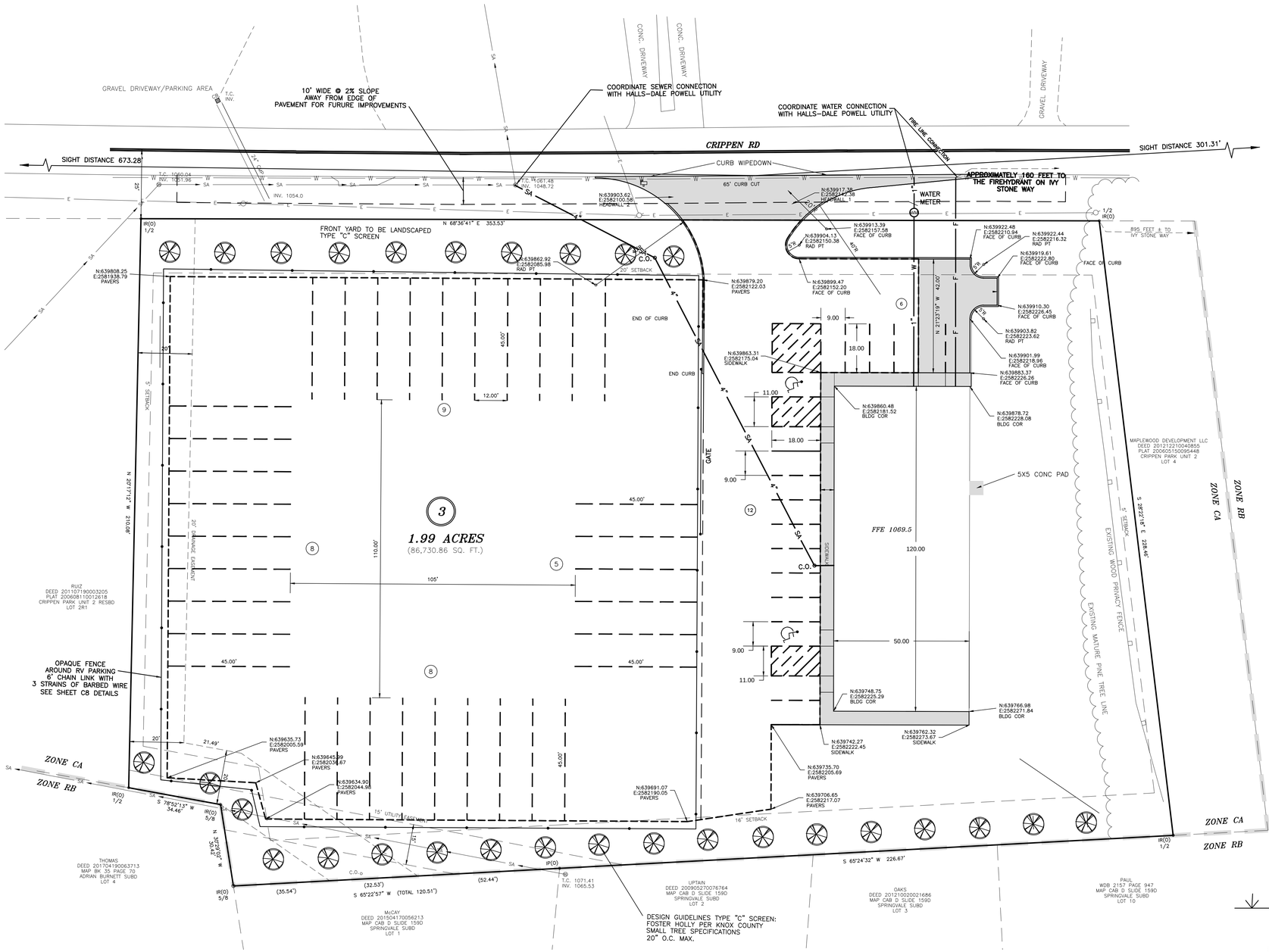




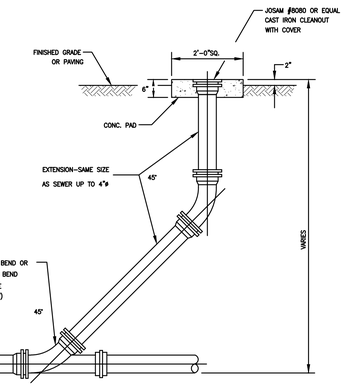
0 20 40 60

SCALE: 1 INCH = 20 FEET

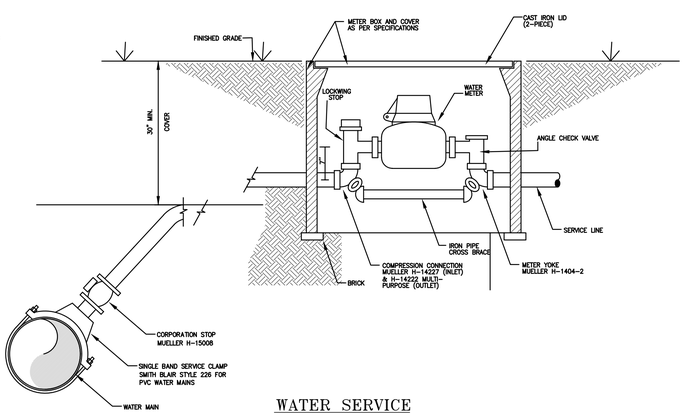
## GENERAL NOTES

1. ALL COORDINATES AND ELEVATIONS BASED ON SURVEY BY ROMANS ENGINEERING.
2. LOCATION OF EXISTING ABOVE GROUND AND UNDERGROUND UTILITIES AND STRUCTURES INDICATED ARE APPROXIMATE ONLY, AND THOSE SHOWN MAY NOT BE ALL THAT EXIST ON THE PROJECT SITE. CONTRACTOR SHALL DETERMINE ACTUAL LOCATION OF ALL UTILITIES AND STRUCTURES ON THE PROJECT SITE AND SHALL ASSUME RESPONSIBILITY FOR ANY DAMAGE TO UTILITY LINES DURING WORK ON THE PROJECT. FOR UNDERGROUND UTILITY LOCATION CALL TENNESSEE ONE CALL AT 811.
3. ALL COORDINATES AND DIMENSIONS TO EDGE OF PAVEMENT, FACE OF CURB OR FACE OF BUILDING UNLESS OTHERWISE NOTED.
4. TOTAL DISTURBED AREA = 1.62 ACRES (INCLUDES RE-GRADING DITCH IN R.O.W.)

PERVIOUS SURFACE (GRASS) = 0.32 ACRES (20%)
IMPERVIOUS SURFACE = 0.18 ACRES (11%)
PERVIOUS PAVERS SURFACE = 1.12 ACRES (69%)




CLEANOUT




WATER SERVICE

ROMANS Engineering
1923 Hopewell Road Knoxville, TN 37920
Phone (865) 679-5736 romansengineering@gmail.com

