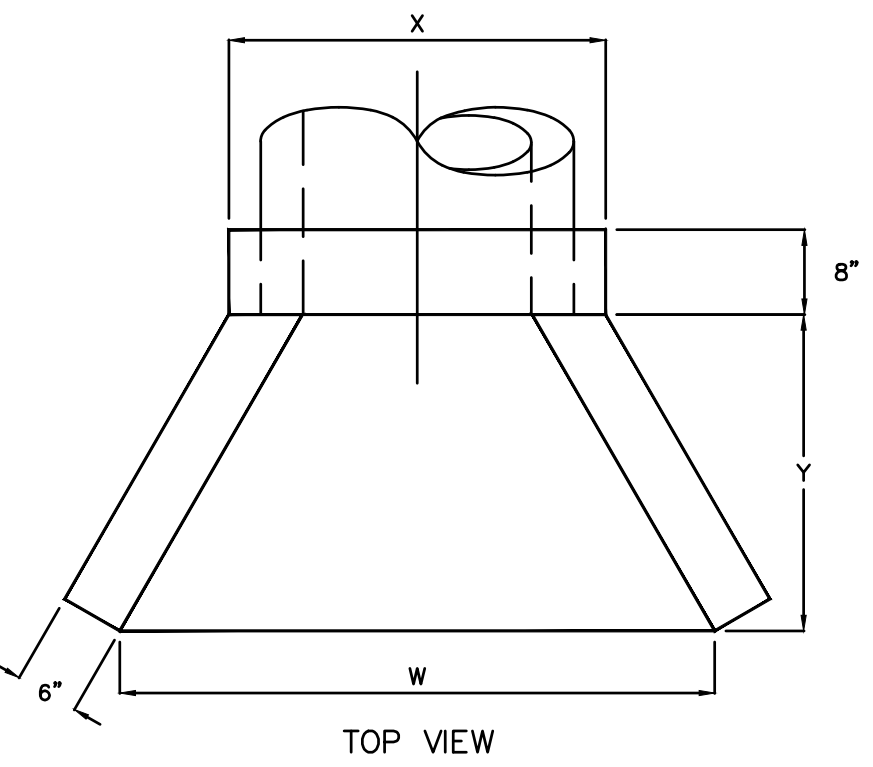
* N/A if not required
All elevations shall be NAVD88

Bioretention With Underdrain Material Specifications		
Material	Specifications	Notes
Surface Cover	<ul style="list-style-type: none"> Shredded hardwood Hardwood bark River stone Coir or jute matting Turf 	Lay a 3 inch layer on the surface of the filter bed in order to suppress weed growth & prevent erosion. Stone shall not comprise more than 50% of the surface area.
Filter Media * Composition	<ul style="list-style-type: none"> 70% - 85% sand; 10%-30% silt + clay, with clay < 10%; and > 5% to 10% organic matter 	The volume of filter media based on 110% of the plan volume, to account for settling or compaction. Contact staff for testing procedures.
Geotextile	Use a non-woven geotextile fabric with a flow rate of > 110 gal./min./ft ² (e.g., Geotex 351 or equivalent)	Apply to the sides and above the underdrain (2'-4" wide strip).
Choker Layer *	#8 or #9 clean washed stone	Meet TDOT Construction Specifications.
Reservoir Layer *	#57 clean washed stone	Meet TDOT Construction Specifications.
Underdrain	6-inch dual wall HDPE or SDR 35 PVC pipe with 3/8-inch perforations at 6 inches on center	AASHTO M 252 Place perforated pipe at base of reservoir layer.
Cleanout	6-inch SDR 35 PVC pipe with vented cap	Provide cleanouts at the upper end of the underdrain.
Observation Well	6-inch SDR 35 PVC pipe with vented cap and anchor plate	Number of wells equals the number of test pits required for infiltration testing (see Appendix 1-A)
Sump Layer	#57 clean washed stone	Meet TDOT Construction Specifications.

*Item receipts may be required to be included with as-built submittal.

