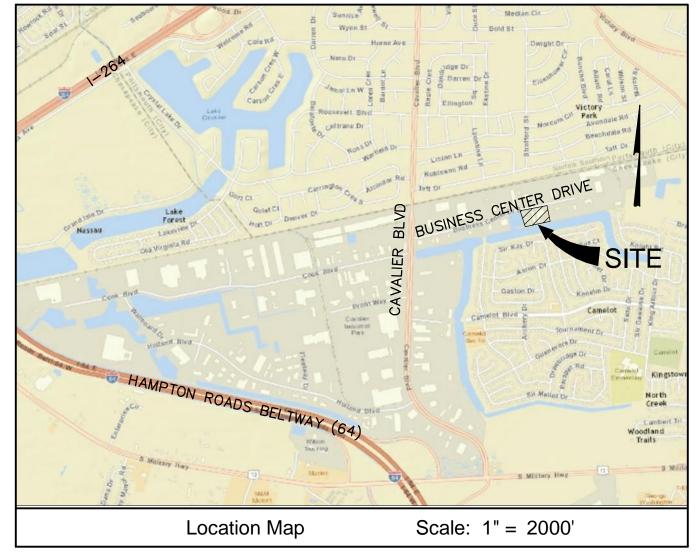
CHESAPEAKE, VA

10/13/2015



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LEGEND FACE OF CURB GAS LINE ELECTRIC LINE SANITARY SEWER WATER LINE

REQUIRED PUE	BLIC IMPRO	OVEMENTS *	
ITEM DESCRIPTION		UNIT PRICE	TOTAL
LAND DISTURBING (EROSION AND	SEDIMENT	CONTROL)	
DISTURBED ACREAGE (< OR = 1 ACRE)	1.0 ACRE	\$1,000,00/AC	\$1,000.00
DISTURBED ACREAGE (> 1 ACRE)	2.4 ACRES	\$500.00/AC	\$1,200.00
SILT FENCE	1273 LF	\$2.75/LF	\$3,600.00
INLET/OUTLET PROTECTION	7 EA	\$100.00 EA	\$700.00
RESTORATION (GRADE & VEGETATION)	0.2 ACRES	\$3,000/EA	\$100.00
LAND DISTURBING SUBTOTAL			\$6,600.00
CONTINGENCY (15% OF TOTAL)			\$990.00
TOTAL			\$7,590.00
The above estimate represents all pu of-way of public easements including Plan Bond Unit Price List dated JAN. 2 require for the issuance of Departme	g restoration. 1 009. Figure re	Unit prices based presents the mir	on City Site

CITY PERMITS REQUIRED FOR SITE DEVELOPMENT ■ LAND DISTURBING □ ENTRANCE/RIGHT OF WAY ☐ CHESAPEAKE BAY PRESERVATION/STORMWATER

PRIOR TO CONSTRUCTION, CONTRACTOR SHALL OF VIRGINIA **DIAL - 811**



Tel: (757) 213-8600 4500 Main Street Fax: (757) 213-8601 Virginia Beach, Virginia 23462

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SIGNATURE BLOCK FOR CITY USE

AG METPREPARED BRINKLI

REVISION NO. DATE REMARKS

TOTAL SHEETS FILE NUMBER SHEET NUMBER 116115013 CA001

PLAN REVISIONS

GENERAL NOTES:

- 1. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES AND PHASING WITH THE OWNER'S CONSTRUCTION REPRESENTATIVE.
- 2. THE CITY OF CHESAPEAKE TRAFFIC ENGINEERING DIVISION SHALL BE CONTACTED 48 HOURS
- 3. ELEVATIONS SHOWN HEREON ARE EXPRESSED IN FEET AND BASED UPON NAVD 88, CITY OF <u>CHESAPEAKE</u> CONTROL NETWORK UTILIZING STATION "120", ELEVATION 10.52
- 4. THE MERIDIAN SOURCE OF THIS PLAN IS BASED ON (M.B. 131, P. 13-13A)/(NAD 1983 (1994 HARN)
- RESIDENTS OF PROPERTY ADJACENT TO A DEVELOPMENT OR OFFSITE IMPROVEMENTS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:
- PROVIDE 30-DAY ADVANCED NOTICE TO PROPERTY OWNERS FOR CONSTRUCTION WITHIN THE RIGHT-OF-WAY WHEN PRIVATE IMPROVEMENTS ARE AFFECTED OR PAVEMENT WIDENING WILL OCCUR BETWEEN THE EXISTING PAVEMENT AND THE PROPERTY OWNER
- 5.2. PROVIDE 30-DAY ADVANCE NOTICE IF ANY CONSTRUCTION IS OCCURRING ON OFFSITE PRIVATE PROPERTY (INCLUDING EASEMENTS).
- 5.3. WHEN PRIVATE IMPROVEMENTS ARE AFFECTED, THE NOTICE MUST INDICATE THE IMPACT ON THE PRIVATE IMPROVEMENTS. PRIVATE IMPROVEMENTS INCLUDE, BUT ARE NOT LIMITED TO, MAILBOXES, FENCES, ENTRANCES, LANDSCAPING, ETC.
- 5.4. NO NOTICE IS REQUIRED FOR CONSTRUCTION THAT IS LIMITED TO THE DEVELOPMENT SITE AND RIGHT-OF-WAY WHERE PRIVATE IMPROVEMENTS ARE NOT AFFECTED.
- 5.5. IN LIEU OF A REQUIRED 30-DAY NOTICE, THE CITY WILL ACCEPT A SIGNED ACKNOWLEDGEMENT THAT THE PROPERTY OWNER IS SATISFIED THAT THEY HAVE BEEN PROVIDED AN EXPLANATION OF THE PROJECT SCOPE OF WORK.
- 6. CONTRACTOR SHALL NOTIFY CHESAPEAKE PUBLIC SCHOOL ADMINISTRATION, POLICE DEPARTMENT, FIRE DEPARTMENT, E.M.S., AND POST OFFICE TWO (2) WEEKS PRIOR TO

SITE STATISTICAL INFORMATION

1.	SITE LOCATION	3325 BUSINESS CENTER DRIVE CHESAPEAKE, VIRGINIA	
2.	TYPE OF DEVELOPMENT	BUILDING EXPANSION	
3.	PARCEL ZONING	M-1	
4.	TAX ASSESSOR'S MAP AND PARCEL	INSTRUMENT NUMBER 024000001530	
3.	EXISTING USE/USER	LIGHT INDUSTRIAL BMG METALS	
3.	PROPOSED USE/USER	LIGHT INDUSTRIAL/BMG METALS 68,969 S.F., DILLON SUPPLY 5280 S.F.	
5.	100-YR FLOOD INFO	FLOOD ZONE 'X' - AREA DETERMINED TO BE OUTSIDE OF 500-YEAR FLOODPLAIN. FIRM MAP # 515529 0086 C - LAST UPDATED MAY 2, 2009	
6.	TOTAL AREA (GROSS)	7.34 ACRES	
7.	LIMITS OF DISTURBANCE FOR THIS PROJECT	3.41 ACRES ON SITE, 0.00 ACRES OFF SITE = TOTAL 3.41 ACRES	
8.	TOTAL AREA OF EXISTING BUILDINGS % OF TOTAL PARCEL AREA	50,829 S.F. (16% OF PARCEL)	
9.	TOTAL AREA OF PROPOSED BUILDINGS % OF TOTAL PARCEL AREA	74,249 S.F. (23% OF PARCEL)	
10.	TOTAL FLOOR AREA TOTAL FLOOR AREA RATIO	74,249 S.F. (ONE STORY BUILDING)	
11.	BUILDING HEIGHT	TO MATCH EXISTING	
12.	NUM. OF PARKING SPACES REQUIRED	38 SPACES (BASED ON 0.5 SPACES PER 1000 S.F.)	
13.	NUM. OF PARKING SPACES EXISTING	32	
14.	TOTAL NUM. OF SITE PARKING SPACES PROPOSED	43	
15.	NUM. OF PARKING SPACES REMOVED	7	
16.	NUM. OF PARKING SPACES REPLACED	18	
17.	NUM. OF HANDICAP SPACES REQUIRED	2	
18.	NUM. OF HANDICAP SPACES PROVIDED	2	
19.	TOTAL AREA IN CRITICAL AREAS	NO CRITICAL AREAS	
20.	SITE IMPERVIOUS AREA	EXISTING: 3.0±AC. BUILDING, ASPHALT, AND CONCRE PROPOSED: 3.2±AC. BUILDING, ASPHALT, AND CONCRE	

UTILITY AND GOVERNING AGENCIES CONTACT LIST

POWER COMPANY

WATER AND SANITATION

CITY OF CHESAPEAKE PUBLIC UTILITIES 306 CEDAR ROAD, SECOND FLOOR CHESAPEAKE, VIRGINIA 23328 TEL: (757) 382-6019

CONTACT: KEITH SLICER, P.E.

NATURAL GAS COMPANY VIRGINIA NATURAL GAS 544 SOUTH INDEPENDENCE BLVD. VIRGINIA BEACH, VIRGINIA 23542 TEL: (757) 466-5441

CONTACT: VICTORIA DUFFER

DEVELOPMENT AND PERMITS CITY OF CHESAPEAKE PUBLIC WORKS 306 CEDAR ROAD, SECOND FLOOR CHESAPEAKE, VIRGINIA 23328

CONTACT: TOM CRAWFORD

ARCET/ARC3 GASES 1700 CHAMBERLAYNE AVE RICHMOND VIRGINIA 23222

TEL: (804) 644-4521 CONTACT: CHRIS FOGG

OWNER:

C. W. BRINKLEY, INC.

SUFFOLK, VA 23434

TEL: (757) 539-9111

CONTACT: MARK BRINKLEY

PLAN CERTIFICATION

STANDARDS FROM THE ENGINEERING DIVISION OF THE

3005 CORPORATE LANE

TEL: (757) 382-6498

VIRGINIA DOMINION POWER CHESAPEAKE OFFICE 801 SOUTH BATTLEFIELD BLVD. CHESAPEAKE, VIRGINIA 23322 TEL: (757) 482-6036

CONTACT: TONY VALASEK

TELEPHONE COMPANY VERIZON OF VIRGINIA 3131 B SEWELLS POINT ROAD

NORFOLK, VIRGINIA 23513 TEL: (757) 667-4099 CONTACT: WAYNE HIXENBAUGH DEPARTMENT OF ENVIRONMENTAL QUALITY

COMMONWEALTH OF VIRGINIA DIVISION OF WASTEWATER ENGINEERING TIDEWATER REGIONAL OFFICE 5636 SOUTHERN BOULEVARD VIRGINIA BEACH, VIRGINIA 23462

TEL: (757) 518-2105 CONTACT: NOAH HILL (CONST. SW

PERMITS/SWPP/CONST.PLANS)

ENGINEER:

KIMLEY-HORN AND ASSOCIATES, INC. SUITE 500 VIRGINIA BEACH, VIRGINIA 23462 TEL: (757) 213-8600 FAX: (757) 213-8601 CONTACT: DAVID DALLMAN, P.E.

SURVEYOR:

FOX LAND SURVEYING, LLC 2981 RIDDICK LANE VIRGINIA BEACH, VA 23456 TEL: (757) 615-1675 CONTACT: TRAVIS M. FOX. L.S.

SIGNATURE

DEPARTMENT OF HEALTH

SOUTHEAST AREA

COMMONWEALTH OF VIRGINIA

DIVISION OF DRINKING WATER

TEL: (757) 683-2000 EX. 113

NORFOLK, VIRGINIA 23510

CONTACT: RENEE HALL

COX COMMUNICATIONS

5200 CLEVELAND STREET

TEL: (757) 222-8070

CONTACT: JOE SWEENEY

FIRE PREVENTION BUREAU

CHESAPEAKE, VIRGINIA 23322

CONTACT: HAROLD CREASON

304 ALBEMARLE DRIVE

TEL: (757) 382-8297

VIRGINIA BEACH, VIRGINIA 23462

CABLE COMPANY

FIRE DEPARTMENT

CITY OF CHESAPEAKE

830 SOUTHAMPTON AVENUE, ROOM 2058

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE CHESAPEAKE CITY CODE AND ALL VOLUMES OF THE CHESAPEAKE "PUBLIC FACILITIES MANUAL". ALL CONSTRUCTION STANDARDS, UNLESS OTHERWISE NOTED ON THE PLANS, ARE IN ACCORDANCE WITH PUBLIC FACILITIES MANUAL VOLUME II OF THE DEPARTMENT OF PUBLIC WORKS, CITY OF CHESAPEAKE, VIRGINIA DATED JULY, 1993. PRIOR TO CONSTRUCTION, CONTRACTORS ARE REQUIRED TO OBTAIN A COPY OF THESE

RE:	3325 BUSINESS CENTER DRIVE				
THE UNDERSIGNED ENGINEER / FIRM AGREES THAT THE CITY OF CHESAPEAKE SHALL HAVE THE RIGHT TO USE THESE PLANS TO COMPLETE THE PERMANENT PHYSICAL IMPROVEMENTS IN THE EVENT THAT THE DEVELOPER DEFAULTS IN HIS OBLIGATIONS TO COMPLETE THESE FACILITIES AS REQUIRED BY CITY CODE. THE UNDERSIGNED ENGINEER ALSO AGREES THAT THE CITY MAY USE THESE PLANS FOR THE PREPARATION OF "AS BUILT" RECORDS AS NECESSARY. THE ENGINEER / FIRM FURTHER AGREES THAT THESE RIGHTS TO USE THE PLANS SHALL BE PROVIDED WITHOUT COST TO THE CITY.					
NAME: DAVID DALLMA	AN, P.E.	TITLE: PROJECT MANAGER			
FIRM: KIMLEY-HORN	AND ASSOCIATES, I	NC.			
	Man	10 /13 /2015			

EXCAVATION PERMITS * NO IMPROVEMENTS WILL BE CONSTRUCTION WITHIN THE CITY RIGHT OF WAY.

GENERAL NOTES

- . MATERIALS, METHODS AND PROCEDURES FOR "ON-SITE" (AS DEFINED IN NOTE 6 BELOW) SEWER AND WATER FACILITIES SHALL BE AS PER THE INTERNATIONAL PLUMBING CODE PUBLISHED BY THE INTERNATIONAL CODE COUNCIL (ICC), THE BUILDING OFFICIALS AND CODE ADMINISTRATORS (BOCA) AND OTHERS. MATERIAL, METHODS AND PROCEDURES FOR "ON-SITE" (AS DEFINED IN NOTE 7 BELOW) FIRE FIGHTING AND FIRE SUPPRESSION WATER FACILITIES SHALL BE AS PER THE BOCA NATIONAL FIRE PREVENTION CODE AND THE STANDARDS INCORPORATED BY REFERENCE IN ITS APPENDIX A, AND THE FIRE PROTECTION HANDBOOK OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA).
- 2. MEASUREMENT AND PAYMENT FOR WORK SHALL BE AS PROVIDED FOR IN THE PROPOSAL AND/OR CONTRACT BETWEEN THE OWNER AND THE CONTRACTOR. THE PROVISIONS OF PFM VOLUME III WITH RESPECT TO MEASUREMENT AND PAYMENT SHALL NOT APPLY UNLESS SPECIFICALLY SO STATED IN THE PROPOSAL OR CONTRACT.
- 3. REFERENCES TO VDOT SHALL MEAN THE CURRENT ROAD AND BRIDGE STANDARDS AND ROAD AND BRIDGE SPECIFICATIONS, OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION.
- 4. THESE PLANS, UPON WHICH THESE NOTES APPEAR, ARE A COMMUNICATION BY THE OWNER, PREPARED BY KIMLEY-HORN AND ASSOCIATES, INC., DESCRIBING TO PROSPECTIVE BIDDERS AND, ULTIMATELY, TO THE CONTRACTOR THE LOCATION, NATURE AND EXTENT OF WORK TO BE PERFORMED TO CONSTRUCT THE PROJECT.
- 5. EXCEPT WHERE SPECIFICALLY OTHERWISE NOTED IN THE CONTRACT BETWEEN OWNER AND CONTRACTOR, CONTRACTOR SHALL, AT HIS EXPENSE, OBTAIN ALL PERMITS AND BONDS, PAY ALL FEES AND CHARGES, AND PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND SUPPLIES SO AS TO ACCOMPLISH THE WORK DESCRIBED BY THESE PLANS.
- "ON-SITE" WORK SHALL MEAN WORK CONTAINED WITHIN THESE SITE PLANS AND NOT LYING WITHIN THE STREET RIGHT-OF- WAY, NOR WITHIN ANY DRAINAGE OR UTILITY EASEMENT, OF THE CITY OF CHESAPEAKE. EXCEPT AS EXPRESSLY NOTED IN OTHER GENERAL NOTES OR ON THE PLANS OF WHICH THIS SHEET IS PART, ON-SITE WORK SHALL BE PERFORMED USING THE SAME MATERIALS AND PROCEDURES, AND TO THE SAME STANDARDS AS WORK IN PUBLIC RIGHT-OF-WAY OR EASEMENT, INCLUDING THE REQUIREMENT FOR PRESSURE AND HYDROSTATIC TESTING OF WATER AND SEWER MAINS, RESPECTIVELY. IN ANY CASE WHERE A PROVISION OF THE PFM CALLS FOR A DETERMINATION CONCERNING THE WORK TO BE MADE BY "THE ENGINEER" OR "THE CITY OR ITS AUTHORIZED REPRESENTATIVE", OR SIMILAR TERM, THAT TERM SHALL BE REPLACED WITH "THE OWNER OR HIS DESIGNATED REPRESENTATIVE" IN THE CASE OF ON-SITE WORK WHERE THE CITY OF CHESAPEAKE DOES NOT EXERCISE JURISDICTION.
- 7. BIDDERS AND CONTRACTORS ARE HEREBY NOTIFIED THAT THE CITY OF CHESAPEAKE HAS AN EXTENSIVE REQUIREMENT FOR CONSTRUCTION RECORD DRAWING (OR "AS-BUILT") INFORMATION ON PUBLIC (IN RIGHT OF WAY OR EASEMENT) WATER, SEWER, SEWER FORCE MAIN AND STORM SEWER LINES. IT IS THE BIDDERS RESPONSIBILITY TO INCLUDE IN THEIR BID PRICE ANY AND ALL COST RELATED TO OBTAINING AS-BUILT INFORMATION. THE BIDDER SHALL NOT RELY ON THE CIVIL ENGINEER OF RECORD FOR ANY PORTION OF OBTAINING APPROVALS OF AS-BUILT DRAWINGS. SOME OF THIS INFORMATION CAN AND MUST BE OBTAINED BY SURVEY AFTER CONSTRUCTION, BUT MUCH CAN AND MUST BE OBTAINED ONLY BY THE CONTRACTOR DURING CONSTRUCTION. THE PROJECT WILL NOT BE CONSIDERED SUBSTANTIALLY COMPLETE UNTIL CONTRACTOR HAS PROVIDED EVIDENCE TO THE CITY THAT ALL REQUIRED CONSTRUCTION RECORD DRAWINGS HAVE BEEN SUBMITTED TO AND APPROVED BY THE CITY. CONTRACTOR SHALL OBTAIN, AS A MINIMUM, THE FOLLOWING:
- A. STORM DRAIN: SIZE, MATERIAL (INCLUDE STRENGTH CLASS) OF PIPE.
- B. WATER & SEWER MAINS: SIZE, MATERIAL, DEPTH AND LOCATION WITH RESPECT TO CURB & GUTTER, EDGE OF PAVEMENT, OR OTHER PERMANENT REFERENCE SURFACE, MEASURED AT LEAST EVERY 100'. LOCATION OF ALL VERTICAL AND HORIZONTAL BENDS, FITTINGS, VALVES, ENDS OF LINES, USING A STATION AND OFFSET METHOD FROM PERMANENT, SURFACE FIXED OBJECTS SUCH AS SANITARY SEWER MANHOLES. FOR VALVES, THEIR DATE SET, DEPTH OF COVER, SIZE, MANUFACTURER, DIRECTION AND # OF TURNS TO OPEN, AND JOINT TYPE. FOR HYDRANTS, THEIR DATE SET, MANUFACTURER, DEPTH OF BURY, AND DISTANCES MAIN-TO-VALVE AND VALVE-TO-HYDRANT.
- C. SEWER LATERALS AND WATER SERVICES: SIZE, MATERIAL, DEPTH AND LOCATION, USING A STATION-AND-OFFSET METHOD BASED ON SANITARY SEWER MANHOLES.
- D. STORM INLETS, MANHOLES & SEWER MANHOLES: LOCATION TIED TO AT LEAST THREE FIXED OBJECTS, TYPE (VDOT DI-3A, ETC.), RIM ELEVATION, AND ALL PIPE INVERTS.

CONTRACTORS NOT FAMILIAR WITH, OR HAVING QUESTIONS ABOUT, THE CITY'S POLICIES AND PROCEDURES ON CONSTRUCTION RECORD DRAWINGS SHOULD CONTACT THE CITY OF CHESAPEAKE INSPECTIONS DEPARTMENT AT (757) 382-6304 IMMEDIATELY FOR INSTRUCTIONS.

- THE REVISED CHESAPEAKE ZONING ORDINANCE (CZO), EFFECTIVE 1993, CONTAINS CERTAIN PROVISIONS, REPEATED BELOW, WHICH REQUIRE CERTIFICATIONS BY REGISTERED PROFESSIONALS. UNLESS THE CONTRACTOR HAS EXPRESSLY VERIFIED WITH THE OWNER THAT THE OWNER IS ARRANGING FOR THESE CERTIFICATIONS TO BE MADE, THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH A PROFESSIONAL ENGINEER TO PERFORM SUCH INSPECTIONS AND TESTS TO BE ABLE TO MAKE THE CERTIFICATIONS. KIMLEY-HORN AND ASSOCIATES, INC. (KHA) WILL NOT MAKE SUCH CERTIFICATIONS UNLESS WE HAVE BEEN RETAINED IN ADVANCE TO DO SO AND HAVE MADE THE NECESSARY INSPECTIONS. THE CERTIFICATIONS, REQUIRED AS A PRECONDITION TO OCCUPANCY BY §18-701 OF THE CZO ARE AS FOLLOWS:
- A. AS-BUILT DRAWINGS ARE SUBMITTED TO THE DEPARTMENT OF INSPECTIONS WITH CERTIFICATION BY A PROFESSIONAL ENGINEER, DULY LICENSED BY THE COMMONWEALTH OF VIRGINIA, CERTIFYING THAT THE SITE CONSTRUCTION IS IN SUBSTANTIAL CONFORMITY WITH THE APPROVED FINAL SITE PLAN.
- B. A PROFESSIONAL ENGINEER, DULY LICENSED BY THE COMMONWEALTH OF VIRGINIA, SUBMITS A WRITTEN CERTIFICATION, ON THE AS-BUILT DRAWINGS OR ELSEWHERE, CERTIFYING THAT THE ON-SITE TYPICAL PAVEMENT SECTIONS ARE CONSISTENT WITH THE APPROVED SITE PLAN DESIGN SPECIFICATIONS AND THAT STANDARD PAVEMENT CONSTRUCTION PRACTICES WERE FOLLOWED.
- C. A PROFESSIONAL ENGINEER OR SURVEYOR, DULY LICENSED BY THE COMMONWEALTH OF VIRGINIA, SUBMITS A WRITTEN CERTIFICATION, ON THE AS-BUILT DRAWINGS OR ELSEWHERE, CERTIFYING THAT LOT GRADING HAS BEEN PROVIDED IN ACCORDANCE WITH THE PERFORMANCE STANDARDS AND DESIGN CRITERIA OF THE STORMWATER MANAGEMENT REGULATIONS AND OTHER DESIGN STANDARDS ESTABLISHED BY THE PUBLIC WORKS DIRECTOR AS NECESSARY TO ASSURE POSITIVE LOT DRAINAGE FROM THE SITE AND PROPER DRAINAGE IN THE AREA.

IN ADDITION, CHESAPEAKE HAS DELEGATED RESPONSIBILITY FOR INSPECTION OF ON-SITE PIPE WORK. CONTRACTOR SHALL CONDUCT ALL REQUIRED PRESSURE TEST, STERILIZATION, ETC. REQUIRED BY CITY, AND SHALL VERIFY WITH OWNER WHETHER INSPECTIONS ARE TO BE PERFORMED BY THE AGENT OF THE OWNER, OR BY THE CONTRACTOR HIMSELF. IN ANY CASE, IF THE OWNER'S AGENT IS TO PERFORM INSPECTIONS AND/OR OBSERVE TESTS, NOT LESS THAN ONE (1) WORKING DAY'S NOTICE SHALL BE GIVEN. IN PERFORMING ANY SUCH INSPECTIONS OR TEST OBSERVATIONS, THE OWNER'S AGENT IS IN NO WAY CONTROLLING OR SUPERVISING THE WORK AND IS NOT RESPONSIBLE FOR THE SAFETY, OR ANY OTHER ASPECT OF ANY ON-SITE CONDITIONS OR CIRCUMSTANCES. ALSO, CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND FULFILLING THE INSPECTION AND TESTING REQUIREMENTS ASSOCIATED WITH INSTALLATION OF WATER PIPING AND APPURTENANCES COMPRISING THE FIRE PROTECTION/FIRE FIGHTING SYSTEMS.

