EXHIBIT D

OUTFALL SYSTEMS PLANNING STUDIES
REPORT CHECKLIST

Instructions:

1. Engineer shall submit a completed copy of this checklist with all draft and final reports for each milestone.
2. For the Baseline Hydrology and Alternatives Analysis submittals, include placeholders for all of the report sections that will be populated in future submittals.
3. For deviations from checklist, include a separate sheet with numbered comments and write the corresponding number in the "Note #" column.
4. Clearly label Sections and Subsections (bold items in checklist) in report.

	REPORT SECTIONS	Baseline Hydrology	Alternatives Analysis	Conceptual Design	Note #
PRELIMINARIES	**Cover Sheet**	☐	☐	☐	
	Project Title (from Agreement)	☐	☐	☐	
	Project Sponsors List, including logos	☐	☐	☐	
	Engineer's Name/Address	☐	☐	☐	
	Date (Month & Year)	☐	☐	☐	
	"DRAFT" stamp (on all except final Conceptual Design Report)	☐	☐	☐	
	Transmittal Letter	☐	☐	☐	
	Signed and sealed by Engineer transmitting report to District	☐	☐	☐	
	Table of Contents	☐	☐	☐	
	Section titles and page numbers	☐	☐	☐	
	List of Tables (number, title, and location in report)	☐	☐	☐	
	List of Figures (number, title, and location in report)	☐	☐	☐	
	List of Appendices	☐	☐	☐	
EXECUTIVE SUMMARY	**Purpose and Objective**	N/A	N/A	☐	
	Describe reasons for investigation of drainage and flood control problems	N/A	N/A	☐	
	Planning Process	N/A	N/A	☐	
	Brief overview of planning process including public meetings	N/A	N/A	☐	
	Project Area Description	N/A	N/A	☐	
	General Project Area description	N/A	N/A	☐	
	Reference to Vicinity Map and Watershed Map	N/A	N/A	☐	
	Brief summary of Project Area hydrology: Compare existing and future land use conditions peak flows for both existing infrastructure and proposed improvements	N/A	N/A	☐	
	Brief summary of Project Area hydraulics: Compare existing and future land use conditions and existing infrastructure floodplains	N/A	N/A	☐	
	Alternative Analysis	N/A	N/A	☐	
	Brief summary of categories and alternatives considered	N/A	N/A	☐	
	Master Plan	N/A	N/A	☐	
	Brief summary of the plan on an outfall-by-outfall basis	N/A	N/A	☐	
	Explanation of costs and benefits of Master Plan	N/A	N/A	☐	
	Implementation priorities	N/A	N/A	☐	
	Tables	N/A	N/A	☐	
	Project participants and their affiliations	N/A	N/A	☐	
	Hydrology reconciliation with previous studies showing peak flows at key locations from all studies	N/A	N/A	☐	
	Master Plan Cost Estimate Summary – detailed cost estimate of master plan by outfall with costs split out by jurisdiction	N/A	N/A	☐	

	REPORT SECTIONS	Baseline Hydrology	Alternatives Analysis	Conceptual Design	Note #
EXECUTIVE SUMMARY (CONT.)	Figures	N/A	N/A	☐	
	Vicinity Map showing watershed location within District boundary (can be included on Watershed Map figure)	N/A	N/A	☐	
	Watershed Map including jurisdictional boundaries	N/A	N/A	☐	
	Master Plan Schematic showing proposed improvements	N/A	N/A	☐	
SECTION 1 – INTRODUCTION	**Authorization**	☐	☐	☐	
	Identify District and Engineer as contracting parties and identify other sponsors	☐	☐	☐	
	Agreement number	☐	☐	☐	
	Notice to Proceed date	☐	☐	☐	
	Purpose and Scope	☐	☐	☐	
	Describe original scope of Project	☐	☐	☐	
	Include all actions taken by District and Sponsors that modified, limited, or expanded the scope	☐	☐	☐	
	Describe amendments to the scope with reference to agreement number	☐	☐	☐	
	Planning Process				
	Describe how the Project evolved and how the decisions made by the sponsors and District resulted in the recommendations contained in the study	☐	☐	☐	
	Describe specific goals and objectives for the Master Plan	☐	☐	☐	
	Provide summary of progress meetings and other coordination with District, sponsors, and other interested parties (reference Meeting Minutes in Appendix A)	☐	☐	☐	
	Describe public meetings, their purpose, dates, methods of advertisement, minutes, and attendance roster (reference material in Appendix A)	☐	☐	☐	
	Mapping and Surveys	☐	☐	☐	
	Describe mapping source (i.e. mapping firm, USGS, local governments, other)	☐	☐	☐	
	Scale	☐	☐	☐	
	Contour interval	☐	☐	☐	
	Datum (horizontal and vertical)	☐	☐	☐	
	Date of mapping	☐	☐	☐	
	Data Collection	☐	☐	☐	
	Discuss maps, plans, reports, and other information obtained from District, Sponsors, and other agencies (reference Data Collected table in narrative)	☐	☐	☐	
	Acknowledgements	☐	☐	☐	
	Acknowledge participants and their role in the Project (reference Project Participants table in narrative)	☐	☐	☐	
	Tables	☐	☐	☐	
	List of Data Collected: maps, plans, or reports used for Project including title, date, and author	☐	☐	☐	
	List of Project Participants and their affiliations	☐	☐	☐	
	Figures (none)				
SECTION 2 – STUDY AREA DESCRIPTION	**Project Area**	☐	☐	☐	
	Describe Project limits (reference Watershed Map in narrative)	☐	☐	☐	
	Describe Project's watershed size	☐	☐	☐	
	Describe jurisdictions and major landmarks	☐	☐	☐	
	List Project Reuse watershed number(s)	☐	☐	☐	
	Describe hydrologic features	☐	☐	☐	

