

PROJECT NAME: W CAMPBELL ROAD
MAP/PARCEL ID: 033-104.00
SITE ADDRESS: 0 W CAMPBELL ROAD
GOODLETTSVILLE (METRO NASHVILLE), TN 37072
SITE ACREAGE: 12.91 AC
DISTURBED ACREAGE: 6.38 AC

COUNCIL DISTRICT: 03
COUNCIL MEMBER: JENNIFER GAMBLE

DEVELOPER: SUMMIT DEVELOPMENT
145 BEAR CROSSING
SUITE 310
MT JULIET, TN 37122

FEMA FLOOD ZONE: X
PANEL NUMBER: 47037C0136J
EFFECTIVE DATE: 06/20/2024

EXISTING USE: VACANT
EXISTING ZONING: RS20

PROPOSED ZONING: SP
ALLOWED USES: ALL USES PERMITTED BY THE RS5 ZONING DISTRICT AND
MULTI-FAMILY DETACHED COTTAGES
PROHIBITED USES: SHORT TERM RENTAL PROPERTY (OWNER OCCUPIED);
SHORT-TERM RENTAL PROPERTY (NOT OWNER OCCUPIED)

FAIL BACK ZONING: RS5

ZONING STANDARDS
ACREAGE: 12.91 AC
DENSITY: 2.9 UNITS/AC
DWELLING UNITS: 38 (19 DETACHED COTTAGES & 19 SINGLE-FAMILY LOTS)
FAR (PROVIDED): 0.15

| | |
|--|----------------------------------|
| FAR (PROVIDED): | 0.15 |
| TOTAL SQUARE FOOTAGE: | 82,768 SF |
| TOTAL SITE PARCEL AREA: | 562,360 SF |
| PROVIDED FAR: | (82,768 SF / 562,360 SF) = 0.15 |
| FAR (MAXIMUM): | 0.60 |
| ISR (PROVIDED): | 0.30 |
| TOTAL SITE IMPERVIOUS AREA: 166,192 SF | |
| TOTAL SITE PARCEL AREA: | 562,360 SF |
| PROVIDED ISR: | (166,192 SF / 562,360 SF) = 0.30 |
| ISR (MAXIMUM): | 0.70 |

| | |
|------------------------------------|--|
| ISR (MAXIMUM). | 0.70 |
| <u>STREET SETBACK/STREET TYPES</u> | |
| WOODSHIRE DRIVE: | STANDARD 50' R/W 4' PLANTING STRIP, 5' SIDEWALK 20' STREET SETBACK |
| W CAMPBELL ROAD: | (EXISTING) STANDARD 50' R/W **NO IMPROVEMENTS SHOWN 20' STREET SETBACK |

20' STREET SETBACK

MAX BUILDING HEIGHT
MAXIMUM: 2 STORIES IN 30 FEET

*HEIGHT SHALL BE MEASURED FROM THE AVERAGE ELEVATION (4 MOST EXTERIOR CORNERS) AT THE FINISHED GRADE TO THE MIDPOINT OF THE PRIMARY ROOF PITCH OR TO THE TOP OF THE PARAPET FOR A FLAT ROOF.

| | |
|---------------------------------|--|
| <u>PARAPET FOR A FLAT ROOF.</u> | |
| <u>PARKING REQUIREMENTS</u> | |
| SINGLE-FAMILY: | 2 SPACES PER UNIT (38 SPACES REQUIRED) |
| MULTI-FAMILY (2 BEDROOMS): | 2 SPACES PER UNIT (38 SPACES REQUIRED) |
| TOTAL PARKING REQUIRED: | 76 SPACES |
| DRIVeway SPACES: | 38 SPACES |

GARAGE SPACES: 38 SPACES
MISCELLANEOUS SPACES: 2 SPACES
TOTAL PARKING PROVIDED: 78 SPACES

REQUIREMENTS AT TIME OF FINAL SP.

APPLICANT
THOMAS & HUTTON
500 11TH AVE N. SUITE 800 ; NASHVILLE, TN 37203
CONTACT: JON CLAXTON, PE
PHONE: (615) 349-4966
EMAIL: CLAXTON.J@TANDL.COM

NOTES

- THE PURPOSE OF THIS SP IS TO PERMIT THE CONSTRUCTION OF 19 MULTI-FAMILY DETACHED COTTAGES AND 19 SINGLE-FAMILY LOTS, AND ASSOCIATED INFRASTRUCTURE.
- THE FINAL DETAILS OF THE PLAN SHALL BE GOVERNED BY THE APPROPRIATE STORMWATER REGULATIONS AT THE THE OF THE FINAL APPLICATION.
- LANDSCAPING AND TREE DENSITY REQUIREMENTS PER METRO ZONING ORDINANCE.
- METRO WATER SERVICES SHALL BE PROVIDED WITH SUFFICIENT AND UNENCUMBERED ACCESS IN ORDER TO MAINTAIN AND REPAIR UTILITIES IN THIS SITE.
- ALL DRIVEWAYS SHALL BE MAINTAINED BY OWNER.
- SIZE DRIVEWAY CULVERTS PER THE DESIGN CRITERIA SET FORTH BY THE METRO STORM WATER MANAGEMENT MANUAL (MINIMUM DRIVEWAY CULVERT IN METRO R/W IS 15" RCP).
- ANY EXCAVATION, FILL OR DISTURBANCE OF THE EXISTING GROUND ELEVATION MUST BE DONE IN ACCORDANCE WITH STORM WATER MANAGEMENT ORDINANCE NO. 78 / 840 AND APPROVED BY THE METROPOLITAN DEPARTMENT OF WATER SERVICES.
- ALL DEVELOPMENT WITHIN THE BOUNDARIES OF THIS PLAN WILL MEET THE AMERICANS WITH DISABILITIES ACT.
- FINAL DETAILS OF THE PLAN SHALL BE GOVERNED BY THE REGULATIONS AT THE TIME OF FINAL APPLICATION.
- APPROVAL OF ANY SPECIFIC PLAN DOES NOT EXEMPT ANY PARCEL SHOWN ON THE PLAN OR ANY DEVELOPMENT WITHIN THE SP FROM COMPLIANCE WITH ALL PROVISIONS OF THE METRO ZONING CODE WITH RESPECT TO FLOODPLAIN, STEEP SLOPES, UNSTABLE SOILS, SINKHOLES, ROCK OUTCROPPINGS, STREAMS, SPRINGS, AND CRITICAL LOTS.
- IT IS ANTICIPATED THAT THE PROJECT WILL BEGIN CONSTRUCTION IN JULY OF 2026 AND WILL TAKE APPROXIMATELY 13 MONTHS TO BE COMPLETED.
- THE FINAL SITE PLAN/BUILDING PERMIT SITE PLAN SHALL DEPICT ANY REQUIRED PUBLIC SIDEWALKS, ANY REQUIRED GRASS STRIP OR FRONTAGE ZONE. PRIOR TO THE ISSUANCE OF USE AND OCCUPANCY PERMITS, EXISTING VERTICAL OBSTRUCTIONS SHALL BE RELOCATED OUTSIDE OF ANY REQUIRED SIDEWALK. VERTICAL OBSTRUCTIONS ARE ONLY PERMITTED WITHIN ANY REQUIRFD GRASS STRIP OR FRONTAGE ZONE.

summit DEVELOPMENT

**SITE DEVELOPMENT PLAN
OF
W CAMPBELL ROAD
LIMINARY SP CASE #2025SP-050-001
0 W CAMPBELL ROAD
ODLETTSVILLE (METRO NASHVILLE), TN 37072**

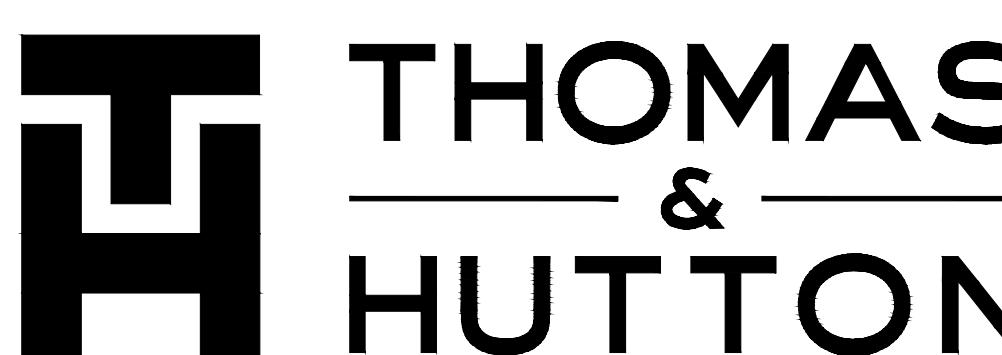
PREPARED FOR:
SUMMIT DEVELOPMENT
145 BEAR CROSSING
SUITE 310
MT JULIET, TN 37122

TM# 033-104.00

DFCFMBFR 31. 2025

L-32828 0000

PRFPARFD BY:



A circular state seal of Tennessee. The outer ring contains the text "THE GREAT SEAL OF THE STATE OF TENNESSEE" at the top and "1796" at the bottom. The inner circle features a central figure, possibly a Native American, holding a bow and arrow. Below the figure, the word "AGRICULTURE" is written. To the left of the figure, the word "COMMERCE" is written, and to the right, "MANUFACTURES". At the bottom of the inner circle, the number "116514" is printed. A blue ink signature, "JONATHAN DANIEL CLAXTON", is written across the top of the seal, partially overlapping the outer ring.

ARCHITECTURAL NOTE:

THE FOLLOWING DESIGN STANDARDS APPLY TO THIS PLAN:

- BUILDING FACADES FRONTING A STREET SHALL PROVIDE A MINIMUM OF ONE PRINCIPAL ENTRANCE (DOORWAY) AND A MINIMUM OF 15% GLAZING.
- WINDOWS SHALL BE VERTICALLY ORIENTED AT A RATIO OF 1.5:1 OR GREATER, EXCEPT FOR DORMERS.
- BUILDING FACADES SHALL BE CONSTRUCTED OF BRICK, BRICK VENEER, STONE, CAST STONE, CEMENTITIOUS SIDING, GLASS, OR MATERIALS SUBSTANTIALLY SIMILAR IN FORM AND FUNCTION, UNLESS OTHERWISE APPROVED ON DETAILED BUILDING ELEVATIONS INCLUDED WITH THE PRELIMINARY SP.
- PORCHES SHALL PROVIDE A MINIMUM OF SIX FEET OF DEPTH.
- A RAISED FOUNDATION OF 18" - 36" IS REQUIRED FOR ALL RESIDENTIAL STRUCTURES.
- 75% MASONRY ON FRONT FACADES AND SIDE FACADES OF CORNER LOTS.

| Sheet List Table | |
|------------------|-------------------------------------|
| Sheet Number | Sheet Title |
| C0.0 | COVER SHEET |
| C0.1 | GENERAL NOTES |
| C1.0 | OVERALL EXISTING CONDITIONS |
| C1.1 | EXISTING CONDITIONS |
| C2.0 | OVERALL SITE LAYOUT PLAN |
| C2.1 | SITE LAYOUT PLAN |
| C2.2 | OFFSITE ROADWAY IMPROVEMENTS |
| C3.1 | GRADING & DRAINAGE PLAN |
| C4.1 | UTILITIES PLAN |
| C5.1 | CHARACTER IMAGES |
| L1.1 | OVERALL LANDSCAPE PLAN |
| L1.2 | LANDSCAPE PLAN ENLARGEMENT |
| L2.1 | GENERAL PLANTING & IRRIGATION NOTES |
| L2.2 | LANDSCAPING SPECIFICATIONS |
| L2.3 | GRASSING SPECIFICATIONS |

| SUBMITTAL HISTORY | |
|---|----------|
| METRO PLANNING PRELIMINARY SP RESUBMITTAL | 12/31/25 |
| METRO PLANNING PRELIMINARY SP RESUBMITTAL | 12/22/25 |
| METRO PLANNING PRELIMINARY SP RESUBMITTAL | 12/16/25 |
| METRO PLANNING PRELIMINARY SP RESUBMITTAL | 11/18/25 |
| METRO PLANNING PRELIMINARY SP RESUBMITTAL | 10/29/25 |
| METRO PLANNING PRELIMINARY SP RESUBMITTAL | 10/22/25 |
| METRO PLANNING PRELIMINARY SP RESUBMITTAL | 10/21/25 |
| METRO PLANNING PRELIMINARY SP INITIAL SUBMITTAL | 9/30/25 |



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p.615.349.4990

| DRAINAGE LEGEND | | |
|------------------------|----------|----------|
| | EXISTING | PROPOSED |
| PIPE | ----- | ----- |
| DITCH | | → · · · |
| CONTROL STRUCTURE (CS) | □ | ■ |
| GRATE INLET (GI) | □ | □ |
| JUNCTION BOX (JB) | □ | ○ |
| HOODED INLET (HI) | □ | □ |

| ABBREVIATIONS | | | | | |
|---------------|-------------------------|-----|-----------------------------|------|--------------------------|
| DBL | DOUBLE | FM | FORCE MAIN (SANITARY SEWER) | OC | ON CENTER |
| BOT | BOTTOM | FP | FINISH PAD | PC | POINT OF CURVE |
| CB | CATCH BASIN | FPW | FIRE PROTECTION | PH | POST HYDRANT |
| CI | CURB INLET | FR | FRAME | PT | POINT OF TANGENT |
| CO | CLEAN OUT | GI | GRATE INLET | PVC | POLYVINYL CHLORIDE |
| CPP | CORRUGATED PLASTIC PIPE | GV | GATE VALVE | RCP | REINFORCED CONCRETE PIPE |
| DBL | DOUBLE | HDP | HIGH DENSITY POLYETHYLENE | RC | ROLL CURB INLET |
| DI | DITCH INLET | HI | HOODED INLET | RCP | REINFORCED CONCRETE PIPE |
| DIP | DUCTILE IRON PIPE | INV | INVERT ELEVATION | RI | ROOF INLET |
| EL | ELEVATION | JB | JUNCTION BOX | RJP | RESTRAINED JOINT PIPE |
| ES | END SECTION | LF | LINEAR FEET | R/W | RIGHT-OF-WAY |
| FES | FLARED END SECTION | MAX | MAXIMUM | SD | STORM DRAINAGE |
| FG | FINISH GRADE | MIN | MINIMUM | SDMH | STORM DRAINAGE MANHOLE |
| FH | FIRE HYDRANT | MH | MANHOLE | SF | SQUARE FEET |