- 10. TEMPORARY DRAINAGE DURING CONSTRUCTION SHALL BE PROVIDED BY THE CONTRACTOR TO AVOID SOIL SATURATION AND/OR OTHER DAMAGE TO EXISTING OR PROPOSED ROADWAYS AND/OR OTHER PAVED AREAS, PIPE TRENCHES, ETC.
- 11. CONTRACTOR SHALL BECOME FAMILIAR WITH THESE PLANS AND UNDERSTAND THE INTENDED DIRECTION OF FLOW OF ALL PAVEMENT AREAS, GUTTERS, DITCHES/SWALES, AND LAWN AREA. ANY DISCREPANCY OR AMBIGUITY MUST BE BROUGHT TO THE ENGINEER'S ATTENTION IMMEDIATELY UPON DISCOVERY, AND BEFORE INSTALLATION, OR ANY CORRECTIVE MEASURES WILL BE AT CONTRACTOR'S EXPENSE. IN THE ABSENCE OR UNCERTAINTY OF SLOPE OR GRADE INFORMATION, THE FOLLOWING MINIMUM STANDARDS SHALL APPLY: ON-SITE SANITARY SEWERS, 4" AND 6", 1.04%; 8", 0.40%. SANITARY SEWERS IN EASEMENT OR RIGHT OF WAY: 4", 1.0%; 6", 0.63%; 8", 0.4%. CURB & GUTTER OR VALLEY GUTTER, 0.25%. ASPHALT CONCRETE PAVEMENT, 0.5% LONGITUDINALLY IN SWALES; 1.0% CROSS-SLOPE. PORTLAND CEMENT CONCRETE PAVEMENT, 0.3% LONGITUDINALLY IN SWALES; 0.5% CROSS-SLOPE. STORM SEWERS, LESS THAN 24", 0.2%; 24" AND OVER, 0.1%.
- 12. IN THE ABSENCE OR UNCERTAINTY OF SLOPE OR GRADE INFORMATION, THE FOLLOWING <u>MAXIMUM</u> STANDARDS SHALL APPLY: VEHICULAR PAVEMENT, 4.0% LONGITUDINALLY OR CROSS-SLOPE. PEDESTRIAN AREAS (SIDEWALKS): IN CONFORMANCE WITH THE REQUIREMENTS OF ICC/ANSI A117.1 (LATEST VERSION), GENERALLY 5% LONGITUDINALLY, 2.0% CROSS-SLOPE, WHICHEVER IS FLATTER.
- 13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WITH MATCHING MATERIALS ANY PAVEMENT, DRIVEWAYS, WALKS, CURBS, ETC., THAT MUST BE CUT OR THAT ARE DAMAGED DURING CONSTRUCTION.
- 14. ELEVATIONS AS SHOWN HEREON ARE IN FEET AND ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), UNLESS
- 15. CLEARING AND GRUBBING SHALL BE PERFORMED IN ACCORDANCE WITH PFM VOLUME III, TO LIMITS SHOWN ON THESE PLANS; WHERE NO CLEARING LIMIT IS SHOWN, CLEAR TO 10' OUTSIDE OF LIMITS OF ROADWAY/PAVEMENT CONSTRUCTION, PIPE TRENCHES, AND SIMILAR SITE IMPROVEMENTS, AND 20' OUTSIDE LIMITS OF BUILDING CONSTRUCTION. EXISTING TREES THAT ARE TO BE RETAINED AFTER CONSTRUCTION SHALL BE PROTECTED DURING CONSTRUCTION AS SET FORTH IN PFM VOLUME III.
- 16. TRAFFIC AND LANE MARKINGS FOR ON-SITE WORK SHALL BE PER THE SPECIFICATIONS. IN THE ABSENCE OF ANY SPECIFICATIONS LANE MARKINGS FOR ON-SITE WORK SHALL BE TRAFFIC PAINT ("TYPE A MARKINGS") AS SET FORTH IN DIVISION 61 OF PFM VOLUME III; COLORS SHALL BE BLUE FOR HANDICAPPED PARKING; YELLOW TO DELINEATE DRIVE AISLES AND FIRE LANES ON CURBS AND PAVEMENTS, AND WHITE ELSEWHERE. MARKINGS IN PUBLIC STREET RIGHT OF WAY SHALL BE TYPE B PER PFM VOLUME III, DIVISION 61. OTHER MARKINGS, SIGNS, TRAFFIC CONTROL DEVICES IN PUBLIC RIGHT OF WAY SHALL BE AS PER PFM VOLUME III, DIVISIONS 58, 59, 61 AND 64.
- 17. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL SIGNS, MARKINGS AND ROADWAY LIGHTING.
- 18. STORM SEWER PIPES AS SHOWN ON THE PLAN VIEW ARE MEASURED FROM THE CENTERLINE OF EACH STRUCTURE. INVERT ELEVATIONS ARE ESTABLISHED BASED ON THIS CENTERLINE DISTANCE. LENGTH CALLOUTS FOR PIPES WITH FLARED END SECTIONS WILL BE MEASURED TO THE JOINT. CONTRACTORS SHALL LOCATE ALL END SECTIONS TO MATCH THE BANK WITH LENGTHS ADJUSTED AS NECESSARY AND THE PIPE SLOPE SHALL REMAIN AS PER THE PLAN.

- 19. CONSTRUCTION OF ON-SITE FIRE SERVICE LINES AND APPURTENANCES WILL REQUIRE A PERMIT FROM THE MECHANICAL INSPECTOR OF THE DEPARTMENT OF INSPECTIONS, AND MUST BE TESTED AND CERTIFIED PER NATIONAL FIRE PROTECTION MANUAL 13. CONTRACTOR SHALL PERFORM AND CERTIFY TEST; THE ENGINEER OR OWNER'S REPRESENTATIVE WILL WITNESS ON OWNER'S BEHALF IF ENGAGED TO DO SO; SEE NOTE 9 ABOVE.
- 20. IN CERTAIN AREAS OF CHESAPEAKE, A PRESSURE-REDUCING VALVE IS REQUIRED ON THE WATER SYSTEM. THESE ARE NORMALLY INSTALLED IN THE BUILDING BEFORE ANY TAKEOFFS. THE PLUMBING CONTRACTOR SHALL DETERMINE WHETHER OR NOT A PRV IS REQUIRED; IN CONJUNCTION WITH THE FIELD INSPECTOR. THIS IS NOT A SITE PLAN ISSUE.
- 21. UNLESS OTHERWISE INDICATED, ALL SEDIMENT CONTROL FACILITIES SHOWN ON THE PLAN OR DESCRIBED IN THE PROJECT NARRATIVE SHALL BE PLACED, INSTALLED, MAINTAINED, AND WHERE APPLICABLE, REMOVED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE <u>VIRGINIA EROSION AND SEDIMENT CONTROL</u> <u>HANDBOOK</u> (THE E&S HANDBOOK), PFM VOLUME III, AND ANY ADDITIONAL REQUIREMENTS BY THE ENGINEER.
- TOPSOIL AND SEEDING SHALL BE IN ACCORDANCE WITH PFM VOLUME III, EXCEPT FOR THAT OF ON-SITE WORK. A SEPARATE LANDSCAPE PLAN AND/OR DETAIL SHEET(S) (CP-100, ETC.) AND SPECIFICATIONS MAY BE PROVIDED; IN SUCH CASE, THE PROVISIONS OF SUCH SHEET(S) SHALL GOVERN ON-SITE WORK.
- 23. DISTURBED DITCHES ARE TO BE RESTORED, RESEEDED AND MAINTAINED UNTIL NEW GROWTH STABILIZES THE EXCAVATED AREAS.
- 24. CONSTRUCTION DEBRIS AND ERODED MATERIALS ARE TO BE REMOVED FROM DITCHES AT THE CONCLUSION OF THE WORK.
- 25. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES, JURISDICTIONAL AGENCIES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL CONNECTION OF SERVICES.
- 26. CONTRACTOR SHALL VERIFY BENCHMARKS AND DATUMS PRIOR TO COMMENCING CONSTRUCTION OR STAKING OF IMPROVEMENTS.
- 27. CONTRACTOR SHALL THOROUGHLY CHECK COORDINATION OF CIVIL, LANDSCAPE, MEP, ARCHITECTURAL, AND OTHER PLANS PRIOR TO COMMENCING CONSTRUCTION. OWNER AND ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY PRIOR TO COMMENCING WITH CONSTRUCTION
- 28. ALL DIMENSIONS GIVEN ARE TO EDGE OF PAVEMENT, FACE OF CURB, FACE OF BUILDING, AND TO PIPE CENTERLINES, UNLESS OTHERWISE NOTED ON PLANS.
- 29. FINAL INSPECTION BY THE ENGINEER AND OWNER IS REQUIRED PRIOR TO ACCEPTANCE OF THE PROJECT.
- 30. ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM WITH THESE DRAWINGS, PROJECT SPECIFICATIONS, AND WITH ALL CURRENT APPLICABLE CODES AND THE LATEST REVISIONS OF THE FOLLOWING REFERENCE DOCUMENTS:
 - A) VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) ROAD AND BRIDGE SPECIFICATIONS
- B) VDOT ROAD AND BRIDGE STANDARDS
- C) MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
- D) VIRGINIA WORK AREA PROTECTION MANUAL

 E) VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH)
- F) CITY OF CHESAPEAKE PUBLIC FACILITIES MANUAL.
- 31. SUBMITTALS ON MATERIALS FOR THIS PROJECT SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION.
- 32. THE CONTRACTOR SHALL LEGALLY DISPOSE OF ALL DEBRIS FROM THE SITE TO A LOCATION APPROVED BY THE CITY OF CHESAPEAKE.
- 33. ALL VALVES SHALL BE SET WITH A STANDARD CITY OF CHESAPEAKE VALVE BOX (PER CHESAPEAKE WS-01).
- 34. ALL WATER JOINTS AND FITTINGS LEADING UP TO THE WATER METER ARE TO BE MECHANICAL JOINT AND SHALL BE RESTRAINED PER THE REQUIREMENTS OF THE PFM.

GENERAL CITY OF CHESAPEAKE NOTES:

- 1. WHEN MATERIALS WHICH ARE UNSUITABLE FOR SUBGRADE, OR OTHER ROADWAY PURPOSES, OCCUR WITHIN THE LIMITS OF STREET CONSTRUCTION, THE CONTRACTOR SHALL BE REQUIRED TO EXCAVATE SUCH MATERIAL BELOW THE GRADE SHOWN ON PLANS, AND THE AREAS SO EXCAVATED SHALL BE BACKFILLED WITH APPROVED SUITABLE MATERIALS. THE EXTENT OF UNDERCUTTING AND BACKFILLING SHALL BE DETERMINED BY THE DEPARTMENT OF DEVELOPMENT AND PERMITS. CITY OF CHESAPEAKE, VIRGINIA.
- 2. ALL ROUGH GRADING MUST BE COMPLETED TO THE RIGHT-OF-WAY LIMITS PRIOR TO THE INSTALLATION OF CURB AND GUTTER.
- TEMPORARY DRAINAGE DURING CONSTRUCTION TO BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH <u>VIRGINIA EROSION AND SEDIMENT CONTROL STANDARDS, 3RD EDITION</u>, TO RELIEVE AREAS THAT MAY CAUSE DAMAGE TO ROADWAYS AS DIRECTED BY THE DEPARTMENT OF PUBLIC WORKS, CITY OF CHESAPEAKE, VIRGINIA.
- 4. ALL CONSTRUCTION METHODS & MATERIALS SHALL CONFORM WITH THE CURRENT SPECIFICATIONS AND STANDARDS OF THE DEPARTMENT OF DEVELOPMENT AND PERMITS, CITY OF CHESAPEAKE, VIRGINIA (DDP) EXCEPT WHERE OTHERWISE NOTED. DDP'S CONSTRUCTION STANDARDS ARE SET FORTH IN THEIR PUBLIC FACILITIES MANUAL, VOLUME II. A COPY OF WHICH MUST BE PURCHASED FROM DPW BY THE CONTRACTOR AND KEPT AT THE JOB SITE AT ALL TIMES. REFERENCES TO VDOT SHALL MEAN THE CURRENT STANDARDS AND/OR SPECIFICATION OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION.
- 5. THIS PLAN DOES NOT GUARANTEE THE EXISTENCE, NONEXISTENCE, SIZE, TYPE, LOCATION ALIGNMENT OR DEPTH OF ANY OR ALL UNDERGROUND UTILITIES OR OTHER FACILITIES. WHERE SURFACE FEATURES (MANHOLES, CATCH BASINS, VALVES, ETC.) ARE UNAVAILABLE OR INCONCLUSIVE, INFORMATION SHOWN MAY BE FROM UTILITY OWNER'S RECORDS AND/OR ELECTRONIC LINE TRACING, THE RELIABILITY OF WHICH IS UNCERTAIN. THE CONTRACTOR SHALL PERFORM WHATEVER TEST EXCAVATION OR OTHER INVESTIGATION IS NECESSARY TO VERIFY TIE-IN INVERTS, LOCATIONS AND CLEARANCES, AND SHALL REPORT IMMEDIATELY ANY DISCREPANCIES. UTILITY COMPANIES SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF AN EXCAVATION IN THE PROXIMITY OF THEIR UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AT HIS EXPENSE ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.
- 6. EXISTING TREES THAT ARE DESIGNATED TO BE RETAINED AFTER CONSTRUCTION SHALL BE PROTECTED DURING CONSTRUCTION IN THE FOLLOWING WAYS, AND AS PER VIRGINIA EROSION AND SEDIMENT CONTROL STANDARD SPECIFICATIONS 1.85.
 - A. PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION, PROTECTIVE BARRIERS SHALL BE PLACED AROUND ALL TREES TO BE RETAINED ON THE SITE TO PREVENT THE DESTRUCTION OR DAMAGE OF TREES. THESE WILL BE LOCATED IN A CIRCULAR PATTERN WITH RADIUS EQUAL TO THE LENGTH OF THE WIDEST OR LONGEST BRANCH. MATERIAL WILL NOT BE STOCKPILED WITHIN THIS DEFINED AREA AND VEHICLES AND OTHER EQUIPMENT ARE TO BE EXCLUDED TO AVOID SOIL COMPACTION. THE ONLY EXCEPTION TO THIS REQUIREMENT WILL BE THOSE SPECIFICALLY ALLOWED BY THESE STANDARDS AND SPECIFICATIONS.
- B. BOARDS OR WIRES OF A NON-PROTECTIVE NATURE WILL NOT BE NAILED OR ATTACHED TO TREES DURING BUILDING OPERATIONS.
- C. HEAVY EQUIPMENT OPERATIONS WILL BE CAUTIONED TO AVOID DAMAGE TO EXISTING TREE TRUNKS, AND ROOTS DURING LAND LEVELING OPERATIONS. FEEDER ROOTS SHOULD NOT BE CUT IN AN AREA EQUAL TO TWICE THE TREE CIRCUMFERENCE (MEASURED 4-1/2' ABOVE GROUND IN INCHES) EXPRESSED IN FEET. (EXAMPLE CIRCUMFERENCE OF TEN INCHES WOULD HAVE A "NO CUT" ZONE OF TWENTY FEET IN ALL DIRECTIONS FROM THE TREE). THIS SHOULD APPLY TO DITCHING FOR ALL UTILITIES SERVICES, IF FEASIBLE.
- D. ALL TREE LIMBS DAMAGED DURING BUILDING OR LAND LEVELING, OR REMOVED FOR ANY OTHER REASON, WILL BE PRUNED IN ACCORDANCE WITH CZO 19-600.
- E. ALL ROOTS SEVERED OR SEVERELY DAMAGED DURING BUILDING OR LAND LEVELING SHALL BE TRIMMED TO REMOVE DAMAGED OR SPLINTERED AREA. EXPOSED ROOTS SHOULD BE COVERED AND MOISTENED IMMEDIATELY AFTER EXPOSURE.
- 7. ALL DRAINAGE STRUCTURE INVERTS TO BE SHAPED IN ACCORDANCE WITH CHESAPEAKE STANDARD IS-1.
- 8. BEFORE ANY WORK OF ANY NATURE IS STARTED WITHIN THE LIMITS OF CITY STREETS RIGHT-OF-WAY, A PERMIT MUST BE OBTAINED FROM THE DEPARTMENT OF DEVELOPMENT AND PERMITS, CITY OF CHESAPEAKE.
- 9. ADJACENT PROPERTY OWNERS SHALL BE NOTIFIED 30 DAYS PRIOR TO CONSTRUCTION.

PERMIT NOTES

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONFIRM THAT ALL REQUIRED CONSTRUCTION PERMITS AND BONDS HAVE BEEN OBTAINED PRIOR TO CONSTRUCTION.
- 2. ALL FENCES, SIGNS, AND FLAG POLES WILL REQUIRE SEPARATE PERMITS.
- 3. CONTRACTOR SHALL CONTACT THE CITY OF CHESAPEAKE DEPARTMENT OF PUBLIC UTILITIES TO ARRANGE A PRE-CONSTRUCTION CONFERENCE.
- 4. THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN THE GENERAL N.P.D.E.S. PERMIT FOR STORM WATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES (THE VPDES PERMIT).

PAVING, GRADING AND DRAINAGE NOTES

OTHERWISE INDICATED.

- 1. ALL PAVING, CONSTRUCTION, MATERIALS, AND WORKMANSHIP WITHIN SHALL BE IN ACCORDANCE WITH CITY OF CHESAPEAKE SPECIFICATIONS AND STANDARD DETAIL SHEETS. (LATEST EDITION)
- 2. ALL UNPAVED AREAS DISTURBED BY SITE CONSTRUCTION SHALL BE REGRADED AND LANDSCAPED.
- 3. THE CONTRACTOR SHALL GRADE THE SITE TO THE ELEVATIONS INDICATED AND SHALL REGRADE WASHOUTS WHERE THEY OCCUR AFTER EVERY RAINFALL UNTIL SOIL IS STABILIZED.
- 4. ALL REINFORCED CONCRETE PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE SPECIFIED PER ASTM C-76, AND INSTALLED IN ACCORDANCE WITH THE APPROPRIATE APPROVING AUTHORITIES LATEST REQUIREMENTS AND SPECIFICATIONS.
- 5. ALL CONCRETE SIDEWALKS SHALL HAVE TOOL FORMED CONTROL JOINTS ON 5' CENTERS AND EXPANSION JOINTS PLACED ON 50' CENTERS. CONCRETE PAVEMENT JOINTS SHALL BE SPACED AT 12' CENTERS MAXIMUM.
- 6. ALL AREAS INDICATED AS PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TYPICAL PAVEMENT SECTIONS AS INDICATED ON THE DRAWINGS.
- 7. WHERE EXISTING PAVEMENT IS INDICATED TO BE REMOVED AND REPLACED, THE CONTRACTOR SHALL SAW CUT AT FULL DEPTH FOR A SMOOTH AND STRAIGHT JOINT AND REPLACE THE PAVEMENT AS INDICATED IN THE TYPICAL SECTIONS AND PAVEMENT DETAILS.
- WHERE NEW PAVEMENT MEETS THE EXISTING PAVEMENT, THE CONTRACTOR SHALL SAW CUT THE EXISTING PAVEMENT AT FULL DEPTH FOR A SMOOTH AND STRAIGHT JOINT AND MATCH THE EXISTING PAVEMENT ELEVATION WITH THE PROPOSED PAVEMENT UNLESS
- 9. THE CONTRACTOR SHALL ENSURE THAT ALL PLANTING AREAS (INTERIOR ISLANDS, FOUNDATION PLANTING AREAS, ETC.) ARE NOT COMPACTED AND DO NOT CONTAIN LIMEROCK OR OTHER MATERIAL (CLAY, SUBGRADE MATERIAL, MARL, ETC.) WHICH MAY ADVERSELY AFFECT DRAINAGE OF GREEN AREAS. THE CONTRACTOR SHALL ALSO EXCAVATE AND REMOVE ALL UNDESIRABLE MATERIAL FROM ALL
- 10. STRIP TOPSOIL AND ORGANIC MATTER AND PAVING MATERIAL FROM ALL AREAS UNDER BUILDINGS AND PROPOSED PAVEMENT AREAS. TOPSOIL SHALL BE STOCKPILED ON SITE FOR REPLACEMENT IN GREEN AREAS.

AREAS ON THE SITE TO BE PLANTED, AND SHALL BACKFILL THOSE AREAS IN ACCORDANCE WITH THE PLANTING PLAN NOTES AND DETAILS.

- 11. BEFORE PLACING PAVEMENT, CONTRACTOR SHALL VERIFY THAT SUITABLE HANDICAPPED ROUTES (PER A.D.A.) EXIST TO AND FROM EVERY DOOR AND ALONG ALL SIDEWALK CIRCULATION ROUTES. IN NO CASE SHALL HANDICAP RAMP SLOPES EXCEED 1 VERTICAL TO 12 HORIZONTAL. IN NO CASE SHALL SIDEWALK CROSS SLOPES EXCEED 2.0 PERCENT. IN NO CASE SHALL LONGITUDINAL SIDEWALK SLOPES EXCEED 5.0 PERCENT. CONTRACTOR SHALL CONTACT ARCHITECT AND ENGINEER PRIOR TO PAVING IF ANY EXCESSIVE SLOPES ARE ENCOUNTERED. NO CONTRACTOR CHANGE ORDERS WILL BE ACCEPTED FOR A.D.A. COMPLIANCE ISSUES.
- 12. CONTRACTOR ADJUSTMENTS TO SPOT GRADES TO MAINTAIN POSITIVE DRAINAGE IS ALLOWED, WITH THE PRIOR APPROVAL OF THE OWNER OR ENGINEER. CONTRACTOR SHALL CONTACT THE ENGINEER PRIOR TO PAVING IF ANY AREAS OF POOR DRAINAGE ARE
- 13. ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED SMOOTH. THE AREAS SHALL THEN BE STABILIZED AS SPECIFIED IN THE PLANS, AND MAINTAINED UNTIL SOIL IS STABILIZED IN ALL AREAS. ANY AREAS DISTURBED FOR ANY REASON PRIOR TO FINAL ACCEPTANCE OF THE JOB SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- 14. ALL CUT OR FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE SHOWN.
- 15. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
- 16. ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATER TIGHT.
- 17. ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT, AND SHALL HAVE TRAFFIC BEARING LIDS. MANHOLES IN UNPAVED AREAS SHALL BE 6" ABOVE FINISH GRADE. LIDS SHALL BE LABELED "STORM SEWER". SEE CITY DETAILS.
- 18. ALL STORM SEWER MANHOLES SHALL HAVE FULL DEPTH INVERTS.
- 19. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
- 20. CONTRACTOR SHALL USE VERTICAL TIGHT SHEETING AS NECESSARY TO PROTECT EXISTING UTILITIES, PAVEMENT, GUARDRAIL, ETC. AS INDICATED ON PLANS. SHEETING SHALL ALSO BE USED AS NECESSARY TO MAINTAIN CONSTRUCTION ACTIVITIES WITHIN THE LIMITS OF EXISTING RIGHT OF WAY. SHEETING, WHEN USED, WILL BE DRIVEN 15 INCHES OR MORE BELOW PIPE INVERT, AND TOP OF SHEETING CAN NOT BE LESS THAN EXISTING GROUND ELEVATIONS, UNLESS OTHERWISE APPROVED BY THE CITY. SHEETING SHALL NOT BE LEFT IN PLACE.
- 21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WITH MATCHING MATERIALS ANY PAVEMENT, DRIVEWAYS, WALKS, CURBS, ETC., THAT MUST BE CUT OR THAT ARE DAMAGED DURING CONSTRUCTION.
- 22. COMPACTION OF ALL BACKFILL MATERIALS SHALL TAKE PLACE IN 6" LIFTS.
- 23. ALL ROADWAYS SHALL BE KEPT CLEAN OF MUD AND DEBRIS AT ALL TIMES.
- 24. ALL SHOULDERS, DITCHES, AND BACKSLOPES MUST BE STABILIZED PRIOR TO ACCEPTANCE OF ROADS INTO THE STATE SECONDARY ROAD SYSTEM.
- 25. FILL OPERATIONS, SUBGRADE PREPARATION, AND ROADWAY CONSTRUCTION SHALL BE PERFORMED UNDER THE SUPERVISION OF A GEOTECHNICAL ENGINEER TO BE RETAINED BY THE OWNER.
- 26. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO AVOID UNNECESSARY DAMAGE TO EXISTING ROAD SURFACES. CONTRACTOR SHALL REPAIR ALL ROAD WAYS DAMAGED DURING THE CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.

