

PROJECT SUMMARY:

1. OWNER: NAME
ADDRESS
CITY, STATE, ZIP

DEVELOPER: NAME
ADDRESS
CITY, STATE, ZIP

PROJECT LOCATION: ADDRESS
CITY, STATE, ZIP

2. TAX MAP NUMBER: NUMBER
PARCEL ID: NUMBER

* ALL WORK PROPOSED IN THESE PLANS IS TO BE DONE WITHIN THE ABOVE LISTED TAX PARCEL, EASEMENTS OBTAINED, OR PUBLIC RIGHTS-OF-WAY.

3. LEGAL REFERENCE: DEED: D.B. XXX PG. XXX OR INSTRUMENT NO.
PLAT: D.B. XXX PG. XXX OR INSTRUMENT NO. (IF AVAILABLE)

4. PROJECT DESCRIPTION: EXPLANATION OF WHAT IS BEING PROPOSED. PARKING LOT EXPANSION, NEW CONSTRUCTION, ADDITION, ETC.
(RESIDENTIAL, COMMERCIAL, INDUSTRIAL)
* IF RESIDENTIAL DWELLING UNITS SHOULD BE BROKEN DOWN BY TYPE (I.E. SINGLE-FAMILY UNITS, DUPLEX UNITS, APARTMENT UNITS, TOWNHOUSE UNITS, CONDOMINIUM UNITS)
IF RESIDENTIAL, LIST TOTAL DWELLING UNITS,
IF RESIDENTIAL, LIST DWELLING UNITS PER ACRE.

5. ZONING DISTRICT: ZONING AND ANY PROFFERED CONDITIONS
PERMITTED USE: (TYPE OF USE WITHIN ZONING CODE AND WITHIN THAT ZONING DISTRICT)

SETBACKS:
FRONT= XX' FROM ANY STREET RIGHT-OF-WAY
SIDE= XX'
REAR= XX'
PARKING= 15' FROM RIGHT-OF-WAY

6. NOTE ANY VARIANCE, CONDITIONAL ZONING, OR CONDITIONAL USE PERMIT. INCLUDE DATE ISSUED BY TOWN COUNCIL AND ANY ASSOCIATED PROFFERS, CONDITIONS, OR VARIANCE. ANY APPLICABLE CHANGES TO ZONING DISTRICT STANDARDS SHALL BE NOTED WITHIN APPLICABLE NOTES. INCLUDE APPROVED DOCUMENTS IN PLAN SET, REFERENCE PLAN SHEETS HERE.

7. NOTE LOT AVERAGING, IF APPLICABLE

8. NOTE CLUSTER SUBDIVISION, IF APPLICABLE

9. ZONING/PLANNING AREAS
TOTAL PROJECT/PARCEL AREA: XX,XXX S.F. (XXX AC.)
TOTAL DISTURBED AREA: XX,XXX S.F. (XXX AC.)
TOTAL BUILDING AREA: XXX S.F. (FOOTPRINT)
TOTAL NUMBER OF BUILDINGS: XX
BUILDING HEIGHT: XX
LOT COVERAGE (% IMP): XX,XXX S.F. (XX.X%)

10. GREENSPACE AND LANDSCAPING AREAS

TOTAL AREA: XXX S.F.
IMPERVIOUS SURFACE AREA: XXX S.F.
GREENSPACE REQUIRED: XXX S.F.
GREENSPACE PROVIDED: XXX S.F.
LANDSCAPING REQUIRED: XXX S.F.
LANDSCAPING PROVIDED: XXX S.F.

TREES REQUIRED: X TREES (MIN. 6 FEET TALL)
TREES PROVIDED: X TREES (MIN. 6 FEET TALL)

11. INTERIOR PARKING LOT GREENSPACE AND TREE REQUIREMENTS

PARKING GREENSPACE REQUIRED: XXX S.F. (40 SF PER PARKING SPACE)
PARKING GREENSPACE PROVIDED: XXX S.F.
TREES REQUIRED: X TREES (1 PER 10 SPACES, MIN. 6 FEET TALL)
TREES PROVIDED: X TREES (MIN. 6 FEET TALL)

12. PARKING TABULATIONS
PARKING SPACES REQUIRED: X SPACES (MIN. 4 INCH STRIPING)
PARKING SPACES PROVIDED: X SPACES
ACCESSIBLE SPACES REQUIRED: X SPACES
ACCESSIBLE SPACES PROVIDED: X SPACES

13. FRONTAGE REQUIREMENT OF ZONING: XXX LF

14. LOT AREA REQUIREMENT OF ZONING: XXX S.F.

15. STATEMENT OF WHETHER ANY EASEMENTS ARE PRESENT ON PROPERTY.

16. THE TOPOGRAPHY, AS DEPICTED HEREON, IS THE RESULT OF AN ACTUAL FIELD SURVEY CONDUCTED BY XXXXXXXXXXXX ON
XX/XX/XX.
-OR-

BOUNDARY INFORMATION AS SHOWN HEREON IS FOR INFORMATIONAL PURPOSES ONLY. NO BOUNDARY SURVEY WAS PERFORMED AS A PART OF THIS PROJECT.