WOOD BROS
CRIPPEN ROAD
KNOXVILLE, TENNESSEE

SITE LAYOUT / LANDSCAPE PLAN

| NUMBER: | REVISIONS: | DATE: |
|---|---|---|
| 1 | REVISED RV PARKING | 1/28/19 |

TERRY E. ROMANS REGISTERED ENGINEER AGRICULTURE No. 104485 STATE OF TENNESSEE 4/20/19

| | |
|---|---|
| JOB NO: | 18-127-1 |
| DATE: | 4/20/19 |
| DRAWN: | TER |
| CHECKED: | TER |

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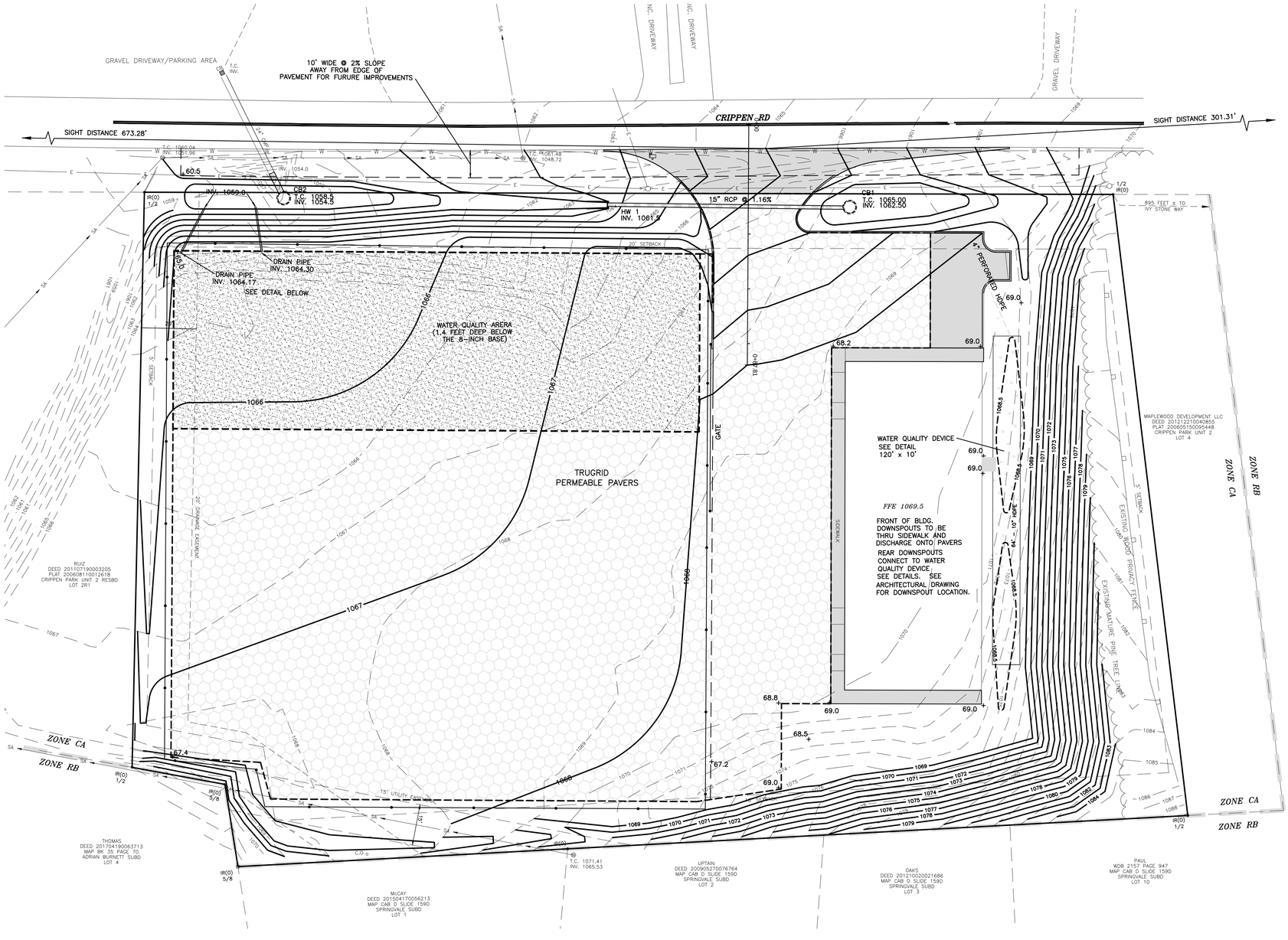


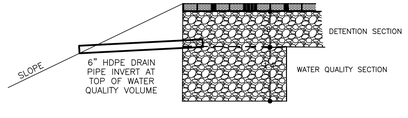


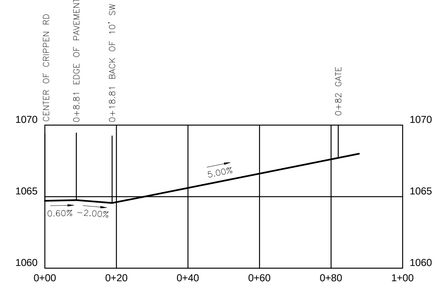


ADEQUATE DRAINAGE, EROSION AND SEDIMENT CONTROL MEASURES, BEST MANAGEMENT PRACTICES, AND/OR OTHER WATER QUALITY MANAGEMENT FACILITIES SHALL BE PROVIDED AND MAINTAINED AT ALL TIMES DURING CONSTRUCTION. DAMAGES TO ADJACENT PROPERTY AND/OR THE CONSTRUCTION SITE CAUSED BY THE CONTRACTOR'S OR PROPERTY OWNER'S FAILURE TO PROVIDE AND MAINTAIN ADEQUATE DRAINAGE AND EROSION/SEDIMENT CONTROL FOR THE CONSTRUCTION AREA SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.