MAINTENANCE OF TRAFFIC

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ZONE SIGNING AND ANY OTHER TRAFFIC CONTROL DEVICES NECESSARY TO PERFORM THE WORK. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL IMMEDIATELY REMOVE ALL SUCH TEMPORARY DEVICES. ALL TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE RIGHT-OF-WAY AT THE CONCLUSION OF EACH WORK DAY.
- 2. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL PLAN, SEALED BY PROFESSIONAL ENGINEER, AND APPROVED BY CITY TRAFFIC ENGINEER AT LEAST 10 DAYS PRIOR TO ANY WORK IN THE STREET. TRAFFIC CONTROL MEASURES SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT EDITION OF THE VIRGINIA WORK AREA PROTECTION MANUAL. TRAFFIC CONTROL MEASURES SHALL BE INSTALLED FOR ANY WORK ACTIVITY THAT TAKES PLACE ON OR ADJACENT TO ANY CITY STREET OR ROADWAY.
- 3. CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL, REPLACEMENT AND TEMPORARY RELOCATION OF EXISTING SIGNS. THIS WORK SHALL BE COORDINATED WITH THE CITY OF CHESAPEAKE, VDOT, AND ANY AFFECTED PROPERTY OWNERS.
- 4. SIGNS AND GUARDRAILS SHALL BE RESTORED TO THEIR ORIGINAL LOCATION DAILY. IN LOCATIONS WHERE CONSTRUCTION ACTIVITIES PROHIBIT REPLACEMENT OF GUARDRAILS TO A FULLY FUNCTIONAL CONDITION, TEMPORARY JERSEY BARRIERS SHALL BE USED TO PROTECT THE AFFECTED AREA. PROPOSED BARRIER LOCATION SHALL BE APPROVED BY CITY TRAFFIC ENGINEER PRIOR TO PLACEMENT.
- 5. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH PAVEMENT MARKINGS, SIGNAGE, AND STREET LIGHTING.
 CONTRACTOR SHALL REESTABLISH ALL PERMANENT TRAFFIC CONTROL MEASURES DISRUPTED DURING CONSTRUCTION IN ACCORDANCE
 WITH THE REQUIREMENTS OF THE FEDERAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

23462 No. REVISIONS DATE

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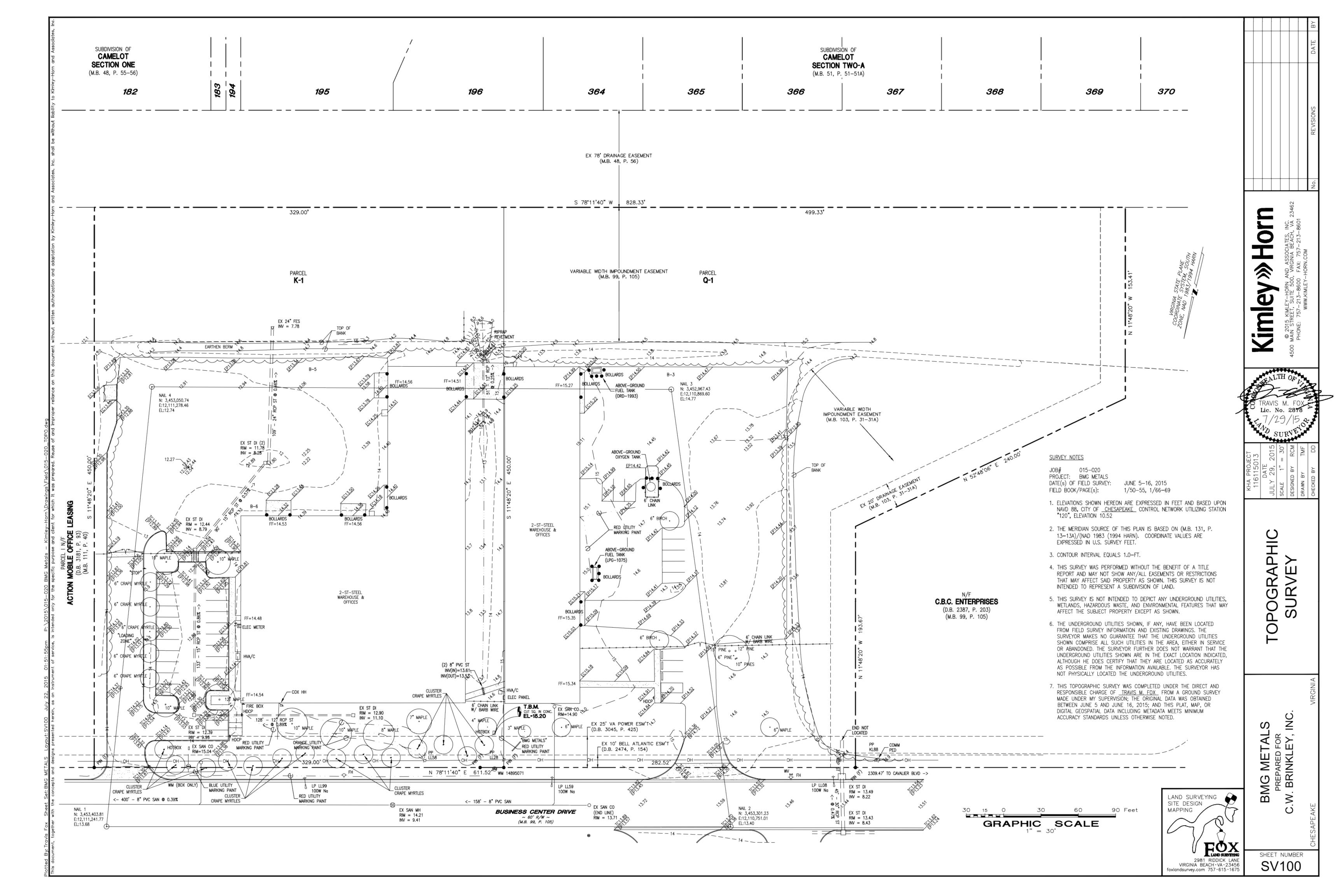


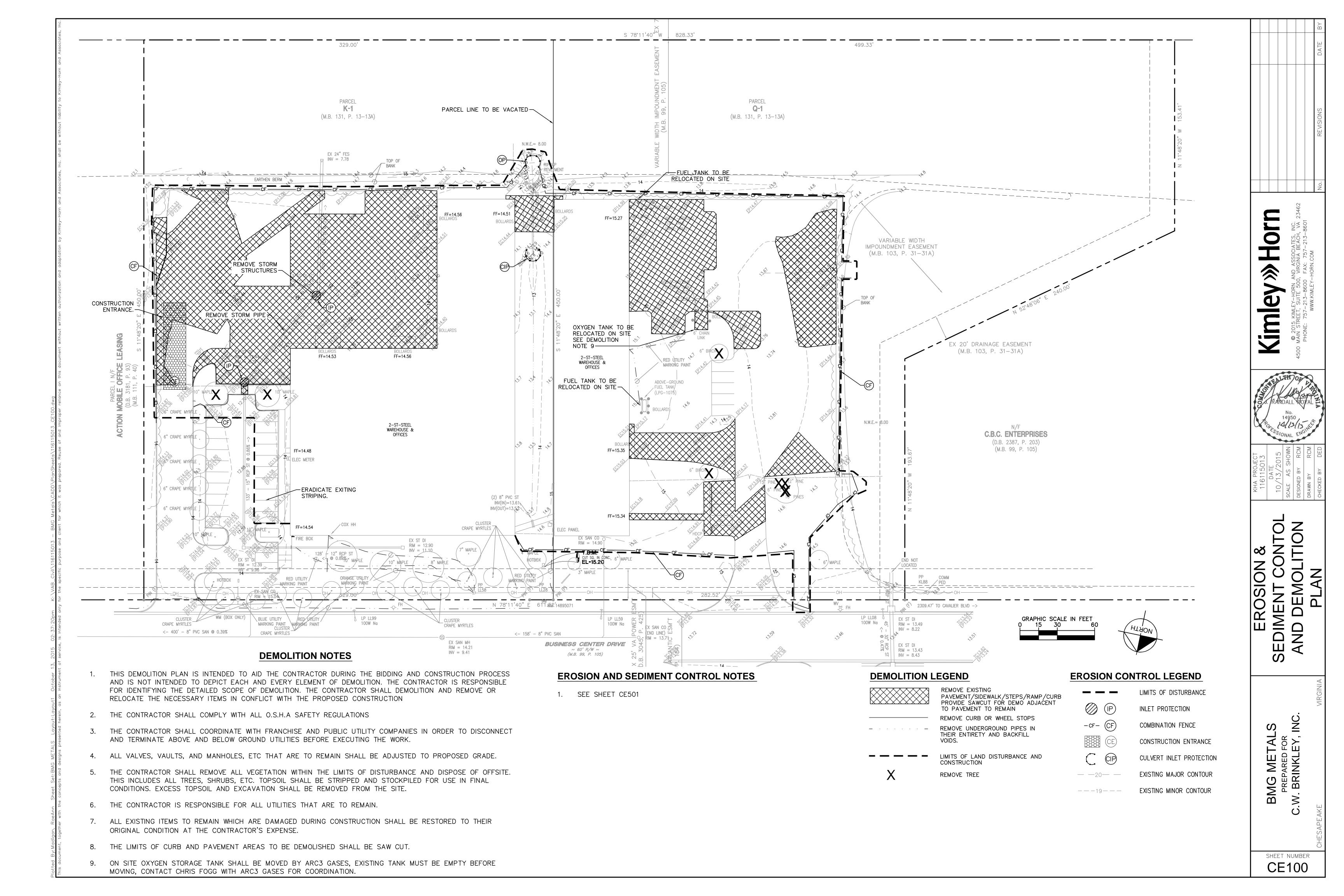
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EROSION AND SEDIMENT CONTROL NOTES

ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL LAWS AND REGULATIONS AND THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

THE FOLLOWING EROSION CONTROL MEASURES HAVE BEEN INCORPORATED INTO THE DESIGN FOR THIS PROJECT AND WILL APPLY TO ALL CONSTRUCTION ACTIVITIES WITHIN THE PROJECT LIMITS:

- EROSION AND SEDIMENT CONTROL MEASURES WILL CONTROL IMPACTS ON THE SITE AND ON THE RECEIVING WATERS DURING CONSTRUCTION.
- 2. EROSION CONTROL MEASURES ARE DESIGNED AND WILL BE CONSTRUCTED AT THE DOWNSTREAM ENDS OF CULVERTS TO PROTECT AGAINST EROSIVE VELOCITIES IN THE RUNOFF
- 3. A. TEMPORARY CONSTRUCTION ENTRANCES SHALL BE PROVIDED AT THE LOCATIONS SHOWN ON THE PLANS. ENTRANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (STD. & SPEC. 3.02).

B. WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED PUBLIC ROAD SURFACE, THE ROAD SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.

- C. CONSTRUCTION TRAFFIC SHALL BE LIMITED TO ACCESS ROADS. ALL TRAFFIC IS PROHIBITED FROM CROSSING DRAINAGE SWALES AND STREAMS EXCEPT WHERE ABSOLUTELY NECESSARY (STD. & SPEC. 3.24 VE&SC HANDBOOK).
- TEMPORARY SEDIMENT BARRIERS, CONSTRUCTION ENTRANCES, AND EROSION CONTROL STONE ARE TO BE PLACED PRIOR TO CLEARING AND GRUBBING AND PRIOR TO THE FIRST PHASE OF CONSTRUCTION.
- 5. CONSTRUCTION WILL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
- 6. AREAS WHICH ARE NOT TO BE DISTURBED WILL BE CLEARLY MARKED BY FENCING, FLAGS, ETC.
- 7. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN THIRTY (30) DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE (1) YEAR.
- 8. A. ALL STORM SEWER INLETS THAT ARE TO BE USED FOR DRAINAGE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.

B. BEFORE NEWLY CONSTRUCTED CONVEYANCE CHANNELS ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.

- 9. A. CUT AND FILL SLOPES SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE (1) YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZATION MEASURES UNTIL THE PROBLEM IS CORRECTED.
- B. CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME, OR SLOPE DRAIN STRUCTURE.
- 10. PERIODIC INSPECTIONS AND REQUIRED MAINTENANCE MUST BE PROVIDED, ESPECIALLY AFTER EACH SIGNIFICANT STORM. THE PROJECT SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES.
- 11. THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE (1) WEEK PRIOR TO THE PRECONSTRUCTION CONFERENCE, ONE (1) WEEK PRIOR TO THE COMMENCEMENT OF ANY LAND DISTURBING ACTIVITY. AND ONE (1) WEEK PRIOR TO THE FINAL INSPECTION.
- 12. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN THIRTY (30) DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. UNLESS OTHERWISE AUTHORIZED BY THE LOCAL PROGRAM ADMINISTRATOR. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
- 13. IN GENERAL, ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED DURING ACCORDING TO THE GUILDELINES SET FORTH IN THE PROJECT'S SWPPP.
- 14. WHENEVER SEDIMENT-LADEN WATER IS REMOVED FROM A CONSTRUCTION SITE BY MEANS OF PUMPING, A TEMPORARY SETTLING AND FILTERING DEVICE SHALL BE USED TO FILTER THE SEDIMENT-LADEN WATER PRIOR TO THE WATER BEING DISCHARGED OFF-SITE.

EROSION & SEDIMENT CONTROL NARRATIVE PROJECT DESCRIPTION

- 1. TYPE: ____SUBDIVISION _X_COMMERCIAL/INDUSTRIAL SITE ____ OTHER 2. SIZE: TOTAL 7.34 ACRES; DISTURBED AREA 3.41 ACRES 3. NUMBER OF LOTS OR PARCELS CREATED 0 4. NATURE OF PROPOSED IMPROVEMENTS: ___ STREETS X STORM DRAINAGE (X DITCH(ES) X PIPED SYSTEM(S)) ____ STORMWATER RETENTION BASIN(S) (_____"WET" ____"DRY") ___ WATER DISTRIBUTION
 - ___ GRAVITY SEWER
 - ____ UNDERGROUND DETENTION

EXISTING SITE CONDITIONS:

- 1. PREVAILING SLOPES (EXCEPT FOR DRAINAGE WAYS): ____ 0-1% _X_ 1-2%
- 2. TREE DENSITY: ___ NONE _X__ LIGHTLY WOODED ___ MODERATELY WOODED ___ HEAVILY
- 3. GROUND COVER: ___ BARE EARTH X GRASS ___ WEEDS ___ CROP UNDERBRUSH ___ DECAYING LEAVES ___ FOREST LITTER _X OTHER
- 4. EXISTING DRAINAGE FACILITIES (SEE PLAN):
 - X PIPED SYSTEM(S) X DITCH(ES)
 - ___ NATURAL DRAW(S) OR RAVINE (S)
 - ___ OPEN WATER
- 5. SOILS: TYPE (AGRONOMIST'S DESIGNATION):
 - TOMOTLEY-DELOSS-URBAN COMPLEX (UNIT MAP 44)

ADJOINING PROPERTY: THE PROPERTY IS SURROUNDED BY OTHER INDUSTRIAL USES SITES WITHIN THE CAVALIER INDUSTRIAL PARK. ADJACENT ACROSS THE BMP IS CAMELOT RESIDENTIAL SUBDIVISION.

STORMWATER MANAGEMENT

WATER QUALITY

THE CAVALIER BUSINESS CENTER WAS ORIGINALLY DESIGNED WITH A STORMWATER MASTER PLAN TO ALLOW EACH PARCEL TO BE DEVELOPED TO A C FACTOR OF 0.75. THIS STORMWATER MANAGEMENT PLAN WAS SET IN PLACE TO ALLOW FUTURE IMPROVEMENTS TO THE INDUSTRIAL PROPERTIES. SO LONG AS THE IMPROVEMENTS TO THE SITE DO NOT EXCEED THE 0.75 C FACTOR, THEN ADEQUATE WATER QUALITY MEASURES HAVE BEEN MET. THE EXISTING C FACTOR OF THE SITE IS 0.73 ON THE EAST SIDE AND 0.66 ON THE WEST SIDE. THE PROPOSED C FACTOR IS 0.73 ON BOTH SIDES.

WATER QUANTITY

SIMILARLY TO THE WATER QUALITY THE CAVALIER BUSINESS CENTER WAS ORIGINALLY DESIGNED WITH A STORMWATER MASTER PLAN TO ALLOW EACH PARCEL TO BE DEVELOPED TO A C FACTOR OF 0.75. SO LONG AS THE IMPROVEMENTS TO THE SITE DO NOT EXCEED THE 0.75 C FACTOR, THEN ADEQUATE WATER QUANTITY MEASURES HAVE BEEN MET. THE EXISTING C FACTOR OF THE SITE IS 0.73 ON THE EAST SIDE AND 0.66 ON THE WEST SIDE. THE PROPOSED C FACTOR IS 0.73 ON BOTH SIDES.

TABLE 3.32-E (REVISED JUNE 2003) PERMANENT SEEDING SPECIFICATION FOR COASTAL PLAIN AREA

SEED ₁		
LAND USE	SPECIES	APPLICATION RATES
MINIMUM CARE LAWN COMMERCIAL OR RESIDENTIAL	TALL FESCUE 1 or BERMUDAGRASS 1	175-200 LBS 75 LBS
HIGH-MAINTENANCE LAWN	TALL FESCUE 1 or BERMUDAGRASS 1 (seed) or BERMUDAGRASS 1 (by other vegetative establishment method, see Std. & Spec. 3.34)	200-250 LBS 40 LBS (UNHULLED) 30 LBS (HULLED)
GENERAL SLOPE (3:1 OR LESS)	TALL FESCUE 1 RED TOP GRASS OR CREEPING RED FESCUE SEASONAL NURSE CROP 2	128 LBS 2 LBS 20 LBS TOTAL 150 LBS
LOW-MAINTENANCE SLOPE (STEEPER THAN 3:1)	TALL FESCUE 1 BERMUDAGRASS 1 RED TOP GRASS OR CREEPING RED FESCUE SEASONAL NURSE CROP 2 SERICEA LESPEDEZA 3	93-108 LBS 0-15 LBS 2 LBS 20 LBS 20 LBS TOTAL 150 LBS

1 - WHEN SELECTING VARIETIES OF TURFGRASS, USE THE VIRGINIA CROP IMPROVEMENT ASSOCIATION (VCIA) RECCOMENDED TURFGRASS VARIETY LIST. QUALITY SEED WILL BEAR A LABEL INDICATING THAT THEY ARE APPROVED BY VCIA. A CURRENT TURFGRASS VARIETY LIST IS AVAILABLE AT THE LOCAL COUNTY EXTENSION OFFICE OR THROUGH VCIA AT 804-746-4884 OR AT HTTP://SUDAN.CSES.VT.EDU/HTML/TURF/TURF/PUBLICATIONS/PUBLICATIONS2.HTML

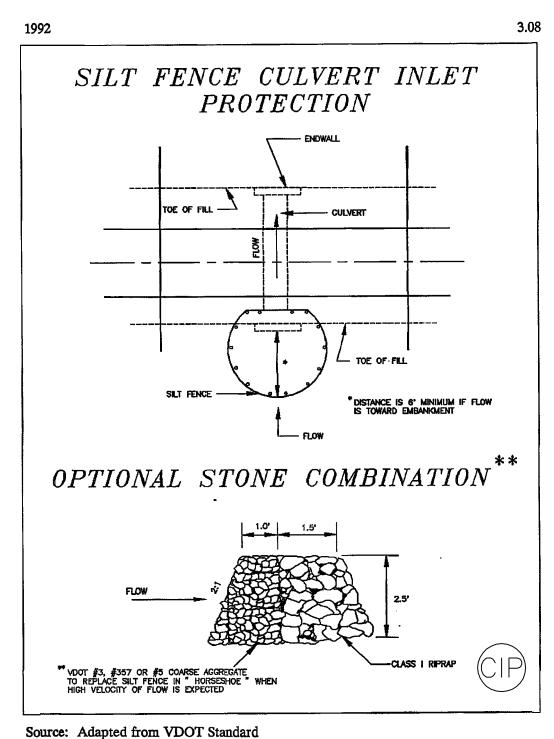
2 - USE SEASONAL NURSE CROPS IN ACCORDANCE WITH SEEDING DATES STATED BELOW FEBRUARY, MARCH-APRIL.. ANNUAL RYE FOXTAIL MILLET ANNUAL RYE

3 - MAY THROUGH OCTOBER, USE HULLED SEED. ALL OTHER SEEDING PERIODS, USE UNHULLED SEED. IF WEEPING LOVEGRASS IS USED, INCLUDE IN ANY SLOPE OR LOW MAINTENANCE MIXTURE DURING WARMER SEEDING PERIODS, INCREASE TO 30-40 LBS/ACRE.

- APPLY 10-20-10 FERTILIZER AT A RATE OF 500 LBS/ACRE (OR 12 LBS/1,000 SQ. FT.) APPLY PULVERIZED AGRICULTURAL LIMESTONE AT A RATE OF 2 TONS/ACRE (OR 90 LBS/1,000 SQ. FT.)

- 1. A SOIL TEST IS NECESSARY TO DETERMINE THE ACTUAL AMOUNT OF LIME REQUIRED TO ADJUST THE SOIL PH OF SITE. INCORPORATE THE LIME AND FERTILIZER INTO THE TOP 4-6 INCHES OF THE SOIL BY DISKING OR BY OTHER MEANS.
- WHEN APPLYING SLOWLY AVAILABLE NITROGEN, USE RATES AVAILABLE IN EROSION & SEDIMENT CONTROL TECHNICAL
- BULLETIN #4, 2003 NUTRIENT MANAGEMENT FOR DEVELOPMENT SITES AT HTTP://WWW.DCR.STATE.VA.US/SW/E&S.HTM#PUBS

COMBINATION FENCE (HIGH VISIBILITY ORANGE SILT FENCE) BELTON INDUSTRIES STYLE 939. 36". OR APPROVED EQUAL (SHALL BE INSTALLED IN ACCORDANCE WITH THE SILT FENCE DETAIL. THIS SHEET)



Sheets and Va. DSWC

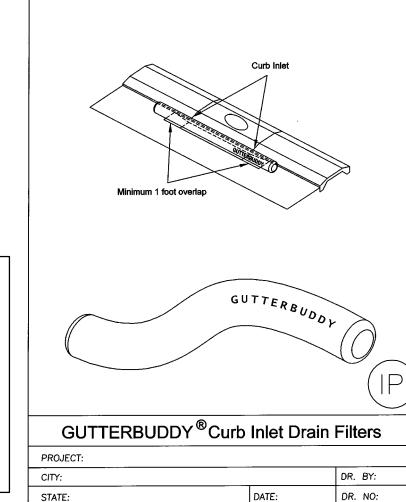
Plate 3.08-1 Source: Va. DSWC

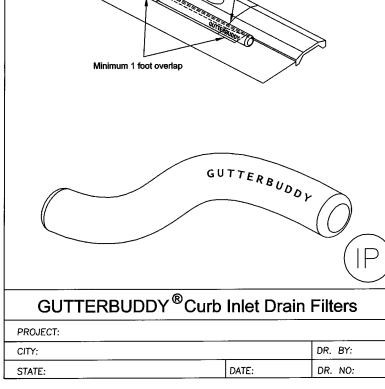
TABLE 3.31-B (REVISED JUNE 2003) TEMPORARY SEEDING SPECIFICATIONS QUICK REFERENCE FOR ALL REGIONS

	<u>SEED</u>	
APPLICATION DATES	SPECIES	APPLICATION RATES
SEPT. 1 - FEB. 15	50/50 MIX OF ANNUAL RYEGRASS (LOLIUM MULTI-FLORUM) AND CEREAL (WINTER) RYE (SECALE CEREALE)	50-100 LBS/ACRE
FEB. 16 - APR. 30	ANNUAL RYEGRASS (LOLIUM MULTI-FLORUM)	60-100 LBS/ACRE
MAY 1 - AUG. 31	GERMAN MILLET	50 LBS/ACRE

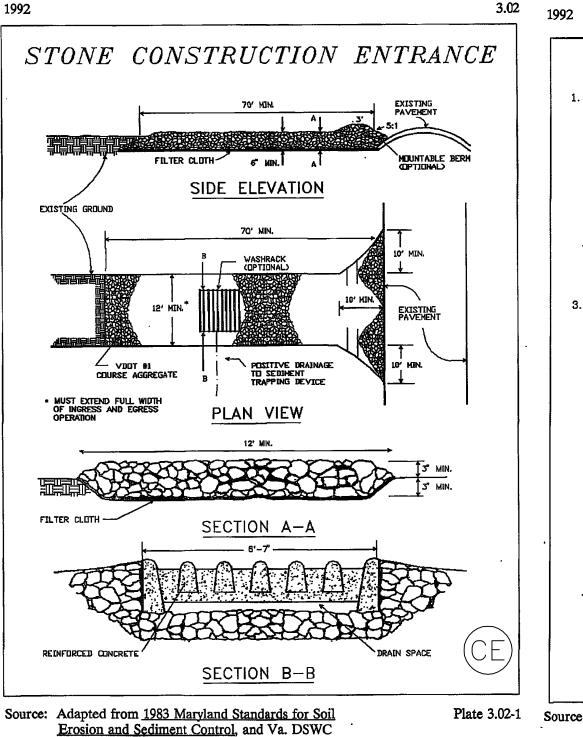
- FERTILIZER AND LIME • APPLY 10-10-10 FERTILIZER AT A RATE OF 450 LBS./ACRE (OR 10 LBS./1,000 SQ. FT.)
- APPLY PULVERIZED AGRICULTURAL LIMESTONE AT A RATE OF 2 TONS/ACRE (OR 90 LBS./1,000 SQ. FT.)

- 1. A SOIL TEST IS NECESSARY TO DETERMINE THE ACTUAL AMOUNT OF LIME REQUIRED TO ADJUST THE SOIL PH OF SITE. 2. INCORPORATE THE LIME AND FERTILIZER INTO THE TOP 4-6 INCHES OF THE SOIL BY DISKING OR
- BY OTHER MEANS. 3. WHEN APPLYING SLOWLY AVAILABLE NITROGEN, USE RATES AVAILABLE IN EROSION & SEDIMENT CONTROL TECHNICAL BULLETIN #4, 2003 NUTRIENT MANAGEMENT FOR DEVELOPMENT SITES AT HTTP: //WWW.DCR.STATE.VA.US/SW/E&S.HTM#PUBS





CONSTRUCTION OF A SILT FENCE



GRAVEL AND WIRE MESH

DROP INLET SEDIMENT

SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE

WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED

MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE

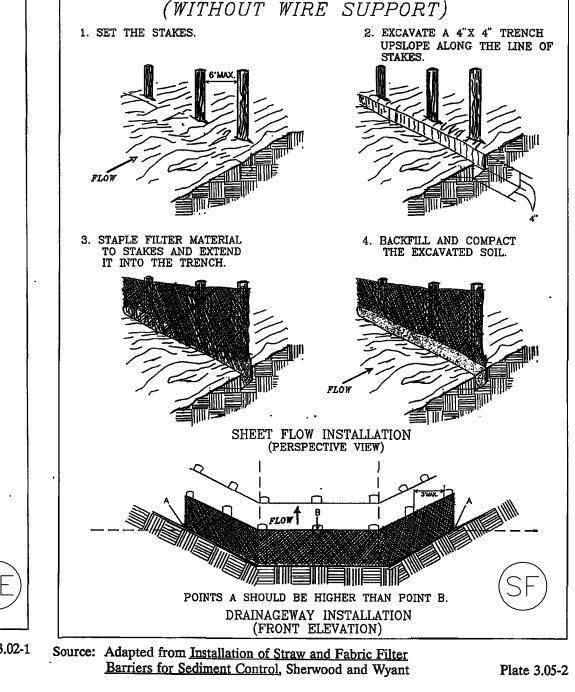
TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE

BUT NOT WHERE PONDING AROUND THE STRUCTURE

---- 18" MIN. --

RUNOFF WATER



SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED AND WHERE AN OVERFLOW

CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING

* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE.

AROUND THE STRUCTURE.