	REPORT SECTIONS	Baseline Hydrology	Alternatives Analysis	Conceptual Design	Note #
SECTION 2 – STUDY AREA DESCRIPTION (CONTINUED)	Describe NRCS hydrologic soil classification (reference Soils Map in Appendix B)	☐	☐	☐	
	Describe percent of watershed currently developed	☐	☐	☐	
	List highest and lowest watershed elevation, average slope, and watershed shape	☐	☐	☐	
	Land Use	☐	☐	☐	
	Describe existing land use types (reference Existing Land Use Map in Appendix B) and how information was obtained	☐	☐	☐	
	Describe future land use types (reference Future Land Use Map in Appendix B) and how information was obtained	☐	☐	☐	
	Discuss how imperviousness values were determined based on land use types (reference Land Use table in narrative)	☐	☐	☐	
	Discuss overall existing watershed imperviousness (reference Existing Imperviousness Map)	☐	☐	☐	
	Discuss overall future watershed imperviousness (reference Future Imperviousness Map)	☐	☐	☐	
	Outfall Description	☐	☐	☐	
	Describe project area by outfall (reference Outfall figure) with reference to typical channel cross sections and photographs	☐	☐	☐	
	Describe problem areas as discovered by observation or anecdotal information	☐	☐	☐	
	Identify all major crossings including street name, street type and structure type and size (reference Major Crossing Structure Inventory table)	☐	☐	☐	
	Flood History	☐	☐	☐	
	Provide information on past flooding events, bridge scour or stream stability, including stream gage data, literature citations, newspaper articles, anecdotal information	☐	☐	☐	
	Environmental Assessment	☐	☐	☐	
	Describe potential wetland and riparian zones within the Project Area (reference Wetland and Riparian Inventory in Appendix E)	☐	☐	☐	
	Describe flora, fauna and threatened or endangered species identified within the Project Area	☐	☐	☐	
	Tables	☐	☐	☐	
	Land Uses with assigned impervious values	☐	☐	☐	
	Major Crossing Structure Inventory	☐	☐	☐	
	Figures	☐	☐	☐	
	Vicinity Map showing watershed location within District boundaries	☐	☐	☐	
	Watershed Map including jurisdictional boundaries	☐	☐	☐	
	All other Tables and Figures to be included in Appendix B				
SECTION 3 – HYDROLOGIC ANALYSIS	**Overview**	☐	☐	☐	
	Describe general process for developing and routing hydrographs through Project Area	☐	☐	☐	
	Describe CUHP and/or SWMM models used, including version number	☐	☐	☐	
	Describe all calculations, references, and modeling used to develop the hydrology	☐	☐	☐	
	Design Rainfall	☐	☐	☐	
	Describe the design rainfall used and source of point rainfall values and distributions (reference Point Rainfall table in narrative and Rainfall Distribution table in Appendix B)	☐	☐	☐	
	Describe any area corrections used (reference Rainfall Area Correction Factors table in narrative)	☐	☐	☐	

	REPORT SECTIONS	Baseline Hydrology	Alternatives Analysis	Conceptual Design	Note #
SECTION 3 – HYDROLOGIC ANALYSIS (CONTINUED)	**Subwatershed Characteristics**	☐	☐	☐	
	Describe subwatershed characteristics and how they were determined (reference CUHP Input table and Subwatershed figure in Appendix B)	☐	☐	☐	
	Discuss number of subwatersheds, range and average size of subwatershed	☐	☐	☐	
	Hydrograph Routing	☐	☐	☐	
	Describe flow-routing element types and geometries for existing and future land use, existing infrastructure conditions (reference SWMM Routing Map and SWMM Schematic figures in Appendix B)	☐	☐	☐	
	Describe all existing detention facilities modeled, including stage-storage-discharge relationships (reference Detention Rating Curve tables in Appendix B)	☐	☐	☐	
	Describe flow diversion relationships for all diversions (reference Flow Diversions table in Appendix B)	☐	☐	☐	
	Previous Studies	☐	☐	☐	
	Discuss hydrologic results presented in previous studies and regulatory models	☐	☐	☐	
	Results of Analysis	☐	☐	☐	
	Discuss results of hydrologic analysis; reconcile any deviations from flows presented in previous studies to within 10% (reference Previous Studies Reconciliation table in narrative)	☐	☐	☐	
	Provide results of hydrologic analysis presenting peak flows and volumes (reference Peak Flow table and Runoff Volume table in Appendix B)	☐	☐	☐	
	Provide hydrographs at key locations representing peak flows for both existing and future conditions (reference Hydrograph figures in Appendix B)	☐	☐	☐	
	Provide peak flow profiles along the drainageway centerline for both existing and future conditions (reference Peak Flow Profile figures in Appendix B)	☐	☐	☐	
	Provide typical samples of hydrologic model (reference sample SWMM table in Appendix B)	☐	☐	☐	
	Tables	☐	☐	☐	
	Point Rainfall for each flood return period	☐	☐	☐	
	Rainfall Area Correction Factors	☐	☐	☐	
	Previous Studies Hydrology Reconciliation showing peak flows at key locations from all studies and percent difference	☐	☐	☐	
	Figures (none in narrative)	☐	☐	☐	
	All other Tables and Figures to be included in Appendix B				
SECTION 4 – HYDRAULIC ANALYSIS	**Evaluation of Existing Facilities**	N/A	☐	☐	
	Describe procedures used to evaluate capacity of existing road crossings, channels, storm sewers and detention	N/A	☐	☐	
	Discuss existing drainage facilities, providing a brief description of physical condition and estimated capacity related to future hydrology discharges (reference Existing Facilities table in narrative)	N/A	☐	☐	
	Flood Hazards	N/A	☐	☐	
	Describe existing and potential future drainage, erosion, water quality and flood hazard problems by outfall and/or problem area (reference Drainage Problem Areas figure in Appendix C)	N/A	☐	☐	
	Previous Analyses	N/A	☐	☐	
	Explain difference from previous hydraulic analyses of existing facilities and floodplain delineation	N/A	☐	☐	

	REPORT SECTIONS	Baseline Hydrology	Alternatives Analysis	Conceptual Design	Note #
SECTION 4 (CONT'D)	Tables	N/A	☐	☐	
	Existing Facilities table showing estimated capacity	N/A	☐	☐	
	Figures (none in narrative)	N/A	☐	☐	
	All other Tables and Figures to be included in Appendix C				
SECTION 5 – ALTERNATIVE ANALYSIS	**Alternative Development Process**	N/A	☐	☐	
	Describe the process for identifying, screening and evaluating alternatives for each outfall	N/A	☐	☐	
	Criteria and Constraints	N/A	☐	☐	
	Describe the drainage system, design storm criteria and strategy used to evaluate problems and alternatives	N/A	☐	☐	
	Alternative Categories	N/A	☐	☐	
	Describe categories evaluated for each outfall (i.e., Maintenance Only, Structural Improvements, Stream Restoration, Engineered Channel, and Regional Detention)	N/A	☐	☐	
	Pre-screen categories for each outfall to determine feasibility (reference Pre-Screening Matrix table in narrative)	N/A	☐	☐	
	Alternative Hydraulics	N/A	☐	☐	
	Describe the hydraulic calculations performed to define, size and justify alternatives and improvements	N/A	☐	☐	
	Alternative Costs	N/A	☐	☐	
	Describe the process for determining quantities and costs for each component of the alternative plans, including capital, operations and maintenance, right-of-way acquisition, and contingencies	N/A	☐	☐	
	Describe basis for unit costs (reference Unit Costs table in narrative)	N/A	☐	☐	
	Alternative Plans	N/A	☐	☐	
	Describe the alternatives studied on a outfall-by-outfall basis	N/A	☐	☐	
	Describe how each alternative affects or is affected by the existing and proposed land uses, existing wetlands and riparian zones, environmental conditions and recreational features	N/A	☐	☐	
	Describe how each alternative may prevent or mitigate damages for identified problem areas and how they can be integrated with community needs or desires	N/A	☐	☐	
	Discuss operation and maintenance requirements of each plan	N/A	☐	☐	
	Describe explicit detention criteria used for detention alternatives	N/A	☐	☐	
	Reference outfall-by-outfall Alternative Plan Cost Estimate table in narrative	N/A	☐	☐	
	Reference Alternative Plan figures in narrative	N/A	☐	☐	
	Qualitative Evaluation Procedure	N/A	☐	☐	
	Describe evaluation parameters, weighting factors and ranking procedures used to qualitatively evaluate alternatives	N/A	☐	☐	
	Discuss the level of protection in terms of flood frequency provided by each alternative	N/A	☐	☐	
	Discuss advantages and disadvantages of each alternative including a comparison of each alternative to the others (reference Summary Evaluation Matrix in narrative)	N/A	☐	☐	
	Tables	N/A	☐	☐	
	Alternative Pre-Screening Matrix – determines feasibility of categories on outfall-by-outfall basis	N/A	☐	☐	
	Unit Costs – list of unit costs	N/A	☐	☐	
	Alternative Plan Cost Estimates – outfall-by-outfall cost estimates including capital, operations and maintenance, right-of-way