

## Public Sewer Improvement Plan Checklist

*Note: This checklist provides the minimum formatting requirements for Public Sewer Improvement Plans prepared for Private Developments. Additional requirements by Pima County DSD or the jurisdictional reviewing Agency may apply.*

Project:	
Engineer:	
Signature:	
Company:	
Date of Submittal:	

**Required References for Preliminary Sewer Layout:**

- Arizona Administrative Code, Title 18, Chapters 5 and 9
- Pima County Code of Ordinances, Title 13 - Public Services, Division II - Sewers
- PCRWRD Engineering Standards and Specifications, Latest Edition
- International Building/Plumbing Codes, Latest Editions

Use the Following Symbols	
√	Plan Complies with Requirement
X	Plan Does Not Comply with Requirement
N/A	Not Applicable

1 <sup>st</sup>		2 <sup>nd</sup>		3 <sup>rd</sup>	
Engineer	Reviewer	Engineer	Reviewer	Engineer	Reviewer

A. All Sheets					
					1. Clear, legible and to scale on 24" x 36" sheets and suitable as a construction document and for permanent record;
					2. Title blocks that contain the project title, lot #s to be served and engineer's name, address and phone number;
					3. The plan number (G-20XX-XXX) within or near the title block of each sheet;
					4. Legibly sealed, signed and dated by an Arizona Registered Professional Engineer in conformance with A.A.C. R4-30-303 and R4-30-304.
					5. Plan symbols shall conform to Detail RWRD 100.
					6. Define the status of the (existing/proposed) downstream public sewer. Public sewer projects are designed, reviewed, accepted, constructed and released from downstream to upstream.
B. Cover Sheet					
					1. Title to include the words "Public Sewer Plan," the project name, lots (and/or buildings) served, and the subdivision case number (or book and page, if already recorded) OR if offsite, the word "Offsite";
					2. A location map at a scale of 3"=1 mile with proposed development highlighted, adjacent platted subdivisions called out, major street intersections and section(s), township(s) and range(s) noted;



1 <sup>st</sup>		2 <sup>nd</sup>		3 <sup>rd</sup>	
Engineer	Reviewer	Engineer	Reviewer	Engineer	Reviewer
<b>C. Plan View</b>					
<b>General / Annotation</b>					
					<p>1. For proposed sewers, plan shall call out pipe size, pipe material, ownership classification (Public or Private), length (feet, hundredths), slope (percent, hundredths) and directional flow arrow as shown in the following example:</p>
					<p>2. For existing sewers in the project's vicinity plan shall call out pipe size, pipe material, ownership classification (Public or Private), IMS plan number, length (feet, hundredths), slope (percent, hundredths) and directional flow arrow as shown in the following example:</p>
					3. Indicate direction of flow for each new and existing sewer reach;
					4. Compare point of connection to existing downstream manhole number, invert elevation, plan number and block out alignment;
					5. Plans will not be accepted until downstream plans are accepted. New public sewers will not be released for discharge until downstream sewers have been released;
					6. Provide a north arrow;
					7. Use a horizontal scale of 1"=40' or other acceptable scale;
					8. Indicate whether stationing is along sewer, centerline or other control line;
					9. If sewer plans include public and private, label sewers appropriately as public or private;
					10. Number all manholes (as shown on cover sheet) and station to 0.01' accuracy, provide offset distances if necessary;
					11. Ensure lots and numbering shown are consistent with the cover sheet;
					12. Show distances and bearings for sewer reaches between manholes;
					13. Verify manhole spacing is consistent with Table 9.3 in Section 9 of the PCRWRD Manual;
					14. Verify information shown on more than one sheet is consistent;
					15. Show match lines and stationing as needed for information that continues onto another sheet;
					16. Show all areas of pavement replacement and reference Standard Detail PC/COT 216;
					17. Indicate which areas include proposed pavement;
					18. Show the typical street/roadway cross section details;
					19. Show, label and station all service laterals (HCS/BCS);

