GENERAL NOTES – OPEN CUT:

1. CONTRACTOR SHALL BECOME FAMILIAR WITH PROJECT SURROUNDINGS, WORKING CONDITIONS, AND SITE LIMITATIONS AND WILL INCLUDE ALLOWANCES IN THEIR BID TO COVER ANY PROJECT CONSTRAINTS.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ADHERING TO AND COMPLYING WITH LOCAL GOVERNING AGENCY PERMIT RESTRICTIONS, WHICH MAY AFFECT ALLOWABLE WORKING HOURS AND NOISE LEVELS.
3. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AS REQUIRED BY APPLICABLE LOCAL GOVERNING AGENCY. CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN PER CALTRANS STANDARDS TO OWNER PRIOR TO CONSTRUCTION, IF REQUIRED. WORK REQUIRING TRAFFIC CONTROL SHALL BE CONDUCTED BETWEEN THE HOURS OF 9:00 A.M. AND 3:30 P.M., MONDAY THRU FRIDAY, OR AS OTHERWISE AUTHORIZED BY LOCAL GOVERNING AGENCY REPRESENTATIVE.
4. CONTRACTOR SHALL APPLY CALIFORNIA STORMWATER QUALITY ASSOCIATION (CASQA) BEST MANAGEMENT PRACTICES TO PREVENT WATER AND SEDIMENT FROM ENTERING NAVIGABLE WATERWAYS. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND INSTALLING THE APPLICABLE AND APPROPRIATE BMP's IDENTIFIED IN THE CASQA – STORMWATER BEST MANAGEMENT PRACTICES HANDBOOK AVAILABLE ONLINE AT WWW.CABMPHANDBOOKS.COM. SOME OF THE REQUIRED PRACTICES MAY OR MAY NOT BE SHOWN ON THIS SITE PLAN.
5. CONTRACTOR TO CONTACT "UNDERGROUND SERVICES ALERT" 48 HOURS PRIOR TO ANY EXCAVATION.
6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXACT LOCATION AND DEPTH OF ALL EXISTING UTILITIES.
7. TRENCH TO BE SHORED IN ACCORDANCE WITH CALIFORNIA OSHA REGULATIONS.
8. PLACE A CONTINUOUS WIRE AND STRIP OF DETECTOR TAPE OVER ALL PIPES AND EXTEND UP INTO ALL VALVE BOXES. TRACER WIRE IS REQUIRED ON ALL PIPE. (SEE LATEST REVISION OF DRAWING CW-850).
9. SEE LATEST REVISION OF DRAWING CW-435 FOR TYPICAL THRUST BLOCK INSTALLATION.
10. FACILITIES SEPARATION:
    A) WATER MAIN SHALL BE INSTALLED AT LEAST 10 FEET HORIZONTALLY FROM AND ONE FOOT VERTICALLY ABOVE ANY PARALLEL PIPELINE CONVEYING SEWAGE (UNTREATED, PRIMARY, OR SECONDARY), DISINFECTED SECONDARY RECYCLED WATER, OR HAZARDOUS FLUIDS.
    B) WATER MAIN SHALL BE INSTALLED AT LEAST 4 FEET HORIZONTALLY FROM AND ONE FOOT VERTICALLY ABOVE ANY PIPELINE CONVEYING TERTIARY RECYCLED WATER OR STORM DRAINAGE.
    C) AT CROSSINGS, WATER MAIN SHALL BE CONSTRUCTED NO LESS THAN 45-DEGREES TO AND AT LEAST ONE FOOT VERTICALLY ABOVE ANY PIPELINES INDICATED IN A AND B ABOVE.
    D) NO CONNECTION JOINTS SHALL BE MADE IN THE WATER MAIN WITHIN EIGHT (8) HORIZONTAL FEET OF CROSSING OF ANY PIPELINES INDICATED IN A AND B ABOVE.
    E) WATER MAIN SHALL NOT BE INSTALLED WITHIN 100 HORIZONTAL FEET OF ANY SANITARY LANDFILL, WASTEWATER DISPOSAL POND, OR HAZARDOUS WASTE DISPOSAL SITE.
    F) WATER MAIN SHALL NOT BE INSTALLED WITHIN 25 HORIZONTAL FEET OF ANY CESSPOOL, SEPTIC TANK, SEWAGE LEACH FIELD, SEEPAGE PIT, UNDERGROUND HAZARDOUS MATERIAL STORAGE TANK, OR GROUNDWATER RECHARGE PROJECT SITE.
11. WHEN ASSEMBLING A PVC C-900 PIPE TO AN IRON FITTING (PUSH-ON OR MECHANICAL JOINT). REMOVE ALL BUT 1/4 INCH OF THE FACTORY MADE BEVEL FROM THE SPIGOT END OF THE PIPE PRIOR TO INSTALLATION.