Plate 3.07-2 Source: Va. DSWC

3.07 1992

GRAVEL*(12"MIN. DEPTH)

AND

7

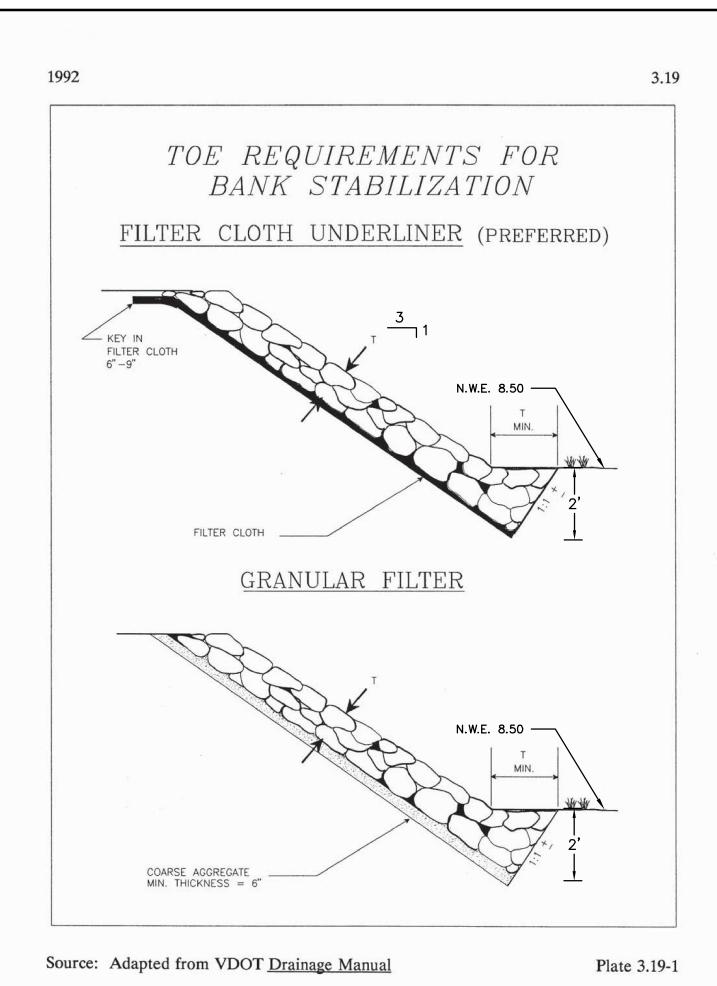
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BLOCK AND GRAVEL DROP INLET SEDIMENT FILTER O U DIME TES

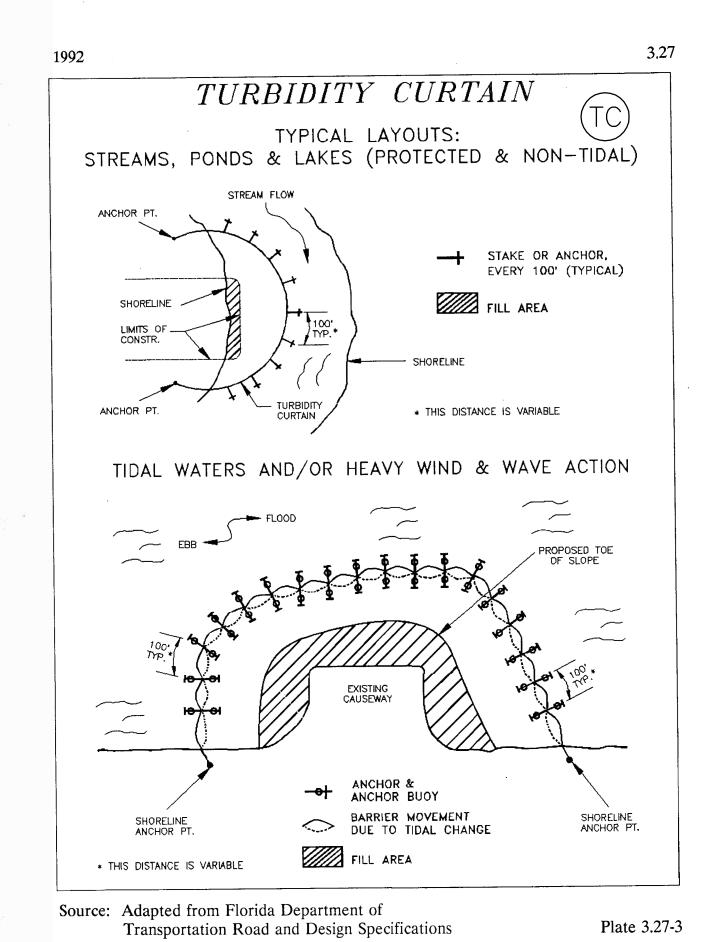
BRINKLE

Plate 3.07-3

SHEET NUMBER CE500



III - 173

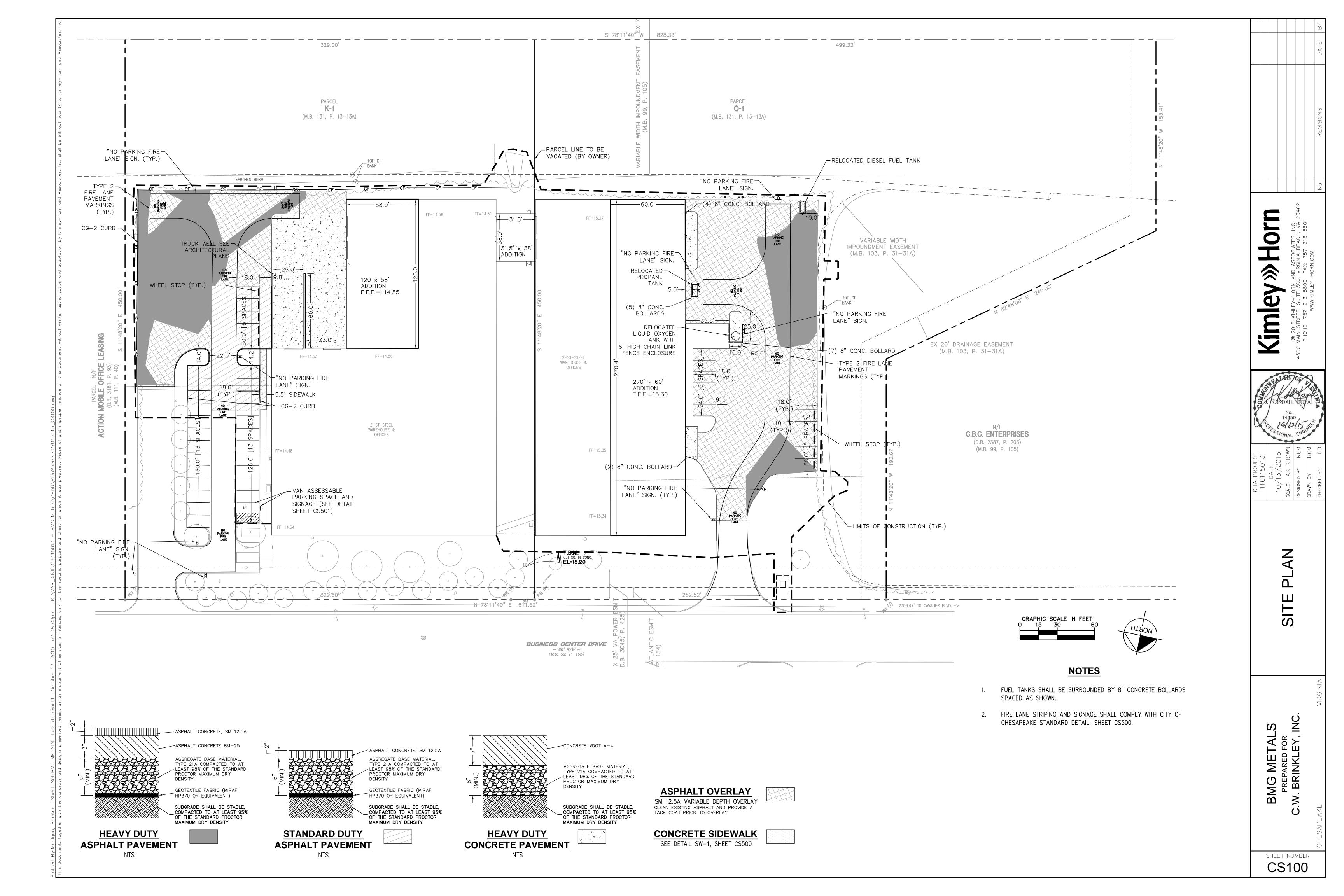


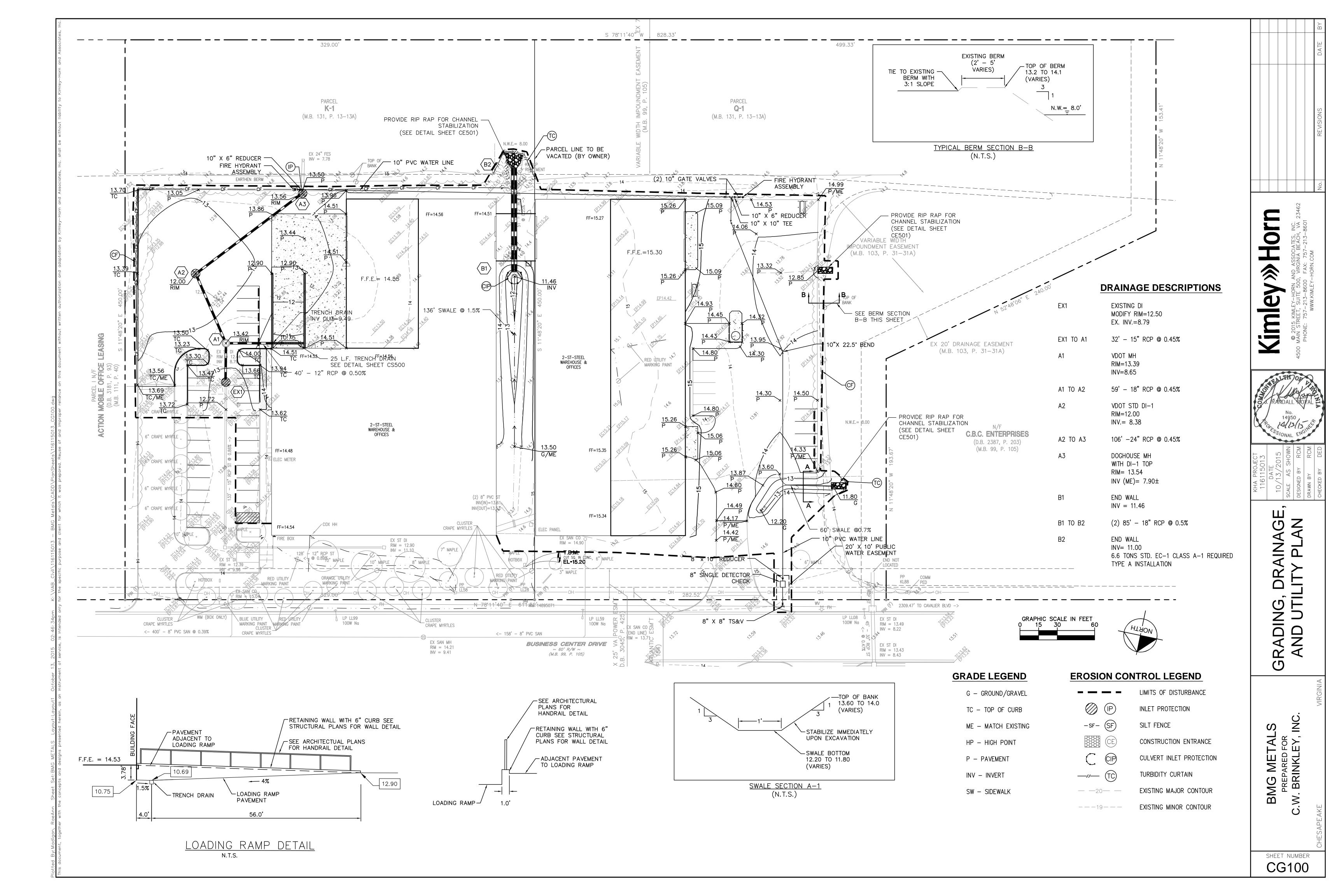
III - 252

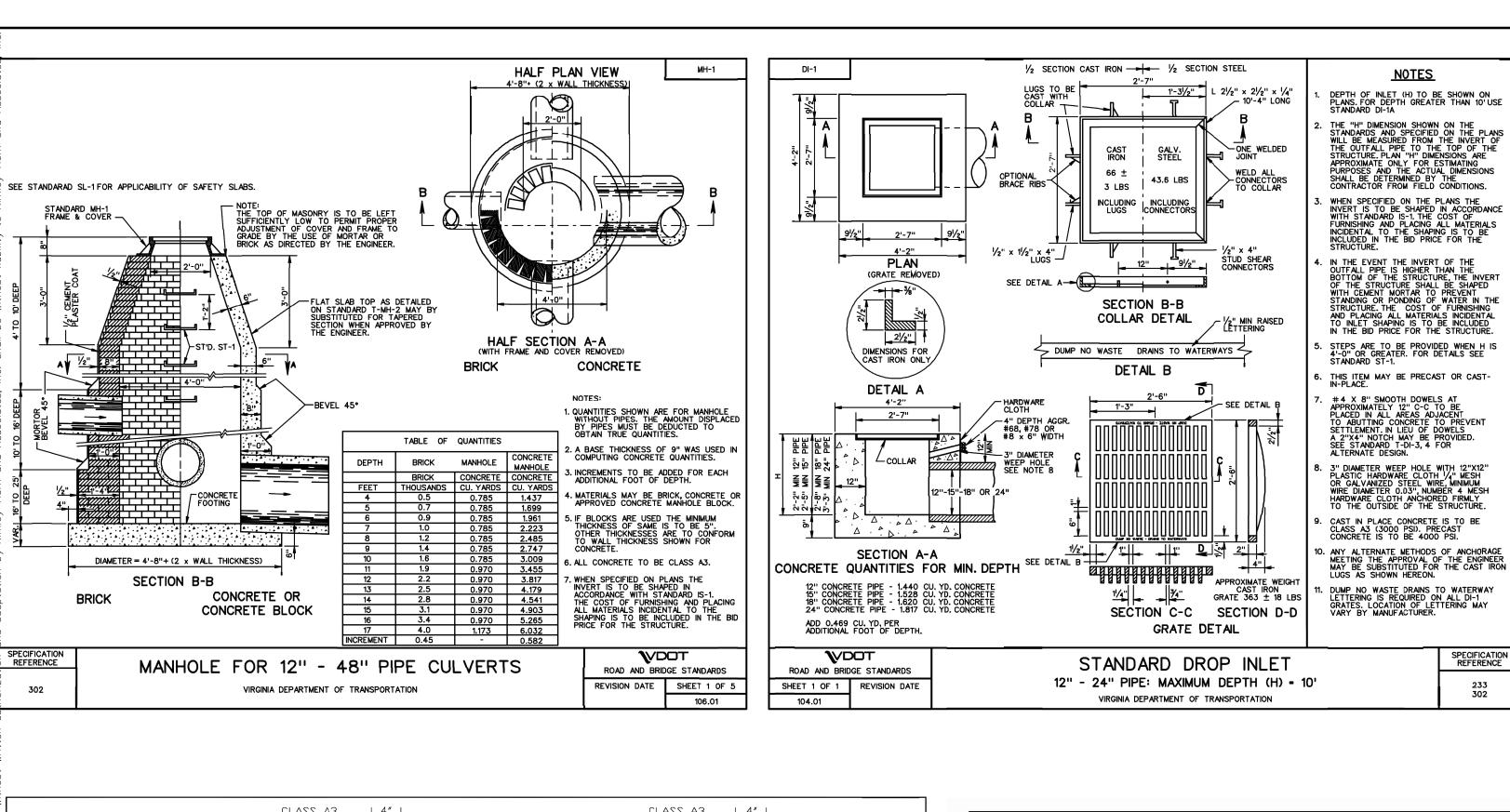
SEDIMENT CONTROL
DETAILS

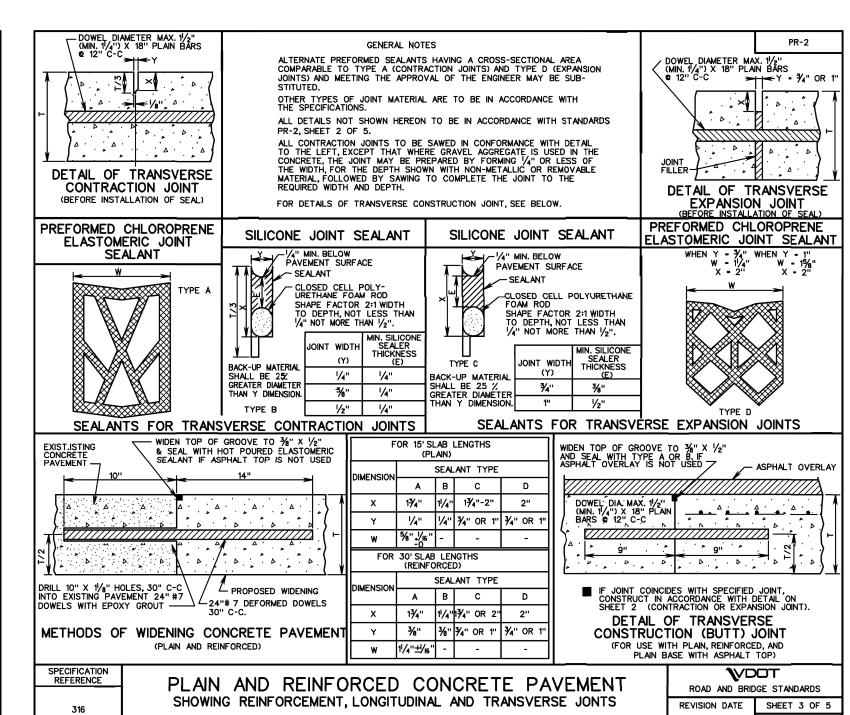
BMG METALS
PREPARED FOR
C.W. BRINKLEY, INC.

SHEET NUMBER CE501





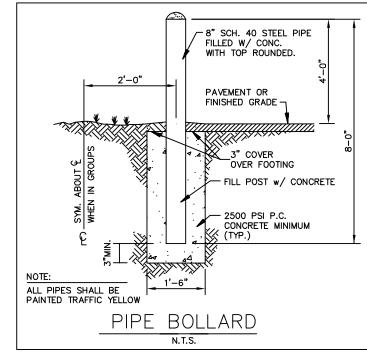


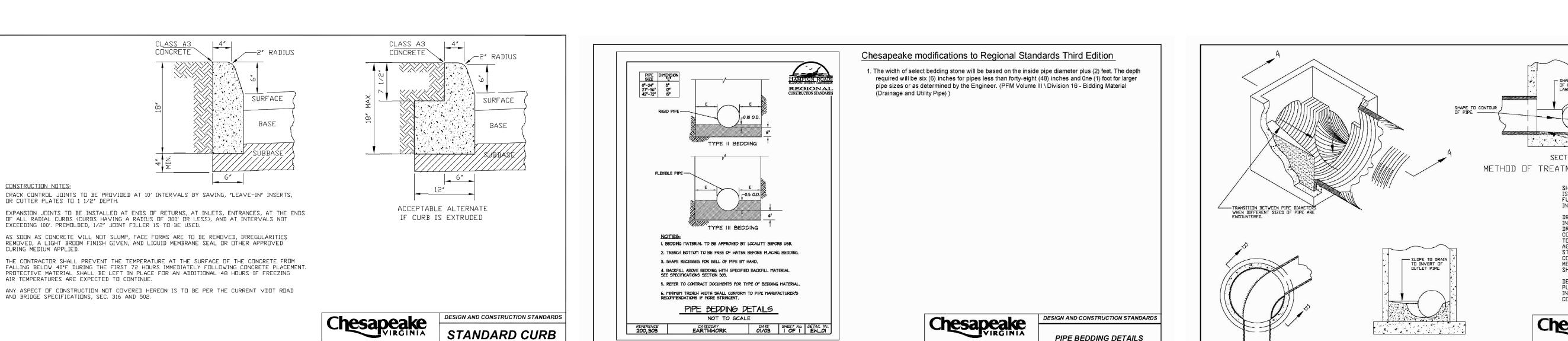


VIRGINIA DEPARTMENT OF TRANSPORTATION

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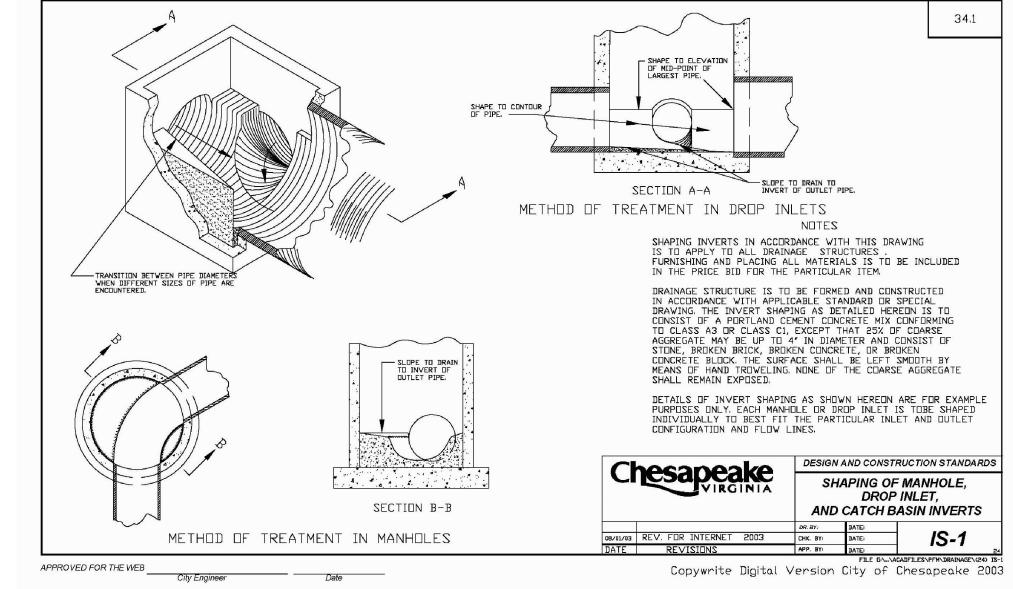




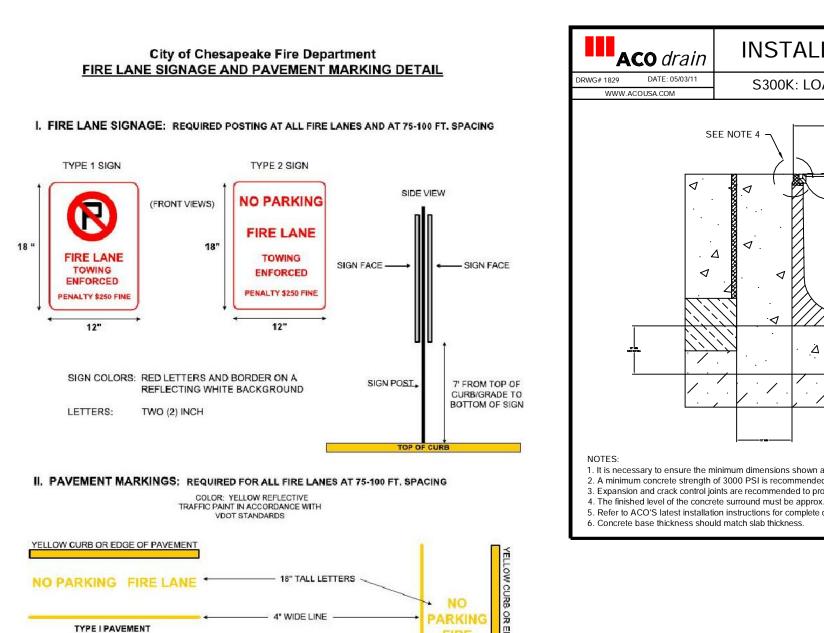
Regional Construction Standards

Third Edition

APPROVED FOR THE WEB
Utility Engineer



301.03

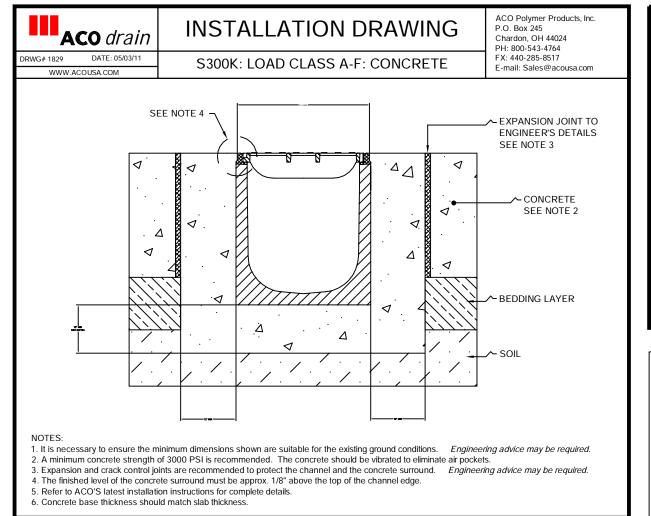


TYPE 2 PAVEMENT

APPROVED FOR THE WEB _______City Engineer

NOTE: FIRE LANE MIN. WIDTH IS 20 FT., BUT MAY BE INCREASED IN ACCORDANCE WITH THE PFM.
FOR AESTHETIC PURPOSES, FIRE LANE

BOUNDARIES MAY BE DESIGNATED BY PAINTING

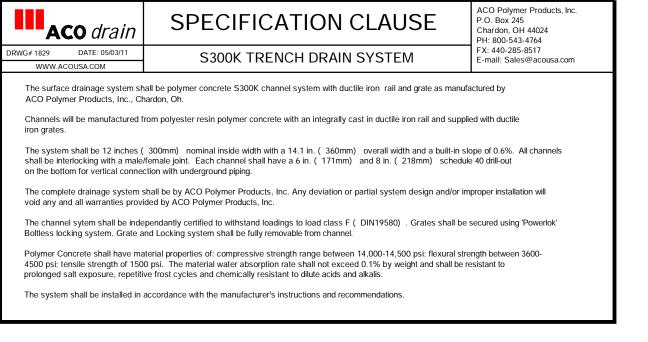


CG-2

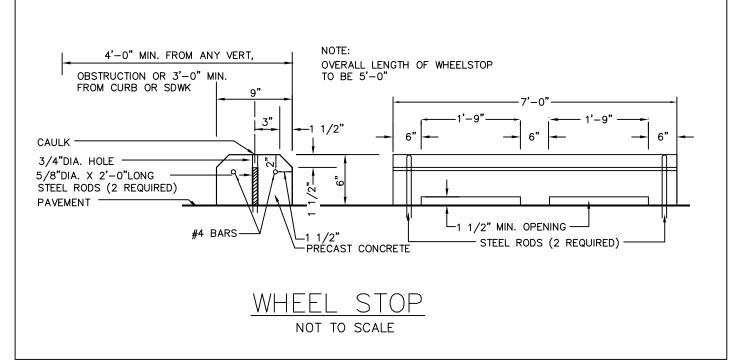
ILE G\...\ACADFILES\PFM\CURBS_ENTRANCES_GUTTERS_AND_SIDEWALKS\ (01) CG-

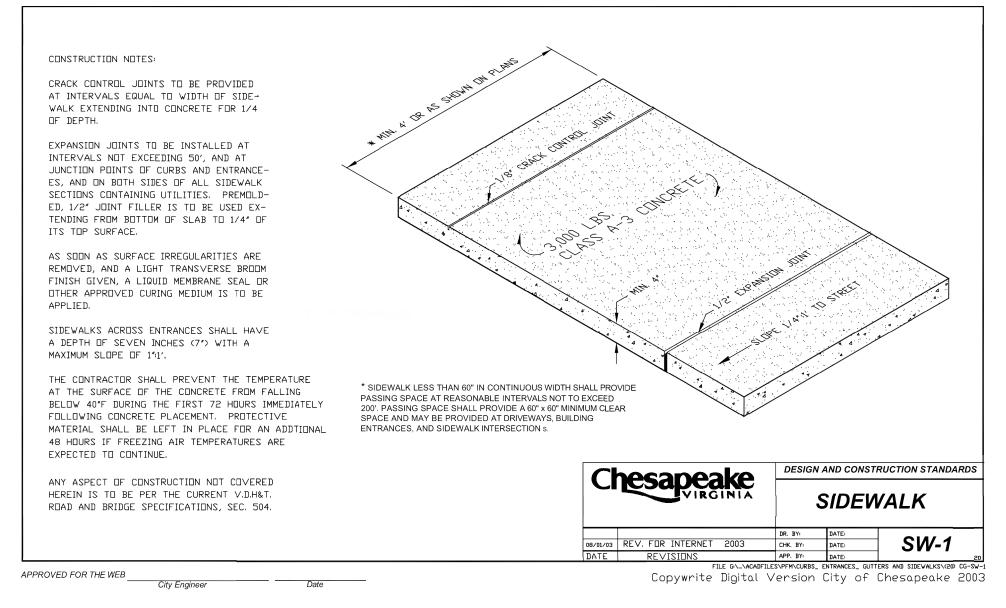
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101/03 REV. FOR INTERNET 2003



