## **GENERAL NOTES ABBREVIATIONS LEGEND** ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO THE WESTERN VIRGINIA REGIONAL DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AVAILABLE AT Lic. No. 021283 **EXISTING PROPOSED** WWW.WESTERNVAWATER.ORG OR BY CONTACTING THE AUTHORITY AT 540-853-5700, AND SUPPLEMENTAL SPECIFICATIONS. THE PROJECT SHALL ALSO COMPLY WITH THE SOUTH (COORDINATE) AND GAS GOVERNING JURISDICTION'S STANDARDS AND OTHER AGENCY STANDARDS (E.G., VDOT, DEQ, DCR, VDH, ETC.) WHERE APPLICABLE. ASBESTOS CEMENT AC GALV GALVANIZED SAN SANITARY - --1000--- ---CONTOURS <del>-----</del>1000---ADDL SOIL BORING GENERAL CONTRACTOR 2. THE CONTRACTOR SHALL INSTALL COMPLETE NEW WATER SERVICES INCLUDING THE METER SETTER AND BOX. WATER SERVICE CONNECTIONS SHALL INCLUDE CONNECTION TO NEW $\times$ 1561.3 GROUND ELEVATION N/A **ADDENDUM** GRATE INLET SCHEDULE WATERLINE, SERVICE LINE, AND NEW METER BOX ASSEMBLY. CONTRACTOR SHALL MAKE CONNECTION TO EXISTING SERVICE LINE ON CUSTOMER SIDE OF METER AFTER NEW WATER ADDN ADDITION GAS METER SYSTEM, INCLUDING SERVICE LINE, HAS BEEN TESTED, DISINFECTED, AND APPROVED FOR SERVICE. THE AUTHORITY WILL INSTALL ALL NEW WATER METERS AND REMOVE ALL STORM DRAIN N/A TREE LINE EXISTING WATER METERS. FOLLOWING METER REPLACEMENT BY THE AUTHORITY, THE CONTRACTOR SHALL DEMOLISH THE EXISTING WATER METER SETTER AND BOX. THE ADJACENT GRADE (SLOPE) SOUTHEAST STREAM N/A CONTRACTOR SHALL COORDINATE EXISTING METER REMOVAL AND NEW METER INSTALLATION DIRECTLY WITH THE AUTHORITY. THE CONTRACTOR SHALL PROVIDE AT LEAST THREE ABOVE FINISHED FLOOR GATE VALVE SECT SECTION (3) BUSINESS DAYS ADVANCE NOTICE TO THE AUTHORITY PRIOR TO NEEDING METER INSTALLATIONS. THE CONTRACTOR SHALL SEQUENCE CONSTRUCTION ACTIVITY TO PROVIDE A AFG SHT SHEET ABOVE FINISHED GRADE SERIES OF AT LEAST TEN (10) SERVICES THAT ARE READY TO RECEIVE NEW METERS BEFORE CONTACTING THE AUTHORITY FOR WATER METER REPLACEMENT. N/A DECIDUOUS TREE AGGR HORIZONTAL SPRT SUPPORT AGGREGATE ALL WATER SERVICE LINES SHALL BE BORED UNDER PAVEMENT. AMERICAN INSTITUTE OF STEEL CONSTRUCTION SQUARE HANDICAPPED CONIFEROUS TREE N/A APPD **APPROVED** SANITARY SEWER HEAVY DUTY ALL CONNECTIONS TO EXISTING WATERLINES SHALL BE PERFORMED BY THE AUTHORITY. THE CONTRACTOR SHALL PROVIDE FULL STAINLESS STEEL TAPPING SLEEVE(S) AND APPROX **APPROXIMATE** SSFM SANITARY SEWER, FORCE MAIN HEX HEXAGON VALVE(S). THE CONTRACTOR