1 <sup>st</sup>		2 <sup>nd</sup>		3 <sup>rd</sup>		
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<b>Sewer Alignment</b>						
						20. Verify deflection angles at manholes conform to design standards (< 90° for 8"-10" pipe, and < 60° for 12"+ pipe);
						21. Verify deflection angles are < 45° for two or more pipes flowing into a manhole per Detail No. RWRD 201. A maximum deflection angle of 90° is okay for two 8" or 10" pipes 90° apart;
<b>Manholes</b>						
						22. Show adequate drainage information with flow arrows, topography or other drainage information;
						23. Use watertight frames and covers where storm water infiltration is likely to occur per Detail Nos. RWRD 214 and 217;
						24. Indicate block-outs for future extensions per Detail No. RWRD 204. Public stub-outs are not acceptable;
						25. Call out concrete collars in unpaved areas per Details Nos. RWRD 230 as required for each manhole;
						26. Specify corrosion protection when required for new manholes per Subsection 9.2.16 of the PCRWRD Manual;
						27. Show proposed manholes, on a sewer line tributary to an 18" or larger sewer line, that are located 200 feet or less from the connection to the 18" or larger sewer line;
<b>Service Laterals (HCS/BCS)</b>						
<b>Note: Building Codes reviews (for municipal plumbing code) from the edge of ROW/easement to the inside of the house or building.</b>						
						28. Ensure no HCS/BCS connections into a manhole unless the manhole is in a cul-de-sac or adjacent to another terminal MH, with no possibility of future extension. Call out Detail No. RWRD 402 for connection to a terminal manhole;
						29. Station or dimension all HCS/BCS stubs (proposed AND existing) to the nearest property corner;
						30. Verify ALL HCS/BCS are at least 5 feet apart;
						31. Verify ALL HCS/BCS have 5 feet of clearance from the nearest manhole;
						32. Use flat DIP service laterals (with detail shown) when either (a) HCS inverts are < 4' deep at the property line OR (b) the sewer main invert depth is < 7.5' deep AND the HCS crosses a water main (resulting in < 2' vertical separation) per Detail No. RWRD 401;
						33. Clearly identify if private backwater valves are required for any service laterals and provide a table on the plans if necessary;
						34. All sewer plans must include HCS/BCS and Manhole Tables for ALL HCS/BCS and manholes (see last page of this checklist);
						35. 6" or larger HCS/BCS must connect to public sewer at an existing or new manhole;
						36. In plan view, show the distance from the downstream public manhole, for each private sewer lateral along the length of the public sewer;
<b>Potential Conflicts</b>						
						37. Show all proposed and existing utilities (underground and overhead) within easements and rights of way;
						38. Show and label all wash crossings with flow data and 100 year flood limits;
						39. Show and station all drainage structures;
						40. Show water lines with horizontal dimensions from sewers, and any other underground or overhead utilities;