17. NO GRAVES, STRUCTURES, OR OBJECTS MARKING A PLACE OF HUMAN BURIAL WERE FOUND AT TIME OF SURVEY. *DELETE NOTE IF A SURVEY WAS NOT COMPLETED.*

18. THE SUBJECT PROPERTY DOES NOT LIE WITHIN A F.E.M.A. DESIGNATED 100-YEAR FLOOD HAZARD ZONE. THE SUBJECT PROPERTY DOES NOT LIE WITHIN A "DEVELOPED ZONE" OR "OTHER AREAS" AS DEFINED BY F.E.M.A. & AS SHOWN ON F.I.R.M. MAP NO. 5111001309, EFFECTIVE DATE OF SEPTEMBER 26, 2007. THIS DETERMINATION HAS BEEN MADE BY GRAPHIC METHODS ONLY. NO ELEVATION STUDY HAS BEEN PERFORMED AS A PART OF THIS PROJECT.
CONSULT SURVEY DRAWING

19. DESIGN DAILY WATER CONSUMPTION RATE: XXX GPD
DESIGN DAILY SEWER DISCHARGE RATE: XXX GPD

20. SOLID WASTE COLLECTION :
IF DUMPSTER IS NOT PLANNED, "CURBSIDE GARBAGE COLLECTION IS PLANNED. SHOULD A DUMPSTER BE ADDED, IT SHALL BE SCREENED FROM THE VIEW OF PUBLIC STREETS."
IF CURBSIDE GARBAGE COLLECTION IS NOT PLANNED, PROVIDE HEIGHT AND GATE DIMENSIONS FOR DUMPSTER SCREENING.

21. PROVIDE HEIGHT AND MATERIAL OF ALL RETAINING WALLS AND/OR FENCES. NOTE IF NO RETAINING WALLS/FENCES WILL BE INCLUDED IN THE DEVELOPMENT.

22. ALL QUANTITIES ARE ENGINEER'S ESTIMATES FOR TOWN BONDING PURPOSES ONLY. ALL QUANTITIES SHALL BE CONSIDERED PRELIMINARY UNTIL FINAL SITE PLAN APPROVAL.

23. EARTHWORK QUANTITIES MAY BE BASED ON AN EXISTING TOP OF GRADE TO PROPOSED TOP OF GRADE COMPARISON ONLY AND THIS ARE APPROXIMATE. ACTUAL EARTHWORK REQUIRED WILL VARY BASED ON THE PRESENCE OF UNSUITABLE SOILS, TOPSOIL DEPTH, COMPACTION RATE, BASE STONE DEPTH, UTILITY TRENCH EXCAVATION, AND OTHER ENVIRONMENTAL FACTORS.

24. CONTRACTOR IS RESPONSIBLE FOR CONDUCTING THEIR OWN QUANTITIES TAKEOFF FOR BIDDING PURPOSES.

25. NO CONSTRUCTION/FIELD CHANGES ARE PERMITTED WITHOUT THE APPROVAL OF THE CONSULTING ENGINEER, OWNER, AND THE TOWN. ALL CONSTRUCTION/FIELD CHANGES SHALL BE SUBMITTED TO THE TOWN FOR REVIEW AND APPROVAL PRIOR TO INITIATING ANY WORK IN THE FIELD. A PLAN REVISION MAY BE REQUIRED.

APPROXIMATE EARTHWORK NOTES**GRADING PHASE I/II (MASS GRADING)**

CUT: XXXX C.Y.
FILL: XXXX C.Y. (1.1X COMPACTION RATE),
XXX C.Y. FROM STOCKPILE

NET: XXX C.Y.

GRADING PHASE III (INDIVIDUAL LOT CONSTRUCTION)

CUT: XXXX C.Y.
FILL: XXXX C.Y. (1.1X COMPACTION RATE),
XXX C.Y. FROM STOCKPILE

NET: XXX C.Y.

PROJECT NAME

PROJECT ADDRESS

TOWN OF CHRISTIANSBURG, VA

**SHEET INDEX****VICINITY MAP**

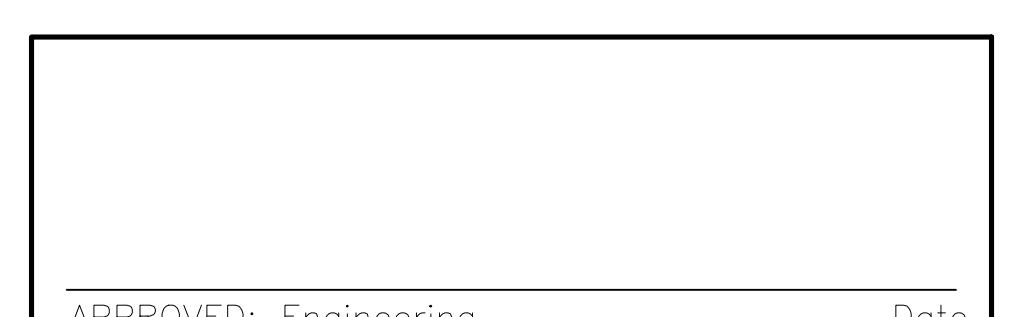
SCALE: 1" = XXX'

OWNER/OWNER'S AGENT CERTIFICATION

I, [REDACTED], HEREBY ACKNOWLEDGE THE SITE IMPROVEMENTS IMPOSED BY THIS PLAN AND THE CHRISTIANSBURG TOWN CODE AND THE CODE OF VIRGINIA. I HEREBY AGREE TO DEVELOP THE SUBJECT PROPERTY IN COMPLIANCE WITH THIS PLAN AND WILL SUBMIT ANY PLAN REVISIONS TO THE TOWN OF CHRISTIANSBURG FOR APPROVAL PRIOR TO INITIATING ANY WORK IN THE FIELD. I AGREE TO POST AND MAINTAIN ALL REQUIRED BIDS WITH THE TOWN FOR THE DEVELOPMENT, AND FURTHER ACKNOWLEDGE ALL IMPROVEMENTS MUST BE COMPLETED TO THE TOWN'S SATISFACTION PRIOR TO ISSUANCE OF THE CERTIFICATE OF OCCUPANCY.

