Design Checklist for Plans at 30%

Sewer, Water & Storm Drain Projects

Design Checklist for Plans at **30% Submittal**

(This is a guide for items required for plans, specifications, and estimates. DCE/PM shall provide additional information as required to address comments during the Citywide Plan Check.)

Project:_____ **DATE:**_____
COMPLETED BY:_____ **(PM'S SIGNATURE)**_____
PM'S PRINTED NAME:_____
CIVIL DESIGN FILES shall include but not limited to the following:

ITEMS	COMMENTS
1. A geospatially correct dgn file with clean line work of the design referenced with the preliminary topo. (Units set to Survey Feet)	
2. An alg file containing horizontal & vertical alignments for all design line work along with a cogo buffer containing all points with coordinates shown on the plans. (No duplicate point numbers)	

COVER SHEET				
YES	NO	N/A	ITEMS	COMMENTS
☐	☐	☐	3. Key Map (on second sheet of plans for larger projects)	
☐	☐	☐	4. Vicinity Map	
☐	☐	☐	5. Work to Be Done	
☐	☐	☐	6. Contractor's Responsibility	
☐	☐	☐	7. Legend	
☐	☐	☐	8. Existing Structures	
☐	☐	☐	9. Monumentation/Survey Notes Benchmark	
☐	☐	☐	10. Field Notes, Datum, Major Streets	
☐	☐	☐	11. Abbreviations	
☐	☐	☐	12. Discipline Code	
☐	☐	☐	13. Sheet Index (limits of work)	

TITLE BLOCK				
YES	NO	N/A	ITEMS	COMMENTS
☐	☐	☐	14. Drawing Number	
☐	☐	☐	15. Project Title	
☐	☐	☐	16. W.B.S Numbers	
☐	☐	☐	17. Project Engineer/Drafter Initials	
☐	☐	☐	18. Lambert Coordinates	
☐	☐	☐	19. Associate Engineer's Name	
☐	☐	☐	20. Assistant Engineer's Name	
☐	☐	☐	21. Deputy City Engineer's Name	
☐	☐	☐	22. Survey Monuments	

BORDER				
YES	NO	N/A	ITEMS	COMMENTS
☐	☐	☐	23. Project Title	
☐	☐	☐	24. Street Name or Plan Sheet Title on Plan Sheets or Miscellaneous Sheets	

PLAN VIEW				
YES	NO	N/A	ITEMS	COMMENTS
☐	☐	☐	25. Right-of-Way Lines	
☐	☐	☐	26. Street Names	
☐	☐	☐	27. Block Numbers	
☐	☐	☐	28. Easements	
☐	☐	☐	29. North Arrow & Scale	
☐	☐	☐	30. Street Closures	
☐	☐	☐	31. Existing Sewer Main, Laterals, Manholes & Appurtenances	
☐	☐	☐	32. Gas Lines & Valves	
☐	☐	☐	33. Existing Storm Water Conveyance, Structures & Appurtenances	
☐	☐	☐	34. Electric Lines & Boxes	
☐	☐	☐	35. Telephone Lines & Boxes	
☐	☐	☐	36. Cable T.V. Lines & Boxes	
☐	☐	☐	37. Existing Water Mains, Services, Fire Hydrants & Other Appurtenances including pump stations & pressure reducing stations	
☐	☐	☐	38. Subdivision Name	
☐	☐	☐	39. Lot Lines, Lot Numbers, Addresses & Ownership Lines	
☐	☐	☐	40. Trolley Tracks	
☐	☐	☐	41. Proposed Sewer Main & Manholes	
☐	☐	☐	42. Proposed Water Main & Appurtanences	
☐	☐	☐	43. Proposed Storm Water Conveyance & Structures	
☐	☐	☐	44. Curb Lines	
☐	☐	☐	45. Oil/Line Fuel Pressure	
☐	☐	☐	46. Pressure Zone Boundary	
☐	☐	☐	47. Reference Data is provided on individual sheets	
☐	☐	☐	48. Stationing	
☐	☐	☐	49. Label proposed pipe size	
☐	☐	☐	50. Dimension between proposed pipe and other utilities	

PROFILE VIEW				
YES	NO	N/A	ITEMS	COMMENTS
☐	☐	☐	51. Existing Surface/Grade/Pavement	
☐	☐	☐	52. Existing Sewer Main & Manholes with Invert Elevations	
☐	☐	☐	53. Existing Water Main	
☐	☐	☐	54. Existing Storm Water Conveyance & Structures	
☐	☐	☐	55. Street Names	
☐	☐	☐	56. Horizontal/Vertical Scale	
☐	☐	☐	57. Elevation Scales (show matchlines if applicable)	
☐	☐	☐	58. Existing Sewer Crossing(s)	
☐	☐	☐	59. Existing Water Crossing(s)	
☐	☐	☐	60. Existing Storm Drain Crossing(s)	
☐	☐	☐	61. Outside Utility Crossing(s)	

General Notes:

1. Notify Asset owner of any design deviations if required.
2. Identify adjacent projects to coordinate projects & scheduling conflicts.
3. Identify asset ownership to coordinate improvements with privately owned outside utilities (SDG&E, fiberoptics, telephone lines,etc.)
4. Identify potential coordination with property owners regarding appurtenances
(i.e. Fire hydrants, ARV, manholes, or meter boxes in or near driveways/retaining walls) in front of their property
5. Identify preliminary alignment for any replumb work during site visit.
6. Identify if replace in place is the best design for each sheet. Alignment may change due to the following conditions:
   a. Replumb work
   b. Parallel main replacement
   c. Large mains, manholes, vaults, etc.
   d. Alignment on raised median
   e. Clearance to Storm Drain facilities

Design Checklist for Plans at 60%

Sewer, Water & Storm Drain Projects

Design Checklist for Plans at **60% Submittal**

(This is a guide for items required for plans, specifications, and estimates. DCE/PM shall provide additional information as required to address comments during the Citywide Plan Check.)

Project:_____ **DATE:**_____
COMPLETED BY:_____ **(PM'S SIGNATURE)**_____
PM'S PRINTED NAME:_____

COVER SHEET				
YES	NO	N/A	ITEMS	COMMENTS
☐	☐	☐	1. Update Sheet Index (limits of work)	
☐	☐	☐	2. Update Work to Be Done	
☐	☐	☐	3. Update Discipline Code (if necessary)	
☐	☐	☐	4. Construction Storm Water Protection & Permanent Storm Water Best Management Practices	
☐	☐	☐	5. Update Legend Items	

TITLE BLOCK				
YES	NO	N/A	ITEMS	COMMENTS
☐	☐	☐	6. Street Names and Limits	
☐	☐	☐	7. Completed Project Data (engineers' names, W.B.S numbers, sheet numbering, etc.)	

PROPOSED PLAN VIEW				
YES	NO	N/A	ITEMS	COMMENTS
☐	☐	☐	8. Manhole Stationing Callouts (manholes shall be consecutively numbered)	
☐	☐	☐	9. Sewer Laterals	
☐	☐	☐	10. Cutoff Walls, Encasements, Cradles	
☐	☐	☐	11. Water Services / Fire Services	
☐	☐	☐	12. Fire Hydrants Residential = 450' Commercial = 350' Industrial = 250' Fire hydrant at cul de sac = 5' before the curb Fire hydrants: unprotected/unimproved areas shall have protection post	
☐	☐	☐	13. Crosses, Tees, Fire Services	
☐	☐	☐	14. Valves identified by quantity, size, type of valve, connection type [(F), (MJ), (F,MJ)] and direction (BK, AHD, LT, RT)	
☐	☐	☐	15. Water Construction Notes	
☐	☐	☐	16. Blow-Offs Pipes 12" and smaller = 2" blow off Pipes larger than 12" = 4" or 6" blow offs Low point dead ends require a blow off	
☐	☐	☐	17. Air Valves (AV) or Air Vacuum and Air Release Valves (AVAR) Pipes 48" and smaller = 2" air valve Pipes larger than 48" = 4" air valve High point dead ends require an air valve	
☐	☐	☐	18. Above ground proposed appurtenances shown by location	
☐	☐	☐	19. Valves 8" mains and smaller = 800' valve separation 10"-12" diameter mains = 1,200' valve separation 16" diameter mains = 1,600' valve separation	
☐	☐	☐	20. Horizontal Curve Data i.e. Details of all curves, deflection of pipes, beginning & end of curve	
☐	☐	☐	21. City Forces Work conforms to notes on the plans (typical all sheets)	
☐	☐	☐	22. Construction work conforms to notes on the plans (typical all sheets)	

☐	☐	☐	23. Phased construction is shown adequately on plans (and it's also reflected on the working days in the specifications)	
☐	☐	☐	24. Plugs and Dead Ends	
☐	☐	☐	25. Storm Drain Structure Type, Size and Stationing Callout, Northing and Easting of Centerline of Box, Storm Drain Pipe Data Table with corresponding data number on plan view	
☐	☐	☐	26. Legends show all items of work and are consistent with the symbols on the plans. Details of manholes re-channelization showing, i.e.; of all inlets and outlets and the drop across the Manhole (straight through flow acceptable for 8"-15" mains)	
☐	☐	☐	27. Caution Callouts	
☐	☐	☐	28. Main separation: (use measurements below for outside of pipe to outside of pipe if possible) 10' between Water/Sewer 5' between Sewer/Gen. Utility 10' between Storm Drain/Sewer 5' between Storm Drain/Potable Water and between Reclaimed Water/Other Storm Drains	
☐	☐	☐	29. Horizontal Alignment Report	
☐	☐	☐	30. Dimensioning	
☐	☐	☐	31. Stationing (label stations left to right)	
☐	☐	☐	32. Standard abbreviations and symbols are used	
☐	☐	☐	33. Utility facilities are properly identified (elevations and alignment are shown)	
☐	☐	☐	34. There are sufficient construction details for items not covered by standard plans	
☐	☐	☐	35. Special Plan Notes (See CADD standard templates and cell library for these notes)	
☐	☐	☐	36. Retirement information is provided on individual sheets	
☐	☐	☐	37. Reference data is provided on individual sheets	
☐	☐	☐	38. Easement width and drawing number for each utility per Design Standard Manual.	
☐	☐	☐	39. Verify each replumb address has replumb detail (sewer only)	
☐	☐	☐	40. Survey Monuments (on each plan sheet or on separate monumentation sheet)	

General Notes:
Identify appurtenance placement (hydrants, air valves, etc.) to minimize community impact. Notify home owners.

PROPOSED PROFILE VIEW				
YES	**NO**	**N/A**	**ITEMS**	**COMMENTS**
☐	☐	☐	41. Proposed Sewer Main and Manholes	
☐	☐	☐	42. Manhole Inverts	
☐	☐	☐	43. Manhole Station Callouts	
☐	☐	☐	44. Manhole Numbering & Structure Numbering	
☐	☐	☐	45. Major Grade Breaks w/ inverts	
☐	☐	☐	46. Proposed Water Main	
☐	☐	☐	47. Top and Bottom of pipe for water mains 12" and larger	
☐	☐	☐	48. Water Pipe Invert Callout	
☐	☐	☐	49. Blow-Offs/Air-Valves w/ size labeled and elevation called out	
☐	☐	☐	50. All pipes have proper cover and clearance e.g. Water main depth of cover: 3'-5' for Distribution Mains and 5'-8' for Transmission Mains (Less than 3' or more than 8' of cover require loading, deflection, and safety calculations)	
☐	☐	☐	51. Pipe Slope of Sewer and/or Storm Water Conveyance (<1% slope include flow velocity table for sewer)	
☐	☐	☐	52. Dimensioning Between Manholes/Structures	
☐	☐	☐	53. Pipe Size / Material/ Class / D-Loading for Storm Drain & Trunk Sewer	
☐	☐	☐	54. Storm Water Structure Station Callouts & Notes	
☐	☐	☐	55. Storm Water Structure Inverts	

☐	☐	☐	56. Proposed Storm Water Conveyance and Structures	
☐	☐	☐	57. Hydraulic gradeline in storm drain profiles	
☐	☐	☐	58. Provide storm drain pipe load calculation for depths greater than 40 feet	
☐	☐	☐	59. IE (in) and IE (out) at inside face of box	
☐	☐	☐	60. Lengths stated in Profiles Match Stationing	
☐	☐	☐	61. Horizontal and vertical scale correctly identified	
☐	☐	☐	62. Existing grade, pavement and project grades shown	
☐	☐	☐	63. Cut-off walls for Slopes 3:1 or steeper for slope drains	
☐	☐	☐	64. Provide min. 1' sand cushion or min. 6" sand cushion w/1" neoprene pad for all crossings where vertical clearance is less than 1' (typical all sheets)	
☐	☐	☐	65. Cut-Off walls for slopes over 20% (Sewer Mains) in paved areas (SDS-114) is used.	
☐	☐	☐	66. Cut-Off walls for Slopes over 20% (Sewer Mains) in unpaved areas (SDS-115) is used.	
☐	☐	☐	67. Cut-Off walls for Slopes over 20% (Water Mains) in unpaved areas (WP-05) is used.	
☐	☐	☐	68. Cut-Off walls for Slopes over 20% (Water Mains) in paved areas (WP-07) is used.	
☐	☐	☐	69. Pipe quantities match calculated distance between Manholes/Crosses (Subtract Manhole Diameters)	
☐	☐	☐	70. Water tight joints for pipes under pressure and slopes greater than 25%	
☐	☐	☐	71. Q50 and V50 or Q100 and V100 of storm drain pipes, as applicable	
☐	☐	☐	72. Riprap class, length, width, thickness and velocity	
☐	☐	☐	73. Energy Dissipaters at outfalls with detail or per Standard Drawing	
☐	☐	☐	74. Encasement cradles	
☐	☐	☐	75. Special Profile Notes	
☐	☐	☐	76. Vertical Curve Data	
☐	☐	☐	77. Water Station	
☐	☐	☐	78. Horizontal Alignment Reports (if no room on plan sheets provide an additional sheet including all alignment reports)	

ADDITIONAL SHEETS : DRAFT				
YES	**NO**	**N/A**	**ITEMS**	**COMMENTS**
☐	☐	☐	79. Curb Ramp Location Sheet	
☐	☐	☐	80. Curb Ramp Detail Sheet	
☐	☐	☐	81. Resurfacing Sheet	
☐	☐	☐	82. Work by City Forces Sheet	
☐	☐	☐	83. Abandonment Sheet	
☐	☐	☐	84. Permanent Storm Water Best Management Practices	
☐	☐	☐	85. Traffic Control Plans	
☐	☐	☐	86. Replumb Detail Sheet	
☐	☐	☐	87. Batch Discharge Plan	
☐	☐	☐	88. Fire Department Information Sheet	
☐	☐	☐	89. Cathodic Protection Design Sheet	
☐	☐	☐	90. Survey Monument Sheet	
☐	☐	☐	91. Drawings/Details for Trenchless Construction	
☐	☐	☐	92. CompassGIS map to show the location proximity of the project, shutdown phasing detailed plan, and city forces sheets.	

Design Checklist for Plans at 100%

Sewer, Water & Storm Drain Projects

Design Checklist for Plans at **100% Submittal**

(This is a guide for items required for plans, specifications, and estimates. DCE/PM shall provide additional information as required to address comments during the Citywide Plan Check.)

Project:_____ **DATE:**_____
COMPLETED BY:_____ **(PM'S SIGNATURE)**_____
PM'S NAME PRINTED:_____
DCE'S PRINTED NAME:_____

SPECIAL PROVISIONS				
YES	NO	N/A	ITEMS	COMMENTS
☐	☐	☐	1. All work shown on typical cross sections, layouts, etc., is covered by Standard Specifications or Supplementary special provisions, including measurement and payment	
☐	☐	☐	2. Structures, civil, landscape, electrical, and other special provisions complement each other and are combined properly	
☐	☐	☐	3. Terminology used agrees with that used in estimate and plans	
☐	☐	☐	4. Standard style and format are used, especially with measurement and payment	
☐	☐	☐	5. There are sufficient summaries of quantities	
☐	☐	☐	6. Corrosion protection of the piping has been addressed	
☐	☐	☐	7. Final pay items are identified	
☐	☐	☐	8. All bid items have reference payment (specification to cover each item)	
☐	☐	☐	9. Bid quantities match actual field representation	
☐	☐	☐	10. Cross-references to other specifications are correct	
☐	☐	☐	11. Sufficient information for contract design of sheeting and shoring	
☐	☐	☐	12. Removed unnecessary sections and verbiage that does not apply	
☐	☐	☐	13. Attachments and appendices included	
☐	☐	☐	14. Soils reports and other technical reports are referenced (all projects with trenching in new alignments shall have a soil report)	
☐	☐	☐	15. List of submittals to be reviewed included in section 2-5.3, i.e. traffic shop drawings, re-vegetation, diversion plans, etc. identified	
☐	☐	☐	16. All items in Specifications indicated, "as shown" or "as detailed" are on drawings	
☐	☐	☐	17. Phased construction language included	

BID PROPOSAL				
YES	NO	N/A	ITEMS	COMMENTS
☐	☐	☐	18. Are NAICS Code and Payment Reference complete and correct per latest Master Bid List?	
☐	☐	☐	19. Are quantities correct per final plans?	
☐	☐	☐	20. Are Common bid items listed?	
☐	☐	☐	21. Alternates are properly listed?	
☐	☐	☐	22. Cost Estimates Base on Latest Bids?	

ADDITIONAL PROJECT REQUIREMENTS				
YES	NO	N/A	ITEMS	COMMENTS
☐	☐	☐	23. Have all replumb agreements been recorded?	
☐	☐	☐	24. Have shut down notices for fire services been sent?	
☐	☐	☐	25. Is the citywide plan check review completed and comments addressed?	
☐	☐	☐	26. Is the constructability review completed and comments addressed?	
☐	☐	☐	27. Are easements required, processed and finalized?	
☐	☐	☐	28. Are all conflicts with other projects resolved and noted in Accela?	
☐	☐	☐	29. Paving moratoriums are not an issue?	
☐	☐	☐	30. Are permits and environmental clearances obtained?	

ADDITIONAL SHEETS: COMPLETED				
YES	NO	N/A	ITEMS	COMMENTS
☐	☐	☐	31. Curb Ramp Location Sheet	
☐	☐	☐	32. Curb Ramp Detail Sheet	
☐	☐	☐	33. Resurfacing Sheet	
☐	☐	☐	34. Work by City Forces Sheet	
☐	☐	☐	35. Abandonment Sheet	
☐	☐	☐	36. Permanent Storm Water Best Management Practices	
☐	☐	☐	37. Traffic Control Plans	
☐	☐	☐	38. Replumb Detail Sheet	
☐	☐	☐	39. Batch Discharge Plan	
☐	☐	☐	40. Fire Department Information Sheet	
☐	☐	☐	41. Cathodic Protection Design Sheet	
☐	☐	☐	42. Survey Monument Sheet	
☐	☐	☐	43. DCE's Signature and Consultant's Stamp/Signature, on the first page for Citywide Plan Check	
☐	☐	☐	44. Drawings/Details for Trenchless Construction	
☐	☐	☐	45. CompassGIS map to show the location proximity of the project, shutdown phasing detailed plan, and city forces sheets.	

QA/QC Common Review Comments

#	Comments	Actions Required
	CADD Comments	
1	The 2-page cover sheet set up is not to standard format.	Revise the 2-page cover sheet to match the standard format for 2-page cover sheet. Page 2-D should be Sheet 1-D and sheet 1-D should be sheet 2-D. Refer to the cell library.
2	Limits of Work title is outdated.	Revise to read, "Sheet Index".
3	Limits of Work (Sheet Index): There is no need to list the type of material for the water at 100% stage because, this information should be filled out at the As-Built stage.	Remove the callouts "PVC".
4	"Work to be Done" is not complete and is missing the plan drawing numbers.	Revise the Scope of work language to match the plans or other way around. Also, correct the drawing numbers.
5	Storm Water Protection: The Permit Order number is missing for the Storm Water Protection.	Fill in the missing information.
6	Survey monuments shall be shown in the palns and profile sheet. A separate sheet shall be prepared if survey monuments are not shown.	Refer to Citywide CADD Standards 2018 Edition, Part 4 Standard and Procedures for Improvement Plans, Section 4.6 page 151 Item 20.
7	The proposed water main connection to a proposed/existing perpendicular water main, was not shown graphically. It should show tie in at the center line of the pipe not the invert of the pipe.	Show the proposed water main connection to a proposed/existing perpendicular water main graphics accordingly. Refer to Citywide Cadd Standards, 2018 Edition, Part 4 Standard and Procedures for Improvement Plans, Section 4.2,1 page 140, and 142, Item 19.
8	Subdivision number, map, number, Lot number is missing on the plans.	Add lot number on the plans. Refer to Citywide Cadd Standards, 2018 Edition, Part 4 Standard and Procedures for Improvement Plans, Section 4.2.1, page 119.
9	Add school name and note for contractor to coordinate with the school during construction.	Add working hours to the Specs. when the construction activities take place around the school area.
10	The right hand margin title does not match what is shown in the second line in the title block.	Revise the title in the right margin to match the second line of the title block accordingly. Refer to the Citywide CADD Standard 2018 Edition, Part 4, Standards and Procedures for Improvement Plans, Section 4.2.1, Pages 119, & 122, item 4.
11	Title Block: The third line is not standard.	Use Street to Street limits. If streets limits are unavailable, use stationing limits.
12	The Alley Block Number is missing on the top of the profile view, Title Block and the right margin.	Add the missing street names. Refer to the Citywide CADD Standard 2016 Edition, Part 4, Standards and Procedures for Improvement Plans, Pages 115 & 117, items 2.
13	Street name is missing from the top of the profile view.	Add the missing information, Refer to the Citywide CADD Standards 2018 Edition, Part 4 Standard and Procedures for Improvement Plans, section 4.2, Page 127 & 128, item 45.
14	Ex. Pavement callout on the profile view is missing.	Add callout Ex. Pavement in the Profile View. Refer to CADD Standard 2018 Edition, Part 4 Standards and Procedures for Improvement Plan, Section 4.2 pageS 127 & 128, item 41.
15	The station and elevation callouts for the proposed Tees/Crosses are missing from the profile views.	Add the missing information. Refer to Citywide CADD Standard 2018 Edition, Part 4 Standards and Procedures for Improvement Plans, Section 4.4 Water Station Callout, pages 140 & 142, Item 13.
16	Calling out the IE of the proposed water main at the Match Lines on the profile views is not standard practice. Invert elevation callouts are for tees, crosses and major vertical bends.	Remove the callouts.
17	The callouts for the existing water main and invert elevation for the existing water mains are missing from the profile views.	Add the missing information.
18	Show and Call out for concrete plugs. The Call out for Concrete Plug is missing to Abandon EX __ SWR on the plan view.	Add the symbol and Call out for "Concrte Plug" accordingly. Refer to CADD Standards 2018 Edition, Part 4, Section 4.3, pages 138, Item 8.
19	Water service should be perpendicular to the water water main.	Refer to Water Facility Design Guidelines, Book 2, Chapter 3, Section F Water Services, pages 3-13.
20	Existing sewer manhole symbology on the profile view does not match the standard format.	Revise the existing manhole symbology accordingly. Refer to the Sewer Design Guide Chapter 2.3.5.3, also, Refer to CADD Standard 2018 Edition, Part 6, CADD Text and Symbols Standards, page 205.

#	Comments	Actions Required
21	There is no need to callout DR-14 when calling out the Class of pipe (CL 305) on the plan and profile views.	Revise to read, "8" Pipe" on both plan and profile views.
22	Reference Callout is missing. "__" Water included in this contract. SEE SHEET __"	Refer to Citywide Cadd Standards, 2018 Edition, Part 4 Standard and Procedures for Improvement Plans, Section 4.2.1, page 124, and 125 Item 37
23	Profile - Typically existing mains are shown when they are within the same trench/alignment	Delete existing sewer profile that is not in the same trench as proposed main
24	Ex. MH. Callout on the plan and profile views is not correct, because the manhole is newly installed.	Revise to read, "Connect to Ex. MH. & Rechannel if needed". Refer to CADD Standard 2018 Edition, Part 6 CADD Text and Symbol Standards, Section 3 page 213.
	Sewer Comments	
25	Minimum Horizontal Separation between water and sewer mains should be 10 feet. (Edge of pipe to Edge of Pipe)	Refer to Sewer Design Guide, Chapter 1.4.1.1. page 1-9. Written approval from California State Water Resources Control Board, Division of Drinking Water for separation deviations is required.
26	Sewer main is more than 20 ft deep or 15 feet with lateral connections shall require special approval from PUD.	Refer to Sewer Design Guideline Chapter 2, Section 2.2 Design of Sewer Mains, Subsection 2.2.1.5 Depth of Mains. Page 2-2. Deep-cut The Design Engineer shall submit deviation from standard request form to the WW Collection Division.
27	Abandoned manhole callout and symbol are missing for the existing manhole outside of the trench.	Add the missing information in the Plan View. Refer to CADD Standard 2018 Edition, Part 4 Standards and Procedures for Improvement Plan, Section 4.3 pages 130 & 131, item 7.
28	Connect to Ex. MH. Callout is not the correct callout for the work to be done at the existing manhole at STA 1+00 on the plan and profile views.	Revise to read, "Connect to Ex. MH. & Rechannel if needed". Refer to CADD Standard 2018 Edition, Part 6 CADD Text and Symbol Standards, Section 3 page 213.
29	The reference note for the locations of the replumb sewer lateral details is missing.	Add reference note. Refer to CADD Standard 2018 Edition, Part 4 Standards and Procedures for Improvement Plan, Section 4.3 pages 130 & 131, item 2.
30	The callout for “Ex SWR to be Rehabbed. See Specs” it is not standard for this project, because there is open trench operation for sewer main replacement.	Revise the note to read, “Rehab Ex. SWR Main” and identify the location of the sewer to be rehabbed in the plans.
31	The class of pipe for the Proposed Sewer main is not adequate, because the depth of pipe is less than 4 feet.	Change the class of pipe to SDR-26. Refer to the Sewer Design Guideline Section 2.2.1.6.
32	The class of pipe for the Proposed Sewer main may not adequate because the depth of pipe is more than 15 feet.	For 15 inch or smaller, the Design Engineer may use SDS-101 for PVC pipes. Refer to the Sewer Design Guideline Section 2.2.2.3.
33	The callouts "5x3 PVC Lined" and "7x3 PVC Lined" are missing for the manholes on the plan & profile views.	Add the missing information.
34	The location of Proposed MH is too close to the power pole.	Relocate the proposed manhole to achieve a minimum of 15' away from the power pole. Refer to the Sewer Design Guide Chapter 2.3.1.4.
35	There is a need for upsizing the sewer lateral, because the apartment building has several units may need a larger sewer lateral.	Callout for a proposed 6" sewer lateral.
37	Sewer Laterals must be installed perpendicular to the sewer main.	Show the sewer laterals perpendicular to the sewer main. Refer to Sewer Design Guide2015, subsection 2.5 Sewer laterals.
38	Lateral shown on the plan is right across from each other. Lateral should not be made in the length of the pipe.	Revise the configuration accordingly. Refer to the Standard Drawing SDS-105.
39	For Rehab Projects, show depths and sizes of manholes to be rehabbed.	Add missing information in the scope of work spreadsheet for Manhole. Refer to D-414 SOP.
	Water Comments	
40	Minimum Horizontal Separation between water and sewer mains should be 10 feet. (Edge of pipe to Edge of Pipe)	Refer to Water Facility Design Guide, Chapter 3.3.1.2. page 3-3. Written approval from California State Water Resources Control Board, Division of Drinking Water for separation deviations is required.
41	Water service should be perpendicular to the water water main.	Refer to Water Facility Design Guidelines, Book 2, Chapter 3, Section F Water Services, pages 3-13.

#	Comments	Actions Required
42	All proposed lines shown on profile are mirrored from pavement. Additionally, need to ensure that water main on profile has minimum 3' cover from TOP.	Proposed lines on profile need to be drawn straight lines. Add callout and water station in the profile sheet if using fittings and bends. Callout.
43	The pipe alignment is not standard and should be located 10 ft the southerly or easterly of the centerline of streets.	Refer to water facility design chap 3.3.1 for sizing & alignment criteria.
44	There is no need to install a 4" Blowoff assembly on a 12" water main.	Remove the 4" and replace with a 2" Blowoff. Refer to the Water Department Capital Improvements Program, Water Facility Design Guidelines Rev. 2021, Book 2, Chapter 3, Section 3.5.2.1
45	The system standard for combination air and vacuum valves is 2-inch for up to 48-inch diameter pipe, and 4-inch for greater than 48-inch diameter pipe	Update the size of Air/Vac accordingly. Refer to the Water Department Capital Improvements Program, Water Facility Design Guidelines Rev, 2021, Book 2, Section 3, Section 3.5.1.4.
46	Perpendicular water mains and callout are missing on the profile views.	Show and callout the existing perpendicular water mains on the profile views. Refer to Citywide CADD Standard 2018 Edition, Part 4 Standards and Procedures for Improvement Plans, Section 4.4 Water description, pages 140 & 142, Item 19.
47	Callout for removal of abandoned existing water service box is missing from the plan view.	Add a callout for Remove Abandoned Water Meter Box.
48	The callout for the valves' type (i.e. gate, butterfly) in all the Construction Notes are missing.	Identify the type of valves to be used. Refer to the Water Facility Design Guidelines Rev. 2021 Section 3.5.
49	There is no need to label the proposed water services that are unless than 2 Inch in size.	Remove the callouts for 1 Inch and 1 1/2 Inch accordingly.
50	There is a 2" Water service on the east side of the street that was not called out on the plans.	Callout for 2" Water Service. Add the size for water services vertically at the curb. Refer to CADD Standard 2018 Edition, Part 4 Standards and Procedures for Improvement Plan, Section 4.4 page 138 & 139, item 1.
51	The existing water main and callouts are missing from the profile views.	Add the missing water main and callouts accordingly. Refer to Refer to the Citywide CADD & Drafting Standards 2018 Edition, Part 4 Standards and Procedures for Improvement Plans, Section 4.4, pages 140 & 142, item 15.
52	The existing water meter box on the south side of the street has been abandoned and therefore, should be removed.	Add a callout for Remove Abandoned Water Meter Box.
53	City Forces Cut & Plug symbols are missing from the plan views and detail drawings.	Add the missing cut & plug symbols on the plan views accordingly.
54	Callout for "1' sand cushion or min. 6" sand cushion w/1" neoprene pad" is missing at the crossing of the proposed 16" water main and the ex. 18" RCP SD on the profile view.	Add the missing callout.
55	The Construction note on the profile view, "Install Sand Cushion and Neoprene Pad" is not correct statement for this work.	Revise to read, "Provide minimum 1-foot sand cushion or minimum 6-inch sand cushion with 1-inch neoprene pad".
56	The 3' min callout on the profile view is not correct. The depth of the proposed 16" water main does not meet minimum 5 feet of cover. Per the memo from PUD dated Aug. 3rd 2012 that states, "Water mains located in high or heavy-load traffic areas, and all transmission water mains, shall have 5 feet of cover over the top of pipe.	Lower the proposed 16" water main to achieve a mininum of 5 feet of cover. Pipe Separations. Refer to Water Facility Design Guidelines Rev 2021 Chapter 3 Section 3.8.3-Cover.
57	The depth of the proposed 16" water main does not meet minimum 5 feet of cover. Per the memo dated Aug. 3rd 2012 that states, "Water mains located in high or heavy-load traffic areas, and all transmission water mains, shall have 5 feet of cover over the top of pipe. (See Section 3.8.3 - Cover). Also, there is no need to call out for 3' min cover because there are elevation callouts throughout the profile views.	Remove the callouts accordingly and revise the note that is shown on the profile views accordingly.
58	There is no need to call out for the existing water mains to be removed on the profile views. Where the existing water main is in the same trench of the proposed water main there is no need to call out for removal. Refer to the Section 306-5 of the GREENBOOK.	Remove the callouts accordingly.
59	By Contractor Furnish & Install Construction Note: 1-6" FH Assembly (W-10) is not a standard callout.	Revise to read; "1-6" FH Assembly & Marker". Refer to the Citywide CADD & Drafting Standards, Appendix A, CADD Text and Symbol Standards, Page 27.

#	Comments	Actions Required
60	By Contractor Furnish & Install Construction Note: There is no need to call out for (Replace Ex. FH) in the Construction notes on the plan views. Where the existing fire hydrant is in the same location of the proposed Fire Hydrant then is no need to call out for replacement. Refer to the Section 306-15 of the GREENBOOK.	Remove the callouts.
61	The symbology for the proposed water services on the plan views does not follow the standard format.	Revise the symbology according to the standard format. Update the graphics for the proposed water services. Refer to CADD Standard 2018 Edition, Part 4 Standards and Procedures for Improvement Plan, Section 4.6 page 132 & 133, item 1 And Section 5 Miscellaneous Plan, CADD Symbol Standards for proposed utilities, pages 220.
62	It is not standard to callout the type of pipe material on the profile views.	Remove the callouts accordingly. This information will be filled out at As-built stage.
63	Construction Note does not match what is shown on the plan view.	Revise the Construction Note to ensure they are written correctly. Stationing, quantities, directions, and connection types need to be accurate.
64	The description for Abandon Ex. Water Main (6", 8", 12"...) CI "IN PLACE" is not standard callout for abandoning existing water mains shown on the plan views.	Revise to read, "Abandon Ex. (6", 8", 12"...) CI water main.
65	Contractors Note: Proposed Fire Hydrants located in a commercial zones should be called out as 3-port instead of a 2 port fire hydrant.	Add the callout "3-Port" to the Construction notes where it applies. Refer to the Water Facility Design Guidelines Rev. 2021 Section 3.5.2.4.
66	The callout for the proposed 16" PVC Pipe C905" on the profile views is not a standard callout. Any class of pipe other than CL 235 should be called out.	Revise to read, "16" Pipe" to match what is shown on the plan views. Refer to CADD Standard 2018 Edition, Part 4 Standards and Procedures for Improvement Plan, Section 4.6 page 140 & 142, item 15.
67	Callout for Highlinning by City Forces is missing.	Add the missing information.
68	The distance between the two FH are more than 450 feet apart. Fire Hydrant should not be more than 450 feet apart in single-family residential area, 350 feet apart in multifamily residential, commercial, and no more 250 feet in industrial areas per new requirements by Public Utilities Department.	Update the distance between the two Fire Hydrant. Refer to Facility Design Guidelines, Book 2, Chapter 3, Section 3.5.2 Appurtenances, D. Fire Hydrants page 3-11 and 3-12.
	Surface Comments (Field Check)	
70	There is a missing Electrical line/ Cable line crossing the proposed sewer/water main that is not shown on the plan view.	Show the missing utility (Electrical line / Cable line) on the plan and profile views.
71	The Caution callout note, for the contractor to be aware of low overhead power lines is missing.	Add Caution note. Refer to CADD Standards 2018 Edition, Part 4, Section 4.2, pages 123 & 125, Item 27.
72	The existing Concrete Cross Gutter is missing from the plan view.	Show and callout the existing Concrete Cross Gutter.
	Additional Sheets Comments	
73	Abandonment Sheet: The rim elevation and the invert elevation for the existing manholes and length of pipe for the sewer main missing from the plan view.	Update the Abandonment Sheet. Add the rim & IE callout for each manhole to be abandoned and length of pipe. In addition, show the locations of the concrete plugs. Refer to CADD Standard 2018 Edition, Part 4 Standards and Procedures for Improvement Plan, Section 4.3 pages 148, 153 & 154, item 2.
	General Comments	
74	The description of work does not match what is on the plans cover sheet, under Work to Be Done.	Revise the Spec language to match the description on the plans.
75	Appendices are missing from the Contract Documents.	Attach relevant appendices to the Contract Documents.
	Storm Drain Comments	Actions Required
76	The proposed location of the storm drain inlet would interfere with the proposed driveway entrance.	Relocate the proposed storm drain inlet out of the driveway entrance.
77	The proposed location of the storm drain inlet is in conflict with the SDG&E electrical box.	Relocate the proposed storm drain inlet away from the SDG&E electrical box.
	Surface Comments	
78	Easement Drawing number is missing.	Add the Easement with Drawing Number. Refer to Citywide Cadd Standard 2018 Edition. Part4 Standard and Procedures for Improvement Plan. Section 4.3, page 136. Refer to the title Block and the Right Side Margin Project Title of the reference Drawing.

#	Comments	Actions Required
79	Detail Drawings: There is no need to show the existing conditions because, where the existing water main is in the same trench of the proposed water main there is no need to call out for removal.	Remove the Existing Conditions portion of the detail drawing.
80	There is a missing Electrical line/ Cable line crossing the proposed water main that is not shown on the plan and profile views.	Show the missing utility (Electrical line / Cable line) on the plan and profile views.
81	The contractor's note for Contractor to coordinate with the school during construction is missing.	Add note for working hours limitation around school area and coordination with school during construction.
82	To have “EX” in front of non-city owned utilities callouts is not standard. The City of San Diego is not responsible for SDG&E, Telephone, Cox Cable and any other utilities.	Revise the callouts where it applies accordingly. Remove "EX" for non-city owned facilities for both Plan and Profile. Refer to CADD Standards 2018 Edition, Part 4, Section 4.2, page 120 & 122, Item 18.
83	The addresses for each place/building are missing on the plan views.	Add the addresses to the plan views. Refer to CADD Standards 2018 Edition, Part 4, Section 4.2.1, pages 110 & 119, Item 9.
84	Match Line on the plan & profile views should be using D-Sheet numbers and not the Discipline codes.	Revise the Match Lines to have D-sheet numbering instead of discipline codes. Refer to CADD Standard 2018 Edition, Part 4, Standards and Procedures for Improvement Plan, Section 4.2, page 120 & 122, Items 22 & Pages 123 & 125 item 32.
85	Existing Sewer Laterals for each lot are missing from the plan views.	Add the Sewer Laterals to the plan views. Refer to CADD Standards 2018 Edition, Part 4, Section 4.2, page 120 & 122, Item 19.
86	Estimated Archaeological Monitoring Limits table is missing from the plans.	Insert the missing information.
87	Estimated Paleontological Monitoring Limits table is missing from the plans.	Insert the missing information.
88	Title Block: The title block is missing the 2 signature lines, one for the "For City Engineer" and one for "PRINT DCE Name".	Revise the title block show 2 signature lines, one for the "For City Engineer" and one for "PRINT DCE Name". Refer to the revised "Cover Sheet Large" in the cell library.
89	Title Block: It is not standard to callout the pipe material.	Remove the callouts accordingly. This information will be filled out at AS-built stage.
90	The right margin title and the second line in the title block do not match what is shown at the top of the profile view.	Refer to the Citywide CADD Standard 2018 Edition, Part 4, Standards and Procedures for Improvement Plans, section 4.1.3 Pages 115 & 117, item 2.
91	The Right Margin title does not match what is called out in the Title Block.	Revise to match. Refer to the Citywide CADD Standard 2018 Edition, Part 4, Standards and Procedures for Improvement Plans, Section 4.2.1, Pages 119, & 122, item 4.