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						41. Verify all parallel sewer and water lines horizontally separated by at least 6' or sewer constructed of DIP in accordance with Detail No. RWRD 108;
						42. Verify 6' of min. clearance provided between water lines and manholes;
						43. Show all areas of pavement replacement;
						44. Show all existing structures (buildings, curbs, etc.) over or near public sewers;
<b>Dedicated Sewer Easements &amp; Accessibility</b> Note: "Easements" are replaced with the terms "Lease" on state land and "Use Agreement" on tribal land.						
						46. Verify all sewers are within a public right-of-way or dedicated sewer easement;
						47. Show and call out a stabilized surface per Detail No. RWRD 111 for dedicated sewer easements;
						48. Verify the minimum width of each dedicated sewer easement is the greater of two times the invert depth or 20' (or 30' if sewer is 24" or greater);
						49. Verify the inner and outer return radii for all turns at least 35' and 55' respectively (including turnarounds for one-way access);
						50. Label public sewer easements dedicated by final plat as "XX' PUBLIC SEWER EASEMENT BY FINAL PLAT";
						51. Label existing easements NOT dedicated by final plat: "EXISTING XX' PUBLIC SEWER EASEMENT DKT XX, PG XXX";
						52. Label new easements NOT dedicated by final plat: "PROPOSED XX' PUBLIC SEWER EASEMENT BY SEPARATE INSTRUMENT. DKT __, PG __";
						53. Label OFF-SITE public sewer easements as proposed/existing with owner name, address and parcel tax ID;
						54. If easements are to be dedicated by separate instrument: Include with the submittal an 8 1/2" x 11" drawing and legal description, sealed/signed/dated by an RLS for review and processing;
<b>E. Profile View</b>						
<b>General</b>						
						1. Use a horizontal scale of 1"=40' and vertical scale of 1"=4'. A vertical scale of 1"=8' may be used for unusually steep slopes;
						2. Show both existing and finished grade profiles along sewer alignment;
<b>Point of Connection</b>						
						3. Show location & method of connection to existing public sewer: IF connecting to an existing (same size) block-out, add note: "Remove block-out and connect." (Do not refer to a std. detail); IF connecting to an existing manhole, without block-out, reference Detail No. RWRD 301 (or Detail No. RWRD 302 for existing 24" or larger pipe); IF connecting to an existing sewer with a new manhole, reference Detail No. RWRD 303 (Detail No. RWRD 202 for 24"-36" pipe or Detail No. RWRD 203 for 42"-60" pipe);
						4. Add the following note to point of connection: "Contractor shall verify existing invert elevation(s) prior to start of public sewer construction."
						5. Add the following note to the outlet of first proposed manhole, upstream of existing sewer. "Install temporary plug and secure with a chain to a manhole step. Plug to include contractor company's name. The plug to be removed after ADEQ, Approval of Construction and Post Paving Inspection." Make sure plug is located downstream of ALL proposed service laterals.

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<b>Manholes</b>						
						6. Label the top of each manhole with manhole # and station and rim elevation to the nearest hundredth of a foot (0.01');
						7. Verify the manhole diameters specified conform to the design requirements of Subsection 9.2.7 of the PCRWRD Manual and accurately call out Detail No. RWRD 205, 206, 207, 208, 209, 210, 211, or 212;
						8. Label bottom of each manhole with invert elevations to the nearest hundredth of a foot and directions, if more than 2 inverts;
						9. If the plans call for the construction of a new manhole over an existing line, add the following note (with data blanks accurately completed) in profile view in the vicinity of the new manhole: "New Manhole No. _____ is to be constructed over the existing in- service _____ inch diameter _____ (material) sewer. The rough base and/or benches shall be constructed with the existing main intact. Cut out the top portion of the _____ inch diameter main and complete the construction of the new manhole in accordance with referenced standard details".
<b>Sewer Pipe</b>						
						10. Show and label all existing sewer LINES with plan number (G-20XX-XXX) and size;
						11. Label each sewer reach with diameter, material and length measured between center of MHs (to nearest hundredth). Also, in parenthesis show the pipe length measured from the inside face of the opposing manholes and calculated slope using pipe length. For example: 8-in VCP, Length = 350.00 ft (Pipe Length = 346.00 ft, Slope = 1.00%);
						12. Verify all slopes are accurate to 0.01% (calculate: V/H) & conform to the minimum design slopes of Table 9.1 in Section 9 of the PCRWRD Manual. Slopes shall be based on the horizontal pipe length from the inside face of each manhole of the sewer reach;
						13. Verify manhole drops conform to Table 9.6 in Section 9 of the PCRWRD Manual;
						14. Match top of pipe (crown) elevations on pipe size changes (unless the minimum required fall would not be met);
						15. Call out Detail No. RWRD 103 for dissimilar pipes connections;
						16. Dimension water/sewer separation at crossings and other utility, drainage and structure crossings that may effect construction;
						17. Show invert/top elevations for both, water AND sewer at ALL water/sewer crossings and dimension the pipes' separation;
						18. For pipes 8" with 10%+ slopes, include with submittal a Design Report with velocity calculations. Use DIP for reaches with velocities exceeding 10 fps. For larger pipes, submit a Design Report for slopes in excess of 5%;
						19. For sewer lines under water lines, verify all water/sewer crossings have vertical clearance of no less than 2.00 feet. If not, use DIP;
						20. For sewer lines over water lines, verify sewer is DIP and a minimum 2.00 feet vertical clearance is provided;
						21. Verify all new water and sewer lines have a minimum of 10.00 feet horizontal clearance;
						22. Verify a minimum cover of 4.00 feet (3.00 feet for DIP);
						23. When connecting to a public sewer, add note: "NOTE: Do not allow sewage flow to enter public sewer until released by PCRWRD";
						24. Verify all terminal 8" sewer reaches have a minimum slope of 1.00%.