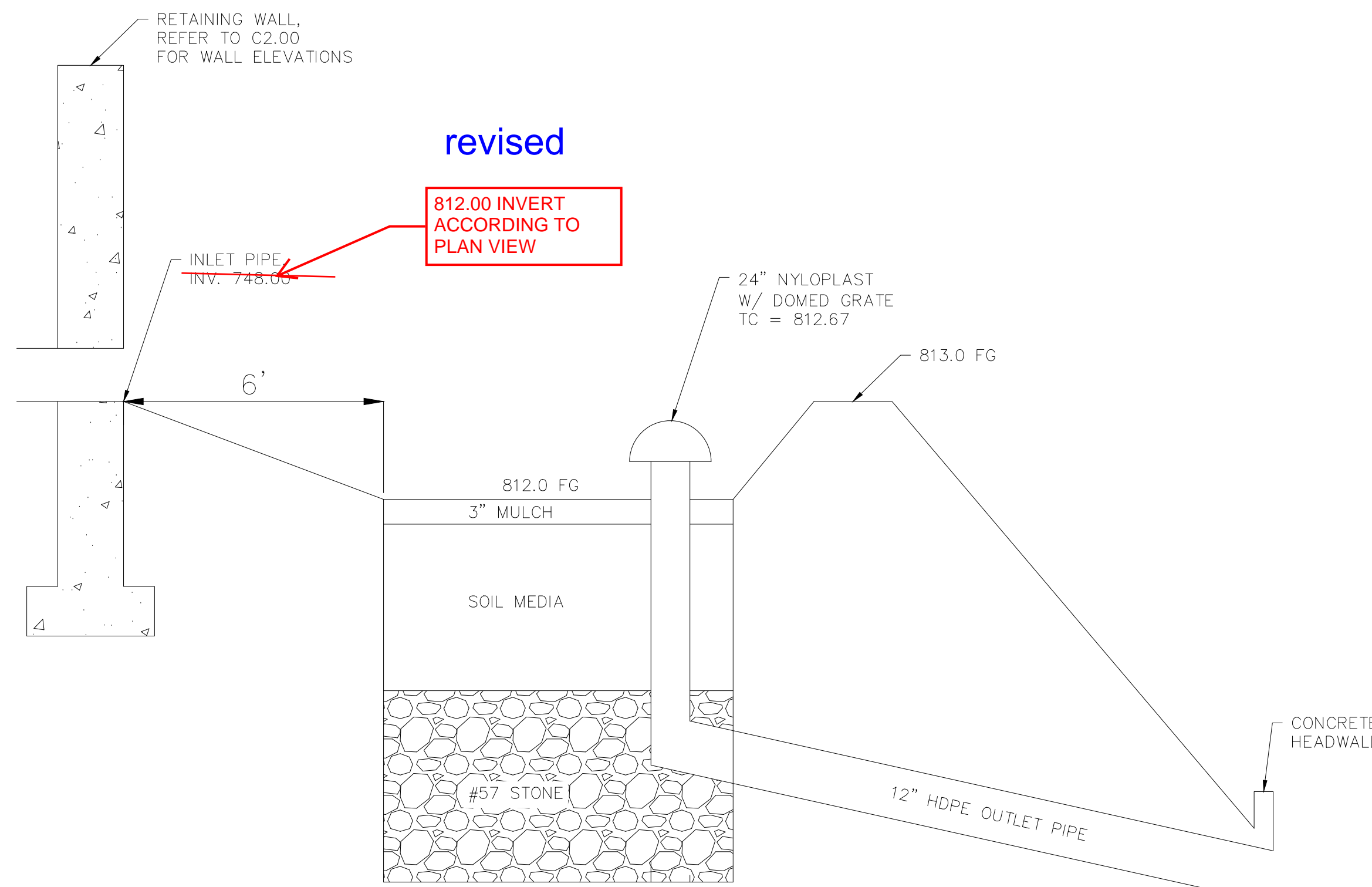


MODEL	PIPE DIA	DIMENSIONS						WEIGHT (LBS)
		H	W	X	Y	Z		
HW-12	12"	2'-6"	4'-3"	3'-0"	2'-0"	N/A	2,700	
HW-15	15"	2'-6"	4'-3"	3'-0"	2'-0"	N/A	2,700	
HW-18	18"	2'-6"	4'-3"	3'-0"	2'-0"	N/A	2,600	
HW-21	21"	3'-0"	5'-10"	3'-2"	3'-0"	N/A	4,300	
HW-24	24"	3'-0"	5'-10"	3'-2"	3'-0"	N/A	4,200	
HW-30	30"	3'-6"	7'-6"	4'-11"	4'-0"	9"	6,200	
HW-36	36"	4'-11"	9'-3"	4'-8"	5'-0"	9"	8,100	
HW-42	42"	4'-11"	12'-6"	5'-10"	6'-0"	12"	11,000	
HW-48	48"	4'-11"	12'-6"	5'-10"	6'-0"	12"	11,000	



SPECIFICATIONS
CONCRETE: CLASS II CONCRETE WITH OF DESIGN STRENGTH OF 4500 PSI AT 28 DAYS. UNIT IS OF MONOLITHIC CONSTRUCTION INCLUDING WALLS AND FLOOR.
REINFORCEMENT: GRADE 60 REINFORCED. NO. 4 STEEL REBAR TO CONFORM TO ASTM A615 ON REQUIRED CENTERS OR EQUAL. BAR BENDING AND PLACEMENT SHALL WITH THE LATEST ACI STANDARDS.

DETAIL #2 - CONCRETE HEADWALL



- DETAIL NOTES:**
- The main goal of pretreatment filtering is to capture floatables, debris, grease, oils, silt and sediment where they can be easily cleaned at the surface of the GIP through regular maintenance, and before they have the opportunity to clog the practice.
 - When concentrated flow is directed at a GIP through curb turnouts or pipe outlets, a sediment forebay shall be used to allow material to be captured where it can be easily cleaned.
 - A sediment forebay shall be designed so that it is integrated into the GIP.
 - Direct maintenance access to the forebay must be provided.
 - Exit velocities from the forebay must be non-erosive. Velocities over the weir shall be provided. If high runoff velocity is a potential problem, some type of energy dissipation device must be incorporated.
 - Sediment removal in the forebay shall occur in accordance with the long-term maintenance plan.
 - A fixed vertical sediment depth marker shall be installed in the forebay to measure sediment deposition over time. The marker shall be made of durable, non-corroding material (not steel). The elevation at which sediment removal is required shall be marked with a line in contrasting color or shade.
 - All disturbed areas must be immediately stabilized after construction to minimize erosion.

SECTION VIEW

DETAIL #1 - 5429 BIORETENTION POND

REV.	COMMENTS	DATE

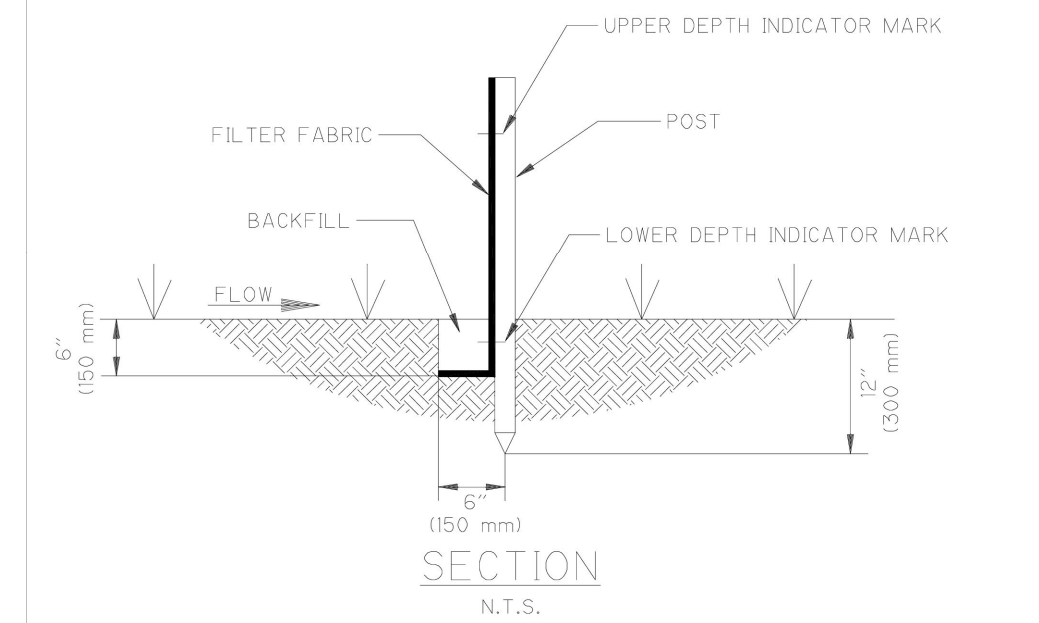
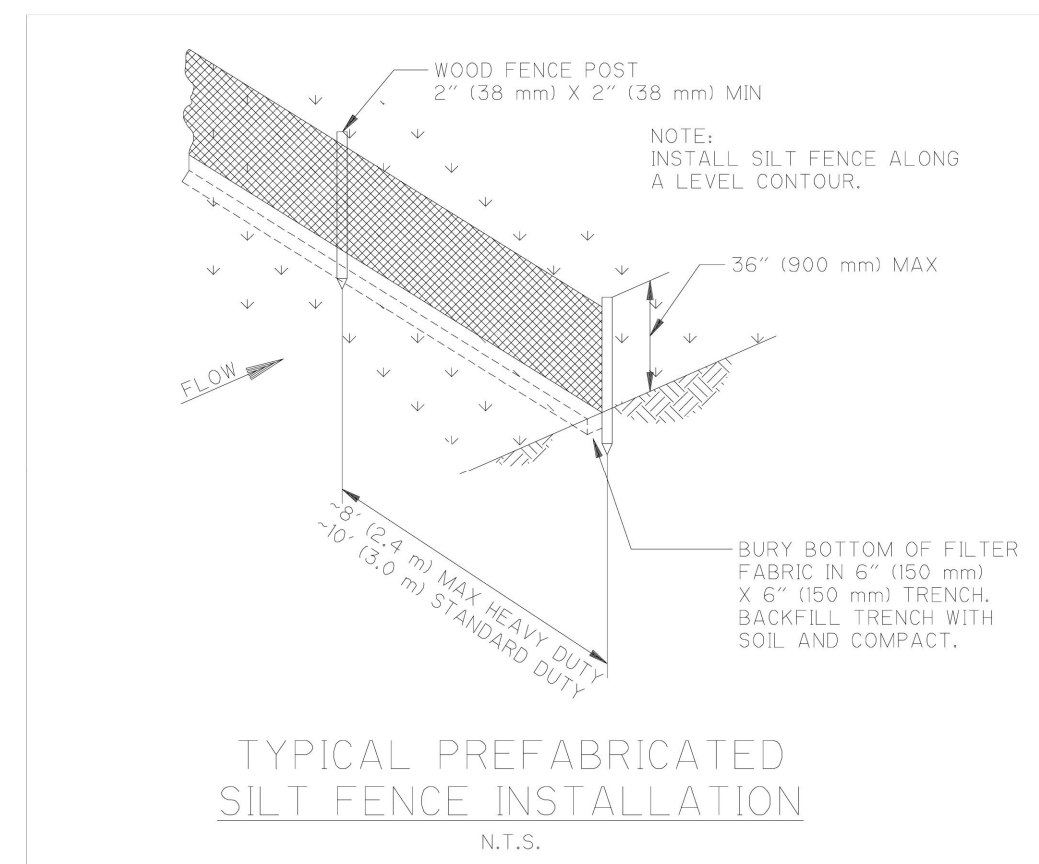