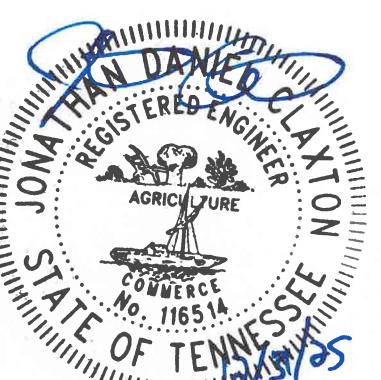
| WATER LEGEND | | |
|--------------------------------------|-----------|-----------|
| | EXISTING | PROPOSED |
| WATER MAIN | — 10" W — | — 10" W — |
| SINGLE SERVICE LATERAL | ----- | ----- |
| GATE VALVE AND BOX (GV) | ⊗ | ● |
| WATER METER (WM) | ☒ | ☒ |
| FIRE HYDRANT W/TEE VALVE & BOX (FHA) | ○ | ● |
| REDUCER | □ | ■ |
| TEE | — — — | — — — |
| 90° BEND - HORIZONTAL | — — | — — |
| 45° BEND - HORIZONTAL | ↙ — | ↙ — |
| 22 1/2° BEND - HORIZONTAL | ↗ — | ↗ — |
| 11 1/2° BEND - HORIZONTAL | ↗ — | ↗ — |
| BEND - VERTICAL | | |
| CAP | | |

| SEWER LEGEND | | |
|------------------------|----------|----------|
| | EXISTING | PROPOSED |
| GRAVITY PIPE | — SS — | — SS — |
| SINGLE SERVICE LATERAL | ----- | ----- |
| MANHOLE (MH) | ○ | ● |
| CLEANOUT (CO) | ○ | ● |

| OTHER UTILITIES LEGEND | | |
|-------------------------|----------|--|
| | EXISTING | |
| NATURAL GAS | — UGG — | |
| TELEPHONE | — OHT — | |
| UNDERGROUND TELEPHONE | — UTL — | |
| ELECTRICITY | — OHP — | |
| UNDERGROUND ELECTRICITY | — UGP — | |

GENERAL INFORMATION

COUNTY: DAVIDSON OWNER: SURVEYOR:
TOWN: NASHVILLE SUMMIT DEVELOPMENT RAGAN SMITH
ZONING: SP 145 BEAR CROSSING 315 WOODLAND STREET
MT JULIET, TN 37122 NASHVILLE, TN 37206
615.244.8591
ENGINEER: WATER:
THOMAS & HUTTON MADISON SUBURBAN UTILITY DISTRICT
500 11th AVENUE, N., SUITE 800 P.O. BOX 175
NASHVILLE, TN 37203 MADISON, TN 37116
615.349.4990 615.868.3201
SEWER:
METRO WATER SERVICES 800 PRESIDENT RONALD REAGAN WAY
NASHVILLE, TN 37210 615.862.4600

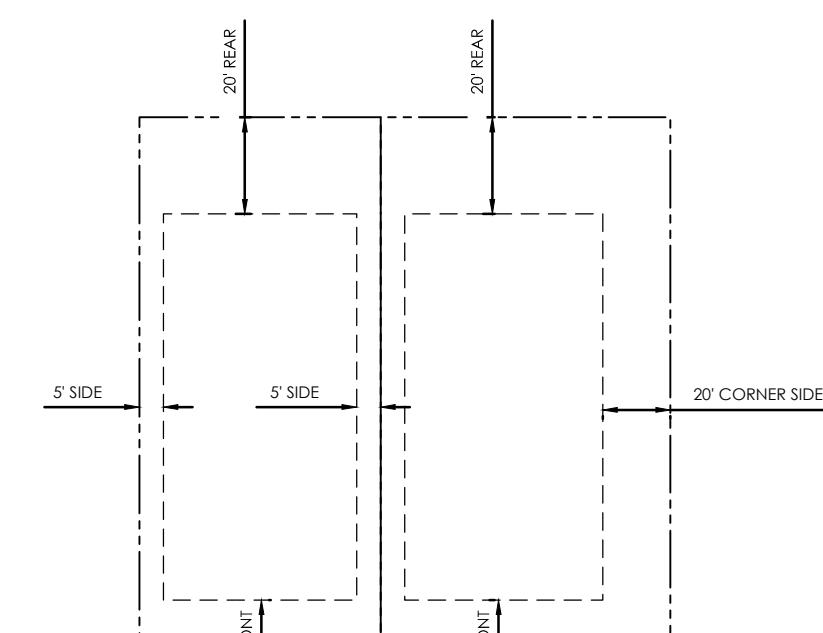


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GENERAL NOTES

1. CONTRACTOR SHALL COORDINATE TIE-IN OF NEW WATER FACILITIES WITH MADISON SUBURBAN UTILITY DISTRICT AND SEWER FACILITIES TO METRO WATER SERVICES.
2. CONTRACTOR SHALL MAINTAIN MINIMUM COVER OVER THE WATER MAIN PIPE BARREL OF 3'-0" UNLESS OTHERWISE INDICATED. TOP OF PIPE ELEVATIONS ARE SHOWN FOR CASES WHERE FUTURE STORM SEWERS ARE TO BE INSTALLED. IN NO CASE SHALL THE WATER MAIN BE INSTALLED AT A LOWER ELEVATION THAN THAT SHOWN.
3. SHOULD PIPE, FITTINGS, AND OTHER MATERIALS BE NEEDED IN ADDITION TO THAT SHOWN ON THE DRAWINGS BECAUSE PIPELINE WAS NOT INSTALLED TO THE ALIGNMENT AND PROFILE SHOWN, THEN THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THOSE NECESSARY MATERIALS AND PROVIDING THE EQUIPMENT AND LABOR TO INSTALL THEM TO MEET THE DESIGN INTENT OF THE WATER MAIN AT NO ADDITIONAL COST TO THE OWNER.
4. THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER 48 HOURS IN ADVANCE OF ALL REQUIRED TESTS AND INSPECTIONS.
5. THE CONTRACTOR WILL NOTIFY THE ENGINEER IF UNSUITABLE MATERIAL IS DISCOVERED PRIOR TO BEGINNING ANY REMOVAL OPERATION.
6. ALL WATER MAINS SHALL BE DUCTILE IRON PIPE (DIP) UNLESS OTHERWISE INDICATED.
7. ALL GRAVITY SEWER MAIN SHALL BE POLYVINYL CHLORIDE (PVC SDR-35) UNLESS OTHERWISE INDICATED.
8. SURVEYING AND BOUNDARY INFORMATION BY RAGAN SMITH DATED 07/21/2025.
9. ALL ELEVATIONS SHOWN ARE BASED ON NAVD88.
10. TOPOGRAPHIC SURVEY BY RAGAN SMITH DATED 07/21/2025.
11. CONTRACTOR IS TO VERIFY ACCURACY OF ANY TEMPORARY BENCHMARKS SHOWN PRIOR TO UTILIZING THEM FOR CONSTRUCTION.
12. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES OTHER THAN THOSE SHOWN ARE ENCOUNTERED DURING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY AND TAKE STEPS TO PROTECT THE LINE(S) AND ENSURE CONTINUED SERVICE. DAMAGE CAUSED TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR. ADDITIONALLY, THE CONTRACTOR SHALL CONFIRM THE CONNECTION POINTS OF NEW UTILITIES TO EXISTING UTILITIES PRIOR TO BEGINNING NEW CONSTRUCTION.
13. IF WORK IS SUSPENDED OR DELAYED FOR 14 DAYS, THE CONTRACTOR SHALL TEMPORARILY STABILIZE THE DISTURBED AREA AT NO ADDITIONAL COST TO THE OWNER.
14. THE CONTRACTOR SHALL INSTALL ANY BARRICADES PRIOR TO BEGINNING CONSTRUCTION.
15. THE CONTRACTOR SHALL INSTALL ALL EROSION CONTROL AND PREVENTION STRUCTURES SHOWN ON THE PLANS. BOTH MUST BE APPROVED BY METRO WATER SERVICES PRIOR TO BEGINNING ANY LAND DISTURBING ACTIVITIES.
16. CONTRACTOR WILL BE REQUIRED TO ADJUST MANHOLE FRAMES TO MATCH FINAL GRADE AT NO ADDITIONAL COST.
17. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE CONSTRUCTED SIMULTANEOUSLY WITH THE DISTURBANCE OF THE LAND AND SHALL REMAIN FUNCTIONAL UNTIL THE CONTRIBUTING DISTURBED AREAS ARE STABILIZED. SILT BARRIERS WILL BE INSTALLED AS NECESSARY TO PREVENT EXCESSIVE SEDIMENTATION OF DOWNSTREAM AREAS. DEVICES SHALL BE IN ACCORDANCE WITH TN DEPARTMENT OF ENVIRONMENT & CONSERVATION AND METRO WATER SERVICES REQUIREMENTS.
18. CONTRACTOR SHALL GRADE AREAS TO DRAIN FOR POSITIVE FLOW PRIOR TO FINAL APPROVAL.
19. ALL TRAFFIC CONTROL SIGNS AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON "UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", CURRENT EDITIONS.
20. ALL DRAINAGE WILL BE MADE FUNCTIONAL DAILY AS WORK PROGRESSES.
21. EACH EXISTING ROAD WILL BE CLEANED UP AND RESTORED DAILY.
22. NEW PAVEMENT TO BE FLUSH WITH EDGE OF EXISTING PAVEMENT.
23. ALL STORM DRAIN PIPE INVERTS IN AND OUT ARE THE SAME AS THE BOX INVERT UNLESS OTHERWISE NOTED ON THE PLAN SHEETS AND/OR PROFILES.



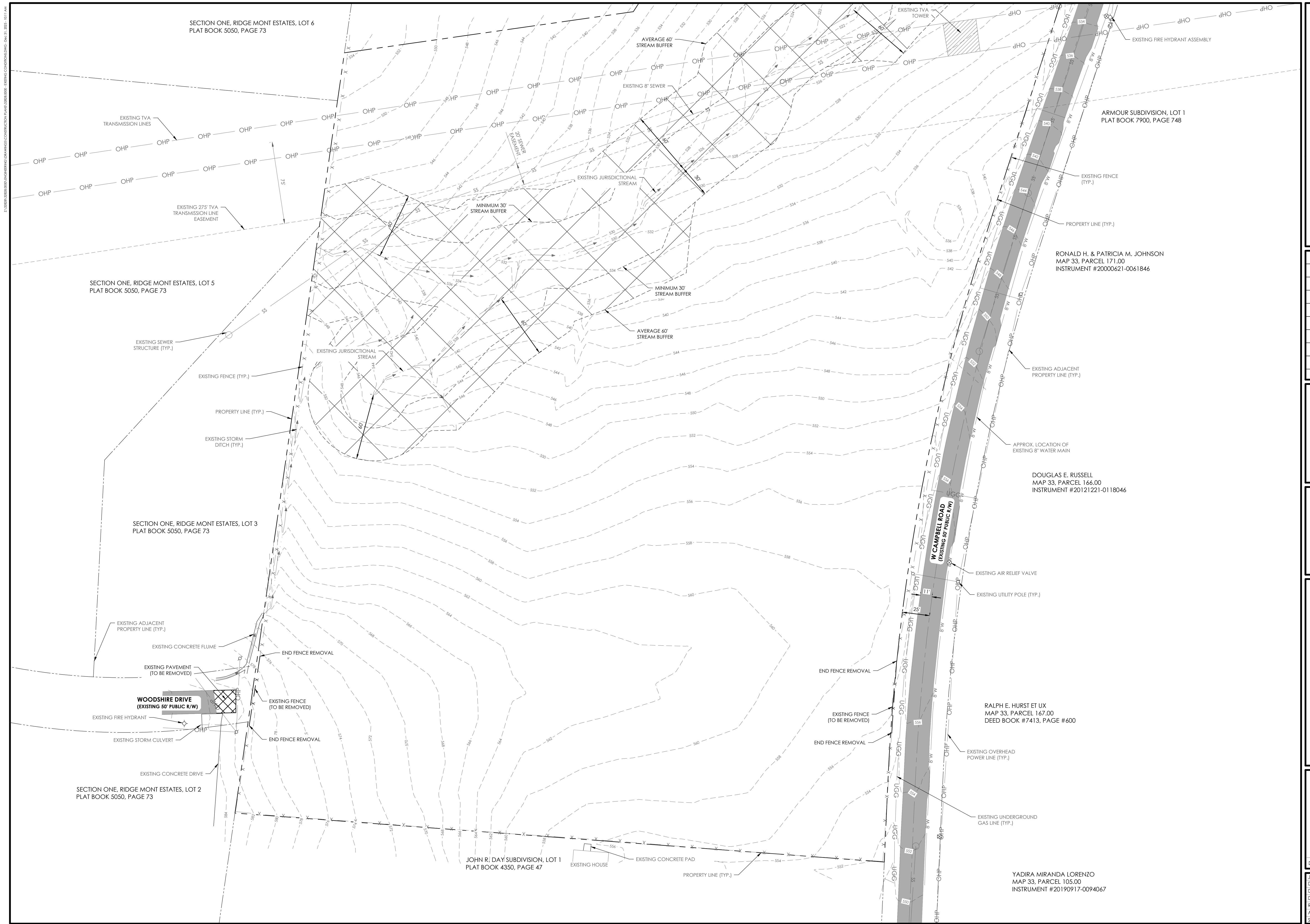
TYPICAL MINIMUM SET BACK LINES (M.S.B.L.)
(FOR SINGLE-FAMILY LOTS)
(NOT TO SCALE)

