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<th>Page Number</th>
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<tr>
<td>COVER</td>
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</tr>
<tr>
<td>GN-01</td>
<td>GENERAL NOTES PAGE 1</td>
</tr>
<tr>
<td>GN-02</td>
<td>GENERAL NOTES PAGE 2</td>
</tr>
<tr>
<td>GN-03</td>
<td>GENERAL NOTES PAGE 3</td>
</tr>
<tr>
<td>GN-04</td>
<td>GENERAL NOTES PAGE 4</td>
</tr>
<tr>
<td>GN-05</td>
<td>GENERAL NOTES PAGE 5</td>
</tr>
<tr>
<td>GN-06</td>
<td>GENERAL NOTES PAGE 6</td>
</tr>
<tr>
<td>GN-07</td>
<td>GENERAL NOTES PAGE 7</td>
</tr>
</tbody>
</table>
GENERAL NOTES:

1. CHARLOTTE COUNTY UTILITIES (CCU) STANDARD SPECIFICATIONS AND STANDARD DETAILS SHALL GOVERN ALL UTILITY WORK. UNDER CERTAIN CIRCUMSTANCES THE STANDARD SPECIFICATIONS AND/OR STANDARD DETAILS MAY BE MODIFIED BY THE SPECIAL PROVISION SECTION OF THE CONTRACT DOCUMENTS IN WHICH CASE THE SPECIAL PROVISIONS SHALL PREVAIL. WHEN A CONFLICT EXISTS AMONG THE REQUIREMENTS OF A REFERENCED MATERIAL OR INSTALLATION STANDARD, THE REQUIREMENTS OF CCU SHALL PREVAIL. WHERE THE REQUIREMENTS OF A STATE OR LOCAL AGENCY HAVING JURISDICTION ARE MORE STRINGENT, THOSE REQUIREMENTS SHALL PREVAIL.

2. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED COUNTY AND STATE PERMITS PRIOR TO COMMENCING WORK AND SHALL KEEP ONE COPY OF ALL ISSUED PERMITS AT THE SITE AT ALL TIMES DURING CONSTRUCTION.

3. THE CONTRACTOR SHALL ASSURE COMPLIANCE WITH ANY OSHA, EPA, AND/OR OTHER FEDERAL OR STATE OF FLORIDA RULES, REGULATIONS OR OTHER REQUIREMENTS, AS EACH MAY APPLY.

4. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE ONE CURRENT COPY OF CCU SPECIFICATIONS AND DESIGN DETAILS AND ONE COPY OF THE CONTRACT DOCUMENTS INCLUDING ENGINEERING DRAWINGS, SPECIFICATIONS, SPECIAL PROVISIONS, ETC. NO FIELD CHANGES OR DEVIATION FROM THE CONTRACT DOCUMENTS SHALL BE MADE BY THE CONTRACTOR WITHOUT PRIOR CCU WRITTEN APPROVAL.

5. THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES FROM DAMAGE. THE CONTRACTOR SHALL NOTIFY "SUNSHINE STATE ONE CALL" PRIOR TO START OF CONSTRUCTION. THE EXISTING UTILITIES SHOWN ON THE ENGINEERING DRAWINGS ARE FOR DESIGN PURPOSES ONLY. THE CONTRACTOR SHALL MARK LOCATIONS OF UTILITIES BY PAINTING AND/OR FLAGGING THE UTILITY ALIGNMENT. THE CONTRACTOR SHALL PERFORM EXPLORATORY EXCAVATION(S) TO FIELD VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL COMPLY WITH ALL LAWS AND ORDINANCES COVERING THE PROTECTION OF SUCH WORK AND THE SAFETY MEASURES TO BE EMPLOYED THEREIN.

6. THE CONTRACTOR SHALL REVIEW THE SITE CONDITIONS PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL BRING ENGINEERING DRAWING DISCREPANCIES TO THE ATTENTION OF THE ENGINEER PRIOR TO COMMENCING WORK.


8. THE CONTRACTOR SHALL NOTIFY ALL AFFECTED UTILITY CUSTOMERS 48 HOURS IN ADVANCE IF WATER AND/OR SEWER SERVICE WILL BE INTERRUPTED DURING CONSTRUCTION.
9. If existing valves or fittings are not restrained properly, the contractor shall restrain existing utilities in accordance with CCU requirements as approved by CCU.

10. The contractor shall install incidental fittings required to resolve conflicts between existing and proposed utilities as determined in the field unless otherwise shown on the plans. All materials, equipment, and labor to resolve incidental conflicts shall be paid for as provided for in the contract documents.

11. All valves shall be installed outside of pavements unless otherwise specifically shown on the plans or approved by CCU.

12. The contractor shall install all open trench bury pipe in an upright vertical position so all lettering and/or striping can be read from above. Directional bore HDPE pipe shall meet this requirement to the extent possible.

13. The contractor shall push home all spigot ends of PVC and/or DI pipe into bell ends within 1/2" of the manufacturer's insertion mark. If pipe is cut, the contractor shall replace an insertion mark from new end of pipe as shown on the original pipe.

14. All stainless steel shall be 316 austenitic, non-magnetic unless otherwise approved by CCU.

15. Marker balls and metallic location tape must be installed in accordance with the CCU standard details and CCU standard specifications.

**DUCTILE IRON EXTERNAL PROTECTIVE COATING**

All exposed ductile iron utilities shall be painted as follows in accordance with CCU field painting specifications:

<table>
<thead>
<tr>
<th>TYPE</th>
<th>COLOR DESIGNATION*</th>
</tr>
</thead>
<tbody>
<tr>
<td>POTABLE WATER LINES</td>
<td>BLUE (PANTONE 287)</td>
</tr>
<tr>
<td>POTABLE WATER VALVE CAPS</td>
<td>BLUE (PANTONE 287)</td>
</tr>
<tr>
<td>FIRE LINES</td>
<td>ANSI SAFETY RED (PANTONE 485)</td>
</tr>
<tr>
<td>FIRE LINE VALVE CAPS</td>
<td>ANSI SAFETY RED (PANTONE 485)</td>
</tr>
<tr>
<td>WASTE WATER LINES</td>
<td>ANSI SAFETY GREEN (PANTONE 3415)</td>
</tr>
<tr>
<td>WASTE WATER VALVE CAPS</td>
<td>ANSI SAFETY GREEN (PANTONE 3415)</td>
</tr>
<tr>
<td>RECLAIMED WATER LINES</td>
<td>PURPLE (PANTONE 522C)</td>
</tr>
<tr>
<td>RECLAIMED WATER VALVE CAPS</td>
<td>PURPLE (PANTONE 522C)</td>
</tr>
<tr>
<td>FIRE HYDRANTS</td>
<td>ANSI SAFETY YELLOW (PANTONE 109)</td>
</tr>
<tr>
<td>FIRE HYDRANT VALVE CAPS</td>
<td>ANSI SAFETY YELLOW (PANTONE 109)</td>
</tr>
</tbody>
</table>

*Equivalent colors matching these colors are acceptable. Provide with Shop Drawing submittal direct color comparisons of color numbers available from manufacturer submitted.*
CONSTRUCTION IN STREETS AND ROAD RIGHT-OF-WAYS

1. OPEN ROAD CUTS REQUIRE PRIOR APPROVAL/PERMIT OF THE COUNTY, STATE, OR OTHER AGENCY HAVING JURISDICTION. CONSTRUCTION WITHIN THE FLORIDA DEPARTMENT OF TRANSPORTATION (DOT) RIGHT-OF-WAY SHALL CONFORM TO FLORIDA DOT CONSTRUCTION STANDARDS. CHARLOTTE COUNTY COMMUNITY DEVELOPMENT (CCCD) SHALL BE NOTIFIED 48-HOURS IN ADVANCE OF ALL APPROVED OPEN ROAD CUTS WITHIN COUNTY ROADWAYS/RIGHT-OF-WAYS.

2. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN TRAFFIC AT THE JOB SITE DURING CONSTRUCTION IN ACCORDANCE WITH THE PERMIT AND SAFETY REQUIREMENTS FOR THE PROJECT. PROPER DETOUR SHALL BE PROVIDED AS NECESSARY.

3. EXCAVATION SHALL BE CONDUCTED IN A MANNER TO CAUSE THE LEAST POSSIBLE INTERRUPTION TO TRAFFIC. WHERE TRAFFIC MUST CROSS EXCAVATIONS, THE CONTRACTOR SHALL PROVIDE SUITABLE BRIDGES AT STREET INTERSECTIONS AND DRIVEWAYS.

4. NOT MORE THAN ONE BLOCK OF EXCAVATION SHALL BE OPEN PER CREW AT ANY ONE TIME, AND THIS DISTANCE SHALL BE REDUCED IF CONSTRUCTION CAUSES EXCESSIVE INTERFERENCE WITH TRAFFIC. EXCAVATED OR OTHER MATERIAL STORED ADJACENT TO OR PARTIALLY UPON A ROADWAY PAVEMENT SHALL BE ADEQUATELY MARKED FOR TRAFFIC AND PEDESTRIAN SAFETY AT ALL TIMES. ALL EXCAVATED AND/OR STORED MATERIAL SHALL BE REMOVED FROM THE PAVEMENTS AT THE END OF THE WORK DAY UNLESS OTHERWISE PROVIDED FOR IN THE CONTRACT DOCUMENTS.

5. THE CONTRACTOR SHALL CARRY OUT THE WORK SO AS NOT TO DENY UNREASONABLE ACCESS TO PRIVATE PROPERTY. ALL ACCESS SHALL BE RESTORE AT THE END OF THE WORK DAY.

6. ALL UTILITY ACCESS MANHOLES, VALVES, AND FIRE HYDRANTS AND MAIL BOXES SHALL BE ACCESSIBLE AT ALL TIMES DURING CONSTRUCTION.

7. ROAD SURFACE RESTORATION SHALL BE PERFORMED IN ACCORDANCE WITH CHARLOTTE COUNTY COMMUNITY DEVELOPMENT (CCCD), FLORIDA DEPARTMENT OF TRANSPORTATION, OR OTHER GOVERNING AGENCY REQUIREMENTS.

8. THE CONTRACTOR SHALL REPLACE ALL PAVEMENT MARKINGS DAMAGED DURING THE PROJECT.
TRAFFIC REGULATIONS AND MAINTENANCE OF TRAFFIC

1. TRAFFIC CONTROL ON ALL COUNTY AND STATE HIGHWAY RIGHT-OF-WAYS SHALL
   COMPLY WITH THE REQUIREMENTS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL
   DEVICES (U.S. DOT/FHA) AND REQUIREMENTS OF THE STATE AND/OR ANY OTHER LOCAL
   AGENCY HAVING JURISDICTION.

2. WORK AFFECTING TRAFFIC ON ANY COUNTY STREET, ROADWAY, RIGHT-OF-WAY, BIKE
   PATH, OR SIDEWALK REQUIRES THE PREPARATION AND SUBMITTAL OF MAINTENANCE OF
   TRAFFIC (MOT) PLAN BY THE CONTRACTOR TO THE COUNTY ENGINEER. THE MOT PLAN
   SHALL BE APPROVED BY THE COUNTY ENGINEER OR HIS/HER DESIGNEE PRIOR TO THE
   START OF CONSTRUCTION.

3. WORK AFFECTING TRAFFIC ON ANY STATE ROAD OR HIGHWAY REQUIRES THE
   PREPARATION AND SUBMITTAL OF A MOT PLAN BY THE CONTRACTOR TO THE FDOT. THE
   MOT PLAN SHALL BE APPROVED BY THE FDOT PRIOR TO THE START OF CONSTRUCTION.