## GENERAL NOTES

1. ALL ELEVATIONS BASED ON SURVEY BY ROMANS ENGINEERING. THE PROPOSED CONTOURS SHOWN ON THE PLANS REPRESENT FINISH GRADE ELEVATION. CONTRACTOR SHALL DETERMINE SUBGRADE ELEVATIONS BY EXAMINING TYPICAL PAVEMENT SECTIONS AND STRUCTURAL DRAWINGS.

2. LOCATION OF EXISTING ABOVE GROUND AND UNDERGROUND UTILITIES AND STRUCTURES INDICATED ARE APPROXIMATE ONLY, AND THOSE SHOWN MAY NOT BE ALL THAT EXIST ON THE PROJECT SITE. CONTRACTOR SHALL DETERMINE ACTUAL LOCATION OF ALL UTILITIES AND STRUCTURES ON THE PROJECT SITE AND SHALL ASSUME RESPONSIBILITY FOR ANY DAMAGE TO UTILITY LINES DURING WORK ON THE PROJECT. FOR UNDERGROUND UTILITY LOCATION CALL TENNESSEE ONE CALL AT 811.

3. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND INSPECTED BEFORE GRADING OPERATIONS MAY BEGIN.

4. SITE CLEARING SHALL BE KEPT TO THE MINIMUM NECESSARY TO INSTALL SILT FENCE, CHECK DAMS AND CONSTRUCTION ENTRANCE. GENERAL SITE CLEARING MAY BEGIN ONLY AFTER THESE MEASURES HAVE BEEN INSTALLED.

5. CONTRACTOR IS ENCOURAGED TO MULCH ANY TREES THAT ARE TO BE REMOVED AND USE MULCH TO SUPPLEMENT TEMPORARY SILT FENCE. MULCH SHALL BE A MINIMUM 3' HIGH WITH A MINIMUM BASE WIDTH OF 6'. ALL MULCH SHALL BE REMOVED ONCE SITE IS STABILIZED. GRASS SHALL BE ESTABLISHED WHERE SILT FENCE AND MULCH HAVE BEEN REMOVED.

6. CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING ALL EROSION PREVENTION AND SEDIMENT CONTROL DEVICES SHOWN ON THE PLANS AND DESCRIBED IN THE ASSOCIATED STORM WATER POLLUTION PREVENTION PLAN.

7. ALL NEWLY GRADED EARTHEN AREAS THAT ARE NOT TO BE PAVED SHALL HAVE A MINIMUM OF 3 INCHES OF TOPSOIL PLACED OVER THEM AND SHALL BE SEEDED AS SPECIFIED.

8. ALL GRADING PRACTICES SHALL CONFORM TO THE TENNESSEE EROSION AND SEDIMENT CONTROL HANDBOOK AND ANY OTHER PROCEDURES REQUIRED BY THE SEVIER COUNTY STORMWATER DEPARTMENT.

9. NO SLOPES SHALL EXCEED 2:1. SLOPES LESS THAN 3:1 SHALL RECEIVE MATTING.

10. APPLY TEMPORARY SEEDING WHEN GRADING OPERATIONS ARE CEASED MORE THAN 14 DAYS AND ON ALL STOCKPILES.

11. PERMANENT SEEDING IS REQUIRED WHEN GRADING OPERATIONS ARE COMPLETE.

## EROSION AND SEDIMENT CONTROL NOTES

1. CONSTRUCTION MUST BE SEQUENCED TO MINIMIZE EXPOSURE TIME OF GRADED OR DENUDED AREAS.

2. EROSION PREVENTION AND SEDIMENT CONTROL MEASURES MUST BE IN PLACE (WHERE NEEDED) AND FUNCTIONAL BEFORE THE DAY'S WORK MAY BEGIN AND MUST BE CONSTRUCTED AND MAINTAINED WHILE WORK IS PROGRESSING UPSTREAM. TEMPORARY MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORK DAY, BUT MUST BE REPLACED AT THE END OF THE WORK DAY.

3. PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED MORE THAN 15 DAYS PRIOR TO WORK IN THAT AREA UNLESS THE AREA IS SEEDED AND/OR MULCHED OR OTHER TEMPORARY COVER INSTALLED.

4. CLEARING AND GRUBBING MUST BE HELD TO THE MINIMUM AREA NECESSARY FOR INSTALLATION AND EQUIPMENT OPERATION. EXISTING VEGETATION AT THE WORK AREA SHOULD BE PRESERVED TO THE MAXIMUM EXTENT PRACTICABLE.

5. LITTER, CONSTRUCTION DEBRIS AND CONSTRUCTION CHEMICALS EXPOSED TO STORM WATER SHALL BE PICKED UP PRIOR TO ANTICIPATED STORM EVENTS OR BEFORE BEING CARRIED OFF SITE BY WIND, OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

6. AFTER USE, MATERIALS USED FOR EROSION PREVENTION AND SEDIMENT CONTROL (SUCH AS SILT FENCE) SHOULD BE REMOVED OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

7. SEDIMENT SHOULD BE REMOVED FROM SEDIMENT TRAPS, SILT FENCES, SEDIMENTATION PONDS, AND OTHER SEDIMENT CONTROLS ONCE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.

8. IF SEDIMENT ESCAPES THE PERMITTED AREA, OFF SITE ACCUMULATIONS THAT HAVE NOT REACHED A STREAM MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF SITE IMPACTS. PERMITTEES SHALL NOT INITIATE REMEDIATION/ RESTORATION OF A STREAM WITHOUT CONSULTING TDEC FIRST. THIS PERMIT DOES NOT AUTHORIZE ACCESS TO PRIVATE PROPERTY. ARRANGEMENTS CONCERNING REMOVAL OF SEDIMENT ON ADJOINING PROPERTY MUST BE SETTLED BY THE PERMITTEE WITH THE ADJOINING PROPERTY OWNER.

9. PERMITTEES SHALL MAINTAIN A RAIN GUAGE AND RECORD DAILY RAINFALL AT THE WORK AREA, OR USE REFERENCE SITE FOR RECORD OF DAILY RAINFALL AMOUNTS.

10. THE FOLLOWING RECORDS MUST BE KEPT AT OR NEAR THE WORK AREA:

    A. THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR.
    B. THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE.
    C. THE DATES WHEN STABILIZATION MEASURES ARE INITIATED.
    D. INSPECTION RECORDS.
    E. RAINFALL RECORDS.

11. THE CONTRACTOR SHALL FOLLOW THE KNOX COUNTY STORM WATER MANAGEMENT ORDINANCE AND, IF APPLICABLE, THE STATE OF TENNESSEE GENERAL PERMIT. THE MORE STRICT INTERPRETATION SHALL APPLY.

12. EROSION PREVENTION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES SHALL FOLLOW APPROVED PLAN DETAILS AND THE TENNESSEE EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.

13. EROSION PREVENTION AND SEDIMENT CONTROL AND OTHER MEASURES FOR THE CONTROL OF OTHER CONSTRUCTION RELATED WASTES SHALL BE IN PLACE AND FUNCTIONAL BEFORE A GRADING PERMIT IS ISSUED.

ROMANS Engineering
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Phone (865) 679-5736 romansengineering@gmail.com

WOOD BROS
CRIPPEN ROAD
KNOXVILLE, TENNESSEE

GRADING PLAN

| NUMBER: | REVISIONS: | DATE: |
|---|---|---|
| 1 | REVISED GRADING AND RV PARKING | 1/28/19 |

TERRY E. ROMANS
REGISTERED ENGINEER
AGRICULTURE
No. 104469
CERTIFICATE
STATE OF TENNESSEE
4/20/19

JOB NO: 18-127-1
DATE: 4/20/19
DRAWN: TER
CHECKED: TER

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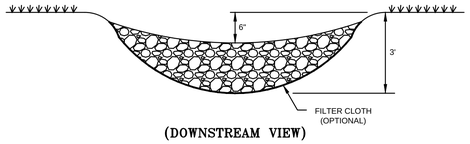
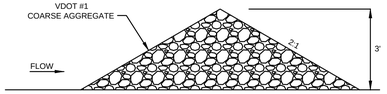
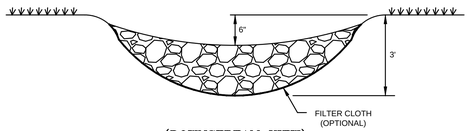
## 2 ACRES OR LESS OF DRAINAGE AREA:




(DOWNSTREAM VIEW)




## 2-10 ACRES OF DRAINAGE AREA:

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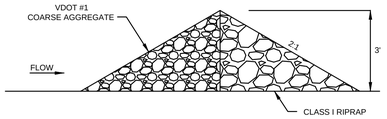
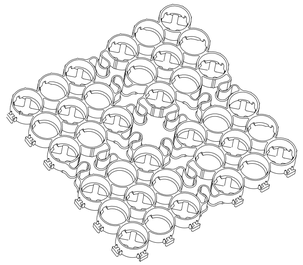
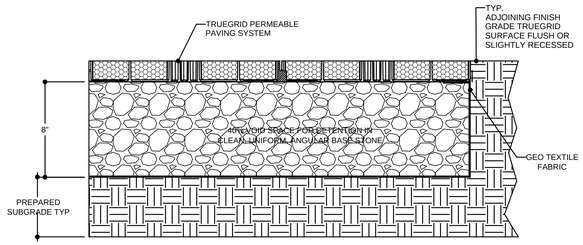


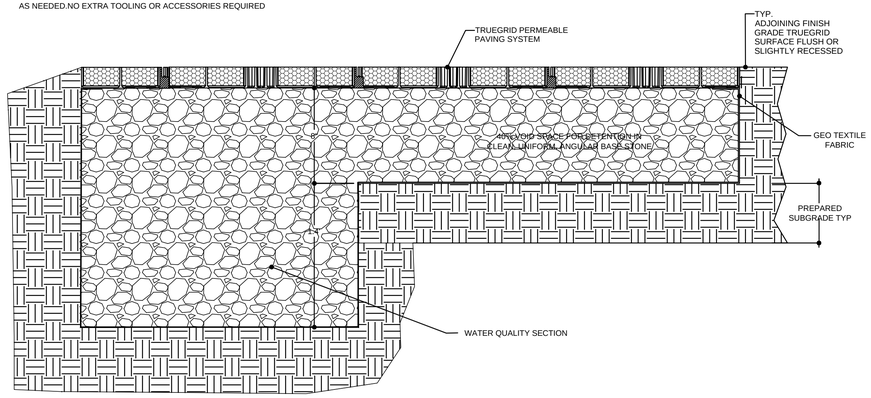

3 NTS — ROCK CHECK DAM (CD)



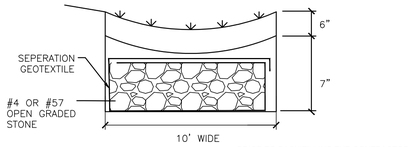
TRUEGRID BLOCK REFERENCE VIEW

PREASSEMBLED & DELIVERED IN 4' X 4' SHEET. RECONFIGURED AS NEEDED.NO EXTRA TOOLING OR ACCESSORIES REQUIRED




4 NTS — PERMEABLE PAVERS — TRUEGRID® True to your project. True to the environment.




PRIOR TO BACKFILLING THE CONTRACTOR SHALL CONTACT KNOX COUNTY ENGINEERING TO INSPECT THE GEOTEXTILE FABRIC AND AGGREGATE.

Separation Geotextile

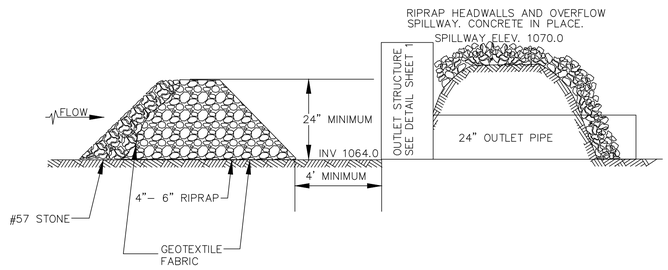
The separation geotextile should consist of a non-woven geotextile fabric, manufactured for separation applications, made from polypropylene staple filaments; with elongation less than 50 percent; complying with AASHTO M 228 and the following, measured per test methods referenced shall be used:

1. Survivability: Class 1; AASHTO M 228.
2. Grab Tensile Strength: 205 lbf (910 N); ASTM D 4632.
3. Elongation at Break: 50%; ASTM D 4632.
4. Mullen Burst: 350 psi (2275 kPa); ASTM D 3786.
5. Puncture Strength: 110 lbf (490 N); ASTM D 4833.
6. Apparent Opening Size: No. 80 (0.180-mm) sieve, maximum; ASTM D 4751.
7. Permittivity: 1.20 Sec (-1), minimum; ASTM D 4491.
8. UV Stability: 70 percent after 500 hours' exposure; ASTM D 4355.

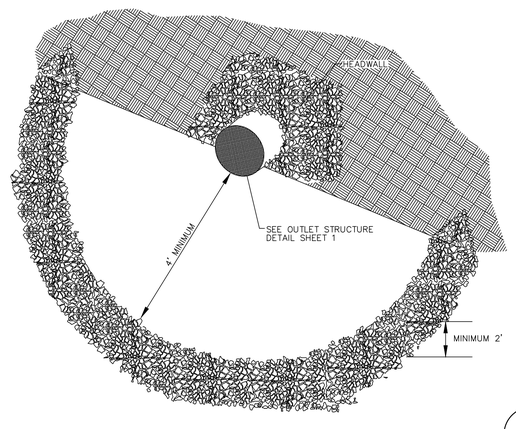
Flow Rate: 80 gal/min/sf (3260 l/min/m); ASTM D 4491 Non-woven geotextile shall be US Fabrics US205NW or equal.

5 NTS — WATER QUALITY DEVICE - REAR OF BUILDING

STONE FILTER RING & OUTLET STRUCTURE




PERSPECTIVE VIEW

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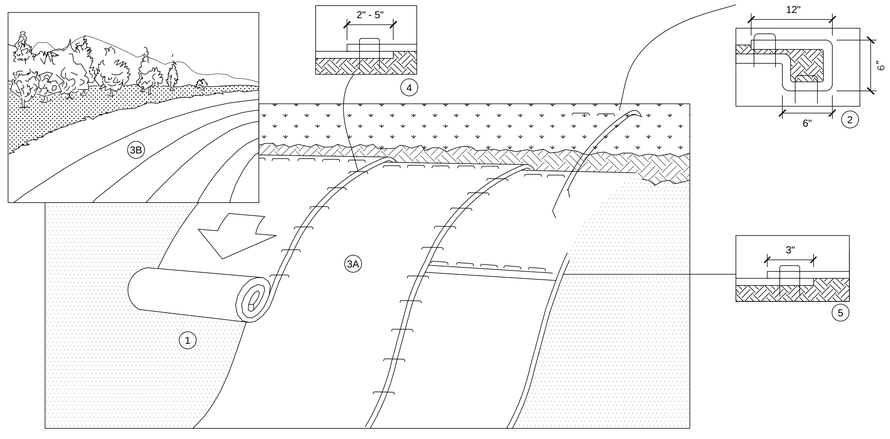
1 NTS — MATTING (MA)




SLOPE INSTALLATION NOTES

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.APPLY SEED TO THE COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A) DOWN OF (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS RECOMMENDED BY THE MANUFACTURER.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" OVERLAP DEPENDING ON BLANKET TYPE.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.
6. IN LOOSE SOIL CONDITIONS THE USE OF STAPLE OR STAKE LENGTH GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE BLANKETS.

2 NTS — STONE FILTER RING AT OUTLET STRUCTURE

ROMANS Engineering
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Phone (865) 679-5736 romansengineering@gmail.com

WOOD BROS
CRIPPEN ROAD
KNOXVILLE, TENNESSEE

DETAILS

| NUMBER: | REVISIONS: | DATE: |
|---|---|---|
| 1 | ADDED PAVER DETAILS | 1/28/19 |

TERRY E. ROMAN REGISTERED ENGINEER AGRICULTURE No. 104469 STATE OF TENNESSEE
1/28/19

JOB NO: 18-127-1
DATE: 1/28/19
DRAWN: TER
CHECKED: TER

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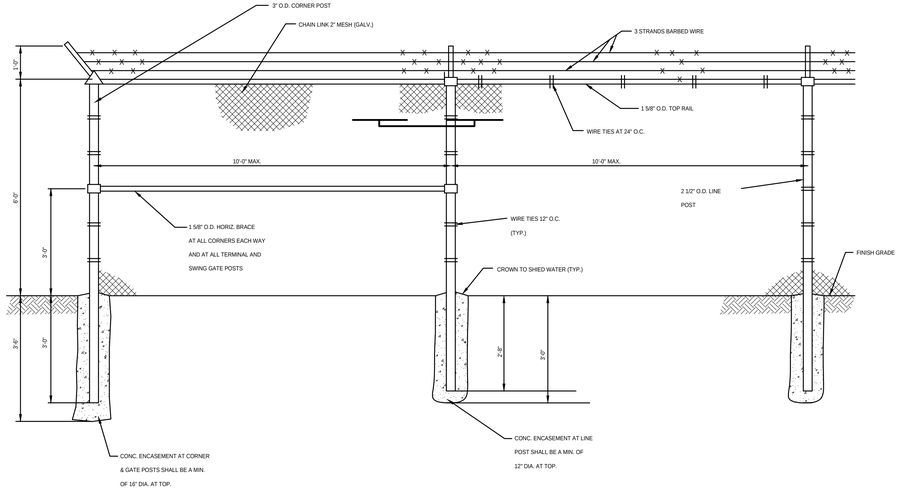
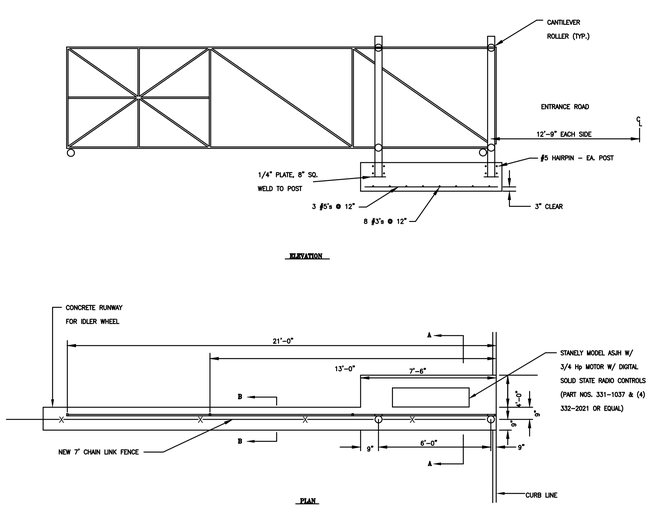



TYPICAL FENCE DETAIL




CANTILEVERED GATE

**W Slat™ with Bottom Lock for Chain Link Fence**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WOOD BROS

WOOD BROS
CRIPPEN ROAD
KNOXVILLE, TENNESSEE

DETAILS

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| 1 | ADDED PAVER DETAILS | 1/28/19 |

TERRY E. ROMAN
REGISTERED ENGINEER
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No. 104469
STATE OF TENNESSEE
4/20/19

JOB NO: 18-127-1
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1 NTS FENCE DETAIL

2 NTS FENCE SCREENING

C-8