SHALL EXCAVATE TO THE EXISTING WATERLINE, SHORE THE TRENCH PER OSHA REQUIREMENTS, CLEAN THE EXISTING WATERLINE AND INSTALL THE ARCHITECTURE, ARCHITECTURAL ARCH HGT HEIGHT SANITARY SEWER MANHOLE N/A SHRUB TAPPING SLEEVE AND VALVE, PRIOR TO THE AUTHORITY PERFORMING THE TAP. THE CONTRACTOR SHALL NOTIFY THE AUTHORITY'S UTILITY LINE SERVICES DIVISION AT ASPH-HIGH POINT SST STAINLESS STEEL 540-853-2792 AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO REQUIRING THE CONNECTION. N/A FENCE AVERAGE HYDRANT STORM DRAIN PROPERTY LINE/ROW N/A ALL CONNECTIONS TO EXISTING SANITARY SEWERLINES SHALL BE PERFORMED BY THE AUTHORITY. THE CONTRACTOR SHALL EXCAVATE TO THE EXISTING SEWERLINE, SHORE THE AMERICAN SOCIETY FOR TESTING AND MATERIALS STA STATION TRENCH PER OSHA REQUIREMENTS, AND CLEAN THE EXISTING SEWERLINE PRIOR TO THE AUTHORITY PERFORMING THE TAP. THE CONTRACTOR SHALL NOTIFY THE AUTHORITY'S N/A IRON ROD FOUND AMERICAN WELDING SOCIETY INSIDE DIAMETER STD STANDARD UTILITY LINE SERVICES DIVISION AT 540-853-2792 AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO REQUIRING THE CONNECTION. D AMERICAN WATER WORKS ASSOCIATION INVERT ELEVATION STL STEEL N/A IRON ROD SET SOUTHWEST, SIDE WALK **INCHES** 6. THE CONTRACTOR SHALL PERFORM ALL MANHOLE CONNECTIONS. THE CORING AND BOOT INSTALLATION SHALL BE INSPECTED AND APPROVED BY AN AUTHORITY CONSTRUCTION N/A MONUMENT FOUND BITUMINOUS INCORPORATED INSPECTOR PRIOR TO ACTIVATING SEWER SERVICE. THE CONTRACTOR SHALL CONTACT THE AUTHORITY'S CONSTRUCTION INSPECTOR RESPONSIBLE FOR THE PROJECT AT LEAST MONUMENT SET N/A ONE (1) DAY PRIOR TO INITIATING THE MANHOLE CONNECTION. TANGENT DISTANCE (CURVE), TELEPHONE LINE BUILDING LINE INCL INCLUDE EASEMENT BUILDING INV INVERT TOP & BOTTOM PRIOR TO CONSTRUCTION IN THE RIGHT-OF-WAY, ALL APPLICABLE PERMIT(S) FROM THE GOVERNING JURISDICTION AND/OR AGENCY MUST BE OBTAINED AND A COPY KEPT ON N/A SIGN T/EL TOP OF CASTING ELEVATION BORING HOLE INDUSTRIAL WASTE THE PROJECT SITE. METAL POST N/A BENCHMARK TOP OF CURB ELEVATION FOR PROJECTS REQUIRING TRAFFIC CONTROL IN THE CITY OF ROANOKE, NOTIFY TRANSPORTATION ENGINEER, HONG LIU, AT 540-853-2686 AT LEAST TWO WEEKS IN ADVANCE BOTTOM TOP OF DITCH JUNCTION BOX WOOD POST N/A OF REQUIRING TRAFFIC CONTROL. FOR A LANE CLOSURE PERMIT IN THE CITY OF ROANOKE, CONTACT THE TRAFFIC ENGINEER, HONG LUI, AT 540-853-2686. TRAFFIC CONTROL BRKT BRACKET TURN DOWN FOOTING