OWNER/AGENT* TITLE DATE

*IF SIGNING ON BEHALF OF A CORPORATION OR SIGNING AS AGENT ON BEHALF OF OWNER, SIGNATORY SHALL PROVIDE EVIDENCE OF AUTHORITY TO SIGN.



TOWN OF CHRISTIANSBURG PLAN SUBMITTAL LOG		
#	ISSUE DATE	COMMENT
1	08/01/2022	FIRST SUBMITTAL



Project Name
Christiansburg, Virginia

SHEET
1

Project Name

Project Address, Virginia

GENERAL NOTES:

- THESE PLANS SHALL BE USED WITH STRICT CONFORMANCE TO THE PROJECT SPECIFICATIONS AND APPROVED STORMWATER / ESC PLAN AND NARRATIVE.
- DISTANCES AND RADII REFERRED TO ARE TO THE EDGE OF PAVEMENT, OR FACE OF CURB, UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL VERIFY BUILDING DIMENSIONS WITH ARCHITECTURAL PLANS, PRIOR TO STAKING BUILDING.
- CONTRACTOR SHALL CALL "MISS UTILITY" AT 811, OR VAB11.COM AT LEAST 48 HOURS PRIOR TO ANY EARTHWORK BEGINNING. ACCURACY OF UTILITY MARKS ARE ± 2 FEET HORIZONTAL FROM THE ACTUAL LOCATION OF THE BURIED UTILITY. VDOT DOES NOT RESPOND TO MISS UTILITY TICKETS. TO LOCATE VDOT FACILITIES, THE CUSTOMER SERVICE CENTER MUST BE CONTACTED AT (800) 367-7623 AT LEAST 72 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY THE TOWN, IN ADVANCE OF COMMENCING WORK, AND MAINTAIN A PRECONSTRUCTION MEETING WITH TOWN STAFF, OWNER / DEVELOPER, GRADING CONTRACTOR AND THE GEOTECHNICAL ENGINEER OF RECORD WHO WILL BE PROVIDING GRADING, FILLING AND COMPACTION OVERSIGHT FOR THE OWNER/DEVELOPER.
- ALL CONSTRUCTION WILL BE IN ACCORDANCE WITH TOWN OF CHRISTIANSBURG STANDARDS AND SPECIFICATIONS.
- ALL TRANSPORTATION INFRASTRUCTURE AND THE DESIGN AND CONSTRUCTION OF STORM DRAINS AND MANHOLES WILL BE IN ACCORDANCE WITH VDOT ROAD AND BRIDGE STANDARDS AND SPECIFICATIONS, LATEST EDITION, CHAPTER 9 OF THE VDOT DRAINAGE MANUAL, LATEST EDITION, AS AMENDED, AND TOWN OF CHRISTIANSBURG STANDARDS AND SPECIFICATIONS UNLESS SPECIFICALLY NOTED ON THE PLANS OR BY TOWN POLICY.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO MEET COMPLIANCE REQUIREMENTS WITH SECTION 59.1-406, ET SEQ. OF THE CODE OF VIRGINIA (OVERHEAD HIGH VOLTAGE LINES SAFETY ACT).
- ALL NECESSARY PERMITS (E.G., USACOE, VDEQ, VDOT, NORFOLK SOUTHERN, TOWN OF CHRISTIANSBURG) MUST BE OBTAINED BEFORE BEGINNING CONSTRUCTION.
- ALL ACTIVITIES IN PUBLIC RIGHT-OF-WAY SHALL CONFORM TO VDOT WORK AREA PROTECTION MANUAL, (MOST RECENT EDITION)
- PAVEMENT WORK WITHIN THE RIGHT-OF-WAY REQUIRES THE FOLLOWING INSPECTIONS:
 - SUBGRADE PRIOR TO PLACEMENT OF BASE STONE
 - BASE STONE PRIOR TO PLACEMENT OF PAVEMENT
 - PAVEMENT
- MINIMUM PAVEMENT SHALL BE IN ACCORDANCE WITH THE PAVING DETAILS AS SHOWN ON THE PLANS. CONTRACTOR TO ENSURE SMOOTH TRANSITION BETWEEN ALL PROPOSED AND EXISTING ASPHALT. CERTIFIED COMPACTION TESTING SHALL BE PERFORMED ON ALL BIMINIMUM CONCRETE LAYERS IN ACCORDANCE WITH VDOT ROAD AND BRIDGE SPECIFICATIONS, LATEST EDITION, SECTION 315.05.
- RIGHTS-OF-WAY, LOT LINES AND EASEMENTS ARE DEDICATED ON PLATS SEPARATE FROM THESE PLANS.
- ALL PARKING SPACES, INCLUDING ADA COMPLIANT SPACES, SHALL BE SIGNED AND STRIPPED ACCORDING TO CODE OF VIRGINIA SECTION 36-99.11.
- ADA SIGNAGE SHALL BE PROVIDED ACCORDING TO TOWN STANDARD DETAIL HS-1 FOR ALL HANDICAP ACCESSIBLE PARKING SPACES.
- SIGNAGE IS PERMITTED SEPARATELY IN ACCORDANCE WITH CHAPTER 42, "ZONING" OF THE CHRISTIANSBURG TOWN CODE.
- CONTRACTOR SHALL ENSURE THAT INGRESS/EGRESS FOR EMERGENCY SERVICES VEHICLES IS MAINTAINED AT ALL TIMES.
- CONTRACTOR SHALL MAINTAIN ACCESS TO SURROUNDING BUSINESSES AND RESIDENCES.
- LIGHTING FACILITIES SHALL BE ARRANGED AND INSTALLED, AND THE LIGHT SOURCE SHIELDED, TO MINIMIZE GLARE ON ADJACENT PROPERTY OR STREETS AND NO LIGHTING FIXTURE SHALL EXCEED A HEIGHT OF 15 FEET IN A RESIDENTIAL DISTRICT OR 30 FEET IN A BUSINESS DISTRICT. FOR MIXED USE DISTRICTS, LIGHTING FIXTURES SHALL NOT EXCEED 15 FEET FOR A RESIDENTIAL USE OR 30 FEET FOR A BUSINESS USE OR MIXED USE.
- ANY INCONSISTENCIES FOUND BETWEEN THE DRAWINGS AND SITE CONDITIONS OR ANY AMBIGUITIES IN THE DRAWINGS SHALL BE IMMEDIATELY REPORTED TO THE TOWN ENGINEER, WHO SHALL PROMPTLY CORRECT SUCH INCONSISTENCIES OR AMBIGUITIES. WORK DONE BY THE CONTRACTOR WITHOUT DIRECTION AFTER HIS DISCOVERY OF SUCH INCONSISTENCIES OR AMBIGUITIES SHALL BE DONE AT THE CONTRACTOR'S RISK.
- PER ARTICLE III SECTION 40-60 OF THE TOWN CODE, THE TOWN WILL REQUIRE AS-BUILT PLANS AND SPECIFICATIONS PREPARED BY AN ENGINEER OR SURVEYOR FOR ALL REQUIRED PHYSICAL IMPROVEMENTS AFTER INSTALLATION.