SPECIFICATION REFERENCE





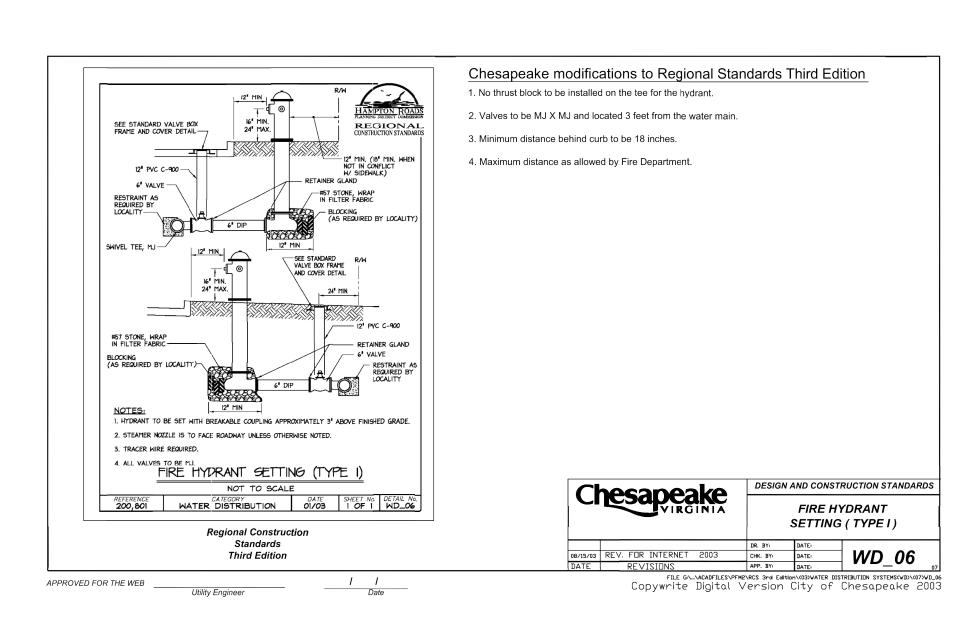
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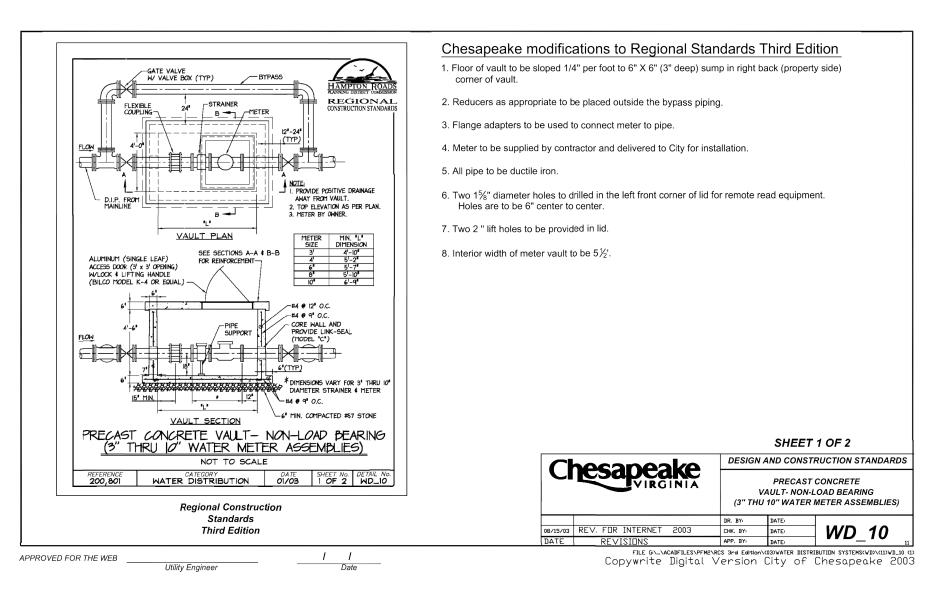
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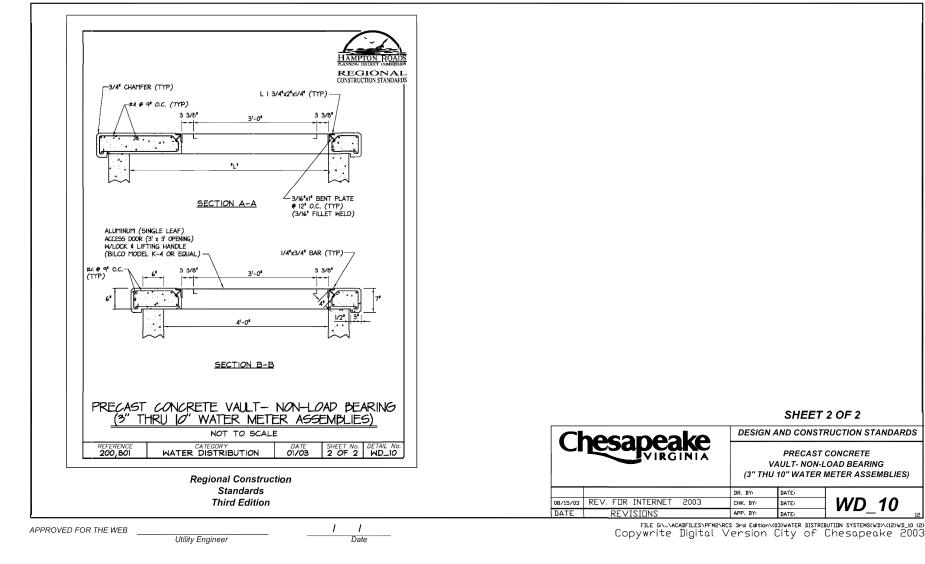
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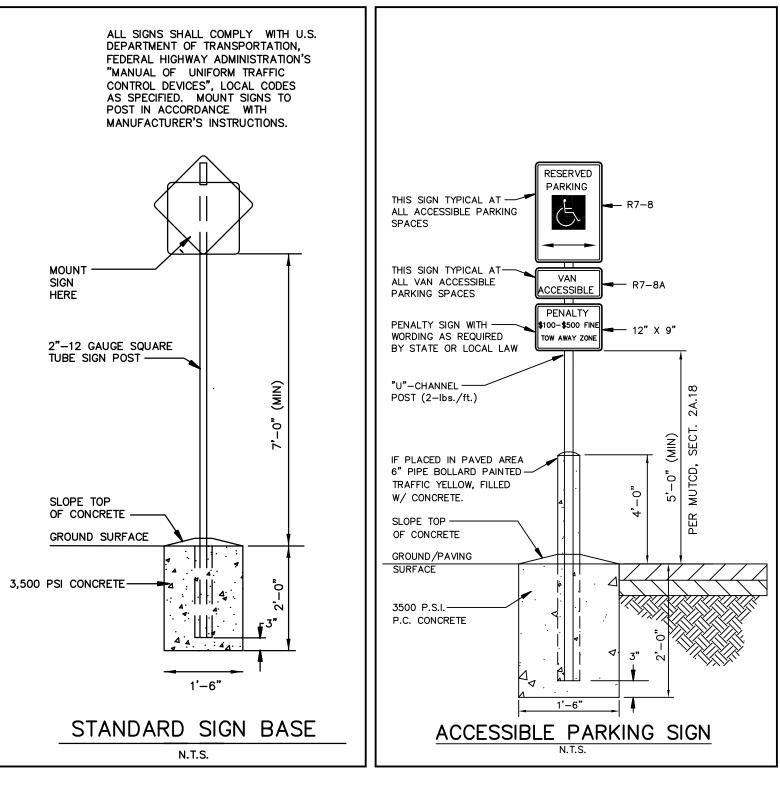
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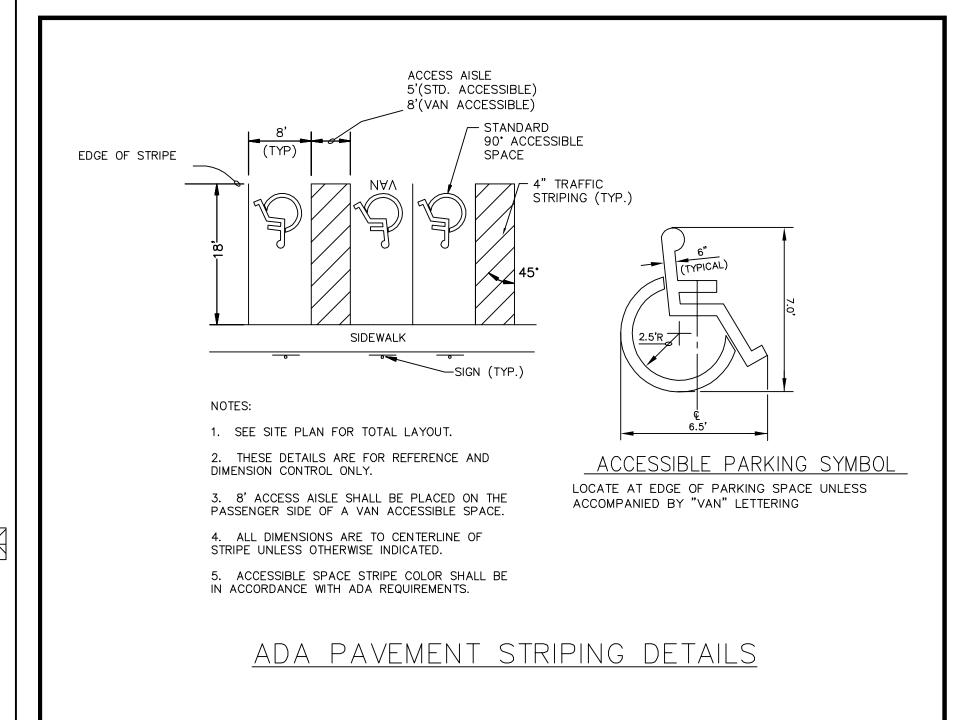
SHEET NUMBER CS500

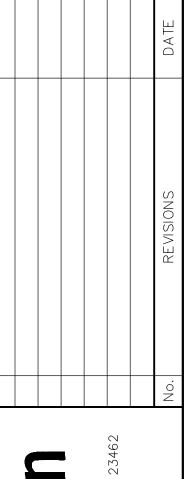




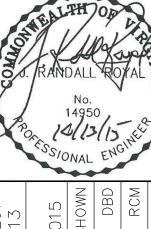








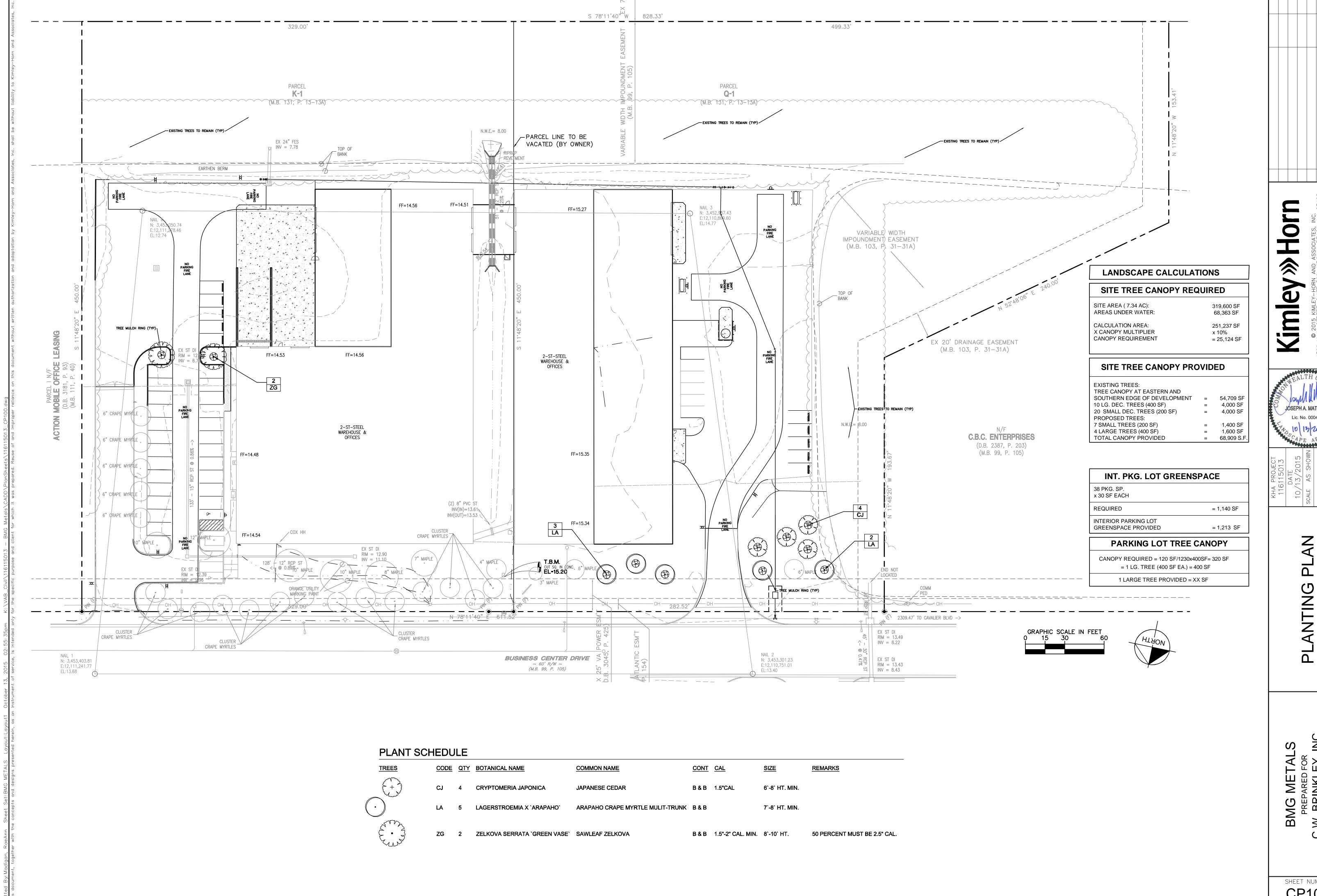
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ONSTRUCTION DETAILS

MG METALS
PREPARED FOR
BRINKLEY, INC.

SHEET NUMBER CS501



ANTING

PREPARED FOR W. BRINKLEY, INC

SHEET NUMBER CP100

THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, ETC. NECESSARY TO COMPLETE ALL PLANTING AS SHOWN ON THE PLANTING PLANS, AS SPECIFIED HEREIN OR IN SUPPLEMENTAL SPECIFICATIONS, AND/OR AS REQUIRED BY JOB CONDITIONS. THE WORK IN GENERAL INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:

(2) PROVIDING TOPSOIL AND ALL SOIL AMENDMENTS: (3) EXCAVATION OF PLANT PITS; (4) PROVIDING ALL PLANT MATERIAL AND MULCH AS INDICATED ON PLANS; (5) FERTILIZING: (6) STAKING; (7) CHEMICAL APPLICATION

MAY EXIST AND CROSS THROUGH THE AREAS OF CONSTRUCTION.

(9) ALL OTHER ITEMS NECESSARY TO MAKE WORK COMPLETE. THE PLANTING CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK WITH THE OTHER CONTRACTORS. THIS PLAN DOES NOT GUARANTEE THE EXISTENCE OR NON-EXISTENCE OF ANY UTILITIES. PRIOR TO ANY CONSTRUCTION. EXCAVATION. OR ROTO-TILLING THE CONTRACTOR SHALL ASSUME THE RESPONSIBILITY OF VERIFYING THE LOCATIONS OF ALL UTILITIES. ABOVE AND/OR BELOW GROUND, PUBLIC AND/OR PRIVATE THAT

(1) SOIL PREPARATION

(8) MAINTENANCE AND GUARANTEE:

(1.1) BECAUSE OF SOIL COMPACTION DURING CONSTRUCTION, ALL PLANTING AREAS SHALL BE ROTOTILLED TO A DEPTH AS SHOWN IN DETAILS OR AS SPECIFIED IN WRITTEN SPECIFICATIONS, A PLANTING AREA IS ANY AREA IN WHICH NEW PLANTING OCCURS. EXCAVATE THE ENTIRE AREA BOUNDED BY WALKS WALLS FENCES ETC. REMOVE SPOIL MATERIAL AS DIRECTED BY OWNER OR THE OWNER'S REPRESENTATIVE.

(1.2) EXCAVATED SOIL SHOULD BE USED AS BACKFILL MATERIAL IN ORDER TO ELIMINATE OR MINIMIZE THE OCCURRENCE OF HYDROLOGIC DISCONTINUITIES, AND/OR SOIL INTERFACE PROBLEMS COMMON TO PLANTING BEDS CONTAINING SOILS OF DIFFERENT TEXTURE. WHERE THE TEXTURE OF THE EXISTING SOIL IS UNDESIRABLE FOR THE PLANT SPECIES BEING PLANTED (i.e. HEAVY CLAY, PURE SAND) AND WHERE THE pH OF THE EXISTING SOIL IS SUITABLE FOR THE SPECIES BEING PLANTED, THE SOIL SHALL BE BLENDED 66% EXISTING SOIL WITH 33% AMENDED SOIL.

(1.3) WHERE IT IS DETERMINED THAT THE EXISTING SOIL EXCAVATED IS TOTALLY UNSUITABLE FOR USE AS BACKFILL MATERIAL BECAUSE OF IMPROPER pH OR THE PRESENCE OF DEBRIS OR OTHER DELETERIOUS MATTER, THE BACKFILL MATERIAL SHALL BE 100% AMENDED SOIL MIXTURE AS DESCRIBED BELOW WITH THE ADDITION OF 1/2 PART SAND.

AMENDED SOIL: PLANTING SOIL FOR AMENDING BACKFILL SHALL BE 100 % TOPSOIL WITH AMENDMENTS ADDED ACCORDING TO THE RECOMMENDATIONS OF THE SOILS TEST REPORT TO BRING THE pH VALUE OF THE PLANTING BACKFILL MIXTURE WITHIN THE RANGES DESCRIBED BELOW. THE TOPSOIL AND AMENDMENTS SHALL BE MIXED AT AN ON-SITE LOCATION. PLANTING SOIL SHALL NOT BE MIXED AT INDIVIDUAL PLANT LOCATIONS. (2) TOPSOIL AND ALL SOIL AMENDMENTS

(2.1) NECESSARY QUANTITIES OF TOPSOIL SHALL BE SUPPLIED BY THE CONTRACTOR AND APPROVED BY THE OWNER OR HIS REPRESENTATIVE. THE CONTRACTOR, SHALL APPLY TOPSOIL ONLY AFTER SECURING SOIL TEST (V.P.I.), APPLYING RECOMMENDED TREATMENT THEREOF, AND SUBMITTING FOR APPROVAL.

(2.2) ON-SITE TOPSOIL MEETING THE CONDITIONS FOR THESE NOTES MAY BE USED, OR IF INSUFFICIENT QUANTITIES ARE AVAILABLE, OUTSIDE TOPSOIL MEETING THE FOLLOWING CRITERIA SHALL BE PROVIDED.

(2.3) ON-SITE TOPSOIL SHALL BE STOCKPILED TOPSOIL THAT HAS BEEN SALVAGED IN ACCORDANCE WITH SECTION 303.04(A) OF THE V.D.O.T. SPECIFICATIONS. IT SHALL BE FREE FROM REFUSE, OR ANY MATERIAL TOXIC TO PLANT GROWTH, AND REASONABLY FREE FROM SUBSOIL, STUMPS, ROOTS, BRUSH, STONES, CLAY, LUMPS, OR SIMILAR OBJECTS LARGER THAN 3" IN THEIR GREATEST DIMENSION

(2.4) OFF-SITE TOPSOIL. IF NEEDED. SHALL BE TOPSOIL FURNISHED FROM SOURCES OUTSIDE THE PROJECT LIMITS AND SHALL BE THE ORIGINAL TOP LAYER OF A SOIL PROFILE FORMED UNDER NATURAL CONDITIONS, TECHNICALLY DEFINED AS THE "A" HORIZON BY THE SOIL SOCIETY OF AMERICA. IT SHALL CONSIST OF NATURAL. FRIABLE, LOAMY SOIL WITHOUT ADMIXTURES OF SUBSOIL OR OTHER FOREIGN MATERIALS, AND SHALL BE REASONABLY FREE FROM STUMPS, ROOTS, HARD LUMPS, STIFF CLAY, STONE, NOXIOUS WEEDS, BRUSH, OR OTHER LITTER. IT SHALL HAVE DEMONSTRATED BY EVIDENCE OF HEALTHY VEGETATION GROWING, OR HAVING GROWN ON IT PRIOR TO STRIPPING, THAT IT IS REASONABLY WELL DRAINED AND DOES NOT CONTAIN SUBSTANCES TOXIC TO PLANTS.

(2.4.1) "A" HORIZON: "A" HORIZONS SHALL BE MINERAL HORIZONS CONSISTING OF (1) HORIZONS OR ORGANIC MATTER ACCUMULATION FORMED OR FORMING AT OR ADJACENT TO THE SURFACE; (2) HORIZONS THAT HAVE OST CLAY, IRON, OR ALUMINUM, WITH RESULTANT CONCENTRATIONS OF QUARTZ OR OTHER RESISTANT MINERALS OF SAND OR SILT SIZE; OR (3) HORIZONS DOMINATED BY 1 OR 2 ABOVE BUT TRANSITIONAL TO AN

(2.4.2) "A" HORIZON SUBDIVISIONS: A1 HORIZONS SHALL BE MINERAL HORIZONS. FORMED OR FORMING AT OR ADJACENT TO THE SURFACE, IN WHICH THE FEATURE EMPHASIZED IS AN ACCUMULATION OF HUMIDIFIED ORGANIC MATTER INTIMATELY ASSOCIATED WITH THE MINERAL FRACTION. THE SOIL IS A DARK OR DARKER THAN UNDERLYING HORIZONS BECAUSE OF THE PRESENCE OF ORGANIC MATTER. THE ORGANIC MATERIAL IS ASSUMED TO BE DERIVED FROM PLANT AND ANIMAL REMAINS DEPOSITED ON THE SURFACE OF THE SOIL OR DEPOSITED WITHIN THE HORIZON WITHOUT APPRECIABLE TRANSLOCATION.

A2 HORIZONS SHALL BE MINERAL HORIZONS IN WHICH THE FEATURE EMPHASIZED IS LOSS OF CLAY, IRON OR ALUMINUM, WITH RESULTANT CONCENTRATION OF QUARTZ OR OTHER RESISTANT MINERALS IN SAND AND

(2.4.3) "A" HORIZON TOPSOIL CONTENT: "A" HORIZON TOPSOIL SHALL BE IN ACCORDANCE WITH THE FOLLOWING MATERIALS BY PERCENTAGE OF VOLUME:

SAND 15-20% CLAY 15-20%

ORGANIC MATERIAL 12-18%

(4) PLANT MATERIAL AND MULCH

(2.5) TOPSOIL SHALL HAVE A pH IN THE RANGE OF 6.0 TO 7.0 PRIOR TO MIXING WITH AMENDMENTS. IF THE pH IS NOT WITHIN THIS RANGE, THE pH SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE OR A DIFFERENT SOURCE OF SUPPLY SHALL BE SELECTED. TOPSOIL SHALL BE SUBJECT TO INSPECTION BY THE OWNER OR THE OWNER'S REPRESENTATIVE AT THE SOURCE OF SUPPLY AND IMMEDIATELY PRIOR TO USE IN THE PLANTING

(2.6) PLANTING SOIL AFTER AMENDING FOR DECIDUOUS PLANTS SHALL HAVE A pH VALUE BETWEEN 6.0 AND 7.0, AND FOR EVERGREEN OR SEMI-EVERGREEN PLANTS, SHALL HAVE A 2H VALUE BETWEEN 5.0 AND 6.0. A REPRESENTATIVE SAMPLE FROM THE EXCAVATED SOIL SHALL BE FIELD TESTED FOR pH UTILIZING A RELIABLE SOIL PH METER OR SOIL PH TEST KIT. THE PH VALUE OF THE NATURAL SOIL BACKFILL MIXTURE MAY BE IG LIMESTONE OR ALUMINUM SULFATE AS NEE (3) EXCAVATION OF PLANT PITS

(3.1) PRIOR TO EXCAVATION OF TREE PITS, AN AREA EQUAL TO TWO TIMES THE DIAMETER OF THE ROOT BALL

SHALL BE ROTO-TILLED TO A DEPTH EQUAL TO THE DEPTH OF THE ROOT BALL. (3.2) IN CONTINUOUS SHRUB AND GROUND COVER BEDS, THE ROTO-TILLED PERIMETER SHOULD EXTEND TO A DISTANCE OF ONE FOOT BEYOND THE DIAMETER OF A SINGLE ROOTBALL. THE BED SHALL BE TILLED TO A DEPTH EQUAL TO THE ROOT BALL DEPTH PLUS 6".