1 <sup>st</sup>		2 <sup>nd</sup>		3 <sup>rd</sup>	
Engineer	Reviewer	Engineer	Reviewer	Engineer	Reviewer
<b>Public Sewer Wash Crossing, Access &amp; Miscellaneous</b>					
					25. Show and label all areas requiring fill: "Fill and compact to 95% maximum dry density determined in accordance with Arizona methods prior to trenching for sewer";
					26. For wash crossings, show the calculated scour depth for a 100 year flood event. (All wash crossings require DIP sewer pipe and 2' clear below scour depth);
					27. Include with submittal a Design Report with scour depth calculations for all wash crossings. Show scour depth and lateral migration on plans;
					28. Verify all-weather vehicular access to all manholes is provided with a stabilized surface slopes equal or less than 9% per Detail No. RWRD 111;
<b>F. Plan/Profile:</b>					
					1. Verify distances, elevations and other overlapping information shown on multiple sheets are consistent with each other;
					2. Orient plan and profile so that flow in the sewer is from left to right;
					3. Plan and profile stationing should increase from left to right.

**Figure G – As-built Manhole and HCS Tables**

MH No.	Manhole As-Built Info.		HCS As-Built Info		
	State Plane Coordinates (AZ Central) NAD 83 international feet		State Plane Coordinates (AZ Central) NAD 83 international feet at Cleanout		Distance to downstream Manhole
	Northing	Easting	Lot #	Northing	

**Figure H – Required General Sewer Notes**

1. ALL DESIGN STANDARDS, MATERIALS AND WORKMANSHIP FOR PUBLIC SANITARY SEWERS SHALL BE IN ACCORDANCE WITH THE PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT'S (PCRWRD) ENGINEERING STANDARDS AND SPECIFICATIONS, 2011 EDITION. SAID DOCUMENT IS AVAILABLE THROUGH THE PCRWRD WEBSITE ([www.pima.gov/wwm](http://www.pima.gov/wwm)).
2. THE CONTRACTOR SHALL CALL "BLUE STAKE" (1-800-782-5348) A MINIMUM OF TWO (2) BUSINESS DAYS PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL KEEP ALL "BLUE STAKE" REQUESTS UP-TO-DATE AND COMPLY WITH APPLICABLE ARIZONA REVISED STATUTES (A.R.S.), TITLE 40, CHAPTER 1, ART. 6.3, SEC. 40-360.22 PERTAINING TO "BLUE STAKE". ERRORS IN "BLUE STAKE" SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER.
3. PRIVATE SERVICE LATERALS (HCS/BCS) ARE NOT PART OF THE PUBLIC SANITARY SEWER CONVEYANCE SYSTEM. PRIVATE SERVICE LATERALS CONSTRUCTED PRIOR TO JANUARY 2006 ARE NOT REQUIRED TO BE "BLUE STAKED". PRIVATE SERVICE LATERALS ENCOUNTERED DURING CONSTRUCTION SHALL BE PROTECTED, REPAIRED, OR REROUTED, AS THE SITUATION DICTATES (DETAIL NO. RWRD 404), AT NO EXPENSE TO THE PROPERTY OWNER OR PCRWRD.

4. THE LOCATION OF EXISTING MAJOR UTILITIES, ABOVE GROUND AND UNDERGROUND SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE. PCRWRD DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THIS INFORMATION AND IT IS TO BE UNDERSTOOD THAT OTHER FACILITIES NOT SHOWN ON THE DRAWINGS MAY BE ENCOUNTERED DURING THE COURSE OF THE WORK. UNDER STATE LAW (ARS 40-360.22), THE CONTRACTOR SHALL DETERMINE THE LOCATIONS OF EXISTING UTILITIES LOCATED FROM EACH AND EVERY UNDERGROUND FACILITIES OPERATOR PRIOR TO ANY EXCAVATION. VERIFICATION MAY REQUIRE POT-HOLING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY NECESSARY REPAIRS AT HIS OWN EXPENSE.
5. ANY ACTIVITY THAT MIGHT AFFECT THE SANITARY SEWER SYSTEM (MATERIALS ENTERING THE SYSTEM, CONVEYANCE AND TREATMENT) REQUIRES APPROVAL AND/OR PERMIT BY PCRWRD.
6. SEWER CONSTRUCTION SHALL NOT COMMENCE UNTIL (A) PIMA COUNTY DEPARTMENT OF ENVIRONMENTAL QUALITY (PCDEQ) HAS ISSUED A "CONSTRUCTION AUTHORIZATION" FOR THIS PROJECT AND (B) CONTRACTOR HAS OBTAINED A PUBLIC SEWER CONSTRUCTION PERMIT FROM THE PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT (520-740-6369) (C) A PRE-CONSTRUCTION MEETING WITH THE ASSIGNED PIMA COUNTY PROJECT INSPECTOR AT LEAST THREE (3) FULL WORKING DAYS PRIOR TO THE START OF SEWER CONSTRUCTION.
7. THE CONTRACTOR SHALL MAKE FULL PAYMENT OF THE INSPECTION FEES AND OBTAIN A PCRWRD SEWER CONSTRUCTION PERMIT FROM THE PIMA COUNTY SEWER CONSTRUCTION PERMIT SECTION A MINIMUM OF THREE (3) FULL BUSINESS DAYS PRIOR TO COMMENCING ANY SEWER CONSTRUCTION ACTIVITIES. FIVE (5) SETS OF THE CONSTRUCTION PLANS, SPECIFICATIONS, AND SPECIAL PROVISIONS (IF APPLICABLE) SHALL BE SUBMITTED WITH THE SANITARY SEWER CONSTRUCTION PERMIT APPLICATION. FIELD ENGINEERING REQUIRES A MINIMUM OF 3 BUSINESS DAYS NOTIFICATION, (520-740-2651). NO WORK SHALL BE PERFORMED IN ANY CASE WITHOUT A PCRWRD CONSTRUCTION PERMIT.
8. SURVEY CUT SHEETS SHALL BE DEVELOPED IN ACCORDANCE WITH DETAIL NO. RWRD 101. CERTIFIED CUT SHEETS SHALL BE SUBMITTED TO THE PCRWRD INSPECTOR PRIOR TO COMMENCEMENT OF SEWER CONSTRUCTION. THE CUT SHEETS ARE FOR THE PROJECT FILE AND COMMENCEMENT OF SEWER CONSTRUCTION WILL NOT BE DELAYED DUE TO REVIEW OF THE DELIVERABLE. ANY ERRORS OR EMISSIONS RESULTING IN IMPROPER SEWER CONSTRUCTION SHALL NOT BE THE RESPONSIBILITY OF PCRWRD.
9. IMMEDIATELY REPORT ANY RELEASE OF SEWAGE, AND/OR ANY DAMAGE TO, OR THE DROPPING OF DEBRIS INTO, THE PUBLIC SANITARY SEWAGE CONVEYANCE SYSTEM TO EITHER THE PCRWRD FIELD ENGINEERING AT (520) 740-2651 OR PCRWRD CONVEYANCE (520) 443-6500. ON WEEKENDS, HOLIDAYS OR AFTER BUSINESS HOURS, IMMEDIATELY CALL PIMA COUNTY SHERIFF'S COMMUNICATION CENTER AT (520) 295-4595 OR (520) 741-4900 AND REQUEST A PCRWRD REPRESENTATIVE TO BE DISPATCHED TO THE SITE. TAKE IMMEDIATE ACTION TO PREVENT OR CONTAIN THE SANITARY SEWAGE OVERFLOW (SSO) FROM THE SEWER SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS TO REPAIR THE SYSTEM, FOR ALL EXPENSES TO MITIGATE THE RELEASE AND TO DISINFECT THE RELEASE AREAS, AND FOR ANY REGULATORY PENALTIES LEVIED AGAINST PCRWRD BECAUSE THE SSO ENTERED A NATURAL OR CONSTRUCTED STORM WATER DRAINAGE SYSTEM. THE CONTRACTOR SHALL REPAIR ALL DAMAGE AS DIRECTED AND/OR APPROVED BY PCRWRD.
10. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL EXISTING SANITARY SEWER MANHOLES AT ALL TIMES.
11. THE INSPECTION OF THE CONTRACTOR'S WORK BY AN AGENCY AND/OR PCRWRD STAFF SHALL, IN NO WAY, RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, CONSTRUCTION PLANS AND/OR SPECIFICATIONS. IF THE ENGINEER OF RECORD OR PCRWRD STAFF FAIL TO POINT OUT A DEFECT, DEFICIENCY OR ERROR IN THE WORK FROM LACK OF DISCOVERY OR FOR ANY OTHER REASON, IT SHALL IN NO WAY PREVENT LATER REJECTION OR RELIEVE THE CONTRACTOR OF PERFORMING CORRECTIONS TO THE UNSATISFACTORY WORK WHEN DISCOVERED. THE CONTRACTOR SHALL NOT FILE A CLAIM FOR LOSSES SUFFERED DUE TO ANY NECESSARY REMOVALS OR REPAIRS RESULTING FROM THE UNSATISFACTORY WORK.
12. THE CONTRACTOR SHALL COMPLY WITH APPLICABLE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS AT ALL TIMES AND PCRWRD MANHOLE ENTRY GUIDELINES.
13. ALL ROUGH GRADING, INCLUDING FILL, SHALL BE COMPLETED PRIOR TO THE INSTALLATION OF SANITARY SEWERS TO A MINIMUM OF 4 FEET OVER THE TOP OF THE SEWER PIPE AND COMPACTION AS INDICATED ON THE PLANS OR AS OTHERWISE DIRECTED BY PCRWRD.

14. BEDDING, SHADING, AND TRENCH BACKFILL COMPACTION SHALL BE IN ACCORDANCE WITH DETAILS NOS. RWRD 104 AND RWRD 105, OR AS SHOWN ON THE PLANS. SHOULD GROUND WATER OR UNANTICIPATED SOIL CONDITIONS BE ENCOUNTERED, THE BEDDING SHALL BE MODIFIED BY THE ENGINEER OF RECORD AND APPROVED BY PCRWRD.
15. SANITARY SEWER CONSTRUCTION SHALL START AT THE LOWEST DOWNSTREAM POINT AND PROGRESS UPSTREAM, REGARDLESS OF THE STATIONING SHOWN ON THE PLANS. IF NOT, THE CONTRACTOR SHALL PROVIDE AN OUT OF SEQUENCE LETTER FOR APPROVAL BY PCRWRD.
16. THE HORIZONTAL AND VERTICAL SEPARATION BETWEEN PUBLIC WATER MAINS AND PUBLIC SEWER LINES SHALL COMPLY WITH A.A.C. R18-5-502 AND DETAIL NO. RWRD 108.
17. DUCTILE IRON PIPE 6 INCHES AND GREATER IN DIAMETER, FITTINGS AND METAL COUPLINGS SHALL HAVE AN INTERIOR LINING APPROVED BY PCRWRD. "PROTECTO 401" IS NOT AN APPROVED INTERIOR LINING MATERIAL FOR PUBLIC SANITARY SEWER DUCTILE IRON PIPE. ALL DIP SHALL BE INSTALLED WITH AN EXTERIOR POLYETHYLENE WRAPPING OR APPROVED EQUAL.
18. ACCORDING TO THE REVISED "BLUE STAKE LAW" (ARS 40-360.21 THROUGH 40-360.32), THIS PROJECT IS SUBJECT TO NEW SERVICE LATERAL DESIGN AND CONSTRUCTION REQUIREMENTS PER DETAIL NOS. RWRD 401 AND 405.
19. NEW PUBLIC SEWER FACILITIES MUST BE TESTED, INSPECTED AND AUTHORIZED FOR DISCHARGE BY PCRWRD AND ADEQ PRIOR TO DISCHARGING INTO THE EXISTING PUBLIC SANITARY SEWER.
20. AS-BUILT SEWER PLANS ARE REQUIRED FOR FINAL ACCEPTANCE OF SEWER CONSTRUCTION BY PCRWRD. SUBMIT THREE BLACK LINE COPIES AND AN ELECTRONIC VERSION TO THE PCRWRD INSPECTOR. CONTACT PCRWRD MAPS AND RECORDS AT (520) 740-6646 FOR ACCEPTABLE ELECTRONIC FORMATS.
21. ONLY PLANS ACCEPTED BY PCRWRD SHALL BE USED FOR THE INSTALLATION OF SANITARY SEWER FACILITIES. PLANS ACCEPTED BY PCRWRD REQUIRING REVISION SHALL BE RESUBMITTED FOR REVIEW AND RE-ACCEPTANCE BY PCRWRD PRIOR TO START OF THE REVISED WORK.
22. SEWER CONSTRUCTION WILL NOT BE ACCEPTED BY PCRWRD IF IT INCLUDES ADDITIONAL WORK NOT PROVIDED IN THE APPROVED SET OF PLANS. SEE SUBSECTION 12.3.7 OF THE PCRWRD DESIGN AND CONSTRUCTION STANDARDS REGARDING APPROVAL OF FIELD CHANGES.

***Additional General Sewer Notes, any of the following notes may be omitted when not applicable:***

23. FOR PROJECTS REQUIRING A FLOW MANAGEMENT PLAN, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO (A) IDENTIFY AND INCLUDE ALL FLOW MANAGEMENT COSTS IN THE SEWER CONSTRUCTION BID SUBMITTED WITH THE PUBLIC SEWER PERMIT APPLICATION, AND (B) PROVIDE A FLOW MANAGEMENT PLAN THIRTY (30) DAYS PRIOR TO THE PRE-CONSTRUCTION MEETING WITH PCRWRD FIELD ENGINEERING PRIOR TO BEGINNING SEWER CONSTRUCTION. REFER TO SECTION 13 OF THE PCRWRD DESIGN AND CONSTRUCTION STANDARDS FOR FMP REQUIREMENTS AND GUIDELINES. FOR ANY QUESTIONS REGARDING FLOW MANAGEMENT, PLEASE CONTACT PCRWRD FIELD ENGINEERING AT (520) 740-2651.
24. THE CONTRACTOR SHALL FURNISH, OPERATE AND MAINTAIN ALL EQUIPMENT AND LABOR NECESSARY TO PROVIDE CONTINUOUS 24 HR/DAY SANITARY SEWER SERVICE TO ALL PARTIES TRIBUTARY TO A LIVE SANITARY SEWER TO WHICH A CONNECTION IS TO BE MADE. THE PCRWRD CONVEYANCE SECTION SHALL BE NOTIFIED AT (520-443-6500) A MINIMUM OF TWO (2) BUSINESS DAYS PRIOR TO COMMENCING ANY CONSTRUCTION ACTIVITIES THAT COULD EITHER ADVERSELY IMPACT THE FLOW WITHIN A LIVE SANITARY SEWER SYSTEM, OR INVOLVE CONNECTION TO ANY PUBLIC SANITARY SEWER. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 13 OF THE PCRWRD DESIGN AND CONSTRUCTION STANDARDS FOR FLOW MANAGEMENT PLAN REQUIREMENTS.
25. EXISTING MANHOLE(S) [#S] OF [PCRWRD PLAN #] IS(ARE) TO BE REMOVED. CONTRACTOR SHALL REMOVE THE RIM AND COVER. THE MANHOLE(S) WILL BE DEMOLISHED COMPLETELY AND FILLED AND COMPACTED WITH SELECT MATERIAL TO 95% MAXIMUM DRY DENSITY AS DETERMINED BY THE APPLICABLE ARIZONA (ADOT) TEST METHOD. THE SALVAGED RIM AND COVER SHALL BE DELIVERED TO PCRWRD AT THE LOCATION AS SPECIFIED BY THE INSPECTOR. THE CONTRACTOR SHALL DISPOSE OF ALL MANHOLE DEMOLITION MATERIAL OFF SITE AT A LANDFILL OR OTHER APPROVED LOCATION.
26. [LENGTH] LF OF EXISTING [DIAMETER] PUBLIC SEWER FROM MANHOLE # [ # ] TO MANHOLE # [ # ] OF [ PCRWRD PLAN # ] IS TO BE ABANDONED. REMOVE SEWER COMPLETELY. SEWER SHALL NOT BE ABANDONED IN PLACE.

27. THE WORDS "PIMA COUNTY SANITARY SEWER" SHALL BE IMPRINTED ONLY ON COVERS OF MANHOLES WHICH ARE TO BE PART OF THE PIMA COUNTY REGIONAL WASTEWATER RECLAMATION (PUBLIC) SANITARY SEWAGE CONVEYANCE SYSTEM. SEWER MANHOLE COVERS ON CONVEYANCE SYSTEMS TO BE OWNED AND OPERATED BY ANYONE OTHER THAN PIMA COUNTY SHALL HAVE CAST INTO THEM THE WORDS "PRIVATE SEWER."
28. LIST OF LOTS THAT REQUIRE PRIVATE BACKWATER VALVES OR A NOTE INDICATING THAT NO PRIVATE BACKWATER VALVES ARE REQUIRED FOR THIS PROJECT.
29. THE CONTRACTOR SHALL ADJUST ALL SANITARY SEWER FRAME AND COVERS TO FINISHED GRADE. RING, FRAME AND COVER ADJUSTMENTS ARE TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF PCRWRD DETAILS NOS. RWRD 305 OR 306 (AS APPLICABLE). IN THE PROCESS OF ADJUSTING THE RINGS, FRAMES AND COVERS TO FINISHED GRADE, IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THE RINGS, FRAMES AND COVERS ARE CLEANED OF ALL ATTACHED MATERIALS (ASPHALT, CONCRETE, ETC.) AND TO ENSURE THAT VENT HOLES ARE OPEN AND CLEAR OF OBSTRUCTIONS. IF THE FRAMES AND COVERS ARE DAMAGED AND CANNOT BE COMPLETELY CLEANED, THEN NEW FRAMES AND COVERS SHALL BE INSTALLED. THE CONTRACTOR IS REFERRED TO DETAILS NOS. RWRD 213 – 218, 305 AND 306 FOR REQUIREMENTS ASSOCIATED WITH RINGS, FRAMES AND COVERS.
30. THIS PUBLIC SEWER IS DESIGNED AT MINIMUM ALLOWABLE PIPE SLOPE. SPECIAL CARE SHOULD BE TAKEN TO ASSURE DESIGN SLOPE IS MAINTAINED. SEWERS FOUND TO BE CONSTRUCTED AT INSUFFICIENT SLOPES WILL NOT BE ACCEPTED BY PCRWRD AND/OR ADEQ. CORRECTIVE ACTION, INCLUDING RE-CONSTRUCTION OF THE SEWER(S) AT THE SOLE EXPENSE OF THE PROJECT OWNER/CONTRACTOR WOULD BE REQUIRED. AS-BUILT PLANS SHALL BE REQUIRED FOR ALL NEW PUBLIC SEWERS PRIOR TO FINAL ACCEPTANCE.

DRAFT