GENERAL GRADING, FILLING, COMPACTION, AND TESTING NOTES

- THESE NOTES SHALL APPLY TO ALL GRADING, EXCAVATION, AND CONTROLLED FILL NECESSARY FOR THE CONSTRUCTION OF FILLS, SLOPES, AND THE SUBGRADE FOR FOUNDATIONS, FOOTINGS, UTILITIES, ROADS, AND ALL OTHER TOWN MAINTAINED INFRASTRUCTURE.
- ALL TESTING AND REPORTING SHALL BE THE RESPONSIBILITY OF THE OWNER / DEVELOPER AND SHALL BE CONDUCTED BY A LICENSED PROFESSIONAL GEOTECHNICAL ENGINEER LICENSED IN THE COMMONWEALTH OF VIRGINIA AND SHALL BE THE GEOTECHNICAL ENGINEER OF RECORD.
- DEVIATIONS FROM THE REQUIREMENTS LISTED HERE-ON SHALL BE SUPPORTED BY A GEOTECHNICAL REPORT AND ENGINEERING DATA PREPARED BY THE PROJECT'S GEOTECHNICAL ENGINEER OF RECORD AND SHALL BE PROVIDED TO THE TOWN FOR REVIEW PRIOR TO COMMENCING WORK.
- THE CONTRACTOR SHALL USE ALL MEANS NECESSARY TO PROTECT ALL NEWLY GRADED INFRASTRUCTURE SUBGRADES FROM DISTURBANCE FROM TRAFFIC, EROSION, OR SETLEMENT.
- IN THE EVENT OF DAMAGE OR DISTURBANCE OF PREPARED AREAS, ALL REPAIRS AND RE-GRADING OF THE AREA SHALL BE APPROVED AND REPORTED BY THE GEOTECHNICAL ENGINEER OF RECORD.
- COPIES OF ALL LABORATORY AND FIELD TEST REPORTS SHALL BE SUBMITTED TO THE TOWN WITHIN 72 HOURS OF TEST COMPLETION.
- ONLY THAT PORTION OF THE WORK AREA ACTUALLY NEEDED FOR CONSTRUCTION SHALL BE CLEARED OR USED BY HEAVY EQUIPMENT UNLESS DIRECTED OTHERWISE BY THE TOWN. IN NO CASE SHALL CLEARING OR DEBRIS FROM CLEARING OPERATIONS BE TAKEN PAST THE APPROVED LIMITS OF DISTURBANCE, RIGHT-OF-WAY LINES, OR PERMANENT EASEMENT LINES ONTO PRIVATE PROPERTY.
- THE CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY COMPANIES AND HAVE UTILITIES LOCATED PRIOR TO STARTING CONSTRUCTION. LOCATIONS OF EXISTING FACILITIES SHOULD BE DETERMINED BY THE CONTRACTOR FAR ENOUGH IN ADVANCE OF THE CONSTRUCTION TO PROVIDE FOR MODIFICATION TO THE DESIGN, IF REQUIRED.
- WORK NOT DEFINED IN THE NOTES HERE-IN SHALL FOLLOW GUIDANCE OF THE PROJECT'S GEOTECHNICAL ENGINEER OF RECORD IN ACCORDANCE WITH THE TOWN'S STANDARDS AND SPECIFICATIONS AS APPROVED BY THE TOWN.