(3.3) TREE PITS FOR WELL DRAINED SOILS SHALL BE DUG SO THAT THE BOTTOM OF THE ROOT BALL WILL REST ON UNDISTURBED SOIL AND THE TOP OF THE ROOT BALL WILL BE FLUSH WITH FINISH GRADE. IN POORLY DRAINED SOILS THE TREE PIT SHALL BE DUG SO THAT THE ROOT BALL RESTS ON UNDISTURBED SOIL AND THE TOP OF THE ROOT BALL IS 1" ABOVE FINISH GRADE. PLANT PIT WALLS SHALL BE SCARIFIED PRIOR TO PLANT

INSTALLATION. (3.4)SHRUB BEDS SHALL BE EXCAVATED TO 6" BELOW THE ROOT BALL OF THE SHRUB.

(3.5) ALL AIR POCKETS SHALL BE REMOVED FROM PLANT PIT UPON BACK FILLING WITH PLANTING SOIL BY FILLING APPROXIMATELY 1/2 TO 2/3 OF THE PIT WITH PLANTING BACKFILL MATERIAL, TAMPING BACKFILL MATERIAL AND THEN WATERING TO ENSURE SETTLEMENT OF THE MATERIAL BACKFILL MATERIAL SHALL THEN BE PLACED WITHIN THE REMAINING CAVITIES OF THE PLANT PIT, TAMPING AND WATERED AGAIN TO ENSURE SETTLEMENT OF THE BACKFILL MATERIAL. UNDER NO CIRCUMSTANCES SHALL ANY SOIL OR BACKFILL MATERIAL BE APPLIED ABOVE THE ROOT BALL OF THE PLANTS.

(3.6) GROUND COVERS SHALL BE PLANTED IN BEDS HAVING A MINIMUM DEPTH OF 4" BELOW THE PROPOSED ROOT DEPTH. PLANTS SHALL BE EVENLY SPACED AND SET TO MAINTAIN THE ORIGINAL GROWING DEPTH WHILE ALLOWING FOR A 2" TOP DRESSING OF MULCH.

(4.1) THE NAMES OF PLANTS REQUIRED UNDER THIS CONTRACT CONFORM TO THOSE GIVEN IN L.H. BAILEY'S HORTUS THIRD, 1976 EDITION, NAMES OF VARIETIES NOT INCLUDED THEREIN CONFORM GENERALLY WITH NAMES ACCEPTED IN THE NURSERY TRADE. ALL PLANTS SHALL HAVE A HABIT OF GROWTH THAT IS NORMAL FOR THEIR SPECIES AND THEY SHALL BE SOUND, HEALTHY AND VIGOROUS, WITH WELL DEVELOPED ROOT SYSTEMS, ALL PLANT MATERIAL SHALL BE FREE FROM INSECT PESTS, PLANT DISEASES, AND INJURIES, ALL PLANTS SHALL EQUAL OR EXCEED THE MEASUREMENTS SPECIFIED IN THE PLANT LIST, WHICH ARE MINIMUM ACCEPTABLE SIZES. TREES SHALL HAVE SINGLE TRUNKS EXCEPT AS NOTED. ALL SHRUBS SHALL BE HEALTHY, VIGOROUS. AND OF GOOD COLOR, ONLY DAMAGED OR BROKEN BRANCHES OF PLANT MATERIAL MAY BE

(4.2) ALL TAGS, STRINGS OR ANY OTHER MATERIAL ATTACHED TO THE PLANTS SHALL BE REMOVED AT THE TIME OF THE PLANTING. BALLING AND BURLAPPING OF PLANTS SHALL FOLLOW THE CODE OF STANDARDS CURRENTLY RECOMMENDED BY THE AMERICAN STANDARD FOR NURSERY STOCK.

PRUNED AND ANY NECESSARY PRUNING SHALL BE DONE AT THE TIME OF PLANTING. HOWEVER, UNDER NO

CIRCUMSTANCES SHALL THE CENTRAL LEADER OF A PLANT BE PRUNED.

(4.3) SUBSTITUTIONS WILL BE PERMITTED ONLY UPON SUBMISSION OF PROOF THAT ANY PLANT IS NOT OBTAINABLE, ALL SUBSTITUTIONS MUST BE AUTHORIZED BY THE OWNER OR THE OWNER'S REPRESENTATIVE IN WRITING PROVIDING FOR USE OF THE NEAREST EQUIVALENT OBTAINABLE SIZE OR VARIETY OF PLANT HAVING THE SAME ESSENTIAL CHARACTERISTICS AS THE ORIGINAL VARIETY WITH AN EQUITABLE ADJUSTMENT OF CONTRACT PRICE.

(4.4) BALLED AND BURLAPPED PLANTS (B&B) SHALL BE DUG WITH FIRM, NATURAL BALLS OF EARTH OF SUFFICIENT DIAMETER AND DEPTH TO ENCOMPASS THE FIBROUS AND FEEDING ROOT SYSTEM NECESSARY FOR FULL RECOVERY OF THE PLANT. BALLS SHALL BE FIRMLY WRAPPED WITH BURLAP OR SIMILAR MATERIAL AND BOUND WITH TWINE OR CORD. BURLAP SHALL NOT BE PULLED OUT FROM UNDER BALLS DURING PLANTING OPERATIONS, B&B PLANTS WHICH CANNOT BE PLANTED IMMEDIATELY ON DELIVERY SHALL BE COVERED WITH MOIST SOIL, MULCH, OR OTHER MATERIAL TO PROVIDE PROTECTION FROM DRYING WINDS AND

(4.5) PLANTS NOTED "CONTAINER" ON THE PLANT LIST MUST BE CONTAINER GROWN WITH WELL ESTABLISHED ROOT SYSTEMS. LOOSE CONTAINERIZED PLANT MATERIAL WILL NOT BE ACCEPTED. ALL PLANTS INJURED AND PLANTS WITH ROOT BALLS BROKEN DURING TRANSPORT OR PLANTING OPERATIONS WILL BE REJECTED. BARE-ROOTED PLANTS (BR) SHALL BE PLANTED OR HEELED-IN IMMEDIATELY UPON DELIVERY. ALL PLANTS SHALL BE WATERED AS NECESSARY UNTIL PLANTED.

(4.6) NEW PLANTINGS SHALL BE LOCATED WHERE SHOWN ON THE PLAN EXCEPT WHERE OBSTRUCTIONS BELOW GROUND ARE ENCOUNTERED OR WHERE CHANGES HAVE BEEN MADE IN THE PROPOSED CONSTRUCTION. NECESSARY ADJUSTMENTS SHALL BE MADE ONLY AFTER APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE. REASONABLE CARE SHALL BE EXERCISED TO HAVE PLANTING PITS DUG AND SOIL PREPARED PRIOR TO MOVING PLANTS TO THEIR RESPECTIVE LOCATIONS TO ENSURE THAT THEY WILL NOT BE UNNECESSARILY EXPOSED TO DRYING OR PHYSICAL DAMAGE.

(4.7) A LIST OF PLANTS, INCLUDING SIZES, QUANTITIES AND OTHER REQUIREMENTS, IS SHOWN ON THE DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE QUANTITIES AS SHOWN ON THE DRAWINGS. IF DISCREPANCIES OCCUR IN THE QUANTITIES SHOWN, THE PLANTING PLANS SHALL GOVERN.

(4.8) THE PLANTING CONTRACTOR WILL BE NOTIFIED BY THE GENERAL CONTRACTOR WHEN OTHER DIVISIONS OF THE WORK HAVE PROGRESSED SUFFICIENTLY TO COMMENCE WORK ON THE PLANTING OPERATION. THEREAFTER, PLANTING OPERATIONS SHALL BE CONDUCTED UNDER FAVORABLE WEATHER CONDITIONS DURING THE NEXT SEASON OR SEASONS WHICH ARE NORMAL FOR SUCH WORK. REMOVAL OF ROCK OR OTHER JNDERGROUND OBSTRUCTIONS, RELOCATIONS TO AVOID OBSTRUCTIONS, AND PROVISION OF DRAINAGE FOR

PLANTING AREAS SHALL BE DONE ONLY AS APPROVED BY THE OWNER OR THE OWNER'S REPRESENTATIVE.

(4.9) ALL PLANTS SHALL BE PLANTED UPRIGHT AND FACED TO GIVE THE BEST APPEARANCE OR RELATIONSHIP TO ADJACENT STRUCTURES. ROOTS SHALL BE SPREAD IN THEIR NORMAL POSITION, ALL BROKEN OR FRAYED ROOTS SHALL BE CUT OFF CLEANLY. PLANTS WITH CIRCLING ROOTS SHALL NOT BE ACCEPTED. BURLAP TWINE AND OTHER FASTENING MATERIAL SHALL BE CUT AND PUSHED TO THE BOTTOM OF THE PLANT PIT PRIOR TO BACKELLI MATERIAL BEING PLACED, THE PLANT SHALL NOT BE ROCKED BACK, AND FOLIRTH TO ENTIRELY REMOVE THE WRAPPING MATERIAL NOR SHALL ANY OTHER PRACTICE BE PERFORMED WHICH COULD CAUSE SHALL BE REMOVED TO AT LEAST 12" BELOW THE TOP OF THE ROOT BALL.

(4.10) AT THE TIME OF PLANTING, AND AS MANY TIMES LATER AS SEASONAL CONDITIONS REQUIRE, EACH PLANT AND THE SOIL AROUND IT SHALL BE THOROUGHLY WATERED. CARE SHOULD BE EXERCISED WHEN WATERING TO AVOID FLOODING OF PLANTS AND BEDS, DISPLACEMENT OF MULCH MATERIAL AND EROSION OF SOIL, AVOID USE OF HIGH PRESSURE HOSES, THE CONTRACTOR SHALL MAKE, AT HIS EXPENSE. WHATEVER ARRANGEMENTS MAY BE NECESSARY TO ENSURE AN ADEQUATE SUPPLY OF WATER TO MEET THE NEEDS OF THIS CONTRACT DURING INSTALLATION. THE CONTRACTOR SHALL ALSO FURNISH ALL NECESSARY HOSE, EQUIPMENT ATTACHMENTS AND ACCESSORIES FOR THE ADEQUATE WATERING OF PLANTED AREAS AS MAY BE REQUIRED UNTIL ACCEPTANCE BY THE OWNER OR THE OWNER'S

(4.11) MULCH SHALL BE CLEAN, GROUND OR SHREDDED BARK OR HARDWOOD MULCH. IN PLANTING AREAS WHERE SLOPES EXCEED 3:1 AND AT DRAINAGE DISPERSION POINTS OR ALONG NATURAL WATER WAYS WHERE CONCENTRATIONS OF SURFACE WATER EMPTY FROM CULVERTS OR PAVED DITCHES. HEAVY JUTE MESH SHALL BE INSTALLED. SHREDDED HARDWOOD OR BARK MULCH SHALL HAVE BEEN COMPOSTED FOR AT LEAST TWO MONTHS PRIOR TO APPLICATION. FRESHLY GROUND MULCH WILL NOT BE ACCEPTED. FINELY GROUND MULCH WHICH INHIBITS DRAINAGE, ENCOURAGES WEED GROWTH OR BECOMES WATERLOGGED WILL NOT BE ACCEPTED. MULCH SHALL BE COMPOSED OF SIMILAR SIZED FRAGMENTS AND SHALL NOT CONTAIN STICKS, CONES, LEAVES, UNSHREDDED PIECES, OR OTHER DELETERIOUS MATTER, ALL AZALEA AND CAMELLIA PLANTING BEDS SHALL HAVE 1" OF PINE STRAW MULCH UNDER 2" OF BARK OR SHREDDED HARDWOOD MULCH.

(4.12) ALL PLANTS SHALL BE MULCHED IMMEDIATELY AFTER PLANTING. GROUND COVERS SHALL BE MULCHED WITH A 2" LAYER OF SHREDDED HARDWOOD OR BARK MULCH. ALL OTHER PLANTING BEDS, SHRUBS AND TREE PLANTINGS SHALL BE MULCHED, WITH A 3" MINIMUM LAYER OF MULCH THIS MULCH SHALL ENTIRELY COVER THE AREA OF THE PLANTING PIT, BED, OR EARTH BERM AROUND EACH PLANT WITH THE EXCEPTION OF THE AREA IMMEDIATELY ADJACENT TO THE PLANT TRUNK OR TRUNKS. THE AREA IMMEDIATELY ADJACENT TO THE PLANT TRUNK OR TRUNKS SHALL BE LEFT FREE OF ANY MULCH. WEED FABRIC SHALL BE INSTALLED IN ALL PLANTING BEDS.

(5.1) THE FERTILIZER SHOULD BE A DRY SLOW RELEASE FORM OF FERTILIZER. IT SHOULD CONTAIN AT LEAST 25-50% WATER INSOLUBLE NITROGEN. THE FERTILIZER SELECTED SHOULD ALSO HAVE A LOW ADJUSTED SALT INDEX TO PREVENT BURNING. THE N-P-K RATIO SHOULD NOT EXCEED 3-1-2 UNLESS THE SOIL TEST REVEALS THAT ADDITIONAL LEVELS OF P AND K ARE NECESSARY

(5.2) FOR DECIDUOUS TREES, USE OSMOCOTE (18-6-12) AT THE RATE EQUIVALENT TO 4 LBS ACTUAL N/1000 SQ FT OF ROOT ZONE AREA/YEAR. FOR EVERGREEN TREES USE 2 LBS ACTUAL N/1000 SQ FT OF ROOT ZONE

(5.3) MIX THE FERTILIZER INTO THE BACKFILL SOIL OF THE TREE PITS. FOR SHRUB BEDS, MIX THE FERTILIZER INTO THE AREA THAT HAS BEEN ROTO-TILLED FOR THE PLANTS.

(5.4) THE FERTILIZER RATE FOR CONTINUOUS GROUND COVER AND SHRUB BEDS. SHOULD BE DERIVED BY CALCULATING THE ENTIRE ROOT ZONE AREA. THE ROOT ZONE AREA IS FOUND BY MEASURING THE AREA CONTAINING THE MULTIPLE PLANT ROOTS, USE OSMOCOTE (18-6-12) AT A RATE EQUIVALENT TO 2 LBS OF N /1000 SQ FT OF ROOT ZONE AREA. THE FERTILIZER SHOULD BE EVENLY DISTRIBUTED WITHIN THE SHRUB BED

(5.5) ALWAYS BE SURE THAT ADEQUATE MOISTURE IS AVAILABLE WHEN FERTILIZING SO THAT THE FERTILIZER WILL BE DISSOLVED INTO THE SOIL SOLUTION FOR ROOT UPTAKE AND TO AVOID BURNING THE ROOTS.

(6.1) ALL TREES SHALL BE STAKED ACCORDING TO THE TYPICAL DETAILS PROVIDED.

(6.2) THREE STAKES SHALL BE REQUIRED PER TREE. THE STAKES SHALL BE DRIVEN IN A RADIAL ATTERN, VERTICALLY INTO THE GROUND OUTSIDE THE EDGE OF THE ROOTBALL TO A DEPTH OF 2 1/2 $^{\circ}$ TO 3', ON OPPOSITE SIDES OF THE TREE IN SUCH A MANNER AS NOT TO INJURE THE ROOT BALL OR ROOTS, STAKES FOR SUPPORTING TREES SHALL BE 1.5" X 1.5" SQUARE OR 1.5" ROUND, BY 8'. THE STAKES SHALL BE SOUND WOOD TREATED WITH A SUITABLE WOOD PRESERVATIVE

WIRE OR CABLE SIZES FOR TREES UP TO 3" CAL, SHALL BE #10 WIRE:

TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. PLASTIC HOSE SHALL BE LONG ENOUGH TO ACCOMMODATE 35MM (1.5 IN.) OF GROWTH AND BUFFER ALL BRANCHES FROM THE WIRE. TUCK ANY LOOSE ENDS OF THE WIRE OR CABLE INTO THE WIRE WRAP SO THAT NO SHARP WIRE ENDS ARE EXPOSED. ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TREE TRUNK IS A MINIMUM OF 12 MM (0.5 IN.).

(6.3) WOODEN STAKES AND WIRE TIES SHOULD BE REMOVED AFTER ONE YEAR.

(7.1) ALL PESTICIDES SHALL BE PRODUCTS OF RECOGNIZED COMMERCIAL MANUFACTURERS, AND SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL PESTICIDE LAWS. PESTICIDES SHALL BE APPLIED WITH CALIBRATED EQUIPMENT ACCORDING TO EPA LABEL RESTRICTIONS AND REGULATIONS BY A CERTIFIED APPLICATOR, ANY DAMAGE INCURRED TO THE SITE, ADJACENT PROPERTIES, OR APPLICATOR DURING PESTICIDE APPLICATIONS WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

(7.2) PESTICIDES SHOULD BE USED ONLY WHEN NECESSARY TO TREAT AN OUTBREAK OF A HARMFUL PEST OR DISEASE PROBLEM. THE OWNER OR THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED 24 HOURS PRIOR TO THE APPLICATION OF ANY PESTICIDE.

(8) MAINTENANCE AND GUARANTEE

(8.1) THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING HIS WORK FOR THE PERIOD OF ONE YEAR AFTER ACCEPTANCE BY THE OWNER OR THE OWNER'S REPRESENTATIVE. MAINTENANCE SHALL INCLUDE WATERING, WEEDING, CULTIVATING, MULCHING, REMOVAL OF DEAD MATERIALS, RESETTING OF PLANTS TO PROPER GRADES OR UPRIGHT POSITIONS, RESTORATION OF EARTH BERMS, AND OTHER NECESSARY OPERATIONS, ADEQUATE PROTECTION FOR LAWN AREAS AGAINST TRESPASSING DURING PLANTING OPERATIONS AND AGAINST DAMAGE OF ANY KIND SHALL BE PROVIDED. NOTHING IN THESE NOTES IS INTENDED TO RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO REPAIR EXISTING LAWN AREAS DAMAGED BY WORKMEN ENGAGED IN THE COMPLETION OF THIS PROJECT.

(8.2) INSPECTION OF THE WORK TO DETERMINE COMPLETION OF THE CONTRACT EXCLUSIVE OF THE POSSIBLE REPLACEMENT OF PLANTINGS, WILL BE MADE BY THE OWNER OR THE OWNER'S REPRESENTATIVE AT THE CONCLUSION OF THE INSTALLATION PERIOD, UPON WRITTEN NOTICE REQUESTING SUCH INSPECTION. REQUEST SHALL BE SUBMITTED BY CONTRACTOR AT LEAST TEN DAYS PRIOR TO THE ANTICIPATED DATE FOR INSPECTION. AFTER INSPECTION, THE CONTRACTOR WILL BE NOTIFIED IN WRITING BY THE OWNER OR THE OWNER'S REPRESENTATIVE OF ACCEPTANCE OF THE WORK, EXCLUSIVE OF THE POSSIBLE REPLACEMENT OF PLANTS SUBJECT TO GUARANTEE; OR, IF THERE ARE ANY DEFICIENCIES, THE CONTRACTOR WILL BE NOTIFIED CONSIDERED ACCEPTED UNTIL ALL DEFICIENCIES HAVE BEEN CORRECTED AND APPROVED IN WRITING.

(8.3) NURSERY STOCK SHALL BE FULLY GUARANTEED FOR ONE FULL YEAR. ALL PLANTS THAT FAIL TO MAKE NEW GROWTH FROM A DORMANT CONDITION OR THAT DIE DURING THE FIRST YEAR AFTER PLANTING SHAL BE REPLACED. ALL REPLACEMENTS SHALL CONFORM WITH THE ORIGINAL SPECIFICATIONS AS TO SIZE AND TYPE. ALL COSTS OF REPLACEMENTS SHALL BE BORNE BY THE CONTRACTOR.

(9) ALL OTHER ITEMS NECESSARY TO MAKE WORK COMPLETE

(9.1) ANY PLANT MATERIAL NOT PLANTED SHALL BE REMOVED FROM THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL UNUSED RUBBISH AND DEBRIS FROM THE SITE UPON COMPLETION OF HIS WORK.

(10) PERMANENT SEEDING (SHALL ONLY APPLY TO DISTURBED AREAS NOT INDICATED TO RECEIVE SOD). (10.1) TOPSOILING: WHERE TOPSOIL IS REQUIRED ON ADVERSE SOIL CONDITIONS, A MINIMUM OF FOUR INCHES OF TOPSOIL SHOULD BE USED. THE TOPSOIL SHOULD CONTAIN A MINIMUM OF 35% FINE GRAINED MATERIAL (SILT AND CLAY AND 1.5% + ORGANIC MATTER).

(10.2) LIME AND FERTILIZER: A LIME - APPLY GROUND LIMESTONE OR

B. LIME - APPLY PULVERIZED AGRICULTURAL LIMESTONE OR EQUIVALENT AT THE RATE OF 2 TONS PRE C. FERTILIZER - 500 POUNDS PER ACRE OF 10-20-10 FERTILIZER OR EQUIVALENT.

IF SOILS ARE UNIFORM, IT IS DESIRABLE TO HAVE LIME AND FERTILIZER RECOMMENDATIONS BASED ON SOIL TESTS. THE LIME AND FERTILIZER SHOULD BE DISKED OR WORKED INTO A GOOD SEEDBED TO A DEPTH OF THREE TO FOUR INCHES.

(10.3) SPRING AND FALL SEEDING: SEED ONE OF THE FOLLOWING VARIETIES AT THE SPECIFIED RATES PER ACRE FOR TURF AREAS SEEDED IN THE SPRING OR FALL (SEE SPECIFIED SEEDING DATES BELOW):

FALL SEEDING: AUGUST 1 TO NOVEMBER 1

NOTE: PREFERRED FESCUE SEEDING DATES ARE FROM AUGUST 1 TO NOVEMBER 1 SPRING SEEDING DATES WOULD BE FROM FEBRUARY 28, TO MAY 15.

(1) FESCUE SHALL BE SELECTED FROM ONE OF THE FOLLOWING VARIETIES: 2ND MILLENNIUM, AVENGER, BILTMORE, BINGO, BLACKWATCH, BRAVO, COCHISE II(3), COCHISE III, CONSTITUTION, COYOTE II, CROSSFIRE II(3,4), DAVINCI(3), DAYTONA(3), ENDEAVOR(3), FALCON IV, FIDELITY. FORTE, GOOD-EN(3,4), GRANDE(4), GRANDE II, GREENKEEPER WAF, GUARDIAN 21, HOUNDOG 5, HUNTER, INFERNO, JUSTICE, MAGELLAN, MASTERPIECE, MATADOR(3), MATADOR GT(3), ONYX(3,4), PADRE, PICASSO(3), PENN 1901, RAPTOR, REBEL EXEDA, REGIMENT II, REMBRANDT(3), SOUTHERN CHOICE II(3), SR 8250(3), TAOS. TARHEEL, TARHEEL II, TEMPEST, TITANIUM, TOMBSTONE, TURBO, ULTIMATE(3), WATCHDOG, AND WOLFPACK.

(10.4) SEED WITH THE FOLLOWING MIXTURE(S) FOR SPECIFIED DATES OUTSIDE THOSE LISTED ABOVE:

TYPE OF GRASS SEEDING RATE SEEDING DATE BERMUDA (1) 2 LBS./1000 SQ. FT.(HULLED SEED) SPRING SEEDING: MAY 15 - JUNE 7 LBS./1000 SQ. FT. (UNHULLED BERMUDA SEED FALL SEEDING: ALL OTHERS AND 5 LBS./1000 SQ, FT, WINTER RYE (LOLLIUM MULTIFLORUM)

(2) ONLY THE FOLLOWING VARIETIES OF BERMUDA SHALL BE ACCEPTABLE: BLACKJACK, CONTINENTAL, PRINCESS 77, RIVIERA, YUKON OR SAVANNAH. SEED SHALL HAVE A MINIMUM PURITY OF 95% AND AN 85% GERMINATION RATE

A. MULCH WITH ANY OF THE MATERIALS LISTED BELOW AND AT THE RATE INDICATED. SPREADING SHOULD BE UNIFORM AND AT A RATE THAT PERMITS NO MORE THAN 25-50% OF THE GROUND SHOWING THROUGH THE MULCH.

B. MULCHING IS SPECIFICALLY REQUIRED ON ALL SOILS EXCEEDING 25% SLOPE. 1. STRAW - 1 TO 2 TONS/ACRE DEPENDING ON SEASON AND METHOD OF APPLICATION. WOOD FIBER MATERIALS - 1,000 LBS. PER ACRE.

ATER FOR PLANT GROWTH UNTIL THEY ARE FIRMLY ESTABLISHED

A. IRRIGATION - IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS AND PLANTINGS WITH ADEQUATE

B. REPAIR - INSPECT ALL AREAS FOR PLANTING FAILURES AND MAKE NECESSARY REPAIRS. REPLACEMENTS, AND RESEEDING WITH THE PLANTING SEASON IF POSSIBLE. C. LIME AND FERTILIZER - SHALL BE APPLIED UNDER A REGULAR PROGRAM THAT IS BASED ON SOIL FERTILITY TESTS AND ON THE USE AND GENERAL APPEARANCE OF THE VEGETATIVE COVER DURING SUBSEQUENT GROWING SEASONS.

