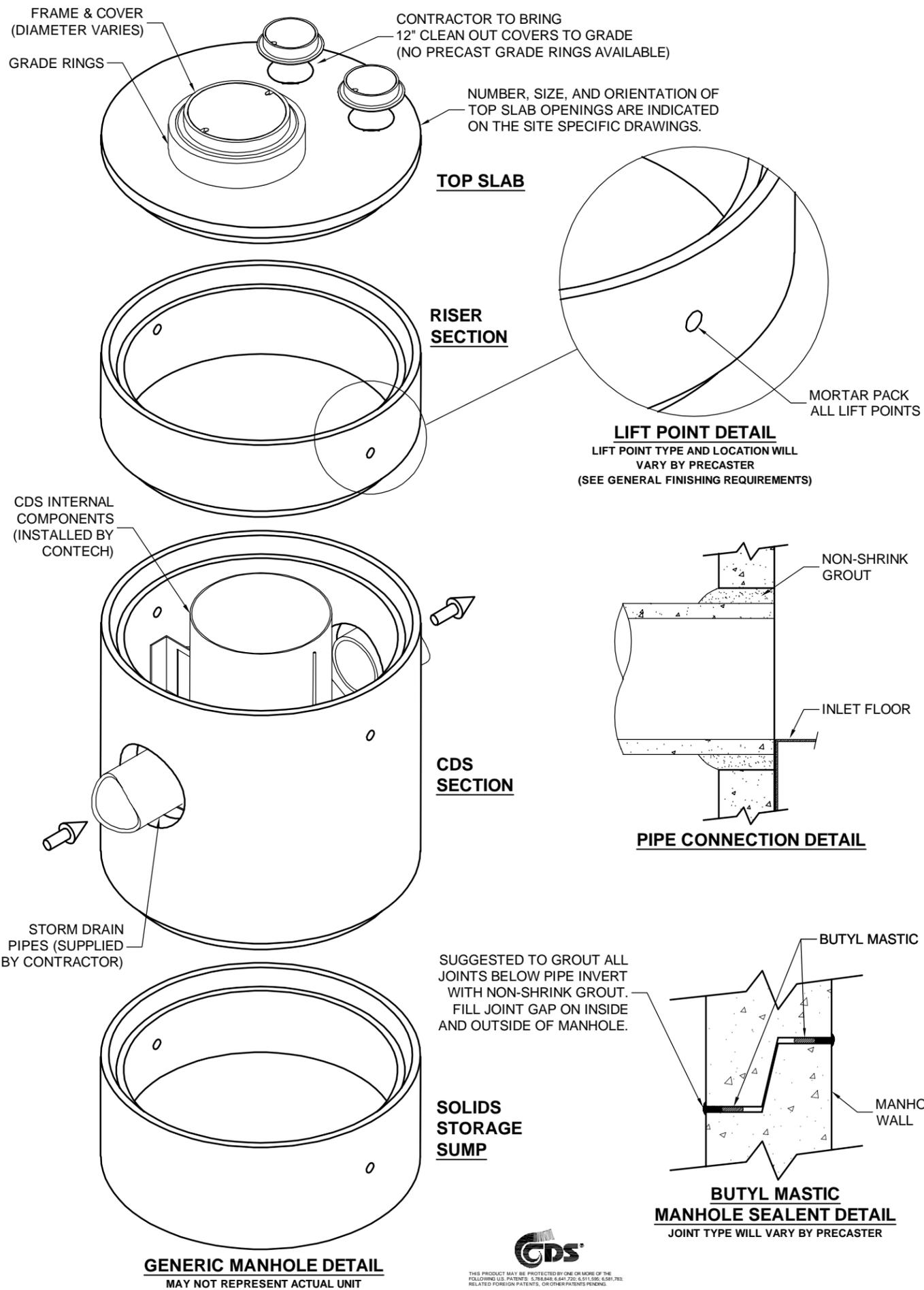


I:\STORMWATER\PD4 PRODUCTS\CDS\INSTALLATION GUIDES\CDS-C CONTRACTOR INSTALLATION SPECIFICATIONS.DWG 12/10/2021 11:03 AM



OVERVIEW:

THESE INSTRUCTIONS PROVIDE GUIDELINES AND INSTRUCTIONS FOR SETTING THE PRECAST CONCRETE MANHOLE SECTIONS THAT MAKE UP THE CDS-C STYLE WATER QUALITY SYSTEM. BEFORE STARTING THE INSTALLATION, BE SURE YOU HAVE ALL THE COMPONENTS, TOOLS, AND SUPPLIES NECESSARY TO COMPLETE THE WORK.

CRANE SELECTION:

THE CONTRACTOR IS RESPONSIBLE FOR SELECTING THE APPROPRIATE EQUIPMENT TO UNLOAD AND SET THE CDS MANHOLE SECTIONS. CONTECH WILL PROVIDE THE CONTRACTOR WITH THE WEIGHTS OF THE PRECAST SECTIONS. A REPRESENTATIVE FROM THE CRANE COMPANY SHOULD VISIT THE JOBSITE AND REVIEW PERTINENT INFORMATION (SHOP DRAWINGS, WEIGHTS, ETC) PRIOR TO THE SELECTION OF THE CRANE. THE CRANE REPRESENTATIVE AND/OR CONTRACTOR SHOULD DETERMINE THE DISTANCE FROM CENTER OF THE CRANE'S POSITION TO THE CENTER OF THE FINAL POSITION OF THE PRECAST UNITS. THE WEIGHT AND THE DISTANCE FROM THE CENTER OF THE CRANE'S POSITION TO THE CENTER OF THE FINAL POSITION OF THE PRECAST UNITS DETERMINE THE CRANE SIZE. LOCATE THE CRANE AS CLOSE TO THE INSTALLATION AS POSSIBLE AND FOLLOW ALL RECOMMENDATIONS OF THE CRANE SUPPLIER. THE STAGING AREA FOR THE CRANE MUST BE STABILIZED AND CRANE SUPPLIER SHOULD BE PREPARED TO SUPPLY OUTRIGGER MATS.

UNLOADING AND HANDLING:

ANY UNLOADING/HANDLING SUGGESTIONS OR GUIDANCE IS BEYOND CONTECH'S SCOPE OF WORK BUT CAN BE OBTAINED FROM THE PRECASTER. CONTACT CONTECH IF CONTACT INFORMATION FOR THE PRECASTER IS NEEDED. THE PRECAST MANHOLE COMPONENTS WILL HAVE LIFTING POINTS OR DEVICES CAST-INTO THE VARIOUS PIECES AND WILL BE DELIVERED TO THE PROJECT SITE VIA FLATBED TRANSPORT. THE CONTRACTOR SHALL PROVIDE EQUIPMENT AT THE SITE THAT HAS ADEQUATE LIFTING CAPACITY TO UNLOAD THE PRECAST COMPONENTS.

GENERAL FINISHING REQUIREMENTS:

WHERE CAVITIES WERE CREATED FOR LIFTING, SAID CAVITIES SHALL BE PACKED WITH NON-SHRINK GROUT AND FINISHED TO CONFORM TO THE SURFACE THAT WOULD HAVE OTHERWISE EXISTED. WHERE PROTRUDING CABLE LOOPS HAVE BEEN PROVIDED FOR LIFTING, THOSE LOOPS SHALL BE CUT FLUSH WITH THE FINISHED SURFACE. ALL WORK THROUGHOUT THE INSTALLATION SHALL BE COMPLETED IN A PROFESSIONAL STANDARD NORMALLY EXPECTED FOR THE CLASS OF WORK BEING PERFORMED.

EXCAVATION, DEWATERING AND SHORING:

THE CONTRACTOR SHALL EXCAVATE, DEWATER AND SHORE IN ACCORDANCE WITH THE APPLICABLE PROJECT SPECIFICATIONS FOR "EXCAVATION AND BACK-FILL", "DEWATERING AND SHORING", AS PROVIDED BY THE ENGINEER TO ENSURE A SAFE WORKING ENVIRONMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEASURING THE ACTUAL HEIGHT OF THE PRECAST CONCRETE COMPONENTS DELIVERED TO THE SITE PRIOR TO INSTALLING ANY PORTION OF THE CDS UNIT TO VERIFY THE REQUIRED DEPTH OF EXCAVATION BELOW PIPE INVERT MATCHES THE DEPTH GIVEN ON THE CONTECH PROJECT SPECIFIC CONTRACT DRAWING.

SUB-GRADE PREPARATION:

ONCE SITE IS EXCAVATED TO THE CORRECT DEPTH, COMPACT THE UNDISTURBED SUB-GRADE MATERIALS TO 95% OF MAXIMUM DENSITY AT +/-2% OF OPTIMUM MOISTURE CONTENT PRIOR TO PLACEMENT OF CRUSHED ROCK. THE CRUSHED ROCK SUBGRADE MATERIAL SHALL BE COMPOSED TO WITHSTAND A DESIGN LOADING OF 2,000 POUNDS PER SQUARE FOOT (PSF). IT IS RECOMMENDED THAT THE HOLE BE OVER-EXCAVATED A MINIMUM OF 6" AND BACKFILLED WITH AGGREGATE BASE AND COMPACTED TO 95% TO MAKE SUBGRADE.

1. SUMP INSTALLATION

THE CDS MANHOLE SHALL BE SET IN THE LOCATION SHOWN ON THE PROJECT SPECIFIC SITE PLANS AND ALIGNED WITH THE CENTERLINE OF THE MAIN STORM DRAIN PIPE. START BY SETTING THE SUMP BASE SECTION ON THE PREPARED SUB-GRADE AND CHECK FOR PLUMB AND LEVEL. ENSURE JOINT SURFACE IS CLEAN AND DRY THEN PLACE A LAYER OF BUTYL MASTIC MANHOLE SEALANT (SUPPLIED BY CONTECH) ON BOTH UPPER AND LOWER SHELVES OF THE SUMP BASE TONGUE & GROOVE JOINT (SEE BUTYL MASTIC MANHOLE SEALANT DETAIL).

2. CDS SECTION INSTALLATION

THE CDS SECTION IS DELIVERED TO THE PROJECT SITE WITH ALL INTERNAL COMPONENTS PRE-INSTALLED BY CONTECH. IF THE SIZE OF THE CDS UNIT REQUIRES THAT INTERNAL COMPONENT INSTALLATION BE PERFORMED AT THE PROJECT SITE, CONTECH WILL MAKE APPROPRIATE ARRANGEMENTS WITH THE CONTRACTOR PRIOR TO THE INSTALLATION OF THE MANHOLE. PLACE BUTYL MASTIC MANHOLE SEALANT ON THE TOP JOINT IN THE SAME MANNER AS THE SUMP BASE. THE CDS SECTION RISER SHALL BE SET WITH THE PROPER ORIENTATION TO THE STORM DRAIN TO ENSURE CORRECT ALIGNMENT OF THE INLET AND OUTLET PIPE OPENINGS. IF THE INLET AND OUTLET OPENINGS ARE REVERSED, THE STORMWATER TREATMENT UNIT WILL NOT FUNCTION. IF IT IS UNCLEAR WHICH OPENING IS INLET AND WHICH OPENING IS OUTLET, PLEASE CONTACT YOUR CONTECH REPRESENTATIVE BEFORE PROCEEDING.

IMPORTANT: APPLY LOAD TO MANHOLE SECTIONS TO COMPRESS BUTYL MASTIC SEALANT IF NECESSARY. UNIT MUST BE WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. SUGGESTED TO ALSO GROUT ALL JOINTS BELOW PIPE INVERT.

3. STORM DRAIN PIPE CONNECTION

CONTRACTOR TO PROVIDE, INSTALL, AND GROUT STORM DRAIN PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN ON THE CONTECH CONTRACT DRAWINGS. SUPPORT THE INLET AND OUTLET PIPES IN THE CORRECT LOCATION, THEN USING NON-SHRINK GROUT, SEAL THE VOIDS AROUND THE PIPES AND MANHOLE WALLS. **IMPORTANT: INLET PIPE INVERT MUST BE AT OR ABOVE THE FLOOR OF THE INLET TROUGH SO THAT NO FIBERGLASS BLOCKS THE FLOW OF WATER INTO THE UNIT.**

4. ADDITIONAL RISERS AND TOP SLAB INSTALLATION

PLACE ANY REMAINING MANHOLE SECTIONS TO BRING THE CDS UNIT TO THE CORRECT HEIGHT. ENSURE JOINT SURFACE IS CLEAN AND DRY THEN PLACE A LAYER OF BUTYL MASTIC MANHOLE SEALANT (SUPPLIED BY CONTECH) ON BOTH UPPER AND LOWER SHELVES OF ALL REMAINING TONGUE & GROOVE JOINTS. AFTER PLACING BUTYL MASTIC ON THE TOP JOINT OF THE LAST RISER SECTION, INSTALL THE MANHOLE TOP SLAB. ROTATE THE TOP SLAB TO THE CORRECT LOCATION AS SHOWN ON THE CONTECH CONTRACT DRAWINGS. GRADE RINGS, FRAMES & COVERS WILL BE PROVIDED FOR EACH TOP ACCESS OPENING TO BRING THE UNIT TO FINISHED GRADE. SOME GROUT MAY STILL BE REQUIRED TO BRING THE FRAME & COVER TO GRADE IF A GAP REMAINS AFTER THE GRADE RINGS ARE INSTALLED.

5. BACKFILL

UPON COMPLETION OF THE CDS UNIT INSTALLATION, THE EXCAVATION SHALL BE BACKFILLED WITH AN AGGREGATE BASE MATERIAL, PEA GRAVEL, OR CONTROLLED DENSITY CEMENT BACKFILL. THE AGGREGATE BASE MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 90% COMPACTION OR AS SPECIFIED BY THE ENGINEER WHEN TESTED BY ASTM DESIGNATION A1557, UNLESS THE CDS UNIT IS TO RECEIVE TRAFFIC LOADINGS WHEREBY THE FOLLOWING CONDITIONS SHALL APPLY: FOR CDS UNITS INSTALLED IN A TRAVEL WAY, THE UPPER TWO FEET OF BACKFILL SHALL BE AGGREGATE BASE COMPACTED TO 95% (MINIMUM).

6. SITE CLEANUP

REMOVE ALL MATERIAL AND DEBRIS FROM THE INLET, SEPARATION CYLINDER, AND SUMP UPON COMPLETION OF INSTALLATION. **IMPORTANT: PRIOR TO PROJECT COMPLETION, CONTRACTOR SHALL FILL CDS UNIT WITH WATER TO FLOWLINE INVERT.**



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CDS CONCENTRIC
PRECAST CONCRETE WATER QUALITY MANHOLE
CONTRACTOR INSTALLATION SPECIFICATIONS



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