FILLS:

- CONTROLLED FILL IS REQUIRED BENEATH ALL AREAS ON WHICH FINAL SUBGRADE OR GRADE IS NOT PLACED ON ORIGINAL EXCAVATED SOIL NECESSARY FOR CONSTRUCTION OF AND CONTROLLED FILL FOR FOUNDATIONS, FOOTINGS, UTILITIES, ROADS, AND ALL OTHER INFRASTRUCTURE.
- MATERIALS CLASSIFIED BY ASTM D 2487 AS GW, GP, GM, GC, SW, SP, SM, SC, ML, AND CL ARE SATISFACTORY AS FILL FOR OVER-LOT GRADING AND ARE SATISFACTORY IN-SITU. OWNER SHALL PERFORM SOIL ANALYSIS AS REQUIRED BY THE TOWN FOR REVIEW AND APPROVAL.
- MATERIALS CLASSIFIED BY ASTM D 2487 AS OL, OH, MH, CH, AND PT ARE UNSATISFACTORY IN-SITU AND AS FILL. UNSATISFACTORY MATERIALS ALSO INCLUDE THOSE MATERIALS CONTAINING ROOTS AND OTHER ORGANIC MATTER, TRASH DEBRIS, FROZEN MATERIALS, AND STONES LARGER THAN 6 INCHES. UNSATISFACTORY MATERIALS ALSO INCLUDE MAN-MADE FILLS, REFUSE, BACKFILLS FROM PREVIOUS CONSTRUCTION.

- COHESIVE MATERIALS INCLUDE MATERIALS CLASSIFIED BY ASTM D 2487 AS GC, SC, CL, MH, AND PT. COHESIVE MATERIALS INCLUDE MATERIALS CLASSIFIED IN ASTM D 2487 AS GW, GP, GM, GC, SW, SP, SM, SC, ML, AND CL. MATERIALS CLASSIFIED AS FILL FOR OVER-LOT GRADING AND ARE SATISFACTORY IN-SITU, OWNER SHALL PERFORM SOIL ANALYSIS AS REQUIRED BY THE TOWN FOR REVIEW AND APPROVAL.
- MATERIALS CLASSIFIED BY ASTM D 2487 AS OL, OH, MH, CH, AND PT ARE UNSATISFACTORY IN-SITU AND AS FILL. UNSATISFACTORY MATERIALS ALSO INCLUDE THOSE MATERIALS CONTAINING ROOTS AND OTHER ORGANIC MATTER, TRASH DEBRIS, FROZEN MATERIALS, AND STONES LARGER THAN 6 INCHES. UNSATISFACTORY MATERIALS ALSO INCLUDE MAN-MADE FILLS, REFUSE, BACKFILLS FROM PREVIOUS CONSTRUCTION.
- DEGREE OF COMPACTION IS A PERCENTAGE OF THE MAXIMUM DENSITY OBTAINED BY THE TEST PROCEDURE PRESENTED IN ASTM D 698, ABBREVIATED BELOW AS A PERCENT OF LABORATORY MAXIMUM DENSITY.
- MATERIAL OBTAINED FROM EXCAVATIONS, SUITABLE FOR TOPSOILS, IS DEFINED AS THE UPPER 6 INCHES OF EXISTING SOIL COVER. TOPSOIL SHALL CONSIST OF FRIABLE CLAY LOAM, FREE FROM ROOTS, STONES, AND OTHER UNDESIRABLE MATERIAL AND SHALL BE CAPABLE OF SUPPORTING A GOOD GROWTH OF GRASS.

- ROCK SHALL CONSIST OF BOULDERS MEASURING $\frac{1}{2}$ CUBIC YARD OR MORE AND MATERIALS THAT CANNOT BE REMOVED WITHOUT SYSTEMATIC DRILLING AND BLASTING SUB-ROCK MATERIAL IN LEDGES, BEDDED DEPOSITS, UNSTRATIFIED MASSES AND CONCRETE DEPOSITS, AND BELOW GROUND CONCRETE OR MASONRY STRUCTURES, EXCEDING $\frac{1}{2}$ CUBIC YARD IN VOLUME. PAVEMENTS WILL NOT BE CONSIDERED AS ROCK.
- UYIELDING MATERIAL SHALL CONSIST OF ROCK AND GRAVELLY SOILS WITH STONES GREATER THAN 18 INCHES IN ANY DIMENSION OR AS DEFINED BY THE WORK PERFORMED, WHICHEVER IS SMALLER.
- UNSTABLE MATERIAL SHALL CONSIST OF MATERIALS TOO WET TO PROPERLY SUPPORT THE UTILITY PIPE, CONDUIT, OR APPURTENANT STRUCTURE.
- SELECT GRANULAR MATERIAL SHALL CONSIST OF WELL-GRADED SAND, GRAVEL, OR CRUSHED STONE, AND SHALL NOT CONTAIN MORE THAN 10 PERCENT BY WEIGHT OF MATERIAL PASSING A NO. 200 MESH SIEVE. THE MAXIMUM ALLOWABLE AGGREGATE SIZE SHALL BE 1 INCH, OR THE MAXIMUM SIZE RECOMMENDED BY THE PIPE MANUFACTURER, WHICHEVER IS SMALLER.