12. USE PVC 1"± DEFLECTION AND 5'± DEFLECTION WITH HIGH DEFLECTION CPLGS TO ACHIEVE PROPER RADIUS FOR CURVES. DO NOT DEFLECT PIPE AT FITTINGS.
13. VALVE CANS AND COVERS SHALL BE PLACED OVER ALL VALVES. COVERS SHALL BE SET TO EXISTING FINISHED GRADE AND RESET IF NECESSARY ONCE THE STREET IS AT FINAL GRADE. (SEE LATEST REVISION OF DRAWINGS CW-14 AND CW-439).
14. NO VALVE COVERS ARE TO LIE IN SIDEWALKS, CROSS GUTTER, CURB OR DRIVEWAYS. EACH SERVICE SHOULD ALSO BE LOCATED TO PROVIDE PROTECTION TO THE METER BOX FROM VEHICLE TRAFFIC AND PARKING.
15. PROTECT UNDERGROUND FLEXIBLE COUPLINGS, BARE STEEL, MJ x MJ SLEEVES, AND ALL BOLTS (INCLUDING STAINLESS STEEL) AS FOLLOWS:
    A) THE ENTIRE AREA OF THE FITTING MUST BE DRY AND FREE OF DUST, DIRT, AND OTHER FOREIGN MATTER. RUST OR OTHER FOREIGN MATTER MUST BE REMOVED BY SCRAPING OR WIRE BRUSHING. WIPING WITH A DRY CLEAN CLOTH MAY BE NECESSARY TO REMOVE THE PARTICLES FROM BRUSH CLEANING. ANY OIL OR GREASE MUST BE REMOVED BY USING A LOW RESIDUE, VOLATILE PETROLEUM SOLVENT BEFORE APPLICATION OF GREASE AND WRAPPING.
    B) THE EXPOSED AREA SHOULD BE COATED WITH A HEAVY COATING OF METALGUARD 301 GREASE BY THE GLOVE METHOD TO A THICKNESS OF AT LEAST 1/4".
    C) FIRMLY WRAP THE ENTIRE GREASE AREA WITH ONE LAYER, HALF LAPPED OF A WOVEN GLASS FILAMENT MESH (RES OR BIT WRAP, 4" WIDE).
    D) APPLY A SECOND LAYER OF METALGUARD 301 GREASE ON TOP OF THE GLASS FILAMENT BY THE GLOVE METHOD TO A THICKNESS OF AT LEAST 1/4".
    E) FIRMLY WRAP THE ENTIRE GREASE AREA WITH A SECOND LAYER, HALF LAPPED OF THE WOVEN GLASS FILAMENT MESH.
    F) COVER THE ENTIRE MESH WRAPPED AREA OF THE FITTING WITH A THIRD AND FINAL COATING AT LEAST 1/4" THICK OF METALGUARD 301 GREASE BY THE GLOVE METHOD.
    G) FIRMLY APPLY 2 LAYERS OF POLYWRAP, HALF LAPPED OVER ALL AREAS OF THE COATED AND WRAPPED FITTING. BACKFILLING MAY FOLLOW IMMEDIATELY AFTER THIS WRAPPING.
16. TRENCH BACKFILL AND PAVING SHALL CONFORM TO TRENCH SECTION DETAILS AND ALL GOVERNING AGENCY REQUIREMENTS. IT IS THE RESPONSIBILITY OF CONTRACTOR TO PROVIDE 3RD PARTY. ?
17. NEW PIPELINE SHALL BE INSTALLED WITH 4 FEET OF COVER, EXCEPT WHERE SPECIFIED.
18. CONTRACTOR SHALL LIMIT DAILY TRENCHING OPERATIONS TO THE LENGTH OF PIPE THAT CAN BE INSTALLED AND BACKFILLED THAT DAY.
19. CONTRACTOR SHALL INSTALL NEW MAIN AND ADJUST FROM NOMINAL LINE AND GRADE TO MATCH THE EXISTING FACILITIES AT ALL LOCATIONS. THE CONTRACTOR SHALL INSTALL A TEMPORARY CAP AND BLOW-OFF AT TIE-IN LOCATIONS FOR TESTING, (SEE LATEST REVISION OF DRAWINGS CW-122 & CW-838). CONTRACTOR WILL TIE THE NEW MAIN FROM THIS LOCATION.
20. THE NEW PIPELINE SHALL BE TESTED AT 150 PSI FOR A PERIOD OF 4 HOURS. SEE SPECIFICATIONS TO DETERMINE EXACT TESTING REQUIREMENTS.
21. TIE-INS TO BE MADE AT A TIME THAT IS CONVENIENT TO OWNER WHICH MAY BE AT NIGHTS OR WEEKENDS. THE ADDITIONAL COST DUE TO OVERTIME PAY SHALL BE AT OWNER'S EXPENSE.
22. CONTRACTOR SHALL PROVIDE MISC. MATERIAL REQUIRED TO COMPLETE THE TIE-IN SUCH AS, BUT NOT LIMITED TO:
    PROTECTION COATING MATERIAL FOR PIPE AND FITTINGS, LINEGUARD TAPE, CONCRETE FOR THRUST BLOCKS, EMBEDMENT BACKFILL AROUND AND OVER THE PIPE, FINAL BACKFILL TO MEET COMPACTION REQUIREMENTS, AND PAVEMENT REPLACEMENT.
23. CONTRACTOR SHALL BE RESPONSIBLE TO ABANDON ALL PIPE ENDS BY PLUGGING WITH BRICK AND MORTAR. ABANDON ALL GATE VALVES BY REMOVING COVER, CUT CASING DOWN TO SUBGRADE, AND BACKFILL VALVE CASING WITH CONCRETE SLURRY TO REMOVE VOIDS. REPLACE BASE ROCK AND PERMANENT PAVEMENT AS NECESSARY. WHEN REMOVING EXISTING FITTINGS CONTRACTOR SHALL ALSO REMOVE EXISTING CONCRETE THRUST BLOCK.
24. CONTRACTOR SHALL RESTORE LAWN, GUTTER, PAVEMENT, BERM, AND CURB TO MATCH EXISTING PER GOVERNING AGENCY'S STANDARDS.
25. SPOILS SHALL NOT REMAIN ON-SITE. DISPOSAL OF ALL PROJECT GENERATED SPOILS SHALL BE AT A FACILITY LICENSED AND CLASSIFIED TO ACCEPT THE MATERIALS. CONTRACTOR TO PROVIDE OWNER WITH A FORMAL RECEIPT FROM THE ACCEPTING FACILITY. ALL MATERIALS THAT WILL REQUIRE TESTING PRIOR TO DISPOSAL SHALL BE SAMPLED AND TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DISPOSAL FACILITY IN ADVANCE OF THE NEED FOR DISPOSAL.
26. THE LIST OF MATERIALS FOR THIS PROJECT IS FOR CWS CO. ESTIMATING AND REFERENCE PURPOSES ONLY, AND IS NOT INTENDED AS A FULL TAKE-OFF OF ALL MATERIALS REQUIRED TO COMPLETE THE PROJECT PER CWS CO. STANDARD SPECIFICATIONS.
27. AT TIE-INS, CONTRACTOR SHALL SPRAY OR SWAB ALL FITTINGS WITH CHLORINE SOLUTION FOR DISINFECTION PRIOR TO FINAL CONNECTIONS.
28. CONTRACTOR TO ENSURE AIR IN THE PIPELINE IS REMOVED USING EXISTING OUTLETS, SUCH AS FIRE HYDRANTS AND BLOW OFFS. CONTRACTOR IS RESPONSIBLE FOR INSTALLING AIR RELEASES IF EXISTING OUTLETS ARE INSUFFICIENT.
29. ALL WORK SHALL COMPLY WITH CAL WATER SPECIFICATIONS FOR MATERIALS, INSTALLATION, DISINFECTION AND DECHLORINATION PER LATEST REVISION OF DRAWING CW-863.
30. IN GENERAL, SERVICE LATERALS ARE NOT SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL ASSUME THAT THERE ARE BURIED WATER, SEWER, GAS, ELECTRIC, TELEPHONE AND TELEVISION SERVICE LATERALS AT EVERY PARCEL ALONG THE PIPELINE ROUTE. THE CONTRACTOR SHALL USE CAUTION AND PROTECT THESE BURIED SERVICE LATERALS. ANY DAMAGE TO THESE BURIED SERVICE LATERALS SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.

GENERAL NOTES – PIPE BURSTING:

1. CONTRACTOR SHALL BECOME FAMILIAR WITH PROJECT SURROUNDINGS, WORKING CONDITIONS, SITE LIMITATIONS AND INCLUDE ALLOWANCES DURING BIDDING PROCESS TO COVER ALL PROJECT CONSTRAINTS.
2. A PRE BID MEETING, PRE-CONSTRUCTION MEETING AND WEEKLY CONSTRUCTION MEETING SHALL OCCUR FOR THIS PROJECT. CONTRACTOR SHALL SEND REPRESENTATIVE WHO WILL BE ACTIVELY INVOLVED IN PROJECT FROM START TO FINISH.
3. THE CONTRACTOR MUST HAVE SUCCESSFULLY COMPLETED A STATIC PIPE BURSTING PROJECT. CONTRACTOR SHALL SUBMIT A LIST OF THESE PROJECTS INCLUDING THE OWNER, ENGINEER, ADDRESSES, PHONE NUMBERS AND DATES THAT SAID PROJECTS WERE COMPLETED WITH THEIR BID.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR ADHERING TO AND COMPLYING WITH LOCAL GOVERNING AGENCY PERMIT RESTRICTIONS, WHICH MAY AFFECT ALLOWABLE WORKING HOURS AND NOISE LEVELS.
5. WORK SHALL BE PREFORMED EXACTLY BETWEEN 8AM AND 5PM. LANE CLOSURES AND LANE REDUCTIONS, IN ACCORDANCE WITH TRAFFIC CONTROL PLAN, SHALL ONLY OCCUR BETWEEN 9AM AND 3PM. ANY POTENTIAL EXCEPTIONS TO THESE REQUIREMENTS SHALL BE REQUESTED WITH MINIMUM OF 2HRS NOTICE AND ONLY ALLOWED AFTER THE APPROVAL OF CWS CO. AND THE CITY OF STOCKTON.

   CONTRACTOR SHALL MAINTAIN A CLEAN, ORDERLY AND SAFE PROJECT SITE AT ALL TIMES PER CWS CO. AND CITY OF STOCKTON REQUIREMENTS.
6. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AS REQUIRED BY APPLICABLE LOCAL GOVERNING AGENCY. CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN PER CALTRANS STANDARDS TO OWNER PRIOR TO CONSTRUCTION. IF REQUIRED, WORK REQUIRING TRAFFIC CONTROL SHALL BE CONDUCTED BETWEEN THE HOURS OF 9:00 A.M. AND 3:30 P.M., MONDAY THRU FRIDAY, OR AS OTHERWISE AUTHORIZED BY LOCAL GOVERNING AGENCY REPRESENTATIVE

   CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL AND SIGNAGE PLAN PER CALTRANS STANDARDS TO CWS CO. FOR APPROVAL WITHIN 5 WORKING DAYS OF AWARD CONTRACT AND PRIOR TO ANY CONSTRUCTION ACTIVITIES.
7. CONTRACTOR SHALL APPLY CALIFORNIA STORMWATER QUALITY ASSOCIATION (CASQA) BEST MANAGEMENT PRACTICES TO PREVENT WATER AND SEDIMENT FROM ENTERING NAVIGABLE WATERWAYS. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND INSTALLING THE APPLICABLE AND APPROPRIATE BMP'S IDENTIFIED IN THE CASQA - STORMWATER BEST MANAGEMENT PRACTICES HANDBOOK AVAILABLE ONLINE AT WWW.CABMPHANDBOOKS.COM. SOME OF THE REQUIRED PRACTICES MAY OR MAY NOT BE SHOWN ON THIS SITE PLAN.
8. CONTRACTOR SHALL CONTACT "UNDERGROUND SERVICES ALERT" 48 HOURS PRIOR TO ANY EXCAVATION.
9. LOCATIONS OF EXISTING UTILITIES SHOWN ON PLANS ARE APPROXIMATE AND NOT ALL INCLUSIVE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXACT LOCATION AND DEPTH OF ALL EXISTING UTILITIES AND ALL FACILITIES THAT MAY BE IMPACTED DURING CONSTRUCTION.
10. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL DOCUMENT EXISTING CONDITIONS AND RESTORE ALL AREAS IMPACTED BY CONSTRUCTION ACTIVITIES TO PRECONSTRUCTION OR BETTER CONDITIONS PER CWS CO. STANDARDS AND THE CITY OF STOCKTON REQUIREMENTS. EXISTING CONDITIONS, INCLUDE BUT ARE NOT LIMITED TO, LANDSCAPING, TREES, FENCING, UTILITIES, PAVEMENT AND CONCRETE CURB AND GUTTER. DOCUMENTATION SHALL BE SUBMITTED TO CWS CO. PRIOR TO CONSTRUCTION.
11. SPOILS SHALL NOT REMAIN ON-SITE. DISPOSAL OF ALL PROJECT GENERATED SPOILS SHALL BE AT A FACILITY LICENSED AND CLASSIFIED TO ACCEPT THE MATERIALS. CONTRACTOR SHALL PROVIDE OWNER WITH A FORMAL RECEIPT FROM THE ACCEPTING FACILITY. ALL MATERIALS THAT WILL REQUIRE TESTING PRIOR TO DISPOSAL SHALL BE SAMPLED AND TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DISPOSAL FACILITY IN ADVANCE OF THE NEED FOR DISPOSAL.
12. THE LIST OF MATERIALS FOR THIS PROJECT IS FOR CWS CO. ESTIMATING AND REFERENCE PURPOSES ONLY, AND IS NOT INTENDED AS A FULL QUANTITY TAKE-OFF OF ALL MATERIALS REQUIRED TO COMPLETE THE PROJECT PER CWS CO. STANDARD SPECIFICATIONS.
13. ALL MATERIALS MUST COMPLY WITH THE DRAWINGS AND "SPECIFICATIONS FOR MATERIAL". NO MATERIALS ARE TO BE SUPPLIED OR FURNISHED BY CALIFORNIA WATER SERVICE COMPANY UNLESS SPECIFICALLY INDICATED ON THE PLANS FOR SPECIAL INSTALLATIONS. ALL MATERIALS MUST BE ON THE JOB SITE AND INSPECTED BY CWS CO. REPRESENTATIVE PRIOR TO USE. ANY MATERIAL, ANY PIPE, VALVE, OR APPURTENANCE WHETHER INSTALLED OR NOT, WHICH IN THE OPINION OF THE COMPANY, DOES NOT MEET THE REQUIREMENTS OF THESE SPECIFICATIONS OR OTHERWISE FOUND UNFIT, SHALL BE REJECTED AS BEING UNFIT, AND SHALL BE IMMEDIATELY REMOVED FROM THE JOB SITE. SEE LATEST REVISION OF CWS CO. STANDARD DRAWINGS (CWDWGS) AND SPECIFICATIONS (CW-863).
14. ALL EXCAVATIONS SHALL BE SHORED IN ACCORDANCE WITH CALIFORNIA OSHA REGULATIONS. SEE LATEST REVISION OF CWS CO. STANDARD DRAWINGS (CWDWGS) AND SPECIFICATIONS (CW-863).
15. WATER MAINS SHALL BE INSTALLED WITH 4 FEET OF COVER, EXCEPT WHERE SPECIFIED. CONTRACTOR SHALL INSTALL NEW MAIN AND ADJUST FROM NOMINAL LINE AND GRADE TO MATCH THE EXISTING FACILITIES AT ALL LOCATIONS. THE CONTRACTOR SHALL INSTALL A TEMPORARY CAP AND BLOW-OFF AT TIE-IN LOCATIONS FOR TESTING, DISINFECTION AND DECHLORINATION. CONTRACTOR WILL TIE THE NEW MAIN FROM THIS LOCATION. SEE LATEST REVISION OF CWS CO. STANDARD DRAWINGS (CWDWGS) AND SPECIFICATIONS (CW-863).
16. WATER MAINS SHALL BE INSTALLED AT LEAST 10 FT. HORIZONTALLY FROM AND ONE FOOT HIGHER THAN STORM AND SANITARY SEWERS LOCATED PARALLEL TO THE MAIN IF FEASIBLE. CENTER A 20 FOOT LENGTH AT ALL STORM AND SANITARY SEWER CROSSINGS. MINIMUM VERTICAL SEPARATION BETWEEN SEWER AND WATER MAIN SHALL BE ONE FOOT UNLESS OTHERWISE INDICATED.
17. CONTRACTOR SHALL PROVIDE MISC. MATERIAL REQUIRED TO COMPLETE THE TIE-IN SUCH AS, BUT NOT LIMITED TO:

    PROTECTION COATING MATERIAL FOR PIPE AND FITTINGS, LINEGUARD TAPE, CONCRETE FOR THRUST BLOCKS, EMBEDMENT BACKFILL AROUND AND OVER THE PIPE, FINAL BACKFILL TO MEET COMPACTION REQUIREMENTS, AND PAVEMENT REPLACEMENT.
18. CONTRACTOR SHALL BE RESPONSIBLE TO ABANDON ALL PIPE ENDS BY PLUGGING WITH BRICK AND MORTAR. ABANDON ALL GATE VALVES BY REMOVING COVER, CUT CASING DOWN TO SUBGRADE, AND BACKFILL VALVE CASING WITH CONCRETE SLURRY TO REMOVE VOIDS. REPLACE BASE ROCK AND PERMANENT PAVEMENT AS NECESSARY. WHEN REMOVING EXISTING FITTINGS CONTRACTOR SHALL ALSO REMOVE EXISTING CONCRETE THRUST BLOCK.
19. CONTRACTOR TO USE ONLY NON-SKID PLATES TO COVER ALL OPEN EXCAVATIONS DURING CONSTRUCTION.
20. USE PVC 1" ± DEFLECTION AND 5' ± DEFLECTION WITH HIGH DEFLECTION COUPLING TO ACHIEVE PROPER RADIUS FOR CURVES. DO NOT DEFLECT PIPE AT FITTINGS.
21. WHEN ASSEMBLING A FUSIABLE C900 PVC PIPE TO AN IRON FITTING (PUSH-ON OR MECHANICAL JOINT), REMOVE ALL BUT 1/4 INCH OF THE FACTORY MADE BEVEL FROM THE SPIGOT END OF THE PIPE PRIOR TO INSTALLATION.
22. PLACE A CONTINUOUS WIRE AND STRIP OF DETECTOR TAPE OVER ALL PIPES AND EXTEND UP INTO ALL VALVE BOXES. TRACER WIRE IS REQUIRED ON ALL PIPES. SEE LATEST REVISION OF CWS CO. STANDARD DRAWINGS (CWDWGS) AND SPECIFICATIONS (CW-863).
23. VALVE CANS AND COVERS SHALL BE PLACED OVER ALL VALVES. COVERS SHALL BE SET TO EXISTING FINISHED GRADE AND RESET IF NECESSARY ONCE THE STREET IS AT FINAL GRADE. NO VALVE COVERS ARE TO LIE IN SIDEWALKS, CROSS GUTTER, CURB OR DRIVEWAYS. EACH SERVICE SHOULD ALSO BE LOCATED TO PROVIDE PROTECTION TO THE METER BOX FROM VEHICLE TRAFFIC AND PARKING. SEE LATEST REVISION OF CWS CO. STANDARD DRAWINGS (CWDWGS) AND SPECIFICATIONS (CW-863).
24. THRUST BLOCKS SHALL BE INSTALLED AT ALL LOCATIONS WHERE NON-RESTRAINED FITTINGS OR CONNECTIONS ARE USED. SEE LATEST REVISION OF CWS CO. STANDARD DRAWINGS (CWDWGS) AND SPECIFICATIONS (CW-435).
25. PROTECT UNDERGROUND FLIEXIBLE COUPLINGS, BARE STEEL, MJ x MJ SLEEVES, AND ALL BOLTS (INCLUDING STAINLESS STEEL) AS FOLLOWS:
    A. THE ENTIRE AREA OF THE FITTING MUST BE DRY AND FREE OF DUST, DIRT, AND OTHER FOREIGN MATTER. RUST OR OTHER FOREIGN MATTER MUST BE REMOVED BY SCRAPING OR WIRE BRUSHING. WIPING WITH A DRY CLEAN CLOTH MAY BE NECESSARY TO REMOVE THE PARTICLES FROM BRUSH CLEANING. ANY OIL OR GREASE MUST BE REMOVED BY USING A LOW RESIDUE, VOLATILE PETROLEUM SOLVENT BEFORE APPLICATION OF GREASE AND WRAPPING.
    B. THE EXPOSED AREA SHOULD BE COATED WITH A HEAVY COATING OF METALGUARD 301 GREASE BY THE GLOVE METHOD TO A THICKNESS OF AT LEAST 1/4".
    C. FIRMLY WRAP THE ENTIRE GREASE AREA WITH ONE LAYER, HALF LAPPED OF A WOVEN GLASS FILAMENT MESH (RES OR BIT WRAP, 4" WIDE).
    D. APPLY A SECOND LAYER OF METALGUARD 301 GREASE ON TOP OF THE GLASS FILAMENT BY THE GLOVE METHOD TO A THICKNESS OF AT LEAST 1/4".
    E. FIRMLY WRAP THE ENTIRE GREASE AREA WITH A SECOND LAYER, HALF LAPPED OF THE WOVEN GLASS FILAMENT MESH.
    F. COVER THE ENTIRE MESH WRAPPED AREA OF THE FITTING WITH A THIRD AND FINAL COATING AT LEAST 1/4" THICK OF METALGUARD 301 GREASE BY THE GLOVE METHOD.
    G. FIRMLY APPLY 2 LAYERS OF POLYWRAP, HALF LAPPED OVER ALL AREAS OF THE COATED AND WRAPPED FITTING. BACKFILLING MAY FOLLOW IMMEDIATELY AFTER THIS WRAPPING.
26. THE NEW PIPELINE SHALL BE TESTED AT 150 PSI FOR A PERIOD OF 4 HOURS. SEE SPECIFICATIONS TO DETERMINE EXACT TESTING REQUIREMENTS.
27. AT TIE-INS, CONTRACTOR SHALL SPRAY OR SWAB ALL FITTINGS WITH CHLORINE SOLUTION FOR DISAFFECTION PRIOR TO FINAL CONNECTIONS. SEE LATEST REVISION OF CWS CO. STANDARD DRAWINGS (CWDWGS) AND SPECIFICATIONS (CW-863).
28. TIE-INS SHALL BE MADE AT A TIME THAT IS CONVENIENT TO OWNER WHICH MAY BE AT NIGHTS OR WEEKENDS. THE ADDITIONAL COST DUE TO OVERTIME PAY SHALL BE AT OWNER'S EXPENSE.
29. CONTRACTOR TO ENSURE AIR IN THE PIPELINE IS REMOVED USING EXISTING OUTLETS, SUCH AS FIRE HYDRANTS AND BLOW OFFS. CONTRACTOR IS RESPONSIBLE FOR INSTALLING AIR RELEASES IF EXISTING OUTLETS ARE INSUFFICIENT.
30. CONTRACTOR SHALL BE RESPONSIBLE FOR DECHLORINATION AND MEETING ALL CODES AND RESTRICTIONS. SEE LATEST REVISION OF CWS CO. STANDARD DRAWINGS (CWDWGS), AND SPECIFICATIONS. (CW-863)
31. CONTRACTOR SHALL BE TRAINED BY THE RESPECTIVE MANUFACTURER OF THE PIPE BURSTING EQUIPMENT IN THE USE OF THAT MACHINERY. THE CONTRACTOR SHALL PROVIDE CERTIFICATION FROM THE MANUFACTURER THAT PROVES THE CONTRACTOR HAS BEEN TRAINED AND IS PROFICIENT IN THE USE OF THE EQUIPMENT. ONLY THE CONTRACTORS EMPLOYEES, WHO HAVE BEEN TRAINED AND CERTIFIED BY THE MANUFACTURER, SHALL BE ALLOWED TO OPERATE THE EQUIPMENT DURING THE PROJECT.
32. METHOD APPROVED FOR REHABILITATION OF EXISTING WATER MAINS BY PIPE BURSTING AND INSTALLATION OF NEW FUSEABLE JOINT PVC PIPE IS GRUNDODRACK SYSTEM BY TT TECHNOLOGIES, HAMMERHEAD HYDROBURST BY EARTH TOOL COMPANY OR APPROVED EQUAL. BURSTING RODS SHALL BE PUSHED FROM THE RECEIVING PIT TO THE INSERTION PIT THROUGH THE EXISTING PIPE WHERE THE BURSTING APPURTENANCES AND PIPE ARE CONNECTED AND PULLED BACK THROUGH THE EXISTING PIPE.
33. PIPE BURSTING TOOL SHALL BE STATIC. THE BURSTING ACTION OF THE TOOL SHALL INCREASE THE EXTERNAL DIMENSIONS SUFFICIENTLY, CAUSING SPLITTING OF THE PIPE AT THE SAME TIME EXPANDING THE SURROUNDING GROUND. THIS ACTION SHALL NOT ONLY BREAK THE PIPE, BUT ALSO CREATE THE VOID INTO WHICH THE EXPANDER HEAD CAN BE STATICALLY PULLED WHICH ENABLES FORWARD PROGRESS TO BE MADE SIMULTANEOUSLY.
34. ALL POTENTIAL PIPE BURSTING INSERTION AND RECEIVING PIT LOCATIONS SHOWN ON PLANS ARE APPROXIMATE. EXACT NUMBER, LOCATION AND DIMENSIONS ARE TO BE DETERMINED BY THE CONTRACTOR IN THE FIELD AND APPROVED BY CWS CO. PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL SUBMIT A PHASING PLAN FOR THE PIPE BURSTING OPERATION THAT INCLUDES DETAILED INFORMATION REGARDING PROPOSED PIPE ASSEMBLY AREAS, PIPE LAY-DOWN AREAS, STAGING AREAS, STORAGE AREAS, EMPLOYEE PARKING, INSERTION PIT AND RECEIVING PIT LOCATIONS. THE PIPE BURSTING PHASING PLAN SHALL BE MARKED UP ON DRAWINGS AND ALSO INDICATE ANTICIPATED DURATION OF EACH PROPOSED PHASE.
35. CONTRACTOR SHALL ALSO SUBMIT CONTINGENCY PLANS FOR UNFORESEEN OBSTRUCTIONS CAUSING BURST STOPPAGE, SUCH AS UNANTICIPATED CHANGES IN THE HOST PIPE MATERIAL, REPAIR SECTIONS, CONCRETE ENCASEMENTS, TREE ROOTS, CASING, CRADLES OR CHANGES IN DIRECTION NOT DEPICTED ON PLANS PROVIDED BY CWS CO.
36. CONTRACTOR SHALL LOCATE, POTHOLE (IF NECESSARY) AND PROTECT ALL UTILITY LINES CROSSING IN CLOSE PROXIMITY TO PIPE BURSTING OPERATION INCLUDING BUT NOT LIMITED TO EXISTING WATER, SANITARY SEWER AND GAS MAINS AND SERVICE LATERALS.
37. CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN A TEMPORARY BYPASS WATER SYSTEM (BYPASS SYSTEM) TO PROVIDE CONTINUOUS WATER SERVICE TO CWS CO. CUSTOMERS, INCLUDING DEAD END SIDE STREETS. THE CONTRACTOR SHALL TAKE ALL SAFETY PRECAUTIONS TO PREVENT ANY NON-SCHEDULED WATER SERVICE INTERRUPTIONS AND SYSTEM CONTAMINATION. WATER SERVICE SHALL NOT BE INTERRUPTED DURING THE CONSTRUCTION OF THE NEW WATER MAIN, EXCEPT AS NEEDED TO SWITCH CUSTOMERS TO AND FROM THE BYPASS SYSTEM AS WELL AS SCHEDULE SYSTEM SHUTDOWNS. SHOULD IT BECOME APPARENT THAT WATER SERVICE DISRUPTION IS REQUIRED, THE CONTRACTOR SHALL PROVIDE 48 HOURS ADVANCED NOTICE AND SHALL ONLY OCCUR DURING THE HOURS OF 8AM AND 5PM.
38. THE BYPASS SYSTEM SHALL CONSIST OF, BUT NOT BE LIMITED TO, POTABLE WATER PIPE (PIPE) AND APPURTENANCES; CONNECTION TO CWS CO. DISTRIBUTION SYSTEM WITH AN APPROVED BACKFLOW PREVENTION ASSEMBLY (BACKFLOW ASSEMBLY) IN PLACE; AND CONNECTIONS TO EXISTING SERVICES. ALL TEMPORARY BYPASS WATER SYSTEM PIPING AND APPURTENANCES SHALL BE NSF APPROVED.
39. CONTRACTOR SHALL SUBMIT A PHASING PLAN FOR THE BYPASS SYSTEM, WHICH CONTAINS PROPOSED LENGTHS, PIPE SIZE, AND MATERIAL, INCLUDING CONNECTION DETAILS FOR SERVICES, FIRE HYDRANTS, AND EXISTING MAINS. IT SHALL ALSO INCLUDE THE PROPOSED LAYOUT OF THE SYSTEM WITH METHODS OF ANCHORING AND CROSSING DRIVEWAYS AND INTERSECTIONS. THE PHASING PLAN SHALL BE SUBMITTED TO CWS CO FOR APPROVAL PRIOR TO INSTALLATION OF THE BYPASS SYSTEM.
40. THE BYPASS SYSTEM SHALL BE CONSTRUCTED TO WITHSTAND A MINIMUM PRESSURE OF 125 PSI, REMAIN WATERTIGHT AND CAPABLE OF HANDLING ALL CONDITIONS OF USE. THE BYPASS SYSTEM SHALL BE RESTRAINED AND LAID ABOVE GROUND, OUTSIDE OF THE CONSTRUCTION AREA. AT STREET INTERSECTIONS AND STREET CROSSINGS THE PIPE SHALL BE LAID IN A SHALLOW TRENCH AND COVERED WITH TEMPORARY SURFACING. THE CONTRACTOR SHALL PROVIDE FREE INGRESS AND EGRESS TO AND FROM PRIVATE DRIVEWAYS OR TRAVELED ROADS OR STREETS AND PROTECT THE PIPE FROM VEHICULAR TRAFFIC BY INSTALLING A RAMP OR TEMPORARY SURFACING OVER THE PIPE.
41. THE BACKFLOW PREVENTION AND CROSS-CONNECTION CONTROL SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE, LOCAL AND CWS CO. STANDARDS. THE CONTRACTOR SHALL INSTALL A REDUCED PRESSURE PRINCIPLE (RPP) BACKFLOW ASSEMBLY ON THE BYPASS SYSTEM TO PREVENT ANY CHLORINE USED FOR DISINFECTION OR ANY CONTAMINANT FROM ENTERING CWS CO. DISTRIBUTION SYSTEM. THE BACKFLOW ASSEMBLY SHALL BE MANUFACTURED BY WILKINS, OR APPROVED EQUAL. THE BACKFLOW ASSEMBLY SHALL BE INSTALLED BETWEEN 12" AND 30" ABOVE EXISTING GROUND AND BE FULLY SUPPORTED. IF THE BACKFLOW ASSEMBLY IS CONNECTED TO AN EXISTING FIRE HYDRANT, A 90 DEGREE ELBOW SHALL BE INSTALLED TO MINIMIZE STRESS ON FIRE HYDRANT THREADS. THE BACKFLOW ASSEMBLY MUST BE TESTED BY A CERTIFIED BACKFLOW ASSEMBLY TESTER WITHIN THE LAST 12 MONTHS. THIS TEST WILL BE VERIFIED BY CWS CO. INSPECTOR. THE BACKFLOW ASSEMBLY SHALL BE MAINTAINED AND PROTECTED FOR THE DURATION OF THE BYPASS SYSTEM OPERATION.
42. AFTER THE BYPASS SYSTEM HAS BEEN INSTALLED BUT BEFORE ANY CONNECTIONS ARE MADE TO CWS CO. DISTRIBUTION SYSTEM OR TO ANY CUSTOMERS, THE CONTRACTOR SHALL CHLORINATE AND TEST ALL PIPING AND APPURTENANCES IN ACCORDANCE WITH THE LATEST REVISION OF AWWA STANDARD C651 AND PER CWS CO. DISINFECTION SPECIFICATIONS. ONLY WHEN CWS CO. WATER QUALITY PROJECT MANAGER (WQPM) DETERMINES THAT THE BYPASS SYSTEM CAN BE PUT INTO SERVICE, THE CONTRACTOR WILL BE ALLOWED TO CONNECT THE BYPASS SYSTEM TO CWS CO. DISTR