N/A STORM SEWER SHALL BE PROVIDED IN ACCORDANCE WITH THE MOST RECENT MUTCD MANUAL AND THE VDOT WORK AREA PROTECTION MANUAL UNLESS OTHERWISE SPECIFIED BY THE CITY. KIPS TEMPORARY EASEMENT CHORD LENGTH (CURVE) KSF KIPS PER SQUARE FOOT TOP OF FOOTING STORM MANHOLE N/A 9. THE CONTRACTOR SHALL NOTIFY THE AUTHORITY'S ENGINEERING COORDINATOR, MARK SINK, AT 540-537-3460 AT LEAST THREE (3) DAYS PRIOR TO CONSTRUCTION. CATCH BASIN KIPS PER SQUARE INCH THK THICK N/A STORM DRAINAGE INLET C/C CENTER TO CENTER TOW TOP OF WALL 10. A PRE-CONSTRUCTION CONFERENCE SHALL BE SCHEDULED AT LEAST ONE (1) DAY PRIOR TO ANY CONSTRUCTION. N/A STORM STRUCTURE KEY COLUMN FOOTING LENGTH TOP OF PAVEMENT ELEVATION SANITARY SEWER 11. THE CONTRACTOR SHALL HAVE A VALID MISS UTILITY TICKET PRIOR TO EXCAVATION. CONTACT MISS UTILITY AT 1-800-552-7001. CURB AND GUTTER LBS POUNDS THICKENED SLAB CURB INLET LINEAR FEET TYP TYPICAL SANITARY SEWER CLEANOU 12. ALL EXISTING UTILITIES MAY NOT BE SHOWN OR MAY NOT BE SHOWN IN THEIR EXACT LOCATION. CONTRACTOR SHALL LOCATE ALL UTILITIES AND DETERMINE ALL INVERTS PRIOR CAST IRON PIPE LINEAR TO CONSTRUCTION TO ALLOW FOR ADJUSTMENTS DUE TO CONFLICTS WITH OTHER UTILITIES. THE CONTRACTOR SHALL COMPLY WITH THE VIRGINIA STATE WATER WORKS SANITARY SEWER MANHOLE UNDERGROUND ELECTRICAL CIPP CURED IN PLACE PIPE LIGHT POLE REGULATIONS, SECTION 12VAC5-590-1150, AND THE VIRGINIA STATE SEWAGE COLLECTION AND TREATMENT REGULATIONS WHERE LINES CROSS. CIRC CIRCLE UNLESS OTHERWISE NOTED SANITARY STRUCTURE KEY CLASS, CENTERLINE, COLUMN LINE UNITED STATES GEOLOGICAL SOCIETY 13. AN APPROVED SET OF PLANS AND PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE AT ALL TIMES. MAXIMUM UNDERGROUND ELECTRIC N/A ---- UGO -----CLR UNDERGROUND TELEPHONE MASONRY N/A CONSTRUCTION DEBRIS SHALL BE CONTAINERIZED IN ACCORDANCE WITH THE VIRGINIA LITTER CONTROL ACT. OVERHEAD POWER CENTIMETER MATL MATERIAL VERTICALLY, VERTICAL CORRUGATED METAL PIPE MECHANICAL N/A LIGHT POLE 15. PRIOR TO COMMENCING WORK, THE CONTRACTOR'S CERTIFIED RESPONSIBLE LAND DISTURBER SHALL OBTAIN AN EROSION AND SEDIMENT CONTROL PERMIT FOR THE PROJECT CONCRETE MASONRY UNIT MEMBRANE VIRGINIA N/A ELECTRIC POLE FROM THE LOCAL GOVERNING JURISDICTION AND STORMWATER MANAGEMENT PERMIT FROM DCR (IF REQUIRED). ALL EROSION AND SEDIMENT CONTROL MEASURES MUST BE IN COMPANY, CLEAN OUT MANUFACTURER VITRIFIED CLAY PIPE ACCORDANCE WITH THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND SHALL BE INSTALLED PRIOR TO CONSTRUCTION. N/A ELECTRIC MANHOLE VDOT VIRGINIA DEPARTMENT OF TRANSPORTATION COL MANHOLE 16. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS OF CLEANING ALL VEHICLES AND EQUIPMENT PRIOR TO ENTERING PUBLIC STREETS. IT IS THE CONTRACTOR'S VERIFY IN FIELD CONC CONCRETE MINIMUM RESPONSIBILITY TO ENSURE THAT THE STREETS ARE KEPT IN A CLEAN, MUD- AND DUST-FREE CONDITION AT ALL TIMES. .... .... W .... .... .... N/A ABANDONED WATER CONTINUE, CONTINUOUS, CONTINUATION MISCELLANEOUS WEST, WATERLINE CONTR GATE VALVE CONTRACTOR 17. FIELD CHANGES SHALL BE APPROVED BY THE AUTHORITY'S ENGINEERING DIVISION PRIOR TO SUCH CONSTRUCTION NORTH (COORDINATE) WALL FOOTING COORD COORDINATE AIR RELEASE VALVE 18. THE CONTRACTOR SHALL MAKE PROVISIONS TO PROVIDE ACCESS TO ALL PROPERTIES DURING CONSTRUCTION AND SHALL MAINTAIN SAFE ACCESSIBILITY TO FIRE HYDRANTS AT W/O WITHOUT CPLG COUPLING NOT APPLICABLE BLOW OFF VALVE CULV CULVERT WATER SURFACE NORTH EAST FIRE HYDRANT CUBIC YARDS NATIONAL FIRE PROTECTION ASSOCIATION WEIGHT 19. MANHOLE RIMS SHALL BE INSTALLED TO GRADE AND FLUSH WITH THE FINAL PAVEMENT. PAVEMENT AROUND ADJACENT STRUCTURE SHALL BE MILLED AS REQUIRED TO MATCH WATER METER WV WATER VALVE NATURAL GAS PAVEMENT TO EXISTING STRUCTURES. GENERIC COMMUNICATION DEGREE OF CURVATURE WVWA WESTERN VIRGINIA WATER AUTHORITY DEGREE WWF WELDED WIRE FABRIC 20. UNREPAIRED ROADWAYS OPENED TO TRAFFIC SHALL HAVE, AT A MINIMUM, COMPACTED AGGREGATE MATERIAL VDOT 21A OR 21B FLUSH WITH THE ADJACENT ROADWAY SURFACE NUMBER UNDERGROUND COMMUNICATION N/A DEMOLISH, DEMOLITION AND SHALL BE INSPECTED AND REPAIRED ON A DAILY BASIS. SOME AREAS WILL REQUIRE A TEMPORARY PATCH UNTIL FINAL PAVING CAN BE COMPLETED. DEMO NOMINA N/A OVERHEAD COMMUNICATIONS NPDES NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM 21. THE CONTRACTOR SHALL NOT EXCAVATE MORE TRENCH LENGTH THAN CAN BE RESTORED WITHIN THE SAME WORK DAY. ALL TRENCHES SHALL BE BACKFILLED OR PLATED AT DESCRIPTION N/A CABLE TV THE END OF EACH WORK DAY OR WHEN THE CONTRACTOR IS NOT ON SITE. DETAIL NORTHWEST N/A CABLE TV MANHOLE DIAMETER N/A 22. THE CONTRACTOR SHALL SUPPLY THE AUTHORITY WITH CORRECT AS-BUILT PLANS BEFORE SUBSTANTIAL COMPLETION WILL BE GRANTED. CABLE TV PEDESTAL DUCTILE IRON PIPE ON CENTER N/A DIST OUTSIDE DIAMETER TELEPHONE LINE 23. WORK IN THE RIGHT-OF-WAY IS TO