EXCAVATION AND PREPARATION

- WET OR OTHERWISE UNSUITABLE SOIL AT THE SUBGRADE SHALL BE REMOVED AND REPLACED WITH APPROVED, SOUND MATERIALS. EXCESS OR UNSUITABLE MATERIALS SHALL BE DISPOSED OF PROPERLY BY THE CONTRACTOR.
- LEDGE ROCK, BOULDERS, AND LARGE STONES SHALL BE REMOVED TO PROVIDE A CLEARANCE OF AT LEAST 6-INCHES BELOW AND ON EACH SIDE OF ALL PIPE, MANHOLES, VALVES, OR OTHER APPURTENANCES AND OVER DEPTH SHALL BE BACKFILLED WITH 6-INCHES OF ASHES FROM ASTM D 446 #10 (PVC) OR #26 (DUCTILE IRON) AGGREGATE BEDDING.
- LEDGE ROCK, BOULDERS, AND LARGE STONES ENCOUNTERED IN EXCAVATIONS FOR OTHER STRUCTURES SHALL BE REMOVED AND/OR OVER-EXCAVATED AS DEFINED IN THE PROPOSED SCOPE OF WORK IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER OF RECORD.
- TOPSOIL SHALL BE STRIPPED FROM EXCAVATION AREA AND STOCKPILED SEPARATELY FROM OTHER BACKFILL MATERIAL IN APPROVED AREA UNTIL NEEDED FOR FINISH BACKFILL, AND GRADING.
- THE CONTRACTOR SHALL REMOVE BY APPROPRIATE MEANS ANY WATER WHICH MAY ACCUMULATE OR BE FOUND IN THE TRENCHES OR OTHER EXCAVATIONS AND SHALL KEEP THE EXCAVATIONS CLEAR OF WATER WHILE WORK IS BEING INSTALLED, UNLESS APPROVAL TO THE CONTRARY IS GRANTED BY THE TOWN.
- BLASTING WILL NOT NORMALLY BE ALLOWED. WHERE APPROVED BY THE TOWN, BLASTING SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS FOR THE CONSTRUCTION INDUSTRY, SUBPART U, THE VIRGINIA STATEWIDE FIRE PROTECTION CODE VR 394-01-6 AND THE EQUIVALENT OF THE TOWN OF CHRISTIANSBURG. THE CONTRACTOR SHALL ADHERE TO THE REQUIREMENTS OF THE TOWN OF CHRISTIANSBURG, SHALL OBTAIN ALL REQUIRED PERMITS AND SHALL NOTIFY THE TOWN PRIOR TO ANY BLASTING. DAMAGE OF ANY NATURE RESULTING FROM BLASTING OPERATIONS SHALL BE SATISFACTORILY CORRECTED BY THE CONTRACTOR.
- NO CLEATED EQUIPMENT SHALL BE USED ON PAVEMENTS. ROAD DRAINAGE SHALL NOT BE CLOGGED, AND SHOULDERS, DITCHES, ROADSIDE DRAINAGE, AND FACILITIES AND PAVEMENT AFFECTED BY EXCAVATION OPERATIONS SHALL BE MAINTAINED IN CONDITION SATISFACTORY TO THE TOWN. ENTRANCES SHALL NOT BE BLOCKED EXCEPT FOR SHORT PERIOD AS ARRANGED WITH THE PROPERTY OWNER, AND INGRESS AND EGRESS TO ADJACENT PROPERTY SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL ENSURE FOR THE REPAIR OF ANY DAMAGED DRAINAGE STRUCTURES. PRIVATE ROADS SHALL BE RESTORED TO AN EQUAL OR BETTER CONDITION OF THAT PRIOR TO CONSTRUCTION.
- DISPOSE OF UNSUITABLE AND SURPLUS MATERIAL AT DESIGNATED WASTE AREAS.

UTILITY TRENCH BACKFILLING

- BACKFILL MATERIALS SHALL BE FREE FROM MUD, REFUSE, CONSTRUCTION DEBRIS, ORGANIC MATERIAL, BOULDERS, FROZEN, OR OTHERWISE UNSUITABLE MATERIAL - SELECT INITIAL BACKFILL SHALL BE FREE FROM STONES OVER 3/4 INCH.
- INITIAL BACKFILL SHALL BE WITH SELECT MATERIAL AS STATED ABOVE AND COMPACTION PRIOR TO PLACEMENT OF REMAINING BACKFILL. BACKFILLING SHALL BE CARRIED UP EVENLY IN INCREMENTS OF ONE FOOT. MINIMUM REQUIRED DENSITY SHALL BE THE DENSITY OF THE ADJACENT UNDISTURBED MATERIAL. BACKFILL OUTSIDE OF PROPOSED PAVEMENT AREAS OR STREET RIGHTS-OF-WAY, OR IN OTHER AREAS WHEN ALLOWED, SHALL BE COMPACTED TO A DRY DENSITY EQUAL TO OR GREATER THAN THE DENSITY OF THE UNDISTURBED SOIL SURROUNDING THE TRENCH. EACH LAYER OF EARTH SHALL BE COMPACTED INTO PLACE BY TAMPING BEFORE THE NEXT LAYER IS APPLIED.
- A HYDRO-HAMMER SHALL NOT BE USED FOR COMPACTION.

ALL PIPELINES SHALL HAVE A MINIMUM OF 18-INCHES OF COVER BEFORE ANY ROLLING EQUIPMENT IS USED. CARE SHALL BE TAKEN TO PREVENT DAMAGE TO PIPE OR OTHER STRUCTURE DURING COMPACTION. DAMAGE TO PIPELINE OR OTHER STRUCTURE RESULTING FROM COMPACTION SHALL BE CORRECTED BY THE CONTRACTOR WITHOUT EXPENSE TO THE TOWN.