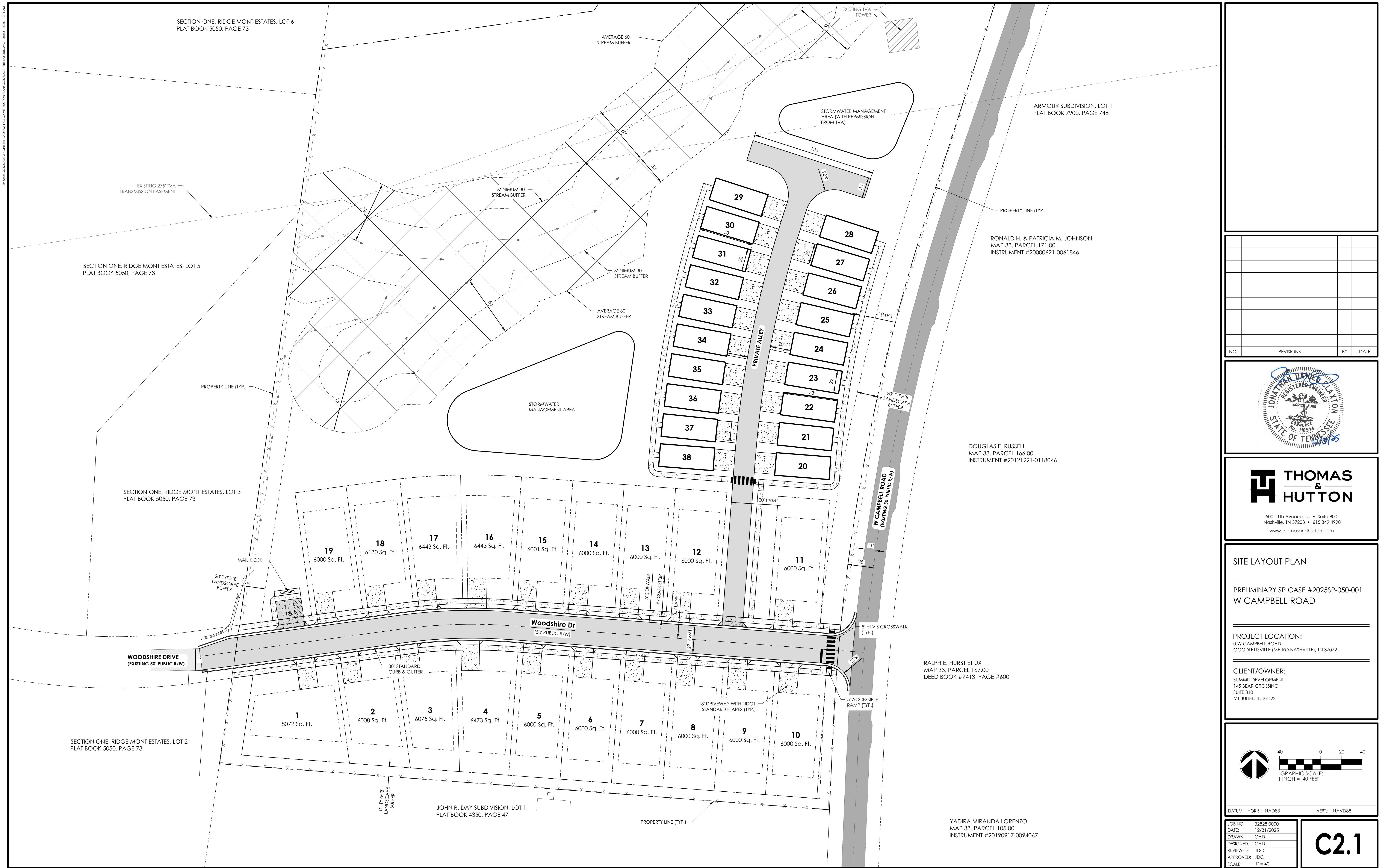
PROJECT LOCATION:
0 W CAMPBELL ROAD
GOODLETTSVILLE (METRO NASHVILLE), TN 37072

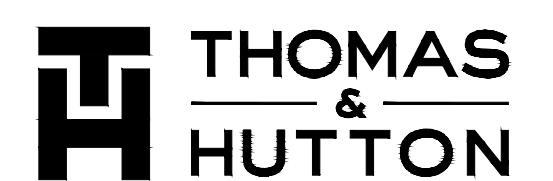
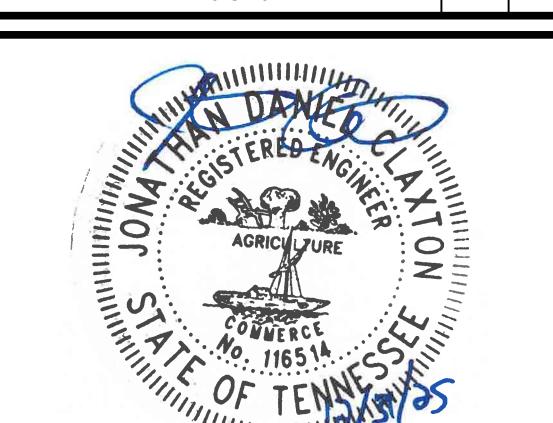
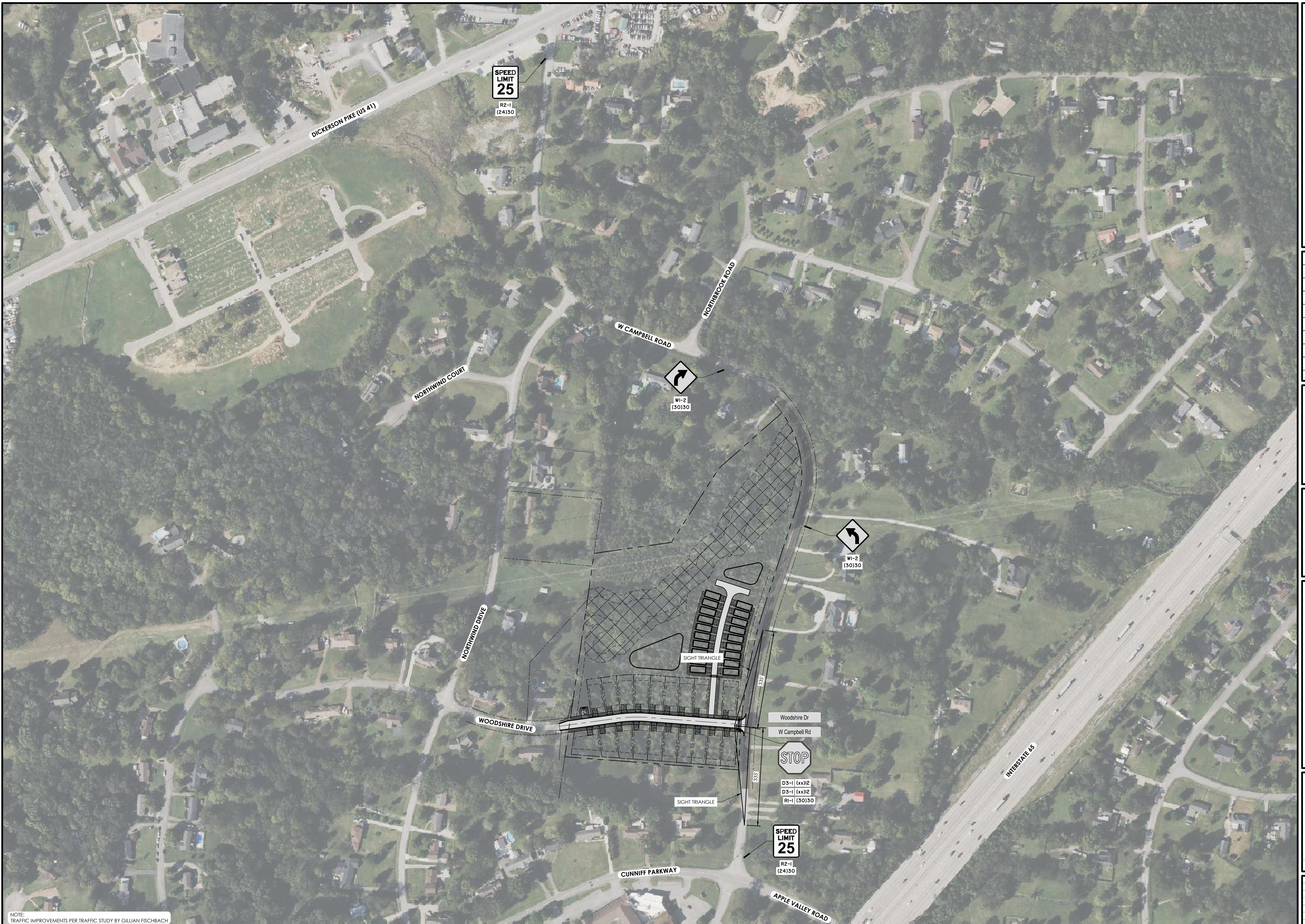
CLIENT/OWNER:
SUMMIT DEVELOPMENT
145 BEAR CROSSING
SUITE 310
MT JULIET, TN 37122

DATUM: HORIZ: NAD83 VERT: NAVD88
JOB NO: 32028.0000 DATE: 12/31/2025
DRAWN: CAD DESIGNED: CAD
REVIEWED: JDC APPROVED: JDC
SCALE: N/A

C0.1







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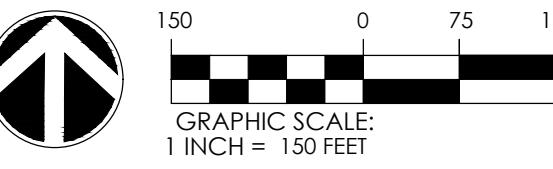
10.1007/s00332-010-9000-0

OFFSITE ROADWAY IMPROVEMENTS

PRELIMINARY SP CASE #2025SP-050-001
W CAMPBELL ROAD

PROJECT LOCATION:
0 W CAMPBELL ROAD
GOODLETTSVILLE (METRO NASHVILLE), TN 37072

CLIENT/OWNER:
SUMMIT DEVELOPMENT
145 BEAR CROSSING
SUITE 310
MT JULIET, TN 37122



DATUM HORIZ NAD83 VERT NAVD88

| | |
|-----------|------------|
| JOB NO: | 32828.0000 |
| DATE: | 12/31/2025 |
| DRAWN: | CAD |
| DESIGNED: | CAD |
| REVIEWED: | JDC |
| APPROVED: | JDC |
| SCALE: | 1" = 150' |

C2.2

Z:\32828\32828.0000\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\32828.0000 - GRADING & DRAINAGE.DWG - Dec 31, 2025 - 10:12 AM

SECTION ONE, RIDGE MONT ESTATES, LOT 6
PLAT BOOK 5050, PAGE 73

SECTION ONE, RIDGE MONT ESTATES, LOT 5
PLAT BOOK 5050, PAGE 73

SECTION ONE, RIDGE MONT ESTATES, LOT 3
PLAT BOOK 5050, PAGE 73

WOODSHIRE DRIVE
(EXISTING, 50' PUBLIC R/W)

SECTION ONE, RIDGE MONT ESTATES, LOT 2
PLAT BOOK 5050, PAGE 73

JOHN R. DAY SUBDIVISION
PLAT BOOK 4350, PAGE

PROPER

YADIRA MIRANDA LORENZO
MAP 33, PARCEL 105.00
INSTRUMENT #20190917-0094067

ARMOUR SUBDIVISION, LOT 1
PLAT BOOK 7900, PAGE 748

RONALD H. & PATRICIA M. JOHNSON
MAP 33, PARCEL 171.00
INSTRUMENT #20000621-0061846

DOUGLAS E. RUSSELL
MAP 33, PARCEL 166.00
INSTRUMENT #20121221-0118046



The logo for Thomas & Hutton. It features a large, bold, black 'T' on the left. To the right of the 'T' is the word 'THOMAS' in a large, bold, black sans-serif font. A thin horizontal line extends from the top of 'THOMAS' to the top of the ampersand. Another thin horizontal line extends from the bottom of the ampersand to the bottom of 'HUTTON'. The word '&' is positioned between 'THOMAS' and 'HUTTON'.