ALL AREAS WITHIN THE LIMITS OF CONSTRUCTION THAT ARE NOT OTHERWISE COVERED BY BUILDINGS, PAVEMENT, SIDEWALKS, WOODED AREAS AND PLANTING / MULCHED BEDS OR OTHERWISE CALLED OUT AS SOD LAWN AREAS SHALL BE SEEDED PER THE PERMANENT SEEDING SPECIFICATIONS IN THE PRECEDING

SEEDED AREAS WILL ONLY BE ACCEPTED AFTER DISTURBED AREAS ARE COMPLETELY COVERED IN A DENSE LAWN CONSISTING OF THE SPECIFIED PERMANENT GRASS

GENERAL LANDSCAPE NOTES:

- A. CONTRACTOR SHALL REVIEW ALL DRAWINGS, SPECIFICATIONS, PERMITS, AND REGULATORY REQUIREMENTS PRIOR TO COMMENCEMENT OF WORK.
- B. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED LANDSCAPING AND IRRIGATION
- REPRESENTATIVE OF ANY DISCREPANCIES. SURVEY DATA OF EXISTING CONDITIONS WAS PROVIDED BY

C. CONTRACTOR SHALL VERIFY ALL EXISTING AND PROPOSED SITE ELEMENTS AND NOTIFY OWNER'S

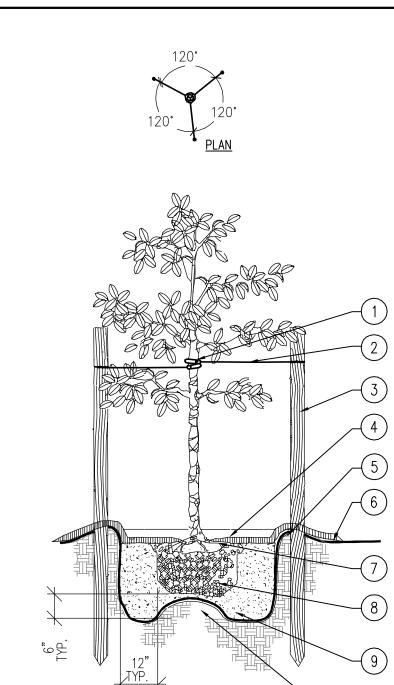
- D. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES DURING CONSTRUCTION. AT LEAST 48 HOURS PRIOR TO ANY DEMOLITION, GRADING, OR CONSTRUCTION ACTIVITY THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" OF VIRGINIA @ 1-800-552-7001FOR PROPER IDENTIFICATION OF EXISTING UTILITIES WITHIN THE PROJECT SITE.
- E. FINAL LOCATION OF ALL PLANTINGS SHALL BE DETERMINED IN THE FIELD BY THE OWNER'S CHOSEN
- F. SUBSTITUTIONS AND/OR MODIFICATIONS TO PLANTING LAYOUT, PLANT MATERIALS, ETC. SHALL NOT BE MADE WITHOUT THE WRITTEN CONSENT OF THE OWNER OR OWNERS REPRESENTATIVE. ALL SUBSTITUTIONS SHALL BE APPROVED IN WRITING BY THE CITY OF CHESAPEAKE
- G. CONTRACTOR SHALL INSTALL ALL PLANT MATERIALS AS SHOWN IN THE DETAILS, AND AS INDICATED IN THE LANDSCAPE SPECIFICATIONS
- H. THE PLANTING OF TREES SHALL BE DONE IN ACCORDANCE WITH THE STANDARDIZED LANDSCAPE SPECIFICATIONS JOINTLY ADOPTED BY THE VIRGINIA NURSERYMEN'S ASSOCIATION, THE VIRGINIA SOCIETY OF LANDSCAPE DESIGNERS AND THE VIRGINIA CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS.
- I. SIZE AND GRADING STANDARDS OF PLANT MATERIALS SHALL CONFORM TO THE LATEST ADDITION OF ANSI Z60.1, AMERICAN STANDARD FOR NURSERY STOCK, BY THE AMERICAN NURSERY AND LANDSCAPE
- J. ALL PLANT MATERIALS SHALL BE NURSERY GROWN STOCK AND SHALL BE FREE OF ANY DEFORMITIES, DISEASES, OR INSECT DAMAGE. ANY MATERIALS WITH DAMAGED OR DISFIGURED/ CROOKED LEADERS,
- K. TREES NOT EXHIBITING A CENTRAL LEADER WILL BE REJECTED UNLESS CALLED OUT IN THE PLANT LIST

BARK ABRASIONS, SUNSCALD, INSECT DAMAGE, ETC., ARE NOT ACCEPTABLE AND WILL BE REJECTED.

- AS MULTI-STEM. L. ALL PLANTING BEDS AND LAWN AREAS SHALL BE SEPARATED BY SHOVEL EDGING. NO EDGE SHALL BE
- M. PLANTING BEDS SHALL RECEIVE 3" OF DARK, SHREDDED HARDWOOD MULCH THROUGHOUT. ORANGE AND/ OR RED MULCH IS NOT ACCEPTABLE.

INSTALLED ADJACENT TO SIDEWALKS OR CURBS

- N. ALL AREAS ON PLANS NOT INDICATED TO RECEIVE SOD PLANTING, PAVEMENT, OR HARDSCAPE WHICH ARE DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE SEEDED WITH PERMANENT LAWN GRASS. UNLESS OTHERWISE DIRECTED BY THE OWNER OR OWNERS REPRESENTATIVE. SEE SEEDING NOTES
- O. PLANT MATERIALS SHOWN ON PLANS ARE A GRAPHIC REPRESENTATION ONLY. CONTRACTOR SHALL PERFORM ALL LANDSCAPE INSTALLATION ON THE SUBJECT PROPERTY, AND NOT ON ADJACENT PROPERTIES, UNLESS OTHERWISE DIRECTED BY THE OWNER OR THE OWNER'S REPRESENTATIVE. ROOTBALLS OF SHRUBS AND TREES SHALL BE PLANTED, IN THEIR ENTIRETY, WITHIN THE BOUNDARIES OF THE SUBJECT PROPERTY
- P. QUANTITY TAKE-OFFS INDICATED ON THE PLANTING SCHEDULE ARE FOR CONVENIENCE ONLY. IN THE EVENT OF A DISCREPANCY BETWEEN THE PLANS AND THE SCHEDULE, THE GRAPHIC REPRESENTATION IN THE PLANS SHALL DICTATE.



1. PROTECT TREE TRUNK WITH BLACK RUBBER

2. #10 GAUGE WIRE (NOTE FOR MULTI-TRUNK TREES, USE SEPARATE GUYS TO STRONGEST

TRUNKS AT CENTER OF EACH). 3. THREE 1.5" X 8' MIN. SQUARE OR ROUND STAKES SPACED EVENLY AROUND TREE IN A

RADIAL PATTERN. 4. 3" MINIMUM OF MULCH AS SPECIFIED. WHERE TREES ARE PLACED IN LAWN AREAS MULCH RING FOR TREES SHALL EXTEND APPROX 6" BEYOND FARTH SAUCER/BERM UNLESS INDICATED OTHERWISE BY OWNERS REPRESENTATIVE. SOIL BERM TO HOLD

- FINISHED GRADE (SEE GRADING PLAN) TOP OF ROOTBALL MIN. 1" ABOVE FINISHED
- . B & B OR CONTAINERIZED (SEE

SIT ON COMPACTED EARTH.

REPRESENTATIVE.

- SPECIFICATIONS FOR ROOT BALL REQUIREMENTS) PREPARED PLANTING SOIL AS SPECIFIED.
- (SEE LANDSCAPE NOTES) 9. ROOTBALLS GREATER THAN 24" DIAMETER SHALL BE PLACED ON MOUND OF UNDISTURBED SOIL TO PREVENT SETTLING ROOTBALLS SMALLER THAN 24" IN DIA. MAY

A. CONTRACTOR SHALL ASSURE PERCOLATION

OF ALL PLANTING PITS PRIOR TO INSTALLATION.

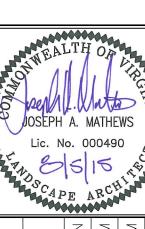
FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER. "TRFE SAVER" ANCHORING SYSTEM MAY BE SUBSTITUTED FOR WOOD STAKING SYSTEM UPON APPROVAL BY OWNER OR OWNER'S

ALL TREES SHALL BE PLUMB VERTICALLY WITHIN A

DIRECTED BY OWNER'S REPRESENTATIVE.

TOLERANCE OF THREE DEGREES, UNLESS OTHERWISE

(TREES UNDER 3" CAL. OR 14' IN HEIGHT)



BRINKL

SHEET NUMBER

(2) PROVIDING TOPSOIL AND ALL SOIL AMENDMENTS: (3) EXCAVATION OF PLANT PITS; (4) PROVIDING ALL PLANT MATERIAL AND MULCH AS INDICATED ON PLANS; (5) FERTILIZING: (6) STAKING;

(7) CHEMICAL APPLICATION (8) MAINTENANCE AND GUARANTEE: (9) ALL OTHER ITEMS NECESSARY TO MAKE WORK COMPLETE.

THE PLANTING CONTRACTOR IS RESPONSIBLE FOR COORDINATING WORK WITH THE OTHER CONTRACTORS. THIS PLAN DOES NOT GUARANTEE THE EXISTENCE OR NON-EXISTENCE OF ANY UTILITIES. PRIOR TO ANY CONSTRUCTION. EXCAVATION. OR ROTO-TILLING THE CONTRACTOR SHALL ASSUME THE RESPONSIBILITY OF VERIFYING THE LOCATIONS OF ALL UTILITIES. ABOVE AND/OR BELOW GROUND, PUBLIC AND/OR PRIVATE THAT MAY EXIST AND CROSS THROUGH THE AREAS OF CONSTRUCTION.

(1) SOIL PREPARATION

(1.1) BECAUSE OF SOIL COMPACTION DURING CONSTRUCTION, ALL PLANTING AREAS SHALL BE ROTOTILLED TO A DEPTH AS SHOWN IN DETAILS OR AS SPECIFIED IN WRITTEN SPECIFICATIONS, A PLANTING AREA IS ANY AREA IN WHICH NEW PLANTING OCCURS. EXCAVATE THE ENTIRE AREA BOUNDED BY WALKS WALLS FENCES ETC. REMOVE SPOIL MATERIAL AS DIRECTED BY OWNER OR THE OWNER'S REPRESENTATIVE.

(1.2) EXCAVATED SOIL SHOULD BE USED AS BACKFILL MATERIAL IN ORDER TO ELIMINATE OR MINIMIZE THE OCCURRENCE OF HYDROLOGIC DISCONTINUITIES, AND/OR SOIL INTERFACE PROBLEMS COMMON TO PLANTING BEDS CONTAINING SOILS OF DIFFERENT TEXTURE. WHERE THE TEXTURE OF THE EXISTING SOIL IS UNDESIRABLE FOR THE PLANT SPECIES BEING PLANTED (i.e. HEAVY CLAY, PURE SAND) AND WHERE THE pH OF THE EXISTING SOIL IS SUITABLE FOR THE SPECIES BEING PLANTED, THE SOIL SHALL BE BLENDED 66% EXISTING SOIL WITH 33% AMENDED SOIL.

(1.3) WHERE IT IS DETERMINED THAT THE EXISTING SOIL EXCAVATED IS TOTALLY UNSUITABLE FOR USE AS BACKFILL MATERIAL BECAUSE OF IMPROPER pH OR THE PRESENCE OF DEBRIS OR OTHER DELETERIOUS MATTER, THE BACKFILL MATERIAL SHALL BE 100% AMENDED SOIL MIXTURE AS DESCRIBED BELOW WITH THE ADDITION OF 1/2 PART SAND.

AMENDED SOIL: PLANTING SOIL FOR AMENDING BACKFILL SHALL BE 100 % TOPSOIL WITH AMENDMENTS ADDED ACCORDING TO THE RECOMMENDATIONS OF THE SOILS TEST REPORT TO BRING THE pH VALUE OF THE PLANTING BACKFILL MIXTURE WITHIN THE RANGES DESCRIBED BELOW. THE TOPSOIL AND AMENDMENTS SHALL BE MIXED AT AN ON-SITE LOCATION. PLANTING SOIL SHALL NOT BE MIXED AT INDIVIDUAL PLANT LOCATIONS. (2) TOPSOIL AND ALL SOIL AMENDMENTS

(2.1) NECESSARY QUANTITIES OF TOPSOIL SHALL BE SUPPLIED BY THE CONTRACTOR AND APPROVED BY THE OWNER OR HIS REPRESENTATIVE. THE CONTRACTOR SHALL APPLY TOPSOIL ONLY AFTER SECURING SOIL TEST (V.P.I.), APPLYING RECOMMENDED TREATMENT THEREOF, AND SUBMITTING FOR APPROVAL.

(2.2) ON-SITE TOPSOIL MEETING THE CONDITIONS FOR THESE NOTES MAY BE USED, OR IF INSUFFICIENT QUANTITIES ARE AVAILABLE, OUTSIDE TOPSOIL MEETING THE FOLLOWING CRITERIA SHALL BE PROVIDED.

(2.3) ON-SITE TOPSOIL SHALL BE STOCKPILED TOPSOIL THAT HAS BEEN SALVAGED IN ACCORDANCE WITH SECTION 303.04(A) OF THE V.D.O.T. SPECIFICATIONS. IT SHALL BE FREE FROM REFUSE, OR ANY MATERIAL TOXIC TO PLANT GROWTH, AND REASONABLY FREE FROM SUBSOIL, STUMPS, ROOTS, BRUSH, STONES, CLAY, LUMPS, OR SIMILAR OBJECTS LARGER THAN 3" IN THEIR GREATEST DIMENSION

(2.4) OFF-SITE TOPSOIL. IF NEEDED. SHALL BE TOPSOIL FURNISHED FROM SOURCES OUTSIDE THE PROJECT LIMITS AND SHALL BE THE ORIGINAL TOP LAYER OF A SOIL PROFILE FORMED UNDER NATURAL CONDITIONS, TECHNICALLY DEFINED AS THE "A" HORIZON BY THE SOIL SOCIETY OF AMERICA. IT SHALL CONSIST OF NATURAL. FRIABLE, LOAMY SOIL WITHOUT ADMIXTURES OF SUBSOIL OR OTHER FOREIGN MATERIALS, AND SHALL BE REASONABLY FREE FROM STUMPS, ROOTS, HARD LUMPS, STIFF CLAY, STONE, NOXIOUS WEEDS, BRUSH, OR OTHER LITTER. IT SHALL HAVE DEMONSTRATED BY EVIDENCE OF HEALTHY VEGETATION GROWING, OR HAVING GROWN ON IT PRIOR TO STRIPPING, THAT IT IS REASONABLY WELL DRAINED AND DOES NOT CONTAIN SUBSTANCES TOXIC TO PLANTS.

(2.4.1) "A" HORIZON: "A" HORIZONS SHALL BE MINERAL HORIZONS CONSISTING OF (1) HORIZONS OR ORGANIC MATTER ACCUMULATION FORMED OR FORMING AT OR ADJACENT TO THE SURFACE; (2) HORIZONS THAT HAVE OST CLAY, IRON, OR ALUMINUM, WITH RESULTANT CONCENTRATIONS OF QUARTZ OR OTHER RESISTANT MINERALS OF SAND OR SILT SIZE; OR (3) HORIZONS DOMINATED BY 1 OR 2 ABOVE BUT TRANSITIONAL TO AN

(2.4.2) "A" HORIZON SUBDIVISIONS: A1 HORIZONS SHALL BE MINERAL HORIZONS. FORMED OR FORMING AT OR ADJACENT TO THE SURFACE, IN WHICH THE FEATURE EMPHASIZED IS AN ACCUMULATION OF HUMIDIFIED ORGANIC MATTER INTIMATELY ASSOCIATED WITH THE MINERAL FRACTION. THE SOIL IS A DARK OR DARKER THAN UNDERLYING HORIZONS BECAUSE OF THE PRESENCE OF ORGANIC MATTER. THE ORGANIC MATERIAL IS ASSUMED TO BE DERIVED FROM PLANT AND ANIMAL REMAINS DEPOSITED ON THE SURFACE OF THE SOIL OR DEPOSITED WITHIN THE HORIZON WITHOUT APPRECIABLE TRANSLOCATION.

A2 HORIZONS SHALL BE MINERAL HORIZONS IN WHICH THE FEATURE EMPHASIZED IS LOSS OF CLAY, IRON OR ALUMINUM, WITH RESULTANT CONCENTRATION OF QUARTZ OR OTHER RESISTANT MINERALS IN SAND AND

(2.4.3) "A" HORIZON TOPSOIL CONTENT: "A" HORIZON TOPSOIL SHALL BE IN ACCORDANCE WITH THE FOLLOWING MATERIALS BY PERCENTAGE OF VOLUME:

SAND 15-20% CLAY 15-20% ORGANIC MATERIAL 12-18%

(2.5) TOPSOIL SHALL HAVE A pH IN THE RANGE OF 6.0 TO 7.0 PRIOR TO MIXING WITH AMENDMENTS. IF THE pH IS NOT WITHIN THIS RANGE, THE pH SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE OR A DIFFERENT SOURCE OF SUPPLY SHALL BE SELECTED. TOPSOIL SHALL BE SUBJECT TO INSPECTION BY THE OWNER OR THE OWNER'S REPRESENTATIVE AT THE SOURCE OF SUPPLY AND IMMEDIATELY PRIOR TO USE IN THE PLANTING

(2.6) PLANTING SOIL AFTER AMENDING FOR DECIDUOUS PLANTS SHALL HAVE A pH VALUE BETWEEN 6.0 AND 7.0, AND FOR EVERGREEN OR SEMI-EVERGREEN PLANTS SHALL HAVE A pH VALUE BETWEEN 5.0 AND 6.0. A REPRESENTATIVE SAMPLE FROM THE EXCAVATED SOIL SHALL BE FIELD TESTED FOR pH UTILIZING A RELIABLE SOIL PH METER OR SOIL PH TEST KIT. THE PH VALUE OF THE NATURAL SOIL BACKFILL MIXTURE MAY BE DING LIMESTONE OR ALUMINUM SULFATE AS NEEDE

(3) EXCAVATION OF PLANT PITS

(3.1) PRIOR TO EXCAVATION OF TREE PITS, AN AREA EQUAL TO TWO TIMES THE DIAMETER OF THE ROOT BALL SHALL BE ROTO-TILLED TO A DEPTH EQUAL TO THE DEPTH OF THE ROOT BALL.

(3.2) IN CONTINUOUS SHRUB AND GROUND COVER BEDS, THE ROTO-TILLED PERIMETER SHOULD EXTEND TO A ISTANCE OF ONE FOOT BEYOND THE DIAMETER OF A SINGLE ROOTBALL. THE BED SHALL BE TILLED TO A DEPTH EQUAL TO THE ROOT BALL DEPTH PLUS 6".

(3.3) TREE PITS FOR WELL DRAINED SOILS SHALL BE DUG SO THAT THE BOTTOM OF THE ROOT BALL WILL REST ON UNDISTURBED SOIL AND THE TOP OF THE ROOT BALL WILL BE FLUSH WITH FINISH GRADE. IN POORLY DRAINED SOILS THE TREE PIT SHALL BE DUG SO THAT THE ROOT BALL RESTS ON UNDISTURBED SOIL AND THE TOP OF THE ROOT BALL IS 1" ABOVE FINISH GRADE. PLANT PIT WALLS SHALL BE SCARIFIED PRIOR TO PLANT INSTALLATION.

(3.4)SHRUB BEDS SHALL BE EXCAVATED TO 6" BELOW THE ROOT BALL OF THE SHRUB.

(3.5) ALL AIR POCKETS SHALL BE REMOVED FROM PLANT PIT UPON BACK FILLING WITH PLANTING SOIL BY FILLING APPROXIMATELY 1/2 TO 2/3 OF THE PIT WITH PLANTING BACKFILL MATERIAL, TAMPING BACKFILL MATERIAL AND THEN WATERING TO ENSURE SETTLEMENT OF THE MATERIAL BACKFILL MATERIAL SHALL THEN BE PLACED WITHIN THE REMAINING CAVITIES OF THE PLANT PIT, TAMPING AND WATERED AGAIN TO ENSURE SETTLEMENT OF THE BACKFILL MATERIAL. UNDER NO CIRCUMSTANCES SHALL ANY SOIL OR BACKFILL MATERIAL BE APPLIED ABOVE THE ROOT BALL OF THE PLANTS.

(3.6) GROUND COVERS SHALL BE PLANTED IN BEDS HAVING A MINIMUM DEPTH OF 4" BELOW THE PROPOSED ROOT DEPTH. PLANTS SHALL BE EVENLY SPACED AND SET TO MAINTAIN THE ORIGINAL GROWING DEPTH WHILE ALLOWING FOR A 2" TOP DRESSING OF MULCH. (4) PLANT MATERIAL AND MULCH

(4.1) THE NAMES OF PLANTS REQUIRED UNDER THIS CONTRACT CONFORM TO THOSE GIVEN IN L.H. BAILEY'S HORTUS THIRD, 1976 EDITION, NAMES OF VARIETIES NOT INCLUDED THEREIN CONFORM GENERALLY WITH NAMES ACCEPTED IN THE NURSERY TRADE. ALL PLANTS SHALL HAVE A HABIT OF GROWTH THAT IS NORMAL FOR THEIR SPECIES AND THEY SHALL BE SOUND, HEALTHY AND VIGOROUS, WITH WELL DEVELOPED ROOT SYSTEMS, ALL PLANT MATERIAL SHALL BE FREE FROM INSECT PESTS, PLANT DISEASES, AND INJURIES, ALL PLANTS SHALL EQUAL OR EXCEED THE MEASUREMENTS SPECIFIED IN THE PLANT LIST, WHICH ARE MINIMUM ACCEPTABLE SIZES. TREES SHALL HAVE SINGLE TRUNKS EXCEPT AS NOTED. ALL SHRUBS SHALL BE HEALTHY VIGOROUS. AND OF GOOD COLOR, ONLY DAMAGED OR BROKEN BRANCHES OF PLANT MATERIAL MAY BE PRUNED AND ANY NECESSARY PRUNING SHALL BE DONE AT THE TIME OF PLANTING. HOWEVER, UNDER NO CIRCUMSTANCES SHALL THE CENTRAL LEADER OF A PLANT BE PRUNED.

(4.2) ALL TAGS, STRINGS OR ANY OTHER MATERIAL ATTACHED TO THE PLANTS SHALL BE REMOVED AT THE TIME OF THE PLANTING. BALLING AND BURLAPPING OF PLANTS SHALL FOLLOW THE CODE OF STANDARDS CURRENTLY RECOMMENDED BY THE AMERICAN STANDARD FOR NURSERY STOCK.

(4.3) SUBSTITUTIONS WILL BE PERMITTED ONLY UPON SUBMISSION OF PROOF THAT ANY PLANT IS NOT OBTAINABLE. ALL SUBSTITUTIONS MUST BE AUTHORIZED BY THE OWNER OR THE OWNER'S REPRESENTATIVE IN WRITING PROVIDING FOR USE OF THE NEAREST EQUIVALENT OBTAINABLE SIZE OR VARIETY OF PLANT HAVING THE SAME ESSENTIAL CHARACTERISTICS AS THE ORIGINAL VARIETY WITH AN EQUITABLE ADJUSTMENT OF CONTRACT PRICE.

(4.4) BALLED AND BURLAPPED PLANTS (B&B) SHALL BE DUG WITH FIRM, NATURAL BALLS OF EARTH OF SUFFICIENT DIAMETER AND DEPTH TO ENCOMPASS THE FIBROUS AND FEEDING ROOT SYSTEM NECESSARY FOR FULL RECOVERY OF THE PLANT. BALLS SHALL BE FIRMLY WRAPPED WITH BURLAP OR SIMILAR MATERIAL AND BOUND WITH TWINE OR CORD. BURLAP SHALL NOT BE PULLED OUT FROM UNDER BALLS DURING PLANTING OPERATIONS, B&B PLANTS WHICH CANNOT BE PLANTED IMMEDIATELY ON DELIVERY SHALL BE COVERED WITH MOIST SOIL, MULCH, OR OTHER MATERIAL TO PROVIDE PROTECTION FROM DRYING WINDS AND

(4.5) PLANTS NOTED "CONTAINER" ON THE PLANT LIST MUST BE CONTAINER GROWN WITH WELL ESTABLISHED ROOT SYSTEMS. LOOSE CONTAINERIZED PLANT MATERIAL WILL NOT BE ACCEPTED. ALL PLANTS INJURED AND PLANTS WITH ROOT BALLS BROKEN DURING TRANSPORT OR PLANTING OPERATIONS WILL BE REJECTED. BARE-ROOTED PLANTS (BR) SHALL BE PLANTED OR HEELED-IN IMMEDIATELY UPON DELIVERY. ALL PLANTS SHALL BE WATERED AS NECESSARY UNTIL PLANTED.

BELOW GROUND ARE ENCOUNTERED OR WHERE CHANGES HAVE BEEN MADE IN THE PROPOSED CONSTRUCTION. NECESSARY ADJUSTMENTS SHALL BE MADE ONLY AFTER APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE. REASONABLE CARE SHALL BE EXERCISED TO HAVE PLANTING PITS DUG AND SOIL PREPARED PRIOR TO MOVING PLANTS TO THEIR RESPECTIVE LOCATIONS TO ENSURE THAT THEY WILL NOT BE UNNECESSARILY EXPOSED TO DRYING OR PHYSICAL DAMAGE.

(4.6) NEW PLANTINGS SHALL BE LOCATED WHERE SHOWN ON THE PLAN EXCEPT WHERE OBSTRUCTIONS

(4.7) A LIST OF PLANTS, INCLUDING SIZES, QUANTITIES AND OTHER REQUIREMENTS, IS SHOWN ON THE DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE QUANTITIES AS SHOWN ON THE

(4.8) THE PLANTING CONTRACTOR WILL BE NOTIFIED BY THE GENERAL CONTRACTOR WHEN OTHER DIVISIONS OF THE WORK HAVE PROGRESSED SUFFICIENTLY TO COMMENCE WORK ON THE PLANTING OPERATION. THEREAFTER, PLANTING OPERATIONS SHALL BE CONDUCTED UNDER FAVORABLE WEATHER CONDITIONS DURING THE NEXT SEASON OR SEASONS WHICH ARE NORMAL FOR SUCH WORK. REMOVAL OF ROCK OR OTHER JNDERGROUND OBSTRUCTIONS, RELOCATIONS TO AVOID OBSTRUCTIONS, AND PROVISION OF DRAINAGE FOR

PLANTING AREAS SHALL BE DONE ONLY AS APPROVED BY THE OWNER OR THE OWNER'S REPRESENTATIVE.