Figure TCP-13-1
Silt Fence Anchoring

DETAIL #1 - SILT FENCE

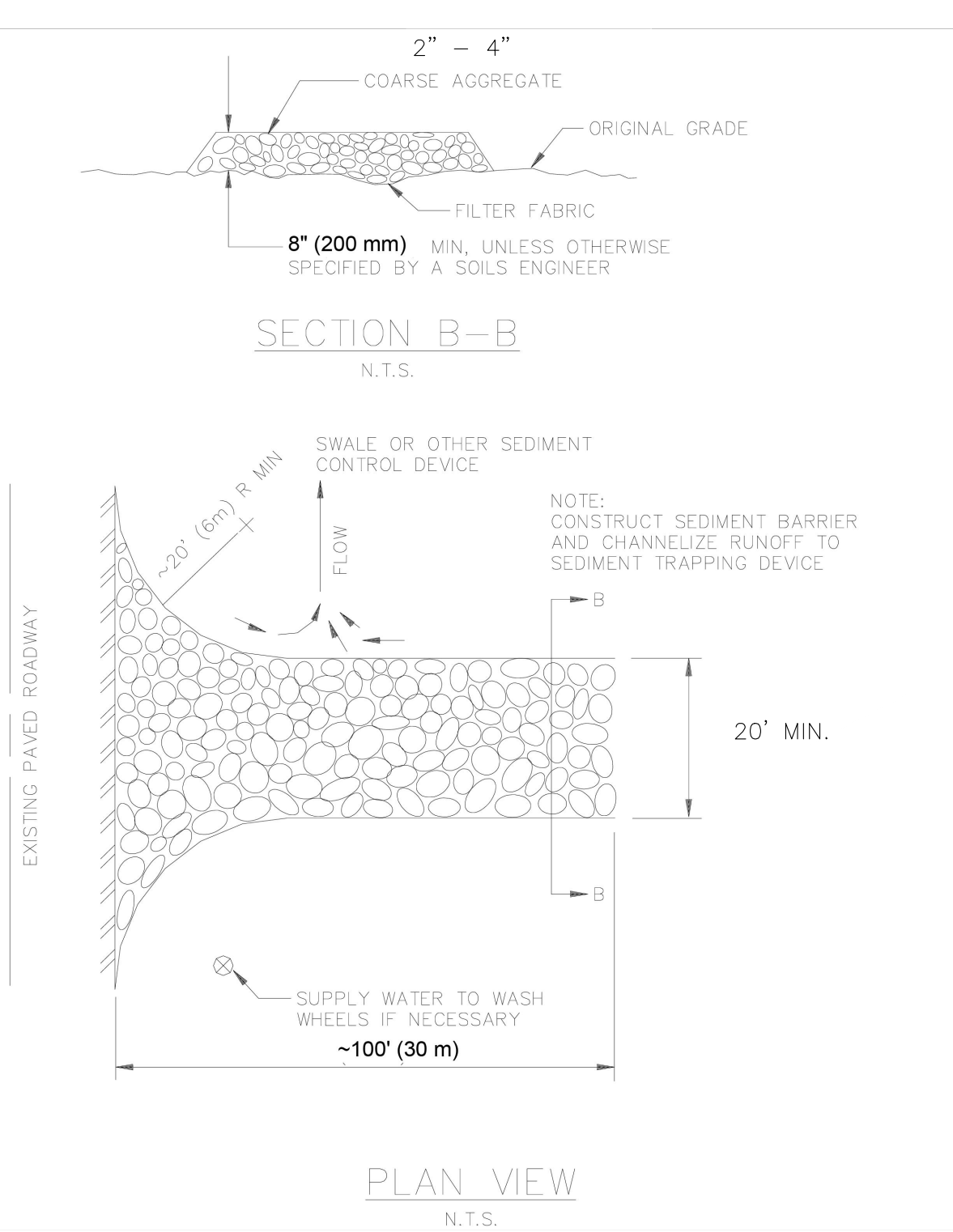


Figure TCP-03-1
Stabilized Construction Entrance

DETAIL #2 - CONSTRUCTION ENTRANCE

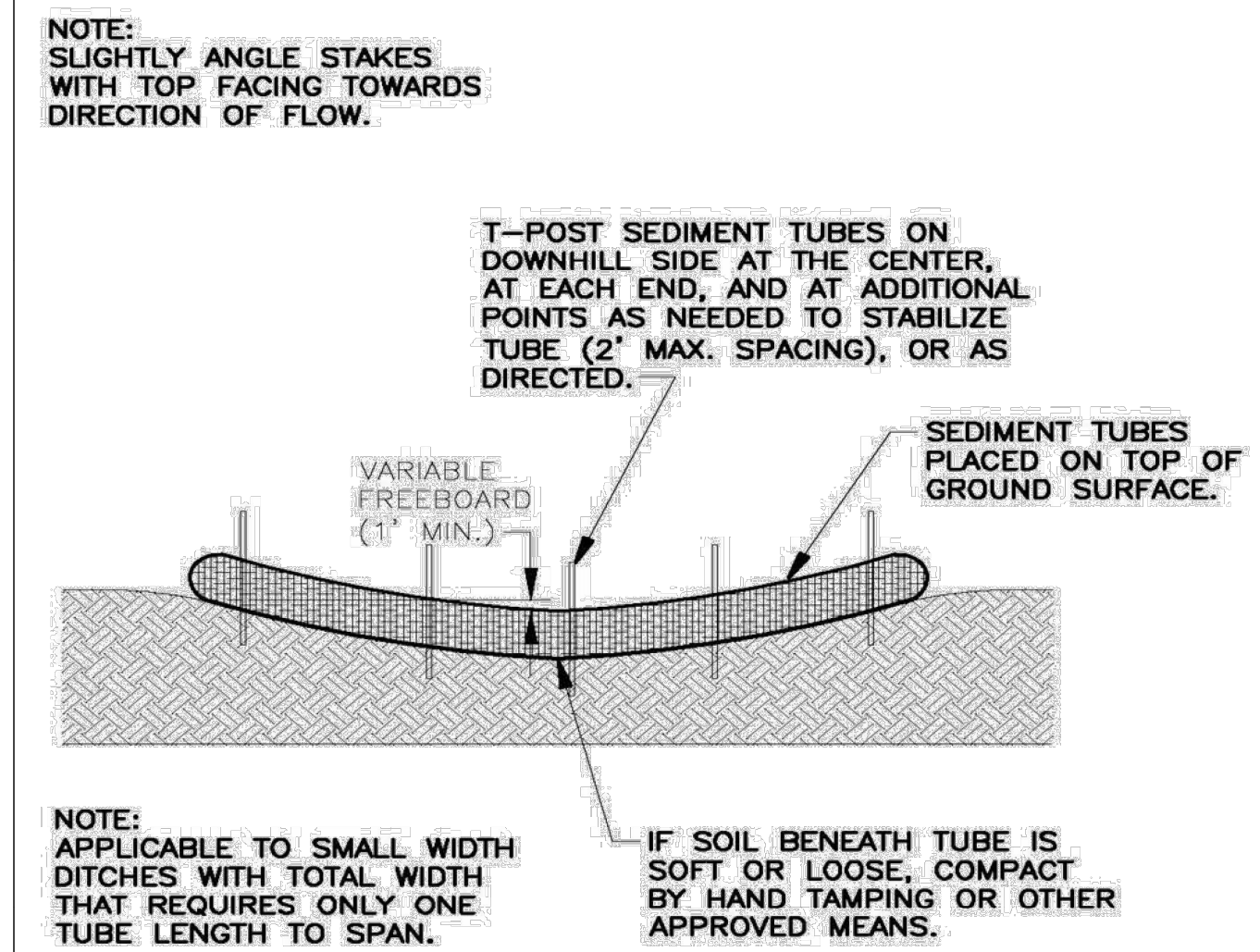


Figure TCP-14-1
Small Ditch Checks for Sediment Tubes

DETAIL #3 - SEDIMENT TUBE

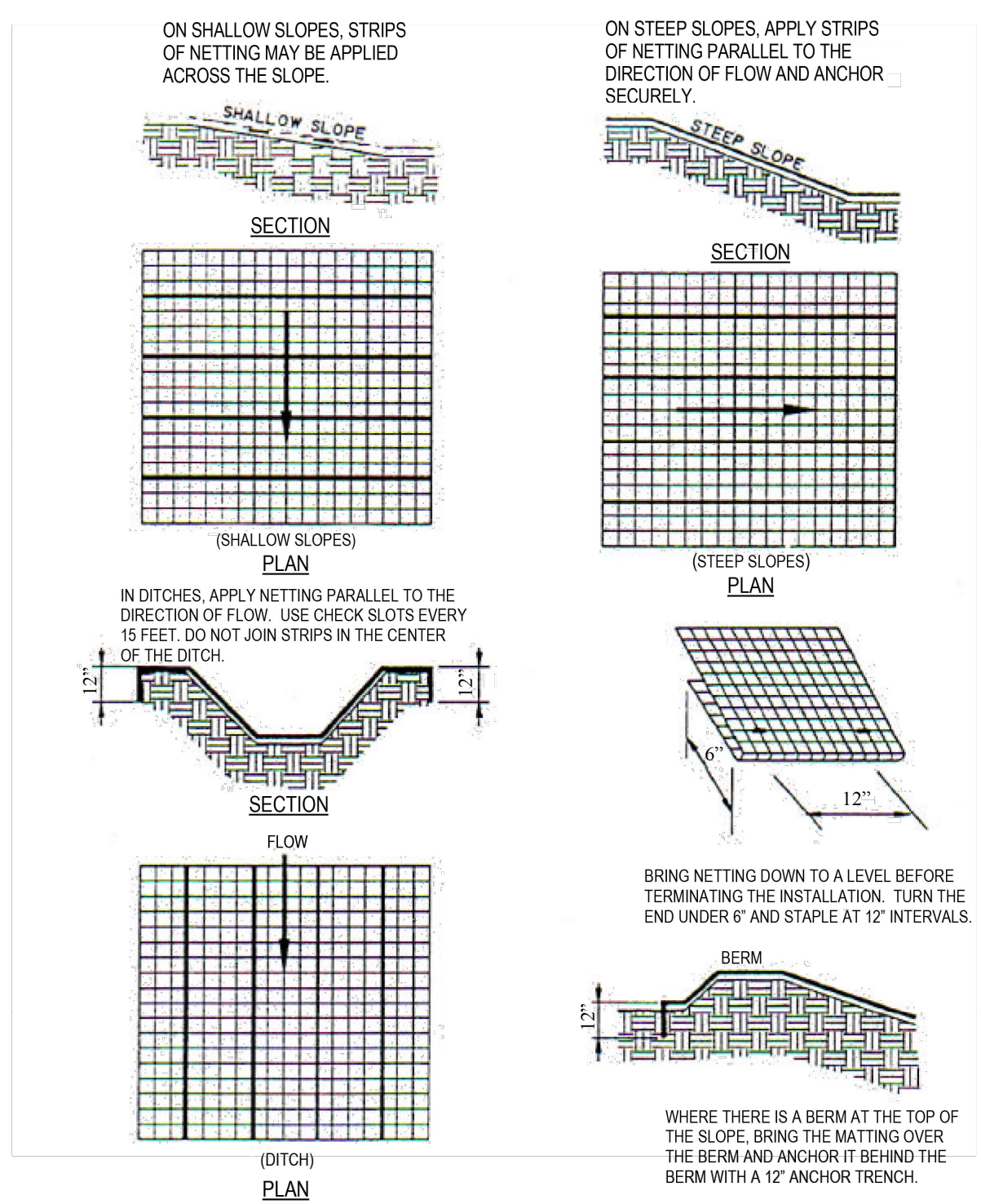


Figure TCP-09-2
Mat Anchoring and Layout

DETAIL #4 - EROSION CONTROL MATTING

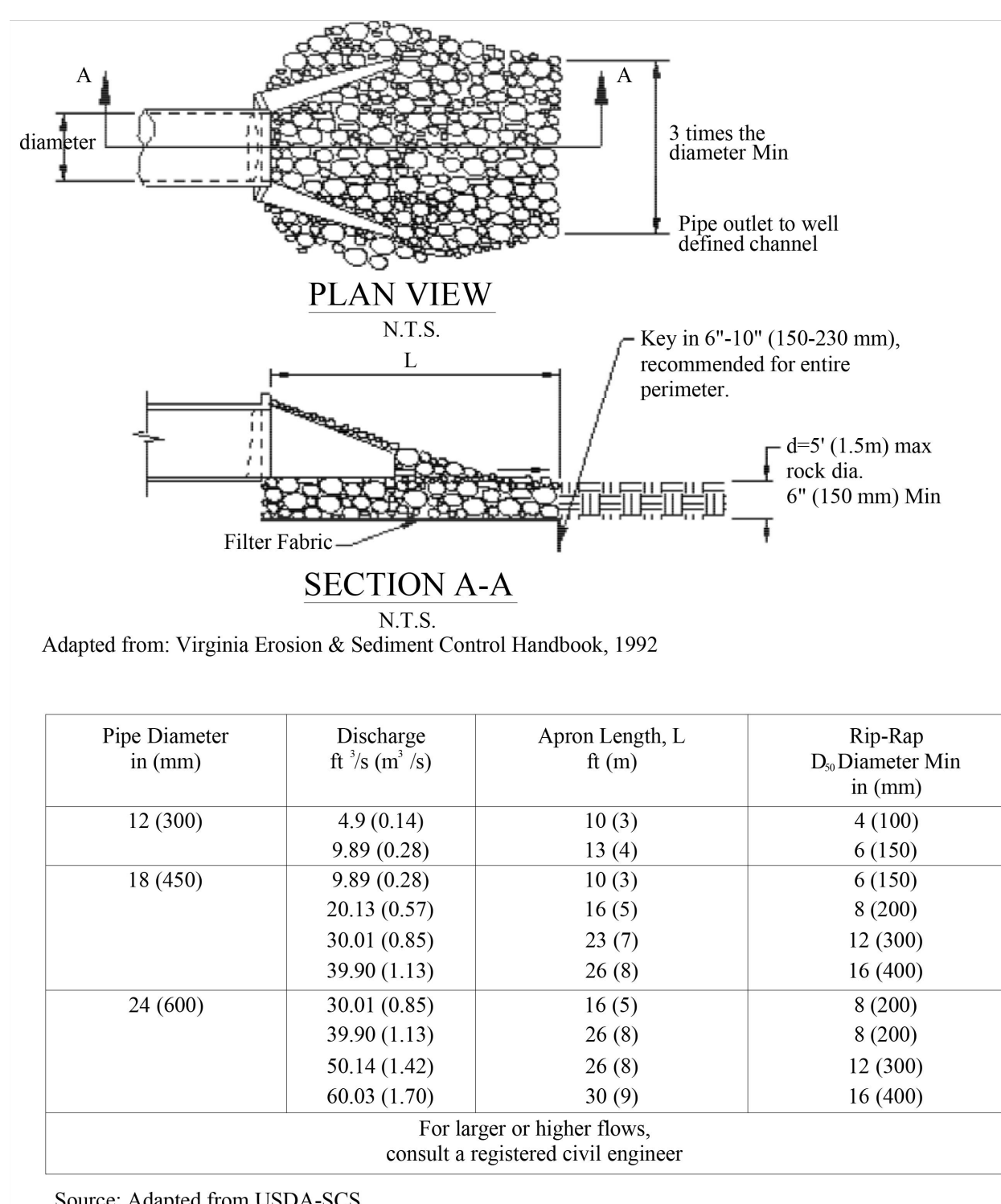
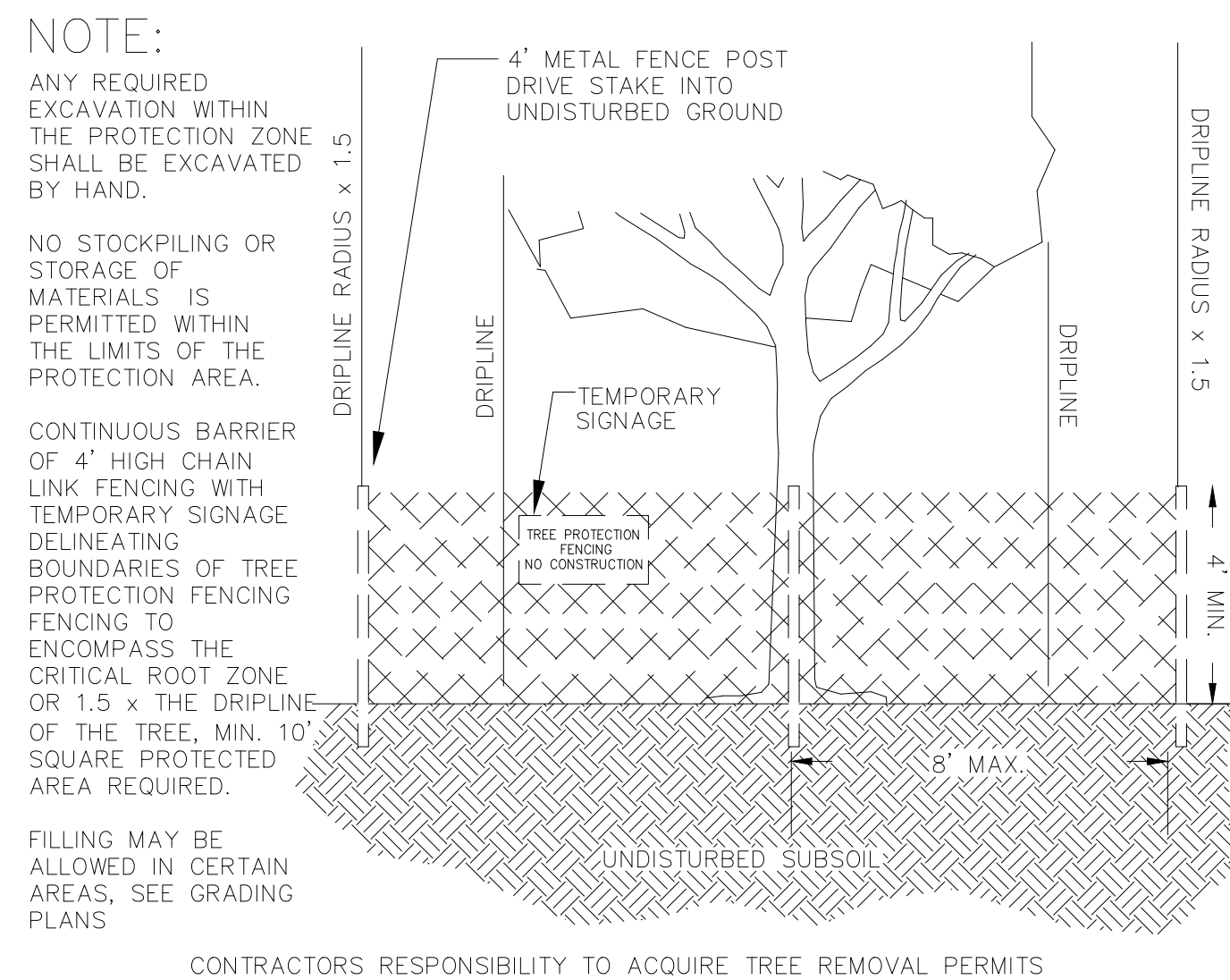


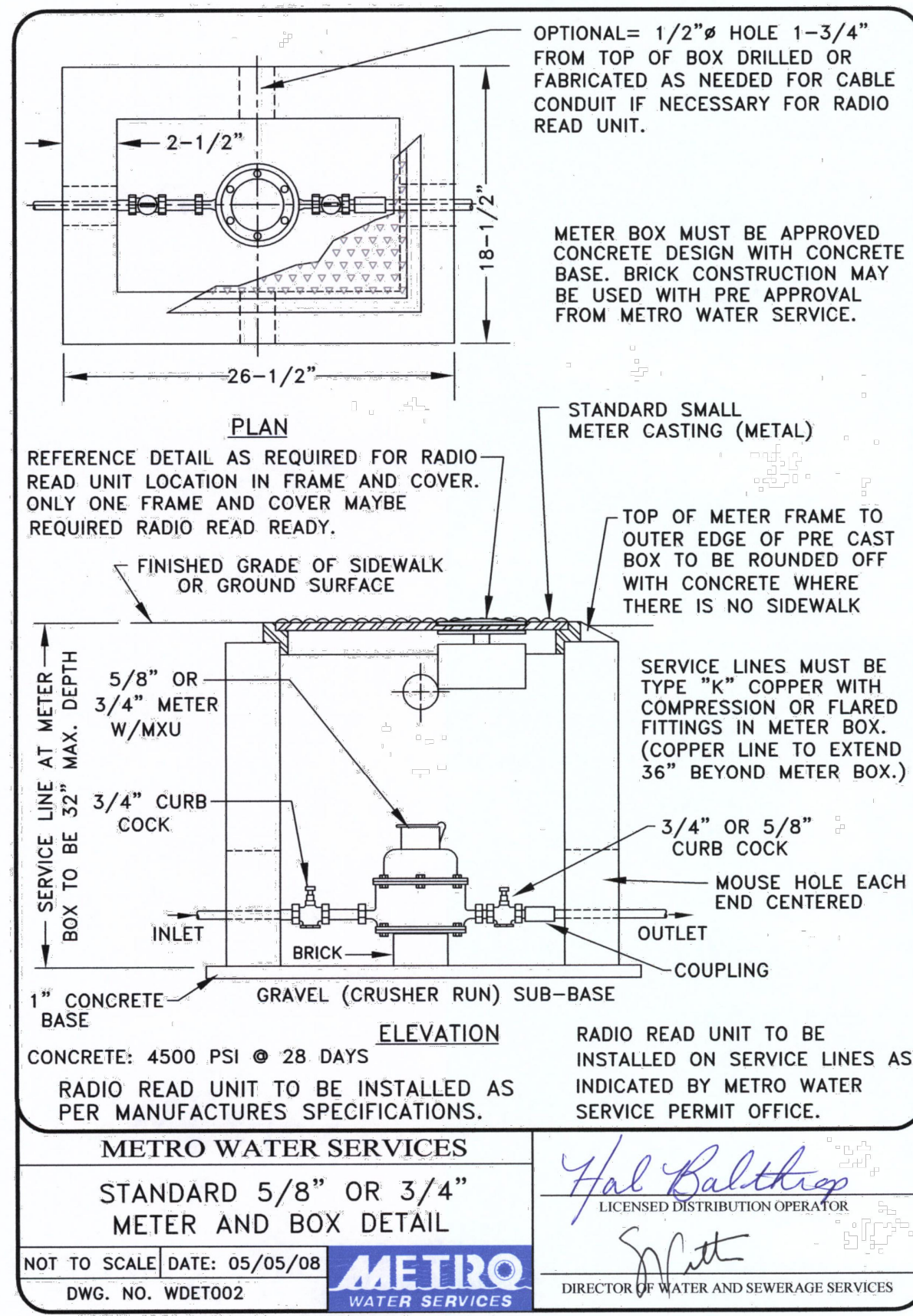
Figure PESC-07-1
Outlet Protection Sizing

DETAIL #5 - OUTLET PROTECTION

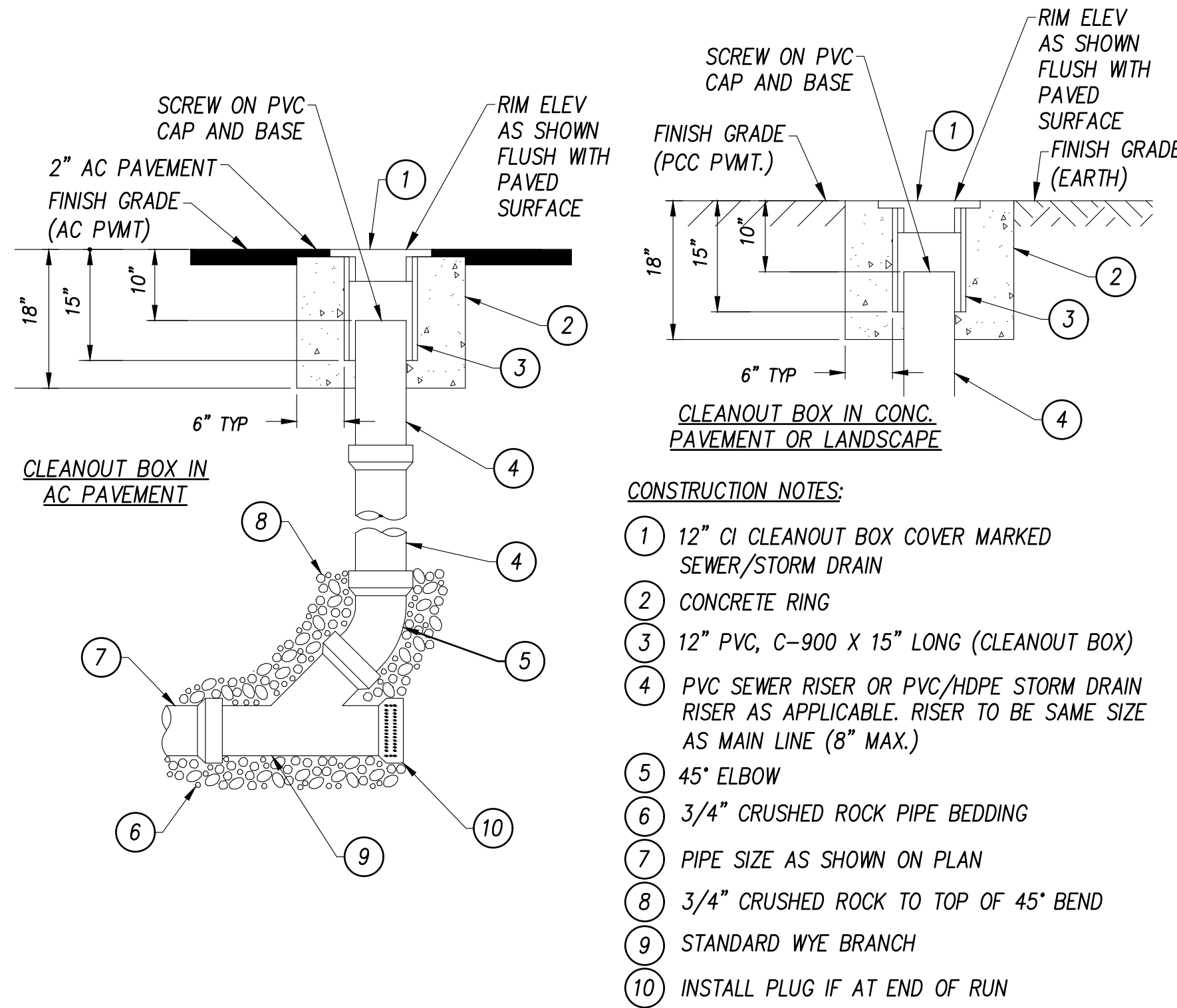


DETAIL #6 - TREE PROTECTION

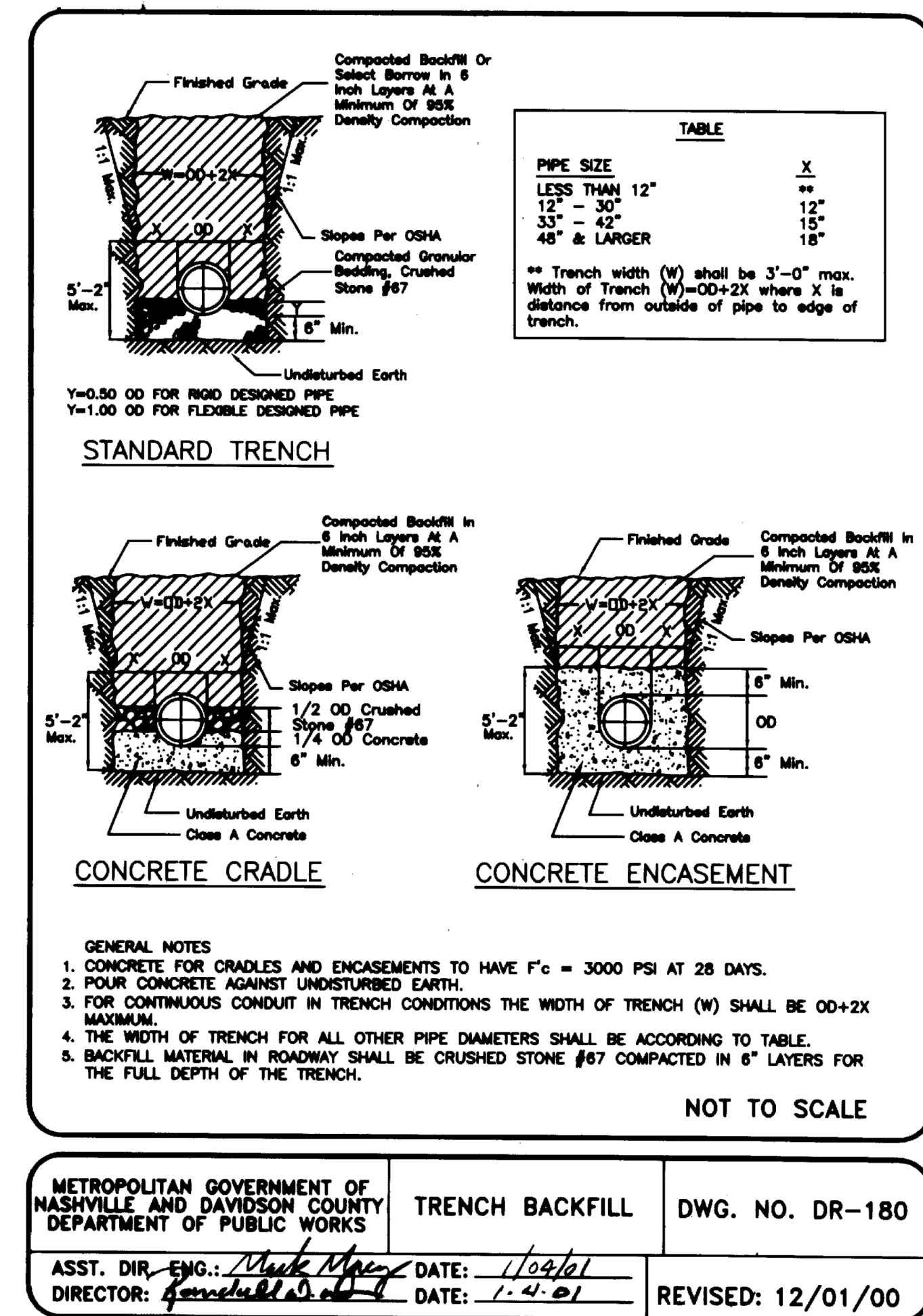
REV.	COMMENTS	DATE



DETAIL #1 - WATER METER



DETAIL #2 - CLEANOUT



DETAIL #3 - TRENCH BACKFILL

REV.	COMMENTS	DATE

LANDSCAPE NOTES

PRIOR TO EXCAVATION AND INSTALLATION FIELD VERIFY ALL UTILITIES.

NEW PLANTING BEDS SHALL HAVE A MINIMUM OF 3" DEPTH OF SHREDDED BARK MULCH. FINELY GROUND, NO NUGGETS, 1/2" DIAMETER MAX. PIECES. REFUSE & STONE FREE. PINE STRAW ACCEPTABLE PER CLIENT APPROVAL, NO PINE NUGGETS OR SYNTHETIC MULCH.

IN THE EVENT OF A DISCREPANCY, CONTACT THE DESIGNER.

ALL DISTURBED AREAS SHALL BE PLANTED WITH TURF AS INDICATED ON THE MATERIALS SCHEDULE.

NO PLANT MATERIALS SHOULD BE SUBSTITUTED WITHOUT AUTHORIZATION.

PLANT SIZES SHOWN ARE MINIMUMS REQUIRED BY THE LOCAL MUNICIPALITY AND MATERIALS SHOWN HAVE BEEN SELECTED SPECIFICALLY FOR THIS PROJECT.

WIRE BASKETS SHALL BE COMPLETELY REMOVED, BURLAP SHALL BE CUT TOP TO BOTTOM IN 5 PLACES. BURY NATURAL TWINE, DISPOSE OF SYNTHETIC ROPE AND TRUNK WRAP OFFSITE.

SUB-GRADE STAKE TREES IN PLACE PER DETAIL - NO GUYING, NO ABOVE GROUND STAKES..

NO CANOPY TREE SHALL BE LOCATED WITHIN A GAS, WATER, SEWER, UNDERGROUND ELECTRIC, CABLE, FIBER, OR PUBLIC UTILITY EASEMENT WITHOUT SIGNING OF A RELEASE WAIVER AND APPROVAL BY THE EASEMENT HOLDER.

TREE REMEDIATION

REFERENCE CIVIL PLANS FOR TREE PROTECTING FENCING, LIMITS OF DISTURBANCE, AND CONSTRUCTION ACCESS.

TREES REMOVED ON LOT #3	REPLACEMENT
4"-15": 12	12 3" CALIPER
16"-30": 4	4 5" CALIPER

TREES REMOVED ON LOT #4	REPLACEMENT
4"-15": 23	23 3" CALIPER
16"-30": 7	7 5" CALIPER

TREES REMOVED ON LOT #5	REPLACEMENT
4"-15": 13	13 3" CALIPER
16"-30": 1	1 0

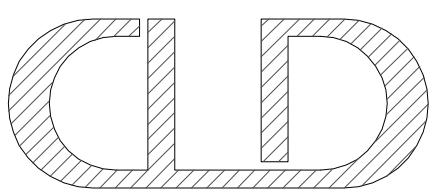
TOTAL: 48 3" CALIPER
12 5" CALIPER

TREES LABELED FROM SURVEY AS DEAD, DECLINING, OR DAMAGED NOT TABULATED TOWARD REPLACEMENT CALCULATIONS

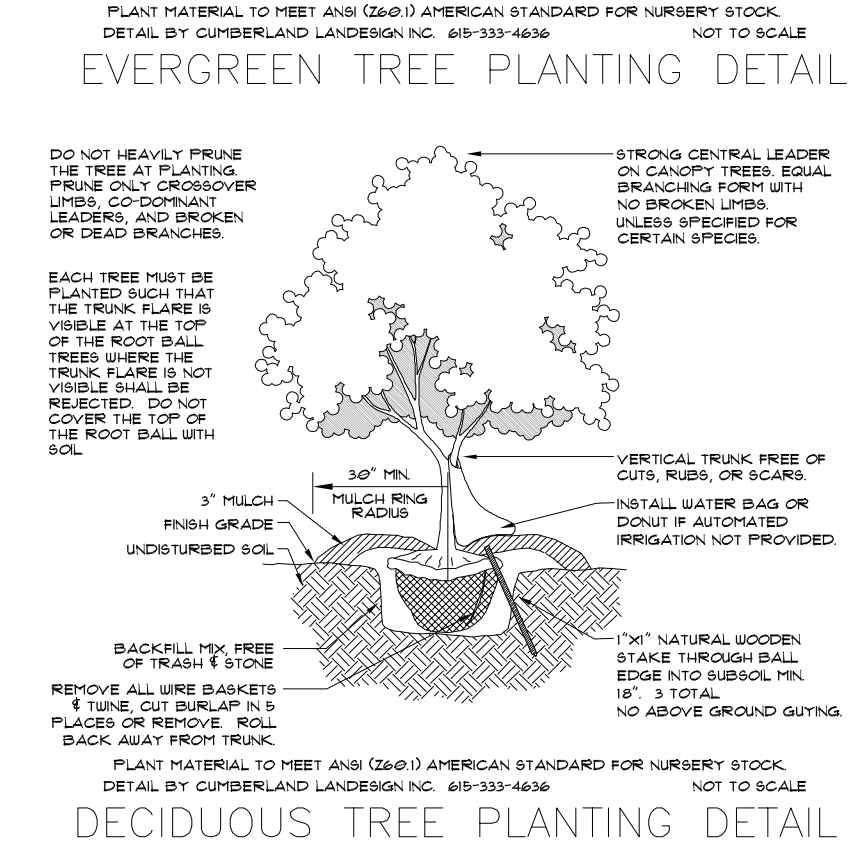
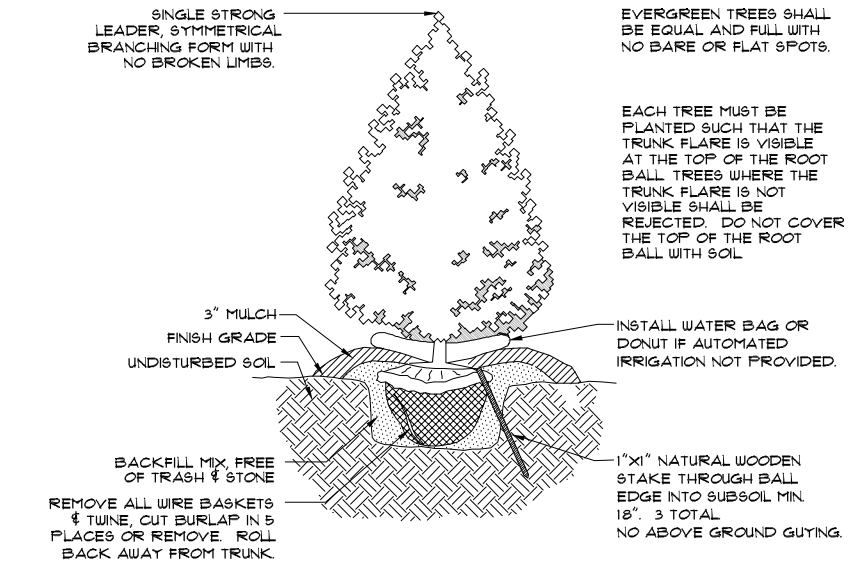
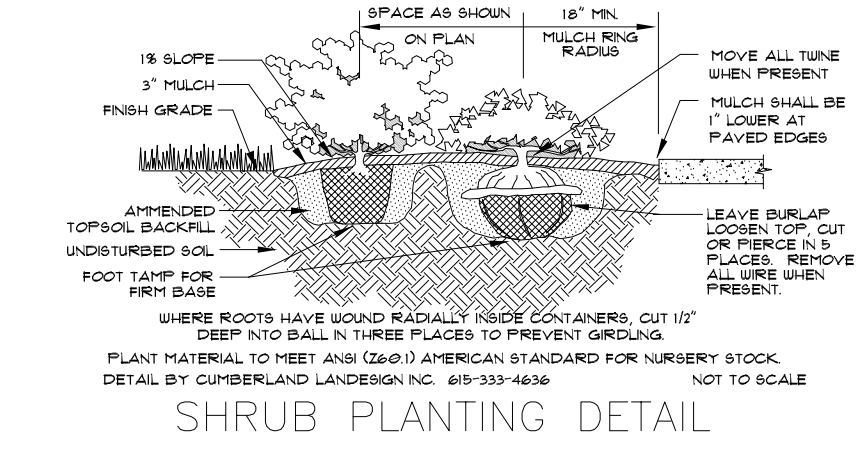
RAINGARDEN NOTE

RAINGARDEN AREAS SHALL ACHIEVE 75% MINIMUM TOTAL COVERAGE WITHIN 2 YEARS.

MATERIALS CHOSEN SPECIFICALLY PER METRO VS. LID MANUAL OR ARE NATIVE PLANTS TO THE SOUTHEAST.



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MATERIALS SCHEDULE

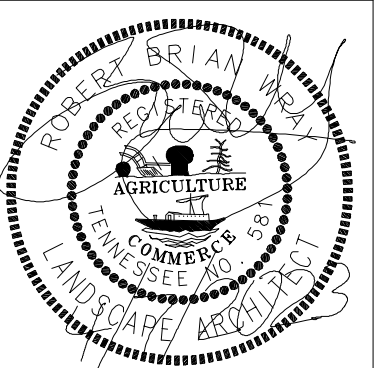
KEY	AMOUNT	SCIENTIFIC NAME/COMMON NAME	HEIGHT	SPREAD	TRUNK	NOTES
3" TREES						
CJ	8	Cryptomeria japonica/ Japanese Cryptomeria	9' Min.	3'-4'	3.0"	FTB
JV	6	Juniperus virginiana/ Eastern Red Cedar	9' Min.	3'-4'	3.0"	FTB
LS	5	Liquidambar styraciflua/ American Sweetgum	13'-15'	6'-7'	3.0"	
LT	4	Liriodendron tulipifera/ Tulip Poplar	13'-15'	6'-7'	3.0"	
MG	11	Magnolia grandiflora "B.B.B."/ Bracken's Brown Magnolia	9' Min.	3'-4'	3.0"	FTB
PV	6	Pinus virginiana/ Virginia Pine	9' Min.	3'-4'	3.0"	FTB, Sheered
QP	8	Quercus muehlenbergii/ Chinkapin Oak	13'-15'	6'-7'	3.0"	
5" TREES						
AS	7	Acer saccharum/ Sugar Maple	20' Min.	8'-9'	5.0"	
BN	3	Betula nigra/ River Birch	11'-13'	5'-6'	5 Cane, 1" Each	
PA	2	Platanus occidentalis/ American Sycamore	20' Min.	8'-9'	5.0"	
SHRUBS						
HQ	9	Hydrangea quercifolia/ Oakleaf Hydrangea	18" Min.	15"-18"	F.T.B.	
IT	9	Itea virginica/ Itea	18" Min.	15"-18"	F.T.B.	
PO	11	Physocarpus opulifolius/ Common Ninebark	18" Min.	15"-18"	F.T.B.	
WILD						
Equal thirds of wildflowers below. Install 4" Peat Pots 24" O.C. in triangular pattern in groupings of 5, 7, or 9 of each species.						
	33	Echinacea purpurea/ Purple Coneflower				
	33	Rudbeckia hirta/ Black-Eyed Susan				
	33	Symphytrichum novae-angliae/ New England Aster				
TURF						
SEED		Fine Bladed Fescue		Seed at 5 lbs per 1,000 sf		
MISCELLANEOUS						
Mulch Bed		Hardwood Bark Mulch		Minimum 3" depth throughout.		
NOTES						
FTB = Full To Bottom						

MAP NO. 16.01 - PARCEL 06.00

PROJECT BENCHMARK
BENCHMARK DESCRIPTION: HYDRANT TAG BOLT
N: 625410.80 ELEVATION: 725.07
E: 1738950.30 (NAVD88)

SCALE IN FEET
GRAPHIC SCALE 1"=30'

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LANDSCAPE COMPLIANCE PLAN
CONSTRUCTION DOCUMENTS
5425 FRANKLIN PIKE
NASHVILLE, TENNESSEE 37220

REV.	DATE	COMMENTS

JOB NO.: LANDSCT
DRAWN BY: DMO CHK BY: PDA