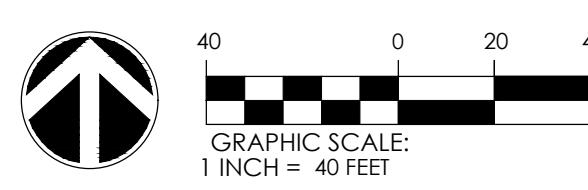
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8. DRAINAGE PLAN

PRELIMINARY SP CASE #2025SP-050-001
W CAMPBELL ROAD

PROJECT LOCATION:
90 W CAMPBELL ROAD
GOODLETSVILLE (METRO NASHVILLE), TN 37072

CLIENT/OWNER:
SUMMIT DEVELOPMENT
45 BEAR CROSSING
SUITE 310
AT JULIET, TN 37122



11. *What is the primary purpose of the following statement?*

DB NO: 32828 0000

DATE: 12/31/2025

DRAWN: CAD
DESIGNED: CAD

VIEWED: JDC

APPROVED: JDC
SCALE: 1" = 40'

CALL. 1 - 40

C3.1

7:\32828\0000\ENGINEERING\DRAWINGS\CONSTRUCTION PLANS\32828-0000 - UTTIES DWG - Dec 31, 2025 - 10:12 AM

SECTION ONE, RIDGE MONT ESTATES, LOT 6
PLAT BOOK 5050, PAGE 73

SECTION ONE, RIDGE MONT ESTATES, LOT 5
PLAT BOOK 5050, PAGE 73

SECTION ONE, RIDGE MONT ESTATES, LOT 3
PLAT BOOK 5050, PAGE 73

SECTION ONE, RIDGE MONT ESTATES, LOT 2
LAT BOOK 5050, PAGE 73

JOHN R. DAY SUBDIVISION
PLAT BOOK 4350, PAGE 4

JOHN R. DAY SUBDIVISION
PLAT BOOK 4350, PAGE 47

PROPER

YADIRA MIRANDA LORENZO
MAP 33, PARCEL 105.00
INSTRUMENT #20190917-0094067

NOTE:
-WATER SERVICES PROVIDED BY
MADISON SUBURBAN WATER DISTRICT.
-SEWER SERVICE PROVIDED BY
METRO WATER SERVICES

| | | |
|---|--|---------------|
| DATUM: HORIZ.: NAD83 | | VERT.: NAVD88 |
| <p>JOB NO: 32828.0000 DATE: 12/31/2025 DRAWN: CAD DESIGNED: CAD REVIEWED: JDC APPROVED: JDC SCALE: 1" = 40'</p> | | |
| <p>C4.1</p> | | |

C4.1

HOMAS
&
UTTON

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e, TN 37203 • 615.349.4990

AN

MINARY SP CASE #2025SP-050-001
CAMPBELL ROAD

ECT LOCATION:
MPBELL ROAD
ETTSVILLE (METRO NASHVILLE), TN 37072

NT/OWNER:
I DEVELOPMENT
AR CROSSING
0
ET. TN 02100



| | | |
|----------------------|--|---------------|
| DATUM: HORIZ.: NAD83 | | VERT.: NAVD88 |
| JOB NO: 32828.0000 | | |
| DATE: 12/31/2025 | | |
| DRAWN: CAD | | |
| DESIGNED: CAD | | |
| REVIEWED: JDC | | |
| APPROVED: JDC | | |
| SCALE: 1" = 40' | | |

C4.1

40' WIDTH PRODUCTS



COTTAGE PRODUCTS



NOTES:

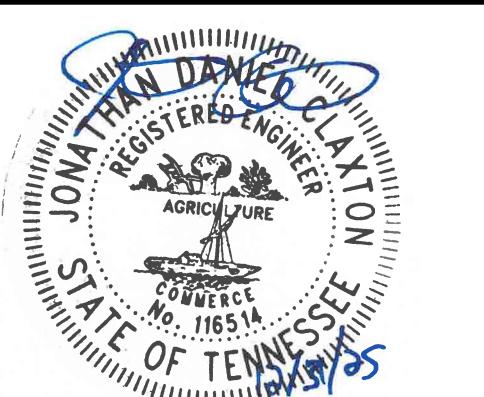
THESE ARE CHARACTER IMAGES SHOWN FOR REFERENCE ONLY.
FINAL ARCHITECTURAL ELEVATIONS WILL BE SUBMITTED DURING
THE FINAL SP APPROVAL PROCESS. ALL ELEVATIONS WILL COMPLY
WITH THE ARCHITECTURAL GUIDELINES AS OUTLINED ON THE COVER SHEET.

ALL PRODUCTS TO HAVE A MAXIMUM HEIGHT AS SPECIFIED ON THE COVER SHEET.

DATUM: HORIZ.: NAD83 VERT.: NAVD88
JOB NO.: 32828-0000
DATE: 12/31/2025
DRAWN: CAD
DESIGNED: CAD
REVIEWED: JDC
APPROVED: JDC
SCALE: N/A

C5.1

NO. REVISIONS BY DATE



THOMAS & HUTTON

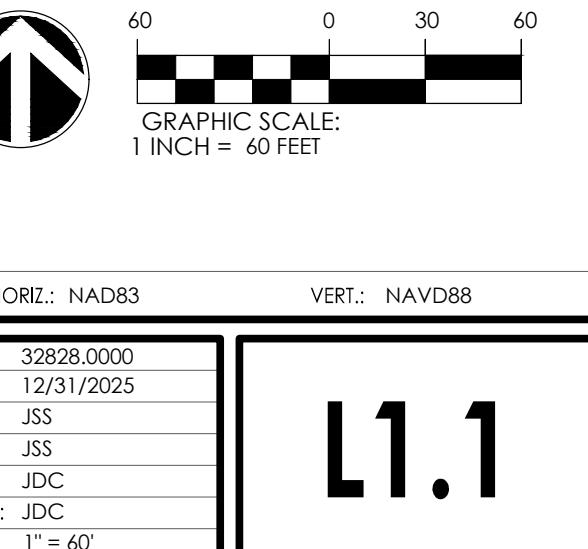
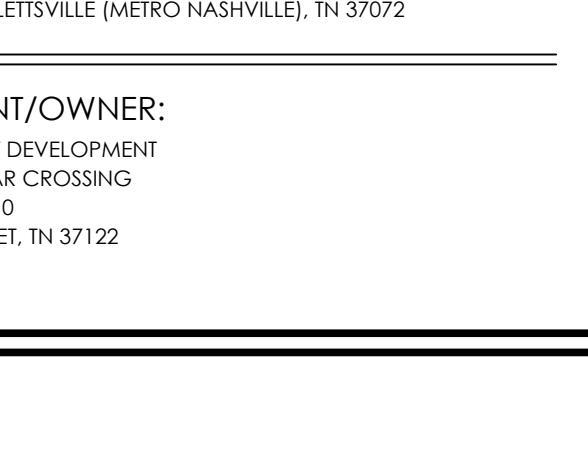
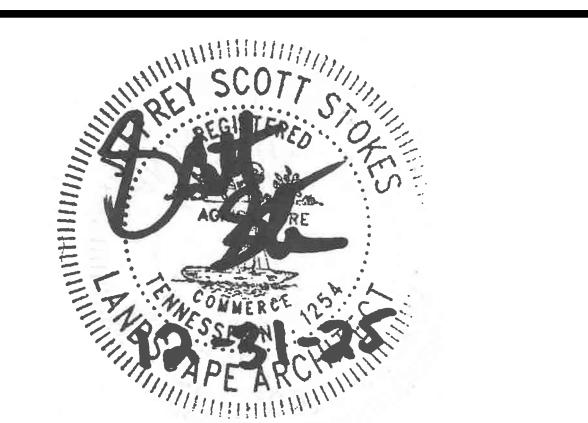
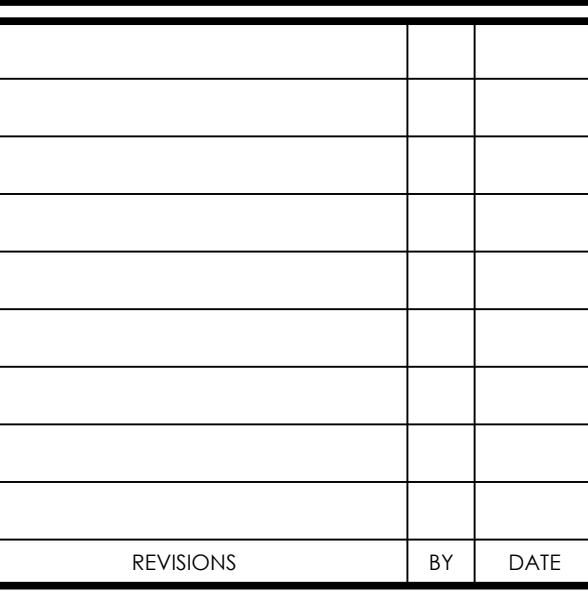
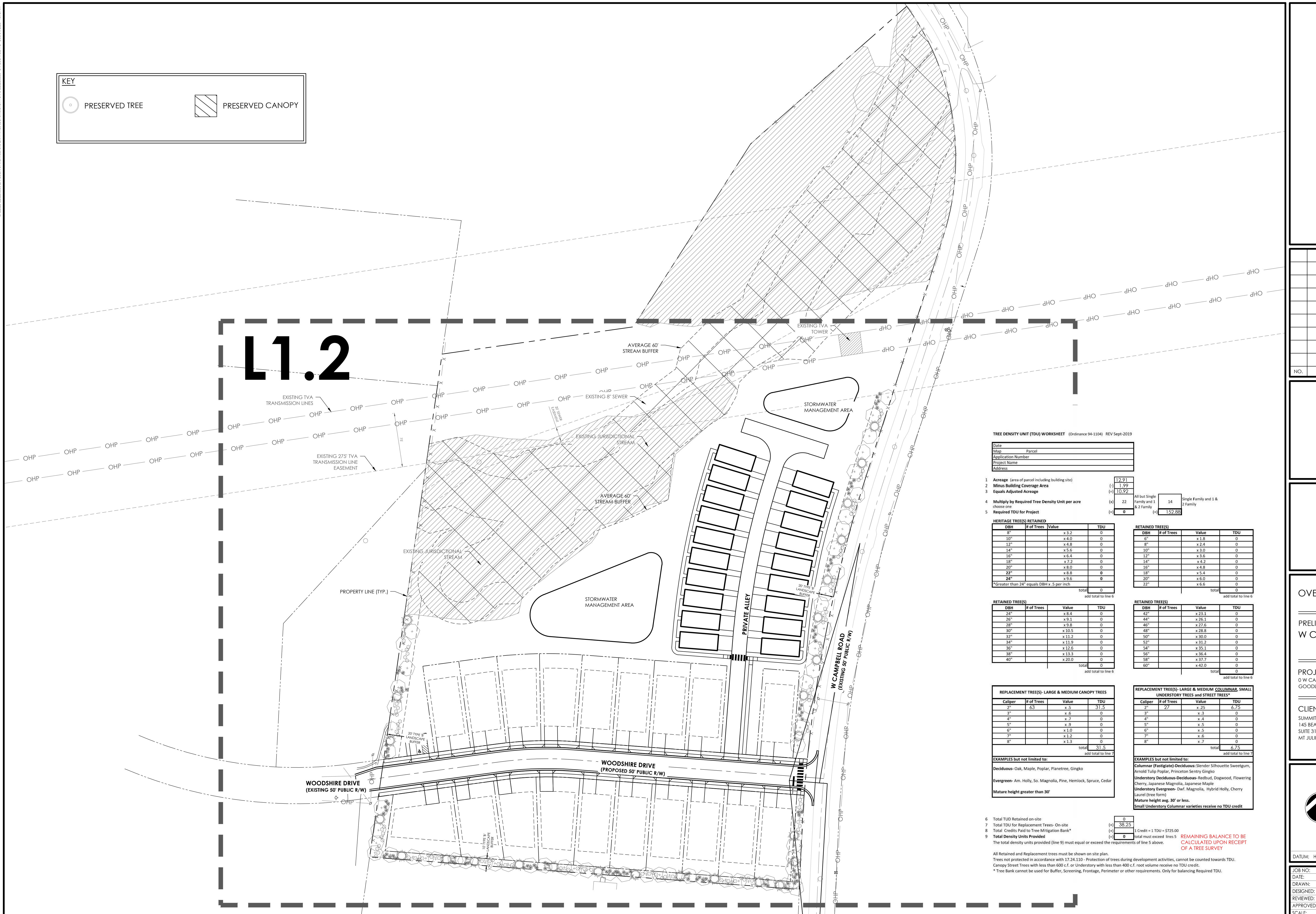
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Nashville, TN 37203 • 615.349.4990
www.thomasandhutton.com

CHARACTER IMAGES

PRELIMINARY SP CASE #2025SP-050-001
W CAMPBELL ROAD

PROJECT LOCATION:
0 W CAMPBELL ROAD
GOODLETTSVILLE (METRO NASHVILLE), TN 37072

CLIENT/OWNER:
SUMMIT DEVELOPMENT
145 BEAR CROSSING
SUITE 310
MT JULIET, TN 37122



PLANT SCHEDULE

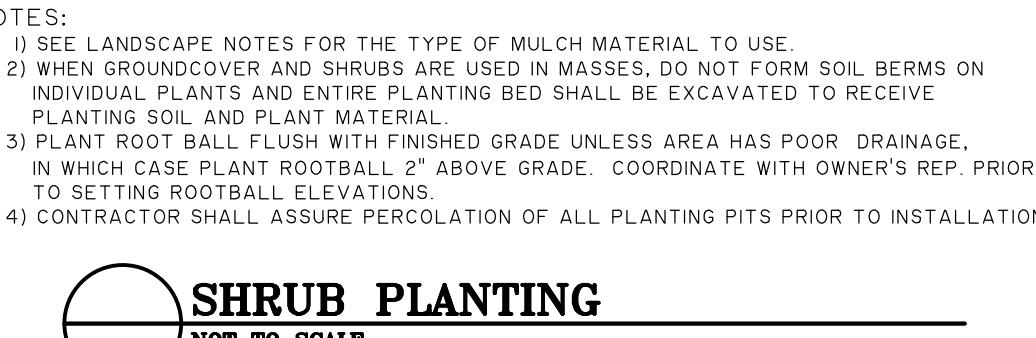
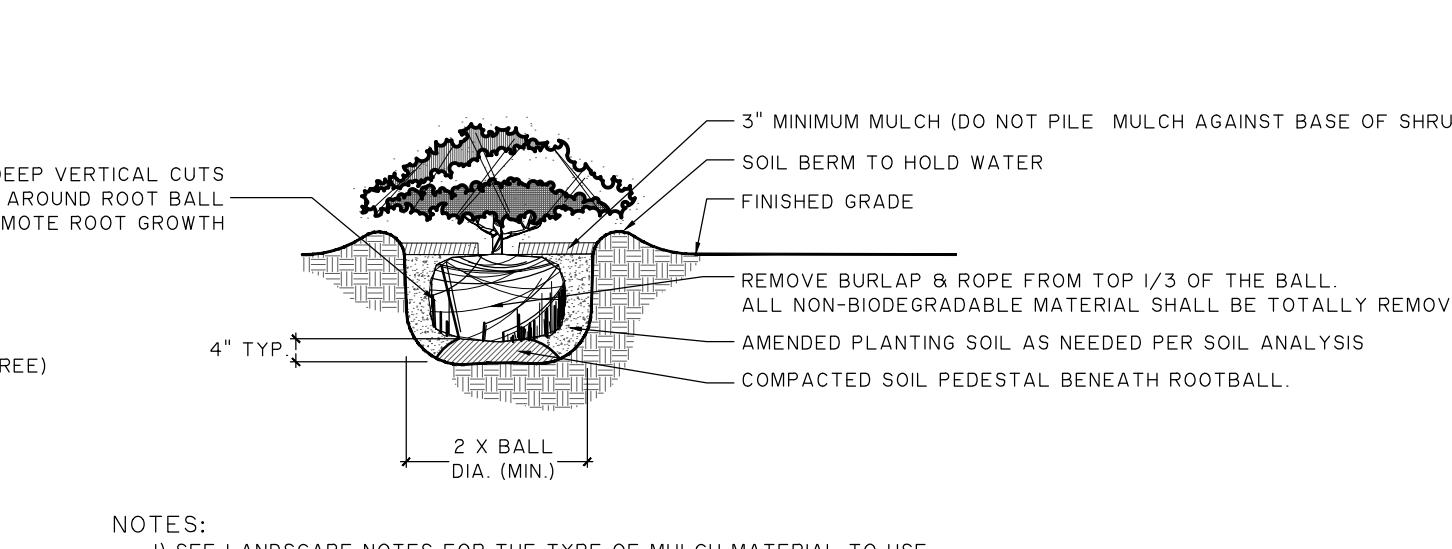
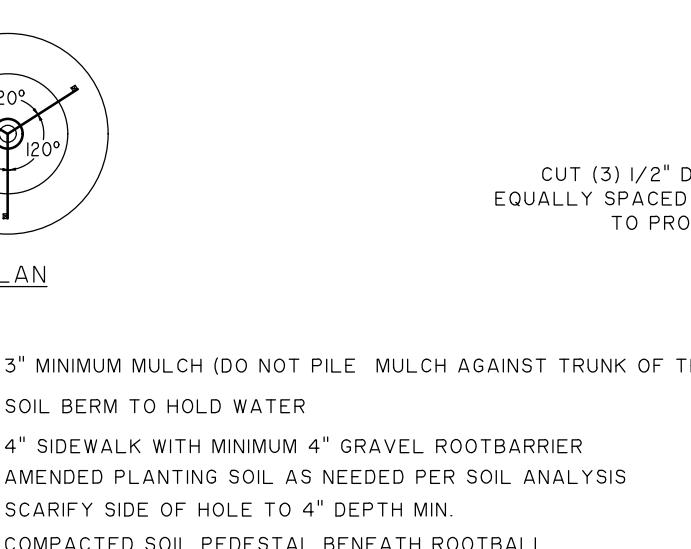
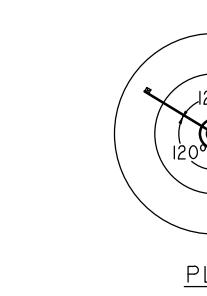
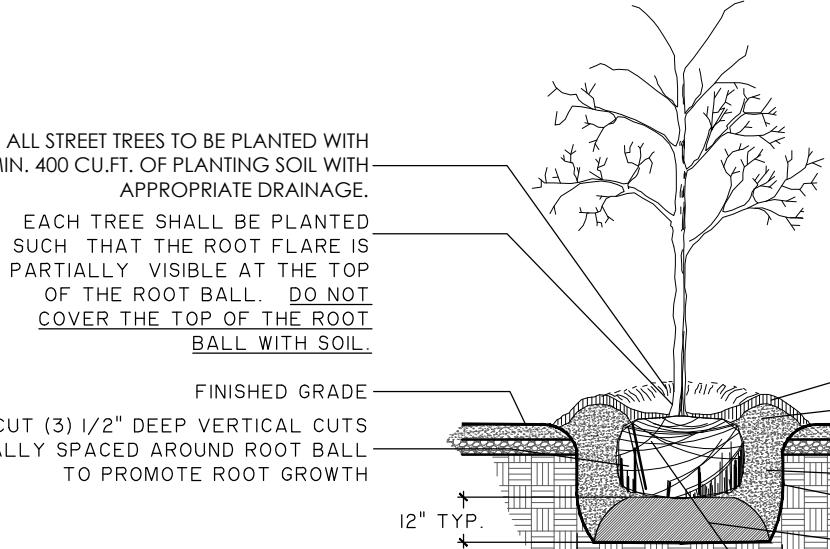
| TREES | | | | | |
|-------|-------|----------------------|-------------------|-----------------------------|----------|
| QNTY | ABBRV | SCIENTIFIC NAME | COMMON NAME | CONTAINER AND SIZE | SPACING |
| 26 | JV | Juniperus virginiana | Eastern Red Cedar | B & B OR CONT.; 2" CAL. MIN | AS SHOWN |
| 61 | QS | Quercus shumardii | Shumard Oak | B & B OR CONT.; 2" CAL. MIN | AS SHOWN |

| SHRUBS | | | | | |
|--------|-------|-----------------------------------|---------------------|--------------------|----------|
| QNTY | ABBRV | SCIENTIFIC NAME | COMMON NAME | PLANTING SIZE | SPACING |
| 130 | ICBN | Ilex cornuta 'Burfordii Nana' | Dwarf Burford Holly | CONT.; 18" HT. MIN | AS SHOWN |
| 92 | PLO | Prunus laurocerasus 'Otto Luyken' | Otto Luyken Laurel | CONT.; 18" HT. MIN | AS SHOWN |

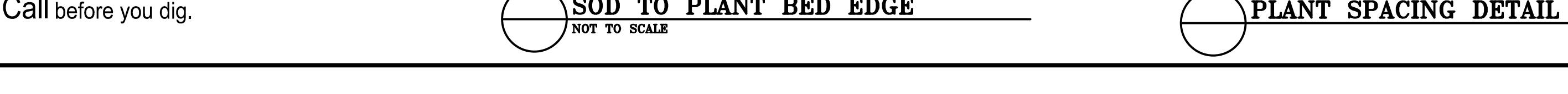
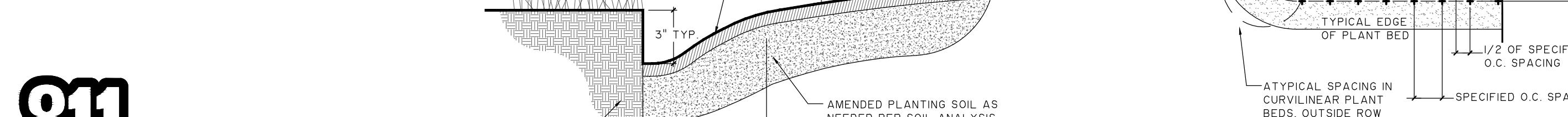
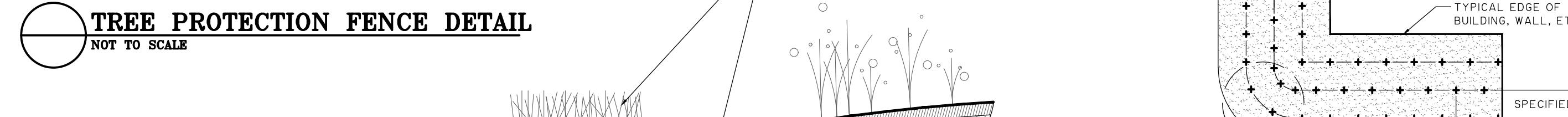
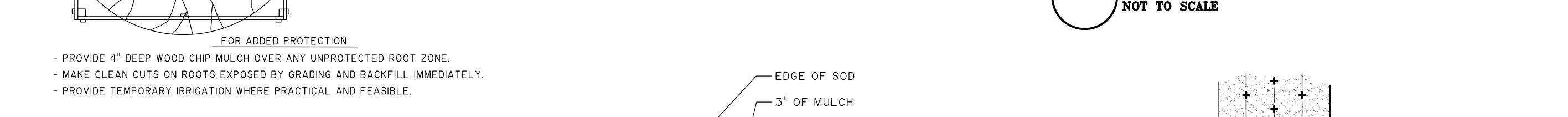
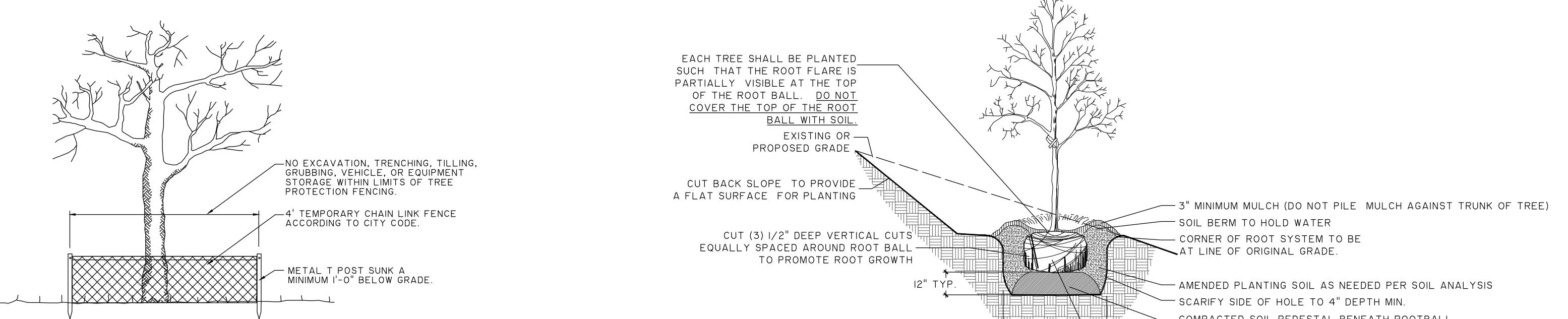
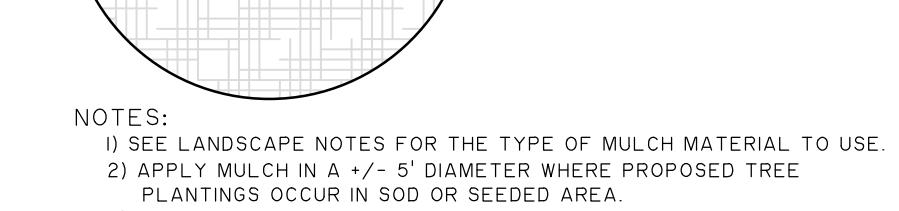
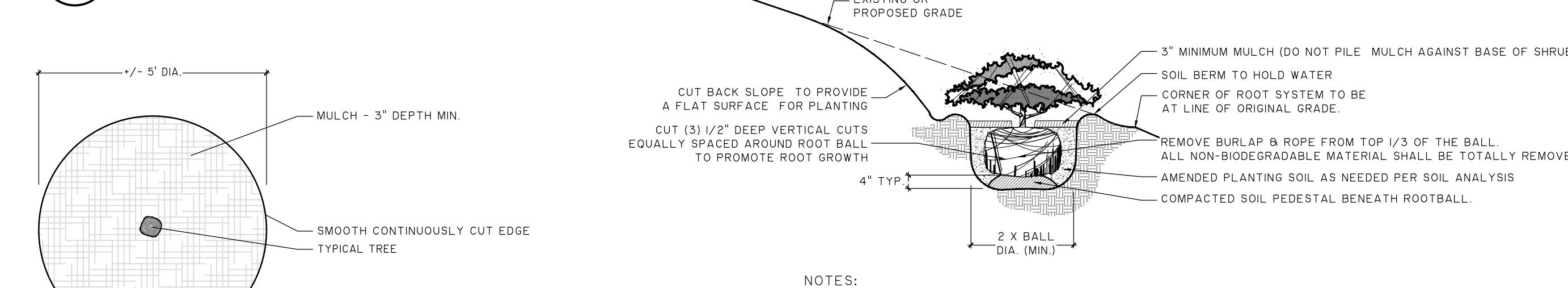


GENERAL PLANTING & IRRIGATION NOTES

- REQUIREMENTS FOR THE MEASUREMENTS, BRANCHING, GRADING, QUALITY, BALLING AND BURLAPPING OF PLANTS IN THE PLANT LIST SHOULD FOLLOW OR EXCEED THE STANDARDS CURRENTLY RECOMMENDED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. IN THE AMERICAN STANDARD FOR NURSERY STOCKS (ASNS). UNLESS OTHERWISE SPECIFIED, ANY SIZE SPECIFIED SHALL BE CONSIDERED MINIMUM. MINIMUMS FOR HEIGHT, SPREAD, CALIPER, ETC. SHALL TAKE PRECEDENCE OVER A SPECIFIED CONTAINER SIZE. (I.E. - IF 7 GALLON IS REQUIRED, TO PROVIDE A SPECIFIED HEIGHT OR SPREAD THAT IS SPECIFIED AS A 3 GALLON, THEN THE 7 GALLON SHALL BE REQUIRED AND INCLUDED IN THE BASE BID AND SHALL NOT BE CONSIDERED A CHANGE ORDER.)
- ALL PLANTS SHALL HAVE A WELL FORMED HEAD WITH MINIMUM CALIPER, HEIGHT AND SPREAD OF THE SIDE BRANCHES AS SHOWN ON THE PLANT LIST. TRUNKS SHALL BE UNDAMAGED AND SHAPE SHALL BE TYPICAL OF THE SPECIES.
- MEASUREMENT OF CONIFER HEIGHT SHALL INCLUDE NOT MORE THAN FIFTY (50) PER CENT OF THIS YEARS' VERTICAL GROWTH (TOP CANDLE).
- THE LANDSCAPE CONTRACTOR IS HEREBY NOTIFIED OF THE EXISTENCE OF UNDERGROUND UTILITIES WITHIN THE LIMITS OF THE PROJECT AREA. THE CONTRACTOR SHOULD VERIFY THE EXACT LOCATION OF ALL UTILITY LINES PRIOR TO COMMENCEMENT OF DIGGING OPERATIONS. CONTRACTOR RESPONSIBLE FOR LOCATING, PROTECTING, AND REPAIRING ALL DAMAGE TO BUILDINGS, UTILITIES, PAVEMENT, AND CURB & GUTTER. ANY REPAIRS SHALL BE DONE PROMPTLY AT CONTRACTOR'S EXPENSE.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR STAKING AND LAYOUT OF PLANTINGS ON THIS PROJECT. THE LANDSCAPE ARCHITECT OR OWNER SHALL BE ADVISED WHEN STAKES ARE READY FOR INSPECTION ON VARIOUS PLANTING AREAS. ALL LAYOUT WORK SHALL BE INSPECTED AND APPROVED BY THE LANDSCAPE ARCHITECT AND OWNER PRIOR TO OPENING ANY PLANTING PITS.
- IT IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO VERIFY THAT EACH EXCAVATED TREE OR SHRUB PIT WILL PERCOLATE (DRAIN) PRIOR TO ADDING TOPSOIL AND INSTALLING TREES OR SHRUBS. THE CONTRACTOR SHALL FILL THE BOTTOM OF HOLES WITH SIX (6) INCHES OF WATER. THIS WATER SHOULD PERCOLATE WITHIN A TWENTY-FOUR (24) HOUR PERIOD. IF WATER DOESN'T PERC, CONTRACTOR SHALL NOTIFY THE OWNER'S REP PRIOR TO INSTALLING PLANTS.
- SHOULD THE LANDSCAPE CONTRACTOR ENCOUNTER UNSATISFACTORY SURFACE OR SUBSURFACE DRAINAGE CONDITIONS, SOIL DEPTH, LATENT SOILS, HARD PANS, STEAM OR OTHER UTILITY LINES OR OTHER CONDITIONS THAT WILL JEOPARDIZE THE HEALTH AND VIGOR OF THE PLANTS, HE MUST ADVISE THE LANDSCAPE ARCHITECT IN WRITING OF THE CONDITIONS PRIOR TO INSTALLING THE PLANTS. OTHERWISE, THE LANDSCAPE CONTRACTOR WARRANTS THAT THE PLANTING AREAS ARE SUITABLE FOR PROPER GROWTH AND DEVELOPMENT OF THE PLANTS TO BE INSTALLED.
- THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING UP THE SITE AT THE COMPLETION OF THE PROJECT AND SHALL MAINTAIN THE SITE IN A REASONABLY NEAT AND CLEAN STATE THROUGHOUT THE INSTALLATION PROCESS. STREETS AND PAVED AREAS SHALL BE CLEANED REGULARLY TO REMOVE CONSTRUCTION MATERIALS AND OTHER DEBRIS RESULTING FROM WORK OF THE PROJECT.
- REPLACEMENTS OF DEAD OR UNSATISFACTORY MATERIAL SHALL BE MADE AS SPECIFIED IN THE PLANT LIST. THE OWNER OR LANDSCAPE ARCHITECT SHALL INSPECT REPLACED PLANTS WHEN ALL REPLACEMENTS HAVE BEEN MADE. REPLACEMENTS ARE TO BE ALIVE AND IN A HEALTHY CONDITION WHEN THE REPLACEMENTS ARE COMPLETE. REPLACEMENTS ARE NOT SUBJECT TO AN ADDITIONAL GUARANTEE, BUT THE LANDSCAPE CONTRACTOR SHALL CONSULT WITH THE LANDSCAPE ARCHITECT ON REASON FOR PLANT DECLINE/DEATH AND HOW TO AVOID FUTURE INSTANCES.
- SHOULD THE CONTRACTOR NOT MAKE REPLACEMENTS IN A SATISFACTORY AND TIMELY FASHION IN ACCORD WITH THE PLANTING NOTES, THE OWNER, AFTER PROPER NOTIFICATION TO THE CONTRACTOR MAY UTILIZE THE FUNDS OF THE RETAINAGE TO HAVE THE REPLACEMENTS MADE IN ACCORDANCE WITH THE SPECIFICATIONS BY ANOTHER CONTRACTOR.
- NO EXCAVATION OR PLANTING PIT SHALL BE LEFT UNATTENDED OVERNIGHT.
- PLANT MATERIAL QUANTITIES PROVIDED IN THE PLANT LIST ARE FOR REFERENCE ONLY AND THE CONTRACTOR IS RESPONSIBLE FOR THE ACTUAL PLANT MATERIAL COUNTS. DISCREPANCIES BETWEEN QUANTITIES SHOWN ON THE PLANTING PLAN AND THOSE IN THE PLANT LIST SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR CLARIFICATION. IF CLARIFICATION OF DISCREPANCIES FROM THE LANDSCAPE ARCHITECT IS NOT POSSIBLE, THEN QUANTITIES SHOWN ON THE PLANTING PLAN SHALL TAKE PRECEDENCE.
- REMOVE BURLAP/STRAPPING AND WIRE BASKET FROM TOP $\frac{1}{3}$ OF ROOT BALL ON TREES.
- REMOVE PAPER, PLASTIC OR METAL AROUND ROOT BALLS OF SHRUBS.
- DO NOT WRAP TREES.
- WATER ALL PLANT MATERIAL IMMEDIATELY AFTER PLANTING.
- TREE GUYING MATERIAL SHALL BE 'ARBOR-TIE' OR EQUIVALENT.
- ALL PLANT BEDS TO BE MULCHED WITH 3" DEPTH OF SHREDDED HARDWOOD MULCH.
- ALL AREAS OF PLANTING, INCLUDING AREAS OF GRASS SEEDING AND SOD, SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE AND SHALL BE PROVIDED APPROPRIATE SOIL FOR THE PROPOSED PLANTINGS. THE LANDSCAPE CONTRACTOR SHALL ADJUST PH AND / OR SOIL FERTILITY BY UNIFORMLY INCORPORATING REQUIRED SOIL CONDITIONING MATERIALS AT THE RATE AND DEPTH DETERMINED BY THE ANALYSIS OF THE SOIL TEST (AS REQUIRED IN 3.02 AND 3.13 OF THE LANDSCAPING SPECIFICATIONS). EACH SOIL TEST SHALL BE SPECIFIC TO THE PROPOSED PLANT MATERIAL TO BE INSTALLED IN A GIVEN AREA.
- ALL EXISTING VEGETATION WITHIN AREAS TO BE PLANTED / SODDED / SEEDED SHALL BE REMOVED PRIOR TO PLANTING / SODDING / SEEDING. ALL AREAS INDICATED TO BE GRASS SEED SHALL BE SEEDED PER GRASSING SPECIFICATIONS FOR PERMANENT STABILIZATION.
- CONTRACTOR TO SUPPLY AUTOMATIC IRRIGATION SYSTEMS, COMPLETE AND INSTALLED. SYSTEM TO INCLUDE ALL VALVES, PIPES, HEADS, FITTINGS, RAIN SENSOR, AND CLOCK AND TO PROVIDE 100% COVERAGE OF ALL NEW SODDED AND IMPROVED EXISTING GRASS AREAS, TREES, SHRUBS AND PLANTING BEDS. COORDINATE IRRIGATION WITH OWNER'S REPRESENTATIVE. (CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF PROPOSED IRRIGATION SYSTEM FOR OWNER ACCEPTANCE)
- CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR AUTOMATIC IRRIGATION SYSTEMS. CONTRACTOR SHALL PROVIDE ELECTRIC METER AND SERVICE IN ACCORDANCE WITH STATE AND LOCAL CODES FOR IRRIGATION SYSTEM. LOCATION OF METERS AND CONTROL PANELS FOR IRRIGATION SHALL BE APPROVED BY OWNER'S REP. PRIOR TO INSTALLATION.
- IRRIGATION SYSTEM WILL BE INSTALLED WITH ANY WATER SOURCE OTHER THAN DOMESTIC POTABLE WATER. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR IRRIGATION WATER TESTING. IRRIGATION WATER SHALL BE TESTED FOR LEVELS OF pH, ALKALINITY AND SOLUBLE SALTS. SUBMIT TEST RESULTS TO OWNER'S REPRESENTATIVE FOR REVIEW PRIOR TO INSTALLATION OR ORDERING OF IRRIGATION EQUIPMENT, PUMPS OR WELL DIGGING.
- ALL TREES SHALL BE INSTALLED PER THE REQUIREMENTS OF THE METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY TENNESSEE APPLICABLE ORDINANCES.
- ALL PLANT BEDS TO RECEIVE WEED INHIBITOR OF PREEN OR ACCEPTED ALTERNATE.
- FOR PLANTINGS, CONTRACTOR TO USE EITHER CONTAINERIZED OR PRE-DUG B & B PLANT MATERIAL.



NOTES:
 1) SEE LANDSCAPE NOTES FOR THE TYPE OF MULCH MATERIAL TO USE.
 2) ONLY GUY TREES WHEN SITE CONDITIONS REQUIRE IT.
 3) PLANT ROOT BALL FLUSH WITH FINISHED GRADE UNLESS AREA HAS POOR DRAINAGE, IN WHICH CASE PLANT ROOTBALL 2" ABOVE GRADE.
 4) REMOVE ALL BRANCHES THAT ARE DAMAGED, RUBBING, OR CROSSING OTHER BRANCHES.
 5) NEVER CUT A CENTRAL LEADER.
 6) FINAL TREE STAKING AND PLACEMENT TO BE APPROVED BY OWNER'S REP.
 7) CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.



LANDSCAPING SPECIFICATIONS

LANDSCAPING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The work covered in this section consists of soil preparation, fine grading, lawns, trees, shrubs and ground cover plantings, their protection and maintenance of planted areas until acceptance.

1.2 RELATED WORK

- A. See Civil and Landscape plans and specifications.

1.3 QUALITY ASSURANCE

- A. Qualifications of Workmen: Contractor shall provide at least one person present at all times during execution of work that is thoroughly familiar with the type of materials being installed and proper equipment and methods for their installation and who shall direct all work performed under this section.
- B. Standards: All seed, sod, trees, shrubs, and ground covers shall meet or exceed the specifications of Federal, State, County and / or Municipality laws requiring inspection for disease and insect control.
- 1. Plants and planting methods shall conform to the latest edition of American Standard for Nursery Stock, American Nursery & Landscape Association, 1000 Vermont Avenue, NW, Suite 300, Washington, DC 20005
- 2. Plants shall be true and representative of their genus, species, cultivar, or variety. Nursery stock shipped in accordance with the required specifications shall be deemed to be acceptable within the terms of this section if it is typical in size and habit for the species in the region of the country in which it is grown unless the specifications include additional details.
- 3. Prior to ordering any plant material, representative photos of each species shall be provided for review and acceptance.
- 4. One of each bundle or lot shall be tagged with name and size of the plant in accordance with American Nursery & Landscape Association standards. In all cases, botanical names shall take precedence over common names. Landscape Architect should be consulted in the event questions arise about nomenclature of plants to be used and their availability.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver grass seed in original containers showing analysis of seed mixture, percentage of pure seed, year of production, net weight, date of packaging and location of packaging. Damaged packages are not acceptable.
- B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.
- C. Deliver sod on pallets.
- D. Handling of plants shall be by lifting the root mass or container and not by lifting plant by trunk or branches. Handling of plants in an improper fashion shall be cause for rejection of plant materials. Care must be taken during all phases of the location and planting procedures not to damage root system, trunk or branches. All plant materials shall be planted as soon after arrival at the site as possible. Contractor is responsible for keeping plants safe from injury by the construction activity and watered to prevent drying out before planting. Baled and burlapped plants shall be "Healed-in" and protected with burlap or other accepted material if they cannot be planted upon delivery. Plants with broken major branches, badly bruised or damaged bark are not acceptable and will be rejected.

1.5 PLANTING DATES

- A. The planting season for trees, shrubs and groundcovers is between October 1st and June 1st of the following year. Do not plant if temperature is below freezing or above 90 degrees. Planting at any other time other than the planting season is the Contractor's option and full responsibility and without additional compensation. Planting may, at the option of the Contractor, be postponed into the following planting season but without additional compensation provided the Owner and local governing jurisdiction have approved.
- C. Planting dates for sod, sprigging or seeding shall be per the grassing specification.

1.6 MEASUREMENT AND PAYMENT

- A. Measurement - The items listed in the proposal shall be considered as sufficient to complete the work in accordance with the plans and specifications. Any portion of the work not listed in bid form, but required to complete the work, shall be deemed to be a part of the item with which it is associated and shall be included in the cost of the unit shown on the bid form.
- B. Payment - Payment for the unit shown on the bid form shall be considered to cover the cost of all labor, material, equipment, and performing all operations necessary to complete the work in place. No payment will be made for any material wasted, used for the convenience of the Contractor, unused or rejected.
- 1. Trees, Shrubs, and Groundcovers - Will be paid for at the contract unit price for planted/installed and accepted trees, shrubs, and groundcovers.
- 2. Payment for grassing will be made per the grassing specification.
- 3. Clearing - Will be paid for at the lump sum price for clearing.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Contractor shall, at time of delivery, furnish Owner and / or Landscape Architect with invoices of all materials received; in order the quality and source of materials may be reviewed.

2.2 TOPSOIL

- A. TOPSOIL SHALL BE FERTILE, FRIABLE SOIL CONTAINING LESS THAN 5% TOTAL VOLUME OF THE COMBINATION OF SUBSOIL, REFUSE, ROOTS LARGER THAN 1 INCH DIAMETER, HEAVY, STICKY OR STIFF CLAY, STONES LARGER THAN 2 INCHES IN DIAMETER, NOXIOUS SEEDS, STICKS, BRUSH, LITTER, OR ANY SUBSTANCES DELETERIOUS TO PLANT GROWTH. THE PERCENT (%) OF THE ABOVE OBJECTS SHALL BE CONTROLLED BY SOURCE SELECTION NOT BY SCREENING THE SOIL. TOPSOIL SHALL BE SUITABLE FOR THE GERMINATION OF SEEDS AND THE SUPPORT OF VEGETATIVE GROWTH. IMPORTED TOPSOIL SHALL NOT CONTAIN WEED SEEDS IN QUANTITIES THAT CAUSE NOTICEABLE WEED INFESTATIONS IN THE FINAL PLANTING BEDS. IMPORTED TOPSOIL SHALL MEET THE FOLLOWING PHYSICAL AND CHEMICAL CRITERIA:
 - 1. SOIL TEXTURE: USDA LOAM, SANDY CLAY LOAM OR SANDY LOAM WITH CLAY CONTENT BETWEEN 15 AND 25%. AND A COMBINED CLAY/SILT CONTENT OF NO MORE THAN 55%.
 - 2. PH VALUE SHALL BE BETWEEN 5.5 AND 7.0.
 - 3. PERCENT ORGANIC MATTER (OM): 2.0-5.0%, BY DRY WEIGHT.
 - 4. SOLUBLE SALT LEVEL: LESS THAN 2 MMHO/CM.
 - 5. SOIL CHEMISTRY SUITABLE FOR GROWING THE PLANTS SPECIFIED.
- B. IMPORTED TOPSOIL SHALL BE A HARVESTED SOIL FROM FIELDS OR DEVELOPMENT SITES. THE ORGANIC CONTENT AND PARTICLE SIZE DISTRIBUTION SHALL BE THE RESULT OF NATURAL SOIL FORMATION. MANUFACTURED SOILS WHERE COARSE SAND, COMPOSTED ORGANIC MATERIAL OR CHEMICAL ADDITIVES HAS BEEN ADDED TO THE SOIL TO MEET THE REQUIREMENTS OF THIS SPECIFICATION SECTION SHALL NOT BE ACCEPTABLE. RETAINED SOIL PEDS SHALL BE THE SAME COLOR ON THE INSIDE AS IS VISIBLE ON THE OUTSIDE.
- C. IMPORTED TOPSOIL FOR PLANTING SOIL SHALL NOT HAVE BEEN SCREENED AND SHALL RETAIN SOIL PEDS OR CLOUDS LARGER THAN 2 INCHES IN DIAMETER THROUGHOUT THE STOCKPILE AFTER HARVESTING.
- D. STOCKPILED EXISTING TOPSOIL AT THE SITE MEETING THE ABOVE CRITERIA MAY BE ACCEPTABLE.
- E. PROVIDE A ONE GALLON SAMPLE FROM EACH IMPORTED TOPSOIL SOURCE(S) WITH REQUIRED SOIL TESTING RESULTS OF ALL EXISTING TOPSOIL TO BE USED. THE SAMPLE SHALL BE A MIXTURE OF THE RANDOM SAMPLES TAKEN AROUND THE SOURCE STOCKPILE OR FIELD.

2.3 SEED

- A. See grassing specification.

2.4 SPRIG

- A. See grassing specification.

2.5 SOD

- A. See grassing specification.

2.6 PLANT MATERIALS

- A. Provide all plant materials as indicated on the plans. In the event of any discrepancies between quantities of plants indicated on the plant schedule and those indicated on the plan, plan quantities shall govern.
- B. Plants shall be sound, healthy and vigorous, well branched and densely foliated when in leaf. They shall be free of disease, insect pests, eggs or larvae, and shall have healthy, well developed root systems. Plants shall be from a nursery within 300 miles north or south of the project location and shall have been grown under climate conditions similar to those in the locality of project. Trees for planting in rows shall be uniform in size and shape.
- C. Plants shall possess a normal balance between height and width. Plants shall be measured when branches are in their normal position. Height and spread dimensions specified refer to the main body of plant and not from branch tip to tip. Plants larger in size than specified may be used with no change in contract price.
- D. Trees specified for Street Tree Grade shall conform to standards of the A.N.L.A.:
 - 1. Suitable for planting as street trees.
 - 2. Free of branches to approximately 50% of height from ground.
 - 3. Crown of tree shall be in good balance with the trunk.

2.7 FERTILIZER

- A. Commercial fertilizer shall be slow release 5-10-10 or 6-12-12 (or as recommended by soil test), uniform in composition, free flowing, and suitable for application with appropriate equipment. Deliver to site unopened in manufacturer's standard containers showing weight, analysis and name of manufacturer. If stored on site, protect from the elements.

2.8 PEAT MOSS

- A. Peat moss shall be finely shredded, 90% organic moss peat, brown in color and suitable for horticultural purposes. Peat shall be measured in air dry condition, containing not more than 35% moisture by weight. Ash content shall not exceed 10%.

2.9 MULCH FOR TREES, SHRUBS, AND GROUND COVERS

- A. Mulch for non bio-retention areas shall be as shown on plans.
- B. Mulch for bio-retention areas shall be shredded hardwood.

2.10 STAKING EQUIPMENT

- A. Trees and palms shall be staked as shown in landscape plans.

2.11 WATER

- A. Contractor shall provide water to the project via the installation of a new irrigation system for the area shown on the plans. For bidding purposes, the contractor shall assume drilling a new well with associated pumps and controls as needed for irrigation.

PART 3 - EXECUTION

3.1 FINE GRADING

- A. All areas within limits of construction shall be fine graded to the desired grades. All areas within limits of construction are to be fine graded, free of roots, debris and/or other objectionable material, before planting or grassing commence. Any additional fill material needed to fill low or uneven areas shall be provided by the Contractor. Positive drainage away from structures shall be provided in all plant beds so standing water does not occur. Planting beds shall be raised above adjacent lawn areas to provide good drainage conditions.
- B. Planting and grassed areas, if not loose, shall be loosened to a minimum depth of 3-inches before fertilizer, seed or sod is applied.

3.2 FERTILIZER AND SOIL AMENDMENTS

- A. Contractor shall provide Topsoil Analysis Tests that has been performed by a State Agricultural Experiment Station, Soil and Water Conservation District, State University, or other qualified private testing laboratory, as approved by Landscape Architect.
- B. Apply fertilizer and soil amendments after fine grading and mix thoroughly into upper 2 inches of soil.
- C. Fertilizer and other necessary soil amendments shall be applied at the rate recommended by Topsoil Analysis Test.

3.3 SODDING

- A. See grassing specification.

3.4 SPRIGGING

- A. See grassing specification.

3.5 SEEDING

- A. See grassing specification.

3.6 SEED PROTECTION

- A. See grassing specification.

3.7 LAYOUT OF TREES, SHRUBS, AND GROUND COVERS

- A. All plants shall be placed in the proper location as shown on construction plans, allowing Landscape Architect to review all plant locations prior to actual planting. Landscape Architect may make minor adjustments which shall not be cause for changes to the contract price.

3.8 OBSTRUCTIONS BELOW GROUND

- A. Prior to excavating planting holes, Contractor shall determine the exact location of electrical, phone, or television cables or conduits, water, drainage or sewer lines, and any other subsurface structures and take precautions to protect them. Any damage to underground utilities shall be repaired immediately at the Contractor's expense.
- B. In the event rock, underground construction work, or other obstructions are encountered in any plant hole excavation under this contract, alternate locations may be selected. Where locations cannot be changed, the obstructions shall be removed to a depth of not less than three (3) feet below grade and not less than six (6) inches below bottom of ball or roots when plant is properly set at the required grade. The Contractor shall be responsible for the removal of such rock or other underground obstructions encountered.

3.9 PLANTING HOLES

- A. For trees, shrubs and ground covers the planting hole shall be as shown on planting details in the plans. Do not leave planting holes open overnight. In the event that plant holes are dug and not planted in a timely manner, install four (4) foot high orange safety fencing around all excavated areas.

3.10 PLANTING TREES AND SHRUBS

- A. Shall be same as grown in the nursery and/or container soil level. Adjust bottom soil mix to insure proper planting level with the proposed surrounding grades. Check plants to insure proper vertical alignment.
- B. Fill holes to proper height to receive plant, and thoroughly tamp before setting the plant. Set plant in upright position in the center of the hole, and compact the backfill mixture around the ball or roots. Add soil amendments as required to improve fertility of existing soil and plant growing conditions.
 - 1. When balled or burlapped plants are set, compact topsoil around base of ball to fill all voids. All bindings shall be removed and the top half of burlap removed from around root ball. If burlap is made of natural fibers it can be laid back from the root mass or can be cut away. Remove all burlap if it is made of non-degradable material/fabric. All weeds growing on the root mass shall be removed prior to planting.
 - 2. Containerized plants shall have the container removed prior to planting. Care shall be taken to protect root mass from injury and the root mass intact. If root mass shows evidence of being bound or matted, three vertical 1/2" deep cuts shall be made on alternate sides of the root mass and roots pulled away slightly. This is to untangle roots which have begun to "circle" the root mass and to encourage new root growth. All weeds growing in the root mass shall be removed prior to planting.
 - 3. Roots of bare root plants shall be spread out and topsoil carefully worked in among them. Remove with a clean cut, any broken or frayed roots.

3.11 PLANTING GROUND COVERS

- A. Planting beds shall be thoroughly worked to a depth of twelve (12) inches incorporating fertilizer and other soil improvements at the recommended rate suggest by the soils test. Rake prepared planting bed until level, smooth and free from all soil, lumps, rocks, sticks and other deleterious materials. Bed area should be neatly outlined. Space the plants evenly as indicated on the drawings. Plant only in soil that is moist and friable, and not wet or soggy. In the case of planting in the open on hot days, shorten the time between planting and watering.

3.12 WATERING

- A. Thoroughly water each plant when the hole is 1/3 full, again at 2/3 full and then complete backfilling. Once backfilling is complete, water again, then tamp the soil in place until the surface of the backfill is level with the surrounding area and the plant bears the same relation of finished grade as it bore to existing grade before being dug.
- B. Earth saucers shall be constructed around the perimeter of planting holes of all trees and all single planted shrubs. Earth saucers shall be minimum 3" high and compacted to retain water. Earth saucers shall not be installed in areas where the subsoil is very poorly drained or around mass shrub / groundcover plantings.
- C. All trees and shrubs to be hand watered on a regular basis as necessary during the warranty period.

3.13 SOIL MIX

- A. Shall be per existing soils on site with recommended amendments from soils test.

3.14 STAKING OF TALL PLANTS

- A. Shall be done only if site / environment conditions make if required. If required, trees and palms shall be staked as indicated on the plans.

3.15 MULCHING

- A. All plants shall be mulched with an evenly thick layer of clean mulch immediately after planting. Mass plant beds shall be completely mulched to the limits of the bed as shown on the plans. Limit of mulching for individual trees and shrubs shall be slightly beyond the saucer berm. The areas mulched shall be tidy and clean in appearance.

3.16 PRUNING

- A. Remove dead, broken or bruised branches after planting using clean, sharp tools.

3.17 WEEDING

- A. All planted areas shall be kept free from weeds and undesirable grasses until final acceptance by the Owner. See General notes on plans for additional information.

3.18 INSECT AND DISEASE CONTROL

- A. All plant materials shall be disease or insect free upon arrival to the site, however, should any plants show signs of insect or disease infestations, Contractor shall identify nature of infestation and submit to Landscape Architect a proposed method of control. Contractor shall treat all infested plants at its expense. Should the infestation be wide spread and uncontrollable, plants affected shall be removed from site, fresh plants brought in and all other plants treated to prevent infestation of remaining plants at Contractor's expense.

3.19 CLEAN UP

- A. Contractor is responsible for removing all trash, debris, rubbish and all other materials associated with the construction from site on a daily basis. All tags, flags, and labels will be removed from plants and trees. The site shall be left broom clean and tidy. Clean up of the site is a prerequisite to final acceptance by the Owner.

PART 4 - MAINTENANCE AND WARRANTY

4.1 MAINTENANCE

- A. Protect all plantings (grass, plants and trees) until accepted by Owner. All damage, regardless of cause, shall be immediately repaired and plants replaced if necessary. Erect temporary fences, barricades, signs and other protection as needed to prevent trampling. Contractor is not responsible for replacement of damaged or missing plants and plant materials due to vandalism or other acts beyond the control of the Contractor if proper barriers or other safeguards have been maintained.

- B. Maintenance shall include but is not limited to watering, weeding, cultivating, removal of dead material, mulch reapplication, resetting plants to proper grades or upright position, lawn mowing, fertilizing, and other necessary operations.

- C. The Contractor shall repair immediately any areas damaged as a result of construction operations or erosion.

- E. The Contractor shall maintain all proposed plantings until final acceptance is issued by the Owner.</li

GRASSING SPECIFICATIONS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Seeding, planting grass, and fertilizing graded areas around buildings, structures, soccer fields and sidewalk shoulders and other disturbed areas.
- B. Seed protection.
- C. Maintaining grassed areas until final acceptance.

1.2 RELATED WORK

- A. Civil and landscape plans and specifications.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver grass seed in original containers showing analysis of seed mixture, percentage of pure seed, year of production, net weight, date of packaging, and location of packaging. Damaged packages are not acceptable. Store in cool, dry locations away from contaminants.
- B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer. Damaged bags are not acceptable. Store in cool, dry locations away from contaminants.
- C. Deliver sod on pallets.
- D. All material shall be acceptable to Engineer prior to use.

1.4 PLANTING DATES

- A. This specification provides for establishment of a permanent grass cover between the dates of March 1 and September 30. If finished earth grades are not completed in time to permit planting and establishment of permanent grass during the favorable season between dates specified above unless otherwise accepted, Contractor will be required to plant a temporary cover to protect new graded areas from erosion and to keep windborne dust to a minimum. The temporary cover shall be planted between October 1 and February 28 unless otherwise permitted.

1.5 MEASUREMENT AND PAYMENT

- A. When the season or stage of project is such results of grassing work cannot be determined, conditional acceptance will be made on work completed. When conditional acceptance is made for items of work covered, Contractor shall be entitled to 50% of bid price for the actual work placed and shall receive remaining 50% of bid price when final acceptance is made. Conditional acceptance shall not apply to the remaining items of work, and full bid price payment shall be made when work is acceptably placed and completed in accordance with specifications.
- B. Payment for grassing will be made at contract unit price for the item "Grassing", and such payment shall constitute full compensation for furnishing and placing seed and fertilizer or sod where directed and protecting and maintaining seed and sod in all graded and disturbed areas.

PART 2 - PRODUCTS

Contractor shall submit source and species certification documents to Engineer and Owner's Representative for review prior to installation. Supply complete information on all analysis / test methodologies and results; laboratory certifications, manufacturer's specifications, and agency approvals to the Landscape Architect prior to placement of soil mixes. In addition, provide the Landscape Architect with thoroughly mixed sample of soil mixes for approval prior to placement. Landscape Contractor shall make modifications and improvements to soil mixes deemed necessary by the soil analysis to meet requirements specified here in before, and to ensure proper growing medium for plant material.

2.1 SEED

- A. All seed shall conform to all State Laws and to all requirements and regulations of the State Department of Agriculture.
- B. The varieties of seed, as specified in Section 2.2, shall be individually packaged or bagged, and tagged to show name of seed, net weight, origin, germination, lot number, and other information required by the State Department of Agriculture.
- C. The Engineer reserves the right to test, reject, or accept all seed before seeding.

2.2 SEEDING SCHEDULE

| A. <u>SEED</u> <u>DATES</u> | B. <u>RATE</u> | C. <u>PLANTING</u> |
|--------------------------------|----------------|-------------------------|
| Tall Fescue 30 | 200 lbs/ acre | March 1 - September |
| Annual Rye (Temp only) | 75 lbs/acre | October 1 - February 28 |

2.3 FERTILIZER

- A. Commercial fertilizer of approved type, conforming to state fertilizer laws at the rate as recommended by soils test.

2.4 LIME

- A. Agricultural grade, ground limestone at the rate as recommended by soils test.

2.5 SPRIG

- A. Healthy living stems, stolons, or rhizomes and attached roots of locally adapted grass without adhering soil, including two to three nodes and from 4 to 6 inches long. Obtain from heavy, dense certified sod. Provide sprigs which have been grown under climatic conditions similar to those in the locality of the project. Coordinate harvesting and planting operations to prevent exposure of sprigs to the sun for more than 30 minutes before covering and moistening. Sprigs showing signs of wilt, mold, containing weeds or other detrimental material or that are heat damaged will be rejected.
- B. The varieties of sprig, as specified in section 2.6, shall be individually packaged or bagged, and tagged to show name of sprig, net weight, origin and other information required by the State Department of Agriculture.

- C. Sprigs shall be pure to variety specified and shall be free of other grass species, weeds or foreign matter.
- D. Sprigs shall be harvested by digging (not collected above soil level) shredding sod, by rototilling sod and raking, by vericutting or by a sprig harvester. Sprigs shall consist of mostly rhizomes and crowns with only a few green leaves.

2.6 SPRIGGING SCHEDULE

| A. <u>SPRIG</u> | B. <u>RATE</u> | C. <u>PLANTING DATES</u> |
|---|---|--------------------------|
| Tall Fescue (or approved equal) | 1,000 bushels / ac. (Coverage in 3 months) | April 1 - August 31 |
| Stabilize site with temporary grass seed (See section 2.2) | | September 1 - March 31 |

2.7 SOD

- A. Sod shall be premium grade, densely rooted, good quality grass of the species and certified variety as shown on the plans, free from noxious weeds with no surface soil being visible. The sod shall be obtained from areas where the soil is reasonably fertile. Sod of specified species with not less than 95 percent germination, not less than 85 percent pure seed, and not more than 0.5 percent weed seed. The sod shall be machine cut to a uniform soil thickness that shall contain practically all of the dense root system and not be less than 1-inch thick.
- B. Before cutting, sod shall be mowed to a height of not less than 1-1/2" or more than 2". Sod shall be cut in uniform widths min. 12" and in lengths min. 24 inches.
- C. Sod shall be delivered to site in a fresh, moist condition with healthy green foliage. It shall be unloaded from delivery trucks on pallets or rolls and placed in final position within 24 hours of delivery. Sod shall be protected from wind and sun and shall not be allowed to dry out before planting.
- D. Sod shall be strong enough to support its own weight and retain its size and shape when suspended vertically from a firm grasp on the upper 10 percent of the section.

2.8 ACCESSORIES

- A. Straw Mulch: Oat or wheat straw, reasonably free from weeds, foreign matter detrimental to plant life, and in dry condition.
- B. Excelsior Mulch: Excelsior mulch shall consist of wood fibers cut from sound, green timber. The average length of fibers shall be 4 to 6 inches. Cut shall be made in such a manner as to provide maximum strength of fiber, but at a slight angle to natural grain of the wood to cause splintering of fibers when weathering in order to provide adherence to each other and to soil.
- C. Wood cellulose fiber shall be made from wood chip particles manufactured particularly for discharging uniformly on the ground surface when dispersed by a hydraulic water sprayer. It shall remain in uniform suspension in water under agitation and blend with grass seed and fertilizer to form a homogenous slurry. Mulch fibers shall intertwine physically to form a strong moisture holding mat on the ground surface and allow rainfall to percolate into underlying soil. The mulch shall be heat processed to contain no germination or growth-inhibiting factors. It shall be dyed (non-toxic) an appropriate color to facilitate metering of material.

2.9 PRODUCT REVIEW

- A. Contractor shall provide the Engineer with a complete description of all products before ordering. The Engineer will review all products before they are ordered.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Areas to be seeded or sprigged shall be made smooth and uniform and shall conform to the finished grade indicated on plans.
- B. Remove foreign materials, plants, roots, stones, and debris from surfaces to be seeded.
- C. Grassing areas, if not loose, shall be loosened to a minimum depth of 3 inches before fertilizer, seed, sprig or sod is applied.
- D. Amendments to soils shall be incorporated into loosened 3 inch top soil layer as recommended by soils test.

3.2 STAND OF GRASS

- A. Before acceptance of seeding or sprigging is performed for the establishment of permanent vegetation, Contractor will be required to produce a satisfactory stand of perennial grass whose root system shall be developed sufficiently to survive dry periods and winter weather and be capable of re-establishment in spring.
- B. Before acceptance of seeding performed for the establishment of temporary vegetation, Contractor will be required to produce a stand of grass sufficient to control erosion for a given area and length of time before the next phase of construction or establishment of permanent vegetation is to commence.

3.3 SEEDING AND SPRIGGING DATES

- A. Seeding and sprigging shall be performed during periods and at rates specified in their respective schedules. Seeding and sprigging work may, at discretion of Contractor, be performed throughout the year using schedule prescribed for given period. Seeding and sprigging work shall not be conducted when the ground is frozen or excessively wet. Contractor will be required to produce a satisfactory stand of grass regardless of the period of year work is performed.

3.4 APPLYING LIME AND FERTILIZER

- A. Following advance preparation and placing selected material for shoulders and slopes, lime and fertilizer, if called for based on soil tests, shall be spread uniformly over the designated areas, and shall be thoroughly mixed with the soil to a depth of approximately 2 inches. Fertilizer and lime shall be applied at the rate of the rate recommended by required soils test. Unless otherwise provided, lime will not be applied for temporary seeding. In all cases where practicable, acceptable mechanical spreader shall be used for spreading fertilizer. On steep slopes subject to slides and inaccessible to power equipment, the slopes shall be adequately scarified. Fertilizer may be applied on steep slopes by hydraulic methods as a mixture of fertilizer and seed. When fertilizer is applied with combination seed and fertilizer drills, no further incorporation will be necessary. The fertilizer and seed shall be applied together when Wood Cellulose Fiber Mulch is used. Any stones larger than 2 1/2 inches in any dimension, larger clods, roots, or other debris brought to the surface shall be removed.

3.5 SEEDING

- A. Seed shall be sown within 24 hours following application of fertilizer and lime and preparation of the seedbed as specified in Section 3.4. Seed shall be uniformly sown at rate specified by the use of acceptable mechanical seed drills. Rotary hand seeders, power sprayers or other satisfactory equipment may be used on steep slopes or on other areas inaccessible to seed drills.
- B. Seeds shall be covered and lightly compacted by means of cultipacker or light roller if the drill does not perform this operation. On slopes inaccessible to compaction equipment, the seed shall be covered by dragging spiked chains, by light harrowing or by other satisfactory methods.

3.6 SEED PROTECTION (STRAW MULCH)

- A. All seeded areas seeded with permanent grasses shall be uniformly mulched in a continuous blanket immediately following seeding and compacting operations, using at least 2 tons of straw per acre.
- B. Seed shall be sown as specified in Section 3.5. Within 24 hours after covering of seed, excelsior mulch shall be uniformly applied at the rate of 2 tons per acre. The mulch may be applied hydraulically or by other acceptable methods. Should the mulch be placed in a dry condition, it shall be thoroughly wetted immediately after placing. Engineer may require light rolling of the mulch to form a light mat.

3.7 SEED PROTECTION (EXCELSIOR MULCH)

- A. Seed shall be sown as specified in Section 3.5. Within 24 hours after covering of seed, excelsior mulch shall be uniformly applied at the rate of 2 tons per acre. The mulch may be applied hydraulically or by other acceptable methods. Should the mulch be placed in a dry condition, it shall be thoroughly wetted immediately after placing. Engineer may require light rolling of the mulch to form a light mat.

3.8 SEED PROTECTION (WOOD CELLULOSE FIBER MULCH)

- A. After the lime has been applied and ground prepared as specified in Section 3.4, wood cellulose fiber mulch shall be applied at a rate of 1,500 pounds per acre in a mixture of seed and fertilizer. Hydraulic equipment shall be used for application of fertilizer, seed, and slurry of the prepared wood pulp. This equipment shall have a built-in agitation system with an operating capacity sufficient to agitate, suspend, and homogeneously mix a slurry of the specified amount of fiber, fertilizer, seed, and water. The slurry distribution lines shall be large enough to prevent stoppage. The discharge line shall be equipped with a set of hydraulic spray nozzles which will provide an even distribution of slurry on various areas to be seeded. The slurry tank shall have a minimum capacity of 1,000 gallons.

Seed, fertilizer, wood pulp mulch, and water shall all be combined into the slurry tank for distribution of all ingredients in one operation by hydraulic seeding method specified herein. Materials shall be combined in a manner recommended by the manufacturer. The slurry mixture shall be regulated so amount and rates of application shall result in a uniform application of all materials at rates not less than amount specified. Using the color of wood pulp as a guide, equipment operator shall spray prepared seedbed with a uniform visible coat. The slurry shall be applied in a sweeping motion, in an arched stream to fall like rain, allowing wood fibers to build upon each other until an even coat is achieved.

3.9 SPRIGGING

- A. Sprigs shall be placed at the date and rates as shown in section 2.6. The sprigging method shall be by broadcast sprigging, hydroplanting or row planter. Sprigging procedure shall ensure even coverage.
- B. Sprigs applied by broadcast over the site with a distributor or hydroseeder shall be planted at the rates listed in section 2.6. Cover broadcast sprigs with straw mulch immediately after broadcast and water in immediately (within 2 hours).

- C. Sprigs installed by row planter creating a narrow furrow that covers 50 to 80% of the sprig with soil may use less sprig material. Rate shall be as recommended by sprig supplier to provide a solid stand of turf within the time required in Section 2.6. Water in immediately (within 1 hour).

3.10 SODDING

- A. Sod shall be placed between March 1st and December 1st. However, if sod is to be placed during periods of temperatures over 90 degrees F., the contractor shall take extra care for quick placement of sod with adequate, consistent watering necessary to ensure sod thrives as planted.
- B. Sod shall be placed within 24 hours of cutting.
- C. Place top elevation of sod 1/2 inch below adjoining paving or curbs.

- D. All areas to be sodded shall be brought to the proper line grade or cross section as was existing prior to construction. Sod shall be placed so that, upon completion, the edges of the sodded areas will be smooth and will conform to the proposed finished grade. Sod shall be immediately pressed firmly into contact with the sod bed by tamping or rolling, to eliminate any air pockets. A true and even surface shall be provided, to insure knitting without displacement of the sod or deformation of the surfaces of the sodded areas. Do not stretch or overlap sod pieces. Following compaction, screened soil of good quality shall be used to fill all cracks, and excess soil shall be worked into the grass with rakes or other suitable equipment. On slopes steeper than 4 to 1, the sod shall be fastened in place with suitable wood or metal pins to hold the sod in place. Any damage by erosion or other causes that may have occurred after completion of grading operations shall be repaired, before commencing with the sodding operations.

- E. Immediately before sodding, moisten topsoil with a fine spray to a minimum 1" depth. Sod shall not be laid on soil that is dry and powdery.

- F. Sod shall be moist when laid and placed on moist ground. The sod shall be carefully placed by hand, beginning at the toe of slopes and working upwards. The length of the strips shall be at right angles to the flow of surface water. All joints shall be tightly butted and end joints shall be staggered at least 12 inches. The sod shall be immediately pressed firmly into the ground by tamping or rolling. Fill all joints between strips with fine screened soil. Sod on slopes shall be pegged with sod pegs to prevent movement. The sod shall be watered, mowed, weeded, repaired, or otherwise maintained, to insure the establishment of a uniform healthy stand of grass until acceptance.

- G. Within 2 hours after sod has been placed, thoroughly water to a minimum depth of 4". After sod and soil have dried, roll sodded areas to ensure good bond between sod and soil and to remove depressions and irregularities. Roll sodded areas with a roller not exceeding 150 lbs. per foot of roller width. Top dress and roll again as necessary to create a smooth even surface.

PART 4 - MAINTENANCE, WARRANTY AND ACCEPTANCE

4.1 MAINTENANCE

- A. Maintenance shall consist of providing protection against traffic, watering to ensure uniform seed germination and to keep surface of soil damp, and repairing any areas damaged as a result of construction operations or erosion. Maintenance shall also include, but is not limited to, watering, weeding, cultivating, removal of dead material, lawn mowing, fertilizing, and other necessary operations.
- B. The Contractor shall maintain all proposed plantings until the date of final acceptance by the Owner.

4.2 WARRANTY

- A. All grassed areas shall be guaranteed by the Contractor to be alive and healthy for a one year period from the date of substantial completion issued by the Owner. A final inspection with the Owner shall be conducted at the end of the warranty period to determine if any areas require replanting. At the end of the warranty period, the sod shall show evidence of rooting to the underlying soil and shall have no competitive weed growth from either the sod or from between the sod joints.
- B. Any grassed area which is dead or not showing satisfactory growth shall be replaced at Contractor's expense at the end of warranty period. All replacements shall be of original quality and of a size equal to adjacent plants or trees of the same kind. Replacements required because of vandalism, excessive use or other causes beyond the control of the Contractor are not part of this contract.

4.3 ACCEPTANCE

- A. Before acceptance of seeding performed for the establishment of permanent vegetation, Contractor will be required to produce a satisfactory stand of perennial grass whose root system shall be developed sufficiently to survive dry periods and winter weather and be capable of re-establishment in spring.
- B. A minimum coverage of 80% density over 100% of the disturbed area is required for seeded areas before project acceptance. Sprig and sod areas shall have 95% coverage over 100% of the disturbed area prior project acceptance.

END OF SECTION



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GRASSING SPECIFICATIONS