DRAWINGS. IF DISCREPANCIES OCCUR IN THE QUANTITIES SHOWN, THE PLANTING PLANS SHALL GOVERN.

(4.9) ALL PLANTS SHALL BE PLANTED UPRIGHT AND FACED TO GIVE THE BEST APPEARANCE OR RELATIONSHIP TO ADJACENT STRUCTURES. ROOTS SHALL BE SPREAD IN THEIR NORMAL POSITION, ALL BROKEN OR FRAYED ROOTS SHALL BE CUT OFF CLEANLY. PLANTS WITH CIRCLING ROOTS SHALL NOT BE ACCEPTED. BURLAP TWINE AND OTHER FASTENING MATERIAL SHALL BE CUT AND PUSHED TO THE BOTTOM OF THE PLANT PIT PRIOR TO BACKELLI MATERIAL BEING PLACED, THE PLANT SHALL NOT BE ROCKED BACK, AND FOLIRTH TO ENTIRELY REMOVE THE WRAPPING MATERIAL NOR SHALL ANY OTHER PRACTICE BE PERFORMED WHICH COULD CAUSE SHALL BE REMOVED TO AT LEAST 12" BELOW THE TOP OF THE ROOT BALL.

(4.10) AT THE TIME OF PLANTING, AND AS MANY TIMES LATER AS SEASONAL CONDITIONS REQUIRE, EACH PLANT AND THE SOIL AROUND IT SHALL BE THOROUGHLY WATERED. CARE SHOULD BE EXERCISED WHEN WATERING TO AVOID FLOODING OF PLANTS AND BEDS, DISPLACEMENT OF MULCH MATERIAL AND EROSION OF SOIL, AVOID USE OF HIGH PRESSURE HOSES, THE CONTRACTOR SHALL MAKE, AT HIS EXPENSE. WHATEVER ARRANGEMENTS MAY BE NECESSARY TO ENSURE AN ADEQUATE SUPPLY OF WATER TO MEET THE NEEDS OF THIS CONTRACT DURING INSTALLATION. THE CONTRACTOR SHALL ALSO FURNISH ALL NECESSARY HOSE, EQUIPMENT ATTACHMENTS AND ACCESSORIES FOR THE ADEQUATE WATERING OF PLANTED AREAS AS MAY BE REQUIRED UNTIL ACCEPTANCE BY THE OWNER OR THE OWNER'S

(4.11) MULCH SHALL BE CLEAN, GROUND OR SHREDDED BARK OR HARDWOOD MULCH. IN PLANTING AREAS WHERE SLOPES EXCEED 3:1 AND AT DRAINAGE DISPERSION POINTS OR ALONG NATURAL WATER WAYS WHERE CONCENTRATIONS OF SURFACE WATER EMPTY FROM CULVERTS OR PAVED DITCHES. HEAVY JUTE MESH SHALL BE INSTALLED. SHREDDED HARDWOOD OR BARK MULCH SHALL HAVE BEEN COMPOSTED FOR AT LEAST TWO MONTHS PRIOR TO APPLICATION. FRESHLY GROUND MULCH WILL NOT BE ACCEPTED. FINELY GROUND MULCH WHICH INHIBITS DRAINAGE, ENCOURAGES WEED GROWTH OR BECOMES WATERLOGGED WILL NOT BE ACCEPTED. MULCH SHALL BE COMPOSED OF SIMILAR SIZED FRAGMENTS AND SHALL NOT CONTAIN STICKS, CONES, LEAVES, UNSHREDDED, PIECES, OR OTHER DELETERIOUS MATTER, ALL AZALEA AND CAMELLIA PLANTING BEDS SHALL HAVE 1" OF PINE STRAW MULCH UNDER 2" OF BARK OR SHREDDED HARDWOOD MULCH.

(4.12) ALL PLANTS SHALL BE MULCHED IMMEDIATELY AFTER PLANTING. GROUND COVERS SHALL BE MULCHED WITH A 2" LAYER OF SHREDDED HARDWOOD OR BARK MULCH. ALL OTHER PLANTING BEDS, SHRUBS AND TREE PLANTINGS SHALL BE MULCHED, WITH A 3" MINIMUM LAYER OF MULCH THIS MULCH SHALL ENTIRELY COVER THE AREA OF THE PLANTING PIT, BED, OR EARTH BERM AROUND EACH PLANT WITH THE EXCEPTION OF THE AREA IMMEDIATELY ADJACENT TO THE PLANT TRUNK OR TRUNKS. THE AREA IMMEDIATELY ADJACENT TO THE PLANT TRUNK OR TRUNKS SHALL BE LEFT FREE OF ANY MULCH. WEED FABRIC SHALL BE INSTALLED IN ALL PLANTING BEDS.

(5.1) THE FERTILIZER SHOULD BE A DRY SLOW RELEASE FORM OF FERTILIZER. IT SHOULD CONTAIN AT LEAST 25-50% WATER INSOLUBLE NITROGEN. THE FERTILIZER SELECTED SHOULD ALSO HAVE A LOW ADJUSTED SALT INDEX TO PREVENT BURNING. THE N-P-K RATIO SHOULD NOT EXCEED 3-1-2 UNLESS THE SOIL TEST REVEALS THAT ADDITIONAL LEVELS OF P AND K ARE NECESSARY

(5.2) FOR DECIDUOUS TREES, USE OSMOCOTE (18-6-12) AT THE RATE EQUIVALENT TO 4 LBS ACTUAL N/1000 SQ FT OF ROOT ZONE AREA/YEAR. FOR EVERGREEN TREES USE 2 LBS ACTUAL N/1000 SQ FT OF ROOT ZONE

(5.3) MIX THE FERTILIZER INTO THE BACKFILL SOIL OF THE TREE PITS. FOR SHRUB BEDS, MIX THE FERTILIZER INTO THE AREA THAT HAS BEEN ROTO-TILLED FOR THE PLANTS

(5.4) THE FERTILIZER RATE FOR CONTINUOUS GROUND COVER AND SHRUB BEDS. SHOULD BE DERIVED BY CALCULATING THE ENTIRE ROOT ZONE AREA. THE ROOT ZONE AREA IS FOUND BY MEASURING THE AREA CONTAINING THE MULTIPLE PLANT ROOTS, USE OSMOCOTE (18-6-12) AT A RATE EQUIVALENT TO 2 LBS OF N /1000 SQ FT OF ROOT ZONE AREA. THE FERTILIZER SHOULD BE EVENLY DISTRIBUTED WITHIN THE SHRUB BED

(5.5) ALWAYS BE SURE THAT ADEQUATE MOISTURE IS AVAILABLE WHEN FERTILIZING SO THAT THE FERTILIZER WILL BE DISSOLVED INTO THE SOIL SOLUTION FOR ROOT UPTAKE AND TO AVOID BURNING THE ROOTS.

(6.1) ALL TREES SHALL BE STAKED ACCORDING TO THE TYPICAL DETAILS PROVIDED.

(6.2) THREE STAKES SHALL BE REQUIRED PER TREE. THE STAKES SHALL BE DRIVEN IN A RADIAL ATTERN, VERTICALLY INTO THE GROUND OUTSIDE THE EDGE OF THE ROOTBALL TO A DEPTH OF 2 1/2 $^{\circ}$ TO 3', ON OPPOSITE SIDES OF THE TREE IN SUCH A MANNER AS NOT TO INJURE THE ROOT BALL OR ROOTS, STAKES FOR SUPPORTING TREES SHALL BE 1.5" X 1.5" SQUARE OR 1.5" ROUND, BY 8'. THE STAKES SHALL BE SOUND WOOD TREATED WITH A SUITABLE WOOD PRESERVATIV

WIRE OR CABLE SIZES FOR TREES UP TO 3" CAL. SHALL BE #10 WIRE:

TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. PLASTIC HOSE SHALL BE LONG ENOUGH TO ACCOMMODATE 35MM (1.5 IN.) OF GROWTH AND BUFFER ALL BRANCHES FROM THE WIRE. TUCK ANY LOOSE ENDS OF THE WIRE OR CABLE INTO THE WIRE WRAP SO THAT NO SHARP WIRE ENDS ARE EXPOSED. ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TREE TRUNK IS A MINIMUM OF 12 MM (0.5 IN.).

(6.3) WOODEN STAKES AND WIRE TIES SHOULD BE REMOVED AFTER ONE YEAR.

(7.1) ALL PESTICIDES SHALL BE PRODUCTS OF RECOGNIZED COMMERCIAL MANUFACTURERS, AND SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL PESTICIDE LAWS. PESTICIDES SHALL BE APPLIED WITH CALIBRATED EQUIPMENT ACCORDING TO EPA LABEL RESTRICTIONS AND REGULATIONS BY A CERTIFIED APPLICATOR, ANY DAMAGE INCURRED TO THE SITE, ADJACENT PROPERTIES, OR APPLICATOR DURING PESTICIDE APPLICATIONS WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

(7.2) PESTICIDES SHOULD BE USED ONLY WHEN NECESSARY TO TREAT AN OUTBREAK OF A HARMFUL PEST OR DISEASE PROBLEM. THE OWNER OR THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED 24 HOURS PRIOR TO THE APPLICATION OF ANY PESTICIDE.

(8) MAINTENANCE AND GUARANTEE

(8.1) THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING HIS WORK FOR THE PERIOD OF ONE YEAR AFTER ACCEPTANCE BY THE OWNER OR THE OWNER'S REPRESENTATIVE. MAINTENANCE SHALL INCLUDE WATERING, WEEDING, CULTIVATING, MULCHING, REMOVAL OF DEAD MATERIALS, RESETTING OF PLANTS TO PROPER GRADES OR UPRIGHT POSITIONS, RESTORATION OF EARTH BERMS, AND OTHER NECESSARY OPERATIONS ADECUATE PROTECTION FOR LAWN AREAS AGAINST TRESPASSING DURING PLANTING OPERATIONS AND AGAINST DAMAGE OF ANY KIND SHALL BE PROVIDED. NOTHING IN THESE NOTES IS INTENDED TO RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO REPAIR EXISTING LAWN AREAS DAMAGED BY WORKMEN ENGAGED IN THE COMPLETION OF THIS PROJECT.

(8.2) INSPECTION OF THE WORK TO DETERMINE COMPLETION OF THE CONTRACT EXCLUSIVE OF THE POSSIBLE REPLACEMENT OF PLANTINGS, WILL BE MADE BY THE OWNER OR THE OWNER'S REPRESENTATIVE AT THE CONCLUSION OF THE INSTALLATION PERIOD, LIPON WRITTEN NOTICE REQUESTING SUCH INSPECTION. REQUEST SHALL BE SUBMITTED BY CONTRACTOR AT LEAST TEN DAYS PRIOR TO THE ANTICIPATED DATE FOR INSPECTION. AFTER INSPECTION, THE CONTRACTOR WILL BE NOTIFIED IN WRITING BY THE OWNER OR THE OWNER'S REPRESENTATIVE OF ACCEPTANCE OF THE WORK EXCLUSIVE OF THE POSSIBLE REPLACEMENT OF PLANTS SUBJECT TO GUARANTEE; OR, IF THERE ARE ANY DEFICIENCIES, THE CONTRACTOR WILL BE NOTIFIED CONSIDERED ACCEPTED UNTIL ALL DEFICIENCIES HAVE BEEN CORRECTED AND APPROVED IN WRITING.

(8.3) NURSERY STOCK SHALL BE FULLY GUARANTEED FOR ONE FULL YEAR. ALL PLANTS THAT FAIL TO MAKE NEW GROWTH FROM A DORMANT CONDITION OR THAT DIE DURING THE FIRST YEAR AFTER PLANTING SHAL BE REPLACED. ALL REPLACEMENTS SHALL CONFORM WITH THE ORIGINAL SPECIFICATIONS AS TO SIZE AND TYPE. ALL COSTS OF REPLACEMENTS SHALL BE BORNE BY THE CONTRACTOR.

(9) ALL OTHER ITEMS NECESSARY TO MAKE WORK COMPLETE

(9.1) ANY PLANT MATERIAL NOT PLANTED SHALL BE REMOVED FROM THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL UNUSED RUBBISH AND DEBRIS FROM THE SITE UPON COMPLETION OF HIS WORK.

(10) PERMANENT SEEDING (SHALL ONLY APPLY TO DISTURBED AREAS NOT INDICATED TO RECEIVE SOD). (10.1) TOPSOILING: WHERE TOPSOIL IS REQUIRED ON ADVERSE SOIL CONDITIONS, A MINIMUM OF FOUR INCHES OF TOPSOIL SHOULD BE USED. THE TOPSOIL SHOULD CONTAIN A MINIMUM OF 35% FINE GRAINED MATERIAL (SILT AND CLAY AND 1.5% + ORGANIC MATTER).

(10.2) LIME AND FERTILIZER: A LIME - APPLY GROUND LIMESTONE OR

B. LIME - APPLY PULVERIZED AGRICULTURAL LIMESTONE OR EQUIVALENT AT THE RATE OF 2 TONS PRE

C. FERTILIZER - 500 POUNDS PER ACRE OF 10-20-10 FERTILIZER OR EQUIVALENT.

IF SOILS ARE UNIFORM, IT IS DESIRABLE TO HAVE LIME AND FERTILIZER RECOMMENDATIONS BASED ON SOIL TESTS. THE LIME AND FERTILIZER SHOULD BE DISKED OR WORKED INTO A GOOD SEEDBED TO A DEPTH OF THREE TO FOUR INCHES. (10.3) SPRING AND FALL SEEDING: SEED ONE OF THE FOLLOWING VARIETIES AT THE SPECIFIED RATES PER

ACRE FOR TURF AREAS SEEDED IN THE SPRING OR FALL (SEE SPECIFIED SEEDING DATES BELOW):

FALL SEEDING: AUGUST 1 TO NOVEMBER 1

NOTE: PREFERRED FESCUE SEEDING DATES ARE FROM AUGUST 1 TO NOVEMBER 1 SPRING SEEDING DATES WOULD BE FROM FEBRUARY 28, TO MAY 15.

(1) FESCUE SHALL BE SELECTED FROM ONE OF THE FOLLOWING VARIETIES: 2ND MILLENNIUM, AVENGER, BILTMORE, BINGO, BLACKWATCH, BRAVO, COCHISE II(3), COCHISE III, CONSTITUTION, COYOTE II, CROSSFIRE II(3,4), DAVINCI(3), DAYTONA(3), ENDEAVOR(3), FALCON IV, FIDELITY. FORTE, GOOD-EN(3,4), GRANDE(4), GRANDE II, GREENKEEPER WAF, GUARDIAN 21, HOUNDOG 5, HUNTER, INFERNO, JUSTICE, MAGELLAN, MASTERPIECE, MATADOR(3), MATADOR GT(3), ONYX(3,4), PADRE, PICASSO(3), PENN 1901, RAPTOR, REBEL EXEDA, REGIMENT II, REMBRANDT(3), SOUTHERN CHOICE II(3), SR 8250(3), TAOS. TARHEEL, TARHEEL II, TEMPEST, TITANIUM, TOMBSTONE, TURBO, ULTIMATE(3), WATCHDOG, AND WOLFPACK.

(10.4) SEED WITH THE FOLLOWING MIXTURE(S) FOR SPECIFIED DATES OUTSIDE THOSE LISTED ABOVE:

TYPE OF GRASS SEEDING RATE SEEDING DATE BERMUDA (1) 2 LBS./1000 SQ. FT.(HULLED SEED) SPRING SEEDING: MAY 15 - JUNE 7 LBS./1000 SQ. FT. (UNHULLED BERMUDA SEED FALL SEEDING: ALL OTHERS AND 5 LBS./1000 SQ. FT. WINTER RYE (LOLLIUM MULTIFLORUM)

(2) ONLY THE FOLLOWING VARIETIES OF BERMUDA SHALL BE ACCEPTABLE: BLACKJACK, CONTINENTAL, PRINCESS 77, RIVIERA, YUKON OR SAVANNAH. SEED SHALL HAVE A MINIMUM PURITY OF 95% AND AN 85% GERMINATION RATE

A. MULCH WITH ANY OF THE MATERIALS LISTED BELOW AND AT THE RATE INDICATED. SPREADING SHOULD BE UNIFORM AND AT A RATE THAT PERMITS NO MORE THAN 25-50% OF THE GROUND SHOWING THROUGH THE MULCH.

B. MULCHING IS SPECIFICALLY REQUIRED ON ALL SOILS EXCEEDING 25% SLOPE. 1. STRAW - 1 TO 2 TONS/ACRE DEPENDING ON SEASON AND METHOD OF APPLICATION. WOOD FIBER MATERIALS - 1,000 LBS. PER ACRE.

A. IRRIGATION - IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS AND PLANTINGS WITH ADEQUATE

ATER FOR PLANT GROWTH UNTIL THEY ARE FIRMLY ESTABLISHED B. REPAIR - INSPECT ALL AREAS FOR PLANTING FAILURES AND MAKE NECESSARY REPAIRS. REPLACEMENTS, AND RESEEDING WITH THE PLANTING SEASON IF POSSIBLE. C. LIME AND FERTILIZER - SHALL BE APPLIED UNDER A REGULAR PROGRAM THAT IS BASED ON SOIL FERTILITY TESTS AND ON THE USE AND GENERAL APPEARANCE OF THE VEGETATIVE COVER DURING

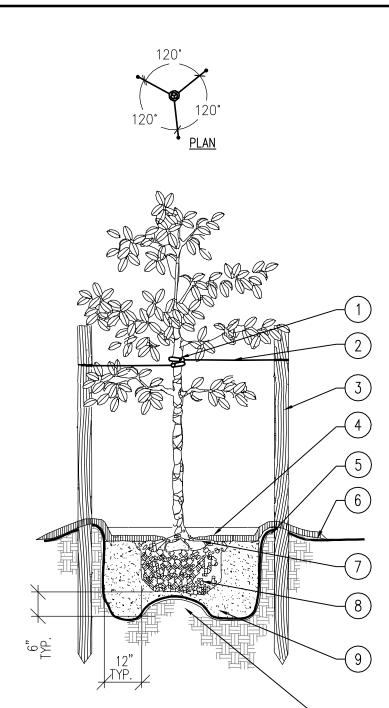
SUBSEQUENT GROWING SEASONS.

ALL AREAS WITHIN THE LIMITS OF CONSTRUCTION THAT ARE NOT OTHERWISE COVERED BY BUILDINGS, PAVEMENT, SIDEWALKS, WOODED AREAS AND PLANTING / MULCHED BEDS OR OTHERWISE CALLED OUT AS SOD LAWN AREAS SHALL BE SEEDED PER THE PERMANENT SEEDING SPECIFICATIONS IN THE PRECEDING

SEEDED AREAS WILL ONLY BE ACCEPTED AFTER DISTURBED AREAS ARE COMPLETELY COVERED IN A DENSE LAWN CONSISTING OF THE SPECIFIED PERMANENT GRASS

GENERAL LANDSCAPE NOTES:

- A. CONTRACTOR SHALL REVIEW ALL DRAWINGS, SPECIFICATIONS, PERMITS, AND REGULATORY REQUIREMENTS PRIOR TO COMMENCEMENT OF WORK.
- B. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED LANDSCAPING AND IRRIGATION
- C. CONTRACTOR SHALL VERIFY ALL EXISTING AND PROPOSED SITE ELEMENTS AND NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES. SURVEY DATA OF EXISTING CONDITIONS WAS PROVIDED BY
- D. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES DURING CONSTRUCTION. AT LEAST 48 HOURS PRIOR TO ANY DEMOLITION, GRADING, OR CONSTRUCTION ACTIVITY THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" OF VIRGINIA @ 1-800-552-7001 FOR PROPER IDENTIFICATION OF EXISTING UTILITIES WITHIN THE PROJECT SITE.
- E. FINAL LOCATION OF ALL PLANTINGS SHALL BE DETERMINED IN THE FIELD BY THE OWNER'S CHOSEN REPRESENTATIVE.
- F. SUBSTITUTIONS AND/OR MODIFICATIONS TO PLANTING LAYOUT, PLANT MATERIALS, ETC. SHALL NOT BE MADE WITHOUT THE WRITTEN CONSENT OF THE OWNER OR OWNERS REPRESENTATIVE. ALL SUBSTITUTIONS SHALL BE APPROVED IN WRITING BY THE CITY OF CHESAPEAKE.
- G. CONTRACTOR SHALL INSTALL ALL PLANT MATERIALS AS SHOWN IN THE DETAILS, AND AS INDICATED IN THE LANDSCAPE SPECIFICATIONS
- H. THE PLANTING OF TREES SHALL BE DONE IN ACCORDANCE WITH THE STANDARDIZED LANDSCAPE SPECIFICATIONS JOINTLY ADOPTED BY THE VIRGINIA NURSERYMEN'S ASSOCIATION, THE VIRGINIA SOCIETY OF LANDSCAPE DESIGNERS AND THE VIRGINIA CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS.
- I. SIZE AND GRADING STANDARDS OF PLANT MATERIALS SHALL CONFORM TO THE LATEST ADDITION OF ANSI Z60.1, AMERICAN STANDARD FOR NURSERY STOCK, BY THE AMERICAN NURSERY AND LANDSCAPE
- J. ALL PLANT MATERIALS SHALL BE NURSERY GROWN STOCK AND SHALL BE FREE OF ANY DEFORMITIES, DISEASES, OR INSECT DAMAGE. ANY MATERIALS WITH DAMAGED OR DISFIGURED/ CROOKED LEADERS, BARK ABRASIONS, SUNSCALD, INSECT DAMAGE, ETC., ARE NOT ACCEPTABLE AND WILL BE REJECTED.
- K. TREES NOT EXHIBITING A CENTRAL LEADER WILL BE REJECTED UNLESS CALLED OUT IN THE PLANT LIST AS MULTI-STEM.
- L. ALL PLANTING BEDS AND LAWN AREAS SHALL BE SEPARATED BY SHOVEL EDGING. NO EDGE SHALL BE INSTALLED ADJACENT TO SIDEWALKS OR CURBS
- M. PLANTING BEDS SHALL RECEIVE 3" OF DARK, SHREDDED HARDWOOD MULCH THROUGHOUT. ORANGE AND/ OR RED MULCH IS NOT ACCEPTABLE.
- N. ALL AREAS ON PLANS NOT INDICATED TO RECEIVE SOD PLANTING, PAVEMENT, OR HARDSCAPE WHICH ARE DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE SEEDED WITH PERMANENT LAWN GRASS. UNLESS OTHERWISE DIRECTED BY THE OWNER OR OWNERS REPRESENTATIVE. SEE SEEDING NOTES
- O. PLANT MATERIALS SHOWN ON PLANS ARE A GRAPHIC REPRESENTATION ONLY. CONTRACTOR SHALL PERFORM ALL LANDSCAPE INSTALLATION ON THE SUBJECT PROPERTY, AND NOT ON ADJACENT PROPERTIES, UNLESS OTHERWISE DIRECTED BY THE OWNER OR THE OWNER'S REPRESENTATIVE. ROOTBALLS OF SHRUBS AND TREES SHALL BE PLANTED, IN THEIR ENTIRETY, WITHIN THE BOUNDARIES OF THE SUBJECT PROPERTY
- P. QUANTITY TAKE-OFFS INDICATED ON THE PLANTING SCHEDULE ARE FOR CONVENIENCE ONLY. IN THE EVENT OF A DISCREPANCY BETWEEN THE PLANS AND THE SCHEDULE, THE GRAPHIC REPRESENTATION IN THE PLANS SHALL DICTATE.



1. PROTECT TREE TRUNK WITH BLACK RUBBER

2. #10 GAUGE WIRE (NOTE FOR MULTI-TRUNK TREES, USE SEPARATE GUYS TO STRONGEST

TRUNKS AT CENTER OF EACH). 3. THREE 1.5" X 8' MIN. SQUARE OR ROUND STAKES SPACED EVENLY AROUND TREE IN A

RADIAL PATTERN. 4. 3" MINIMUM OF MULCH AS SPECIFIED. WHERE TREES ARE PLACED IN LAWN AREAS MULCH RING FOR TREES SHALL EXTEND APPROX. 6" BEYOND EARTH SAUCER/BERM UNLESS INDICATED OTHERWISE BY OWNERS REPRESENTATIVE. SOIL BERM TO HOLD

FINISHED GRADE (SEE GRADING PLAN) TOP OF ROOTBALL MIN. 1" ABOVE FINISHED

. B & B OR CONTAINERIZED (SEE

SIT ON COMPACTED EARTH.

SPECIFICATIONS FOR ROOT BALL REQUIREMENTS) PREPARED PLANTING SOIL AS SPECIFIED.

(SEE LANDSCAPE NOTES) 9. ROOTBALLS GREATER THAN 24" DIAMETER SHALL BE PLACED ON MOUND OF UNDISTURBED SOIL TO PREVENT SETTLING ROOTBALLS SMALLER THAN 24" IN DIA. MAY

A. CONTRACTOR SHALL ASSURE PERCOLATION

OF ALL PLANTING PITS PRIOR TO INSTALLATION. FINAL TREE STAKING DETAILS AND

PLACEMENT TO BE APPROVED BY OWNER. "TREE SAVER" ANCHORING SYSTEM MAY BE SUBSTITUTED FOR WOOD STAKING SYSTEM UPON APPROVAL BY OWNER OR OWNER'S REPRESENTATIVE.

DIRECTED BY OWNER'S REPRESENTATIVE.

ALL TREES SHALL BE PLUMB VERTICALLY WITHIN A

TOLERANCE OF THREE DEGREES, UNLESS OTHERWISE

(TREES UNDER 3" CAL. OR 14' IN HEIGHT)

BRINKL

SHEET NUMBER