- SELECT BACKFILL SHALL EXTEND AT LEAST ONE FOOT ABOVE THE TOP OF THE PIPE AND OTHER APPURTENANCES AND SHALL BE COMPACTED PRIOR TO PLACEMENT AND COMPACTION OF REMAINING BACKFILL MATERIAL. THE CONTRACTOR MAY BACKFILL WITH THE EXCAVATED MATERIAL, PROVIDED IT MEETS THE CONDITIONS AS STATED ABOVE.
- BACKFILL UNDER PAVEMENT, PROPOSED PAVEMENT, OR IN AREAS WITHIN TOWN RIGHT-OF-WAY SHALL BE IN LAYERS OF SELECTED EARTH NOT MORE THAN 6-INCHES IN THICKNESS, AND EACH LAYER SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT OF MAXIMUM DENSITY WHEN TESTED IN ACCORDANCE WITH ASTM D 698. COMPACTION SHALL BE BY PNEUMATIC TAMERS OR BY HAND AND IN ACCORDANCE WITH INSTRUCTIONS IN THIS SECTION AS MODIFIED HEREIN. THE TOP OF BACKFILL DIRECTLY UNDER PAVEMENT SHALL CONSIST OF AGGREGATE BASE MATERIAL MEETING THE REQUIREMENTS OF VDOT #21 A STONE. THE DEPTH OF THIS COURSE SHALL BE AT LEAST 12-INCHES, EXCEPT WHERE OTHERWISE REQUIRED BY THE TOWN. MOISTURE CONTENT SHALL BE WITHIN 20 PERCENT OF OPTIMUM.
- UNIFORMLY SMOOTH GRADING OF DISTURBED AREAS SHALL BE REQUIRED AFTER BACKFILL AND COMPACTION. ROAD SHOULDERS SHALL HAVE A MINIMUM DEPTH OF 6-INCHES OF VDOT #25 OR #26 CRUSHER RUN AGGREGATE, COMPACTED TO A MINIMUM OF 95 PERCENT OF MAXIMUM DENSITY AS MEASURED BY ASTM D 698. DITCHES AND GUTTERS SHALL BE FINISHED TO DRAIN READILY. IN GRASS OR LAWN AREAS, THE LAST 4-INCHES OF COMPACTED FILL WILL CONSIST OF TOPSOIL OR AN APPROVED SOIL WHICH WILL SUPPORT TURF GROWTH AFTER FERTILIZING AND SEEDING. SETTLEMENT OR OTHER DAMAGE THAT OCCURS PRIOR TO ACCEPTANCE OF THIS WORK SHALL BE REPAIRED AND GRADED SATISFACTORILY RE-ESTABLISHED.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR AND SHALL REPAIR ANY SETTLEMENT IN THE BACKFILL OR PAVEMENT FOR A PERIOD OF ONE YEAR AFTER COMPLETION OF THE WORK.

FILLS

- UNLESS OTHERWISE RECOMMENDED BY THE GEOTECHNICAL ENGINEER OF RECORD, FILLS SHALL COMPLY WITH THIS SECTION.
- THE GROUND SURFACE SHALL BE PREPARED TO RECEIVE FILL BY REMOVING VEGETATION, TOPSOIL, AND OTHER UNSUITABLE MATERIALS, AND SCRAPPING THE GROUND TO PROVIDE A BOND WITH THE FILL MATERIAL.
- WHERE EXISTING GRADE IS AT A SLOPE STEEPER THAN 5:1 (H:V, 20%) AND THE DEPTH OF THE FILL EXCEEDS 5 FEET, BENCHING SHALL BE PROVIDED. A KEY SHALL BE PROVIDED THAT IS AT LEAST 10 FEET IN WIDTH AND 2 FEET IN DEPTH.
- FILL MATERIAL SHALL NOT INCLUDE ORGANIC, FROZEN, OR OTHER DELETERIOUS MATERIALS, NO ROCK OR SIMILAR IRREDUCIBLE MATERIAL GREATER THAN 12 INCHES IN ANY DIMENSION SHALL BE INCLUDED IN FILLS.
- BACKFILL UNDER PAVEMENT, PROPOSED PAVEMENT, OR IN AREAS WITHIN TOWN RIGHT-OF-WAY SHALL BE IN LAYERS OF SELECTED EARTH NOT MORE THAN 6-INCHES IN THICKNESS, AND EACH LAYER SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT OF MAXIMUM DENSITY WHEN TESTED IN ACCORDANCE WITH ASTM D 698. MOISTURE CONTENT SHALL BE WITHIN 20 PERCENT OF OPTIMUM.
- BACKFILL OUTSIDE OF PROPOSED PAVEMENT AREAS OR STREET RIGHTS-OF-WAY, OR IN OTHER AREAS WHEN ALLOWED, SHALL BE COMPACTED TO 90 PERCENT OF MAXIMUM DENSITY AS MEASURED BY ASTM D 698, IN LIFTS NOT EXCEEDING 12 INCHES IN DEPTH.
- THE SLOPE OF THE FILL SURFACES SHALL BE NO STEEPER THAN 2:1 (H:V, 50%) SHALL BE JUSTIFIED BY A GEOTECHNICAL REPORT OR ENGINEERING DATA BY THE GEOTECHNICAL ENGINEER OF RECORD.

- THE CONTRACTOR SHALL SELECT THE PROPER COMPACTION METHOD AND EQUIPMENT TO PROPERLY COMPACT THE FILL TO THE REQUIRED DENSITY.
- THE OWNER / DEVELOPER SHALL BE RESPONSIBLE FOR AND SHALL REPAIR ANY SETTLEMENT IN THE BACKFILL OR PAVEMENT FOR A PERIOD OF ONE YEAR AFTER COMPLETION OF THE WORK.

TESTING

- UNDER THE DIRECTION OF THE GEOTECHNICAL ENGINEER OF RECORD, TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY QUALIFIED TO PERFORM SUCH TESTS AND SHALL BE AT THE EXPENSE OF THE OWNER / DEVELOPER.
- THE OWNER / DEVELOPER SHALL FURNISH ALL EQUIPMENT, TOOLS, AND LABOR TO CONDUCT THE TESTING.