4. THE CONTRACTOR SHALL BE IN FULL COMPLIANCE WITH THE APPROVED MOT PLAN AT
   ALL TIMES.

5. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL TRAFFIC CONTROL SIGNS AND
   DEVICES, BARRICADES, FLASHERS, ETC. IN WORKING CONDITION AT ALL TIMES.

6. ROAD CLOSURE WHETHER TEMPORARY ON A DAILY BASIS OR PERMANENTLY DURING
   CONSTRUCTION REQUIRES THE APPROVAL OF A DETOUR PLAN BY THE AGENCY OR
   AGENCIES HAVING JURISDICTION. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING
   ALL TEMPORARY SIGNAGE WHEN THE ROADWAY IS TO BE CLOSED OR TRAFFIC
   DETOURED. WHEN ROAD CLOSURES ARE TEMPORARY ALL STREETS SHALL BE RE-OPENED
   TO TRAFFIC BY THE END OF THE WORK DAY AND ALL DETOUR SIGNS COVERED OR
   REMOVED. WHEN ROADS ARE PERMANENTLY CLOSED DURING CONSTRUCTION ACCESS
   MUST BE PROVIDED TO PROPERTIES LOCATED ON THE CLOSED ROAD AT THE END OF
   EACH WORK DAY AND ON WEEKENDS.

7. DURING NON-DAY LIGHT HOURS OR RESTRICTED VISIBILITY, THE CONTRACTOR SHALL
   PROPERLY ILLUMINATE THE WORK BY THE INSTALLATION AND MAINTENANCE OF SUITABLE
   LIGHTS OR FLARES ESPECIALLY ALONG OR ACROSS THOROUGHFARES.

ENVIRONMENTAL REQUIREMENTS

1. THE CONTRACTOR SHALL REFER TO CCU SPECIFICATIONS FOR “EROSION AND SEDIMENT
   CONTROL”.

2. PRIOR TO THE START AND DURING CONSTRUCTION ACTIVITIES, FOR AREAS WITHIN AND
   ADJOINING THE LIMITS OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE
   PROTECTION BARRICADES/SILT FENCES/ADEQUATE MEASURES IN ACCORDANCE WITH
   COUNTY AND STATE REQUIREMENTS FOR ALL DESIGNATED TREES/PLANTS TO BE
   PROTECTED, WETLANDS, THREATENED AND/OR ENDANGERED SPECIES ETC.
BEDDING, BACKFILL, AND COMPACTION

1. ALL PIPES BEDDING MATERIAL SHALL BE NEW MATERIAL UNLESS OTHERWISE APPROVED BY CCU.

2. FOUNDATION MATERIAL OR BEDDING STONE SHALL BE USED FOR BEDDING OF PIPE AND/OR MANHOLES AS INDICATED ON THE ENGINEERING DRAWINGS. CRUSHED STONE SHALL CONSIST OF HARD, DURABLE, AND SUB-ANGULAR PARTICLES OF PROPER SIZE AND GRADATION, AND SHALL BE FREE FROM ORGANIC MATERIAL, WOOD, TRASH, SAND, LOAM, CLAY, EXCESS FINES AND OTHER DELETERIOUS MATERIALS. THE STONE SHALL CONFORM TO THE REQUIREMENTS OF ASTM C33, SIZE NO. 57 (3/4 INCH STONE) AND BE GRADED WITHIN THE FOLLOWING LIMITS:

<table>
<thead>
<tr>
<th>U.S. SIEVE SIZE</th>
<th>PERCENT FINER BY WEIGHT</th>
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<tbody>
<tr>
<td>1 1/2 INCH</td>
<td>100</td>
</tr>
<tr>
<td>1 INCH</td>
<td>95-100</td>
</tr>
<tr>
<td>1/2 INCH</td>
<td>25-100</td>
</tr>
<tr>
<td>NO. 4</td>
<td>0-10</td>
</tr>
<tr>
<td>NO. 8</td>
<td>0-5</td>
</tr>
</tbody>
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3. SAND FOR BEDDING OF THE POLYVINYL CHLORIDE (PVC) GRAVITY SEWER PIPE SHALL BE A DRY SCREENED AND GRADED MATERIAL WITH 95 PERCENT PASSING 1 INCH SIEVE AND NOT MORE THAN FIVE PERCENT PASSING A NO. 200 SIEVE. ALL PVC GRAVITY SEWER PIPE SHALL BE INSTALLED AND BEDDED IN ACCORDANCE WITH ASTM SPECIFICATION D-2321, “RECOMMENDED PRACTICE FOR UNDERGROUND INSTALLATION OF FLEXIBLE THERMOPLASTIC SEWER PIPE”.

4. FOUNDATION STABILIZATION MATERIAL SHALL MEET CCU SPECIFICATIONS OR DESIGN DETAILS. IF DETERMINED BY CCU THE MATERIAL IN THE BOTTOM OF THE TRENCH IS UNSUITABLE FOR SUPPORTING THE PIPE, THE CONTRACTOR SHALL EXCAVATE BELOW THE FLOW LINE OF THE PIPE. THE TRENCH SHALL BE BACKFILLED TO SPECIFIED GRADE WITH FOUNDATION STABILIZATION MATERIAL. IF THE TRENCH IS PROPERLY DEWATERED, CCU APPROVED BACKFILL MATERIAL MAY BE USED FOR STABILIZATION. CRUSHED ROCK (NO. 57 STONE) SHALL BE USED WHEN A DRY TRENCH CANNOT BE OBTAINED. THE FOUNDATION STABILIZATION MATERIAL SHALL BE PLACED OVER THE FULL WIDTH OF THE TRENCH AND COMPACTED IN LAYERS NOT EXCEEDING SIX INCHES DEEP TO THE REQUIRED GRADE.

5. BACKFILLING OF TRENCHES SHALL NOT BE ALLOWED UNTIL THE WORK HAS BEEN APPROVED BY CCU. WORK BACKFILLED OR CONCEALED WITHOUT THE KNOWLEDGE OF CCU SHALL BE UNCOVERED OR EXPOSED FOR INSPECTION AT NO COST TO THE OWNER.
6. BACKFILL MATERIAL PLACED WITHIN ONE FOOT OF PIPING AND APPURtenANCES OR IN THE UPPER SIX INCHES OF ALL BACKFILL AND FILLS SHALL NOT CONTAIN ANY STONES OR ROCKS LARGER THAN ONE INCH IN DIAMETER. EXISTING BACKFILL MATERIAL SHALL MEET THE ABOVE REQUIREMENTS AS APPROVED BY CCU. BROKEN CONCRETE SHALL NOT BE USED. OUTSIDE THE PIPE ZONE, FILL MATERIAL CONTAINING LIME ROCK SHALL HAVE SUFFICIENT SAND TO FILL THE Voids IN THE LIME ROCK. NO STONES OR ROCKS LARGER THAN THREE INCHES IN DIAMETER SHALL BE USED IN ANY BACKFILL.

7. MATERIAL SUITABLE FOR BACKFILL IN A PROPERLY DEWATERED TRENCH SHALL NOT BE expansive NOR HAVE HIGH ORGANIC CONTENT; SHALL BE FREE OF DEBRIS, LUMPS AND CLODS; AND SHALL MEET THE FOLLOWING REQUIREMENTS:

a. MAXIMUM LIQUID LIMIT SHALL NOT EXCEED 12 AS DETERMINED BY ASTM D423.

b. MAXIMUM PLASTICITY INDEX SHALL NOT EXCEED 35 AS DETERMINED BY ASTM D424.

c. NOT MORE THAN 10% OF WEIGHT SHALL BE FINER THAN 74 MICRON (NO. 200) U.S. STANDARD SIEVE.

8. READY-MIX FLOWABLE FILL OR CONTROLLED LOW STRENGTH MATERIAL (CLSM) MAY BE SUBSTITUTED AS AN ALTERNATIVE TO COMPACTED SOIL WITH THE APPROVAL OF CCU OR WHERE SHOWN ON THE ENGINEERING DRAWINGS. APPLICATIONS FOR THE MATERIAL INCLUDE BEDDINGS, ENCASEMENTS, CLOSURES FOR TANKS AND PIPES, AND GENERAL BACKFILL APPLICATIONS FOR TRENCHES AND ABUTMENTS. FLOWABLE FILL SHALL BE DESIGNED TO BE EXCAVATED AND PUMPED FOR APPLICATIONS WHERE STRENGTH IS MORE IMPORTANT THAN EXCAVATABILITY. IF FLOWABLE FILL IS SPECIFIED, ULTIMATE COMPRESSIVE STRENGTH SHALL BE LESS THAN 200 PSI AT 28 DAYS. FLOWABLE FILL IS NOT ACCEPTABLE FOR USE AS BACKFILL UNDER PAVEMENT, SIDEWALKS OR OTHER HARD SURFACES UNLESS OTHERWISE APPROVED IN WRITING BY AUTHORITY WITH JURISDICTION.

9. THE CONTRACTOR SHALL COMPACT ALL PORTIONS OF A TRENCH WITHIN 7.5' OF EXISTING EDGE OF PAVEMENT TO 98% DENSITY, AASHTO T-180, AND 95% FOR OTHER AREAS WITHIN THE RIGHT OF WAY. IF MORE STRINGENT COMPACTION REQUIREMENTS ARE SHOWN ON THE PLANS OR IN THE CONTRACT DOCUMENTS THEY SHALL PREVAIL.

10. COMPACTION OF BACKFILL MATERIAL UNDER PAVEMENT, SIDEWALKS, OR OTHER HARD SURFACES SHALL BE IN CONFORMANCE WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.

11. DENSITY TESTS SHALL BE PERFORMED FOR EACH 6" LIFT AT A MINIMUM OF ONE TEST PER 200 FEET OF TRENCH.

12. ALL WELL POINT HOLES UNDER PARKING, DRIVING, OR ROADWAY SURFACES SHALL BE BACKFILLED WITH CONCRETE IMMEDIATELY AFTER PULLING THE WELL POINTS. ALL OTHER WELL POINT HOLES SHALL BE BACKFILLED WITH FDOT NO. 89 STONE IMMEDIATELY AFTER REMOVING THE WELL POINTS UNLESS SPECIFIED OR DIRECTED TO DO OTHERWISE BY CCU.
MATERIALS AND METHODS OF CONSTRUCTION

ALL MATERIALS AND CONSTRUCTION METHODS USED IN THE CONSTRUCTION OF CCU'S UTILITIES INCLUDING BUT NOT LIMITED TO PIPING, VALVES, FITTINGS, RESTRAINTS, FIRE HYDRANTS, BLOW-OFFS, GRAVITY SEWER MAINS, MANHOLES, LIFT STATIONS, WATER AND SEWER SERVICES AND ALL ASSOCIATED APPURTEANCES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF CCU'S STANDARD SPECIFICATIONS AND DETAILS UNLESS OTHERWISE NOTED IN THE CONTRACT DOCUMENTS.

RESTORATION

1. THE CONTRACTOR SHALL RESTORE ALL DISTURBED OR DAMAGED AREAS TO THE SAME OR BETTER CONDITION THAN THAT PRIOR TO THE START OF CONSTRUCTION.

2. ALL AREAS IN EXISTING RIGHT-OF-WAYS DISTURBED BY CONSTRUCTION SHALL BE RESTORED TO EQUAL OR BETTER THAN THE ORIGINAL CONDITION AND GROUND COVER TO THE SATISFACTION OF THE LOCAL OR STATE AGENCY HAVING JURISDICTION.

3. ALL DISTURBED SWALE OR CANAL GRADES SHALL BE RESTORED TO THE GRADES AND ELEVATIONS THAT EXISTED PRIOR TO DISTURBANCE UNLESS OTHERWISE SPECIFIED ON THE ENGINEERING DRAWINGS OR IN THE CONTRACT DOCUMENTS.