BE PERFORMED PER THE CITY OF ROANOKE RIGHT-OF-WAY EXCAVATION AND RESTORATION STANDARDS DRAWING OUTSIDE FACE OVERHEAD TELEPHONE N/A OPNG OPENING 24. CONSTRUCTION CREWS MUST ALLOW FOR SOLID WASTE MANAGEMENT TO SERVICE TRASH, RECYCLING, BULK, AND BRUSH FOR THE ENTIRE PROJECT AREA. N/A UNDERGROUND TELEPHONE EAST (COORDINATE) OPPOSITE 25. CONTRACTOR SHALL COORDINATE WITH THE AUTHORITY FOR MARKING OF ALL SEWER LATERALS PRIOR TO CONSTRUCTION. N/A TELEPHONE BOX ORIGINAL OCCUPATIONAL SAFETY & HEALTH ACT N/A EACH FACE TELEPHONE MANHOLE 26. PROPOSED SEWER LATERALS ARE SHOWN IN ASSUMED LOCATIONS. CONTRACTOR SHALL LOCATE EXISTING LATERALS AND REPLACE LATERAL AND CLEAN OUT AND CONNECT TO $A \square$ EL,ELEV ELEVATION N/A EXISTING PRIVATE LATERAL. PROVIDE NEW CLEAN OUT AT PROPERTY LINE (OR EASEMENT LINE) FOR ACTIVE LATERALS. TELEPHONE PEDESTAL ELECTRIC, ELECTRICAL PAVEMENT TELEPHONE POLE N/A EDGE OF PAVEMENT EOP POINT OF CURVATURE 27. CONTRACTOR TO VERIFY ACTIVE LATERALS WITH OWNER ASSISTANCE. N/A EQ PROCESS DRAIN GAS LINE 28. HORIZONTAL DATUM IS VIRGINIA STATE PLANE COORDINATE SYSTEM SOUTH ZONE NAD 83. VERTICAL DATUM IS NAVD 88. N/A GAS DRIP PERMANENT EASEMENT, PROFESSIONAL ENGINEER ETC ET CETERA N/A POINT OF INTERSECTION GAS METER EACH WAY 29. THE "OWNER" IS THE WESTERN VIRGINIA WATER AUTHORITY (AUTHORITY). THE TERMS "OWNER" AND "AUTHORITY" ARE USED INTERCHANGEABLY IN THESE CONTRACT DOCUMENTS. EXISTING PROPERTY LINE DURING CONSTRUCTION THE AUTHORITY WILL ACT AS THE "ENGINEER". N/A GAS MANHOLE EXISTING GRADE UTILITY POLE N/A GAS VALVE 30. CONTRACTOR SHALL OBTAIN REQUIRED PERMITS FROM THE CITY OF ROANOKE. EXPANSION **PROCESS** M H BENCHMARK PROPERTY 31. PAVEMENT SHALL BE IN ACCORDANCE WITH ROANOKE CITY STANDARDS. FENCE CORNER POUNDS PER SQUARE FOOT FULL DEPTH PAVEMENT N/A RESORATION POUNDS PER SQUARE INCH FOUNDATION 32. SEWER PIPE MATERIAL SHALL BE PER AUTHORITY STANDARDS UNLESS OTHERWISE INDICATED ON THE PLANS. FLARED END SECTION POINT OF TANGENCY MILL AND OVERLAY N/A 33. PROFILES SHOW SEWER SLOPES BASED ON SEWER LENGTH FROM MANHOLE CENTER TO MANHOLE CENTER. HOWEVER, PAYMENT SHALL BE MADE FOR LENGTH FROM INSIDE EXISTING PAVEMENT FACE TO FACE POTABLE WATER MANHOLE TO INSIDE MANHOLE. FINISHED FLOOR RADIUS FIRE HYDRANT 34. SEWER SLOPES ARE CALCULATED BASED ON SEWER LENGTH (LINEAR FEET) FROM MANHOLE CENTER TO MANHOLE CENTER. MANHOLE PENETRATION INVERTS AND SEWER SLOPES REINFORCED CONCRETE PIPE FINISHED SHALL BE COORDINATED IN THE FIELD. FLEX **FLEXIBLE** RD ROAD FLANGE REFERENCE 35. PORTIONS OF THE SANITARY SEWER AND WATERLINE TO BE REPLACED PASS UNDER EXISTING STORM SEWER SYSTEMS, DURING CONSTRUCTION CONTRACTOR SHALL PROTECT AND FLG REHAB REHABILITATE, REHABILITATION SUPPORT EXISTING STORM SEWER PIPE. CONTRACTOR IS ENCOURAGED TO PERFORM THESE TASKS ONLY DURING DRY WEATHER TO AVOID COMPROMISING OF STORM SEWER **REVISIONS** FORCE MAIN, FACTORY MUTUAL REINF REINFORCED, REINFORCEMENT SYSTEM DURING A RAINFALL EVENT. FIRE PROTECTION 36. ALL WATERLINES SHALL BE TESTED AT A HYDROSTATIC PRESSURE OF 200 PSI. FT FOOT RIGHT-OF-WAY 37. WATERLINES SHALL BE LAID TO LINES AND GRADES SHOWN ON THE DRAWINGS TO AVOID LOCAL HIGH POINTS AND LOW POINTS EXCEPT WHERE INDICATED. RADIUS POINT RAILROAD 38. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO MINIMIZE DISTURBANCES TO ADJACENT PROPERTIES, INCLUDING PREVENTION OF DUST/DEBRIS INTRUSION ONTO PROPERTIES. 39. CONTRACTOR SHALL PROVIDE THE AUTHORITY WITH A PLAN TO MAINTAIN WATER SERVICE TO ALL CUSTOMERS WITH MINIMUM DISRUPTION PRIOR TO START OF CONSTRUCTION. **ESIGNED BY** NOTIFICATION OF AFFECTED CUSTOMERS SHALL BE COORDINATED WITH THE AUTHORITY AND GIVEN 24 HOURS PRIOR TO DISRUPTION WHEN POSSIBLE. LMR 40. THE CONTRACTOR SHALL MAKE PROVISIONS TO PROVIDE ACCESS TO ALL PROPERTIES DURING CONSTRUCTION AND SHALL MAINTAIN SAFE ACCESSIBILITY TO FIRE HYDRANTS AT RAWN BY BMC ALL TIMES. HECKED BY 41. ALL DISTURBED AREAS SHALL BE RETURNED TO LIKE OR BETTER CONDITION WHETHER THEY ARE GRASSED, LANDSCAPED, GRAVELED, OR OTHER. ANY DISTURBED PLANTINGS SHALL BE REPLACED BY LIKE SPECIES. NO SCALE 42. ANY FENCING DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE IMMEDIATELY REPLACED OR SUPPLEMENTED BY TEMPORARY FENCING TO MAINTAIN A SECURE SITE THROUGHOUT CONSTRUCTION. UPON COMPLETION OF CONSTRUCTION ACTIVITIES, FENCING SHALL BE RESTORED TO ORIGINAL CONDITIONS. 04/14/13 43. A MINIMUM OF 18" SEPARATION MUST BE MAINTAINED BETWEEN UTILITIES AT ALL PIPE CROSSINGS UNLESS OTHERWISE INDICATED ON THE DRAWINGS. B11132B-04B/0

44. AFTER CLEANING AND PRIOR TO SLIPLINING, PROVIDE CCTV TO OWNER FOR REVIEW. OWNER HAS A MINIMUM OF 10 BUSINESS DAYS TO REVIEW PRIOR TO PROVIDING

45. MILL MOUNTAIN: ANY TREES LESS THAN 2" IN DIAMETER SHALL NOT BE REMOVED WITHOUT WRITTEN PERMISSION FROM THE AUTHORITY.

FEEDBACK/DIRECTION TO THE CONTRACTOR.