- ALL TESTING SHALL BE WITNESSED BY A DESIGNATED TOWN OFFICIAL. THE TEST SHALL BE REPEATED UNTIL SATISFACTORY RESULTS ARE OBTAINED AS OUTLINED IN THIS SECTION.

- THE CONTRACTOR SHALL DEMONSTRATE THE ADEQUACY OF BACKFILL COMPACTION BY PERFORMING DENSITY TESTING OF THE COMPLETED BACKFILL AREAS AS DESIGNATED BY THE TOWN OR THE GEOTECHNICAL ENGINEER OF RECORD.

- DENSITY TESTING SHALL BE PERFORMED USING NUCLEAR FLOOR DENSITY EQUIPMENT OR CONVENTIONAL WEIGHT-VOLUME METHODS. IF THE WEIGHT-VOLUME METHOD IS USED, VOLUME SHALL BE DETERMINED BY USING THE SAME REPLACEMENT TEST (ASTM D 1556) OR LIQUID DISPLACEMENT METHODS (ASTM D 2167). IF NUCLEAR METHODS ARE USED WITHIN TRENCHES, THE TRENCH CORRECTION EFFECT SHALL BE ACCOUNTED FOR BY RECALIBRATING THE NUCLEAR GAUGE ON ITS CALIBRATION BLOCK AT THE LOCATION OF EACH TEST PRIOR TO TAKING THE DENSITY MEASUREMENT.

- BACKFILL AND COMPACTION TESTING FOR AREAS WITHIN THE RIGHT-OF-WAY AND UTILITY TRENCHES SHALL CONFORM TO VIRGINIA DEPARTMENT OF TRANSPORTATION (VOT) ROAD AND BRIDGE SPECIFICATIONS AND SOILS AND AGGREGATE COMPACTION, LATEST EDITION.

- TOPSOIL SHALL BE STRIPPED FROM EXCAVATION AREA AND STOCKPILED SEPARATELY FROM OTHER BACKFILL MATERIAL IN APPROVED AREA UNTIL NEEDED FOR FINISH BACKFILL, AND GRADING.

- THE CONTRACTOR SHALL REMOVE BY APPROPRIATE MEANS ANY WATER WHICH MAY ACCUMULATE OR BE FOUND IN THE TRENCHES OR OTHER EXCAVATIONS AND SHALL KEEP THE EXCAVATIONS CLEAR OF WATER WHILE WORK IS BEING INSTALLED, UNLESS APPROVAL TO THE CONTRARY IS GRANTED BY THE TOWN.

- BLASTING WILL NOT NORMALLY BE ALLOWED. WHERE APPROVED BY THE TOWN, BLASTING SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS FOR THE CONSTRUCTION INDUSTRY, SUBPART U, THE VIRGINIA STATEWIDE FIRE PROTECTION CODE VR 394-01-6 AND THE EQUIVALENT OF THE TOWN OF CHRISTIANSBURG. THE CONTRACTOR SHALL ADHERE TO THE REQUIREMENTS OF THE TOWN OF CHRISTIANSBURG, SHALL OBTAIN ALL REQUIRED PERMITS AND SHALL NOTIFY THE TOWN PRIOR TO ANY BLASTING. DAMAGE OF ANY NATURE RESULTING FROM BLASTING OPERATIONS SHALL BE SATISFACTORILY CORRECTED BY THE CONTRACTOR.

- NO CLEATED EQUIPMENT SHALL BE USED ON PAVEMENTS. ROAD DRAINAGE SHALL NOT BE CLOGGED, AND SHOULDERS, DITCHES, ROADSIDE DRAINAGE, AND FACILITIES AND PAVEMENT AFFECTED BY EXCAVATION OPERATIONS SHALL BE MAINTAINED IN CONDITION SATISFACTORY TO THE TOWN. ENTRANCES SHALL NOT BE BLOCKED EXCEPT FOR SHORT PERIOD AS ARRANGED WITH THE PROPERTY OWNER, AND INGRESS AND EGRESS TO ADJACENT PROPERTY SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL ENSURE FOR THE REPAIR OF ANY DAMAGED DRAINAGE STRUCTURES. PRIVATE ROADS SHALL BE RESTORED TO AN EQUAL OR BETTER CONDITION OF THAT PRIOR TO CONSTRUCTION.

- DISPOSE OF UNSUITABLE AND SURPLUS MATERIAL AT DESIGNATED WASTE AREAS.

STEEP SLOPES

- IF THE GRADE OF A SITE IS MORE THAN THIRTY-THREE AND ONE-THIRD (33.3) PERCENT, REFER TO R403.1.7 OF THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE, LATEST EDITION, FOR STEEP SLOPE DEVELOPMENT REQUIREMENTS AS DETERMINED BY THE TOWN.

- WHERE THE GRADE OF A SITE IS MORE THAN THIRTY-THREE AND ONE-THIRD (33.3) PERCENT AND THE AREA IS TO BE STABILIZED BY VEGETATION, REFER TO VESCH STANDARD AND SPECIFICATION 3.29, SURFACE ROUGHENING, FOR FINISHED GRADING REQUIREMENTS.

- ALL EMBANKMENTS AND SLOPES SHALL BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.

- A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

- PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW AND DRAINAGE AREAS, CONSTRUCTION AREAS, AND OTHER APPURTENANCES AND DOWN LAY AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTAL EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE TOWN ENGINEER.

- THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE TOWN.

- ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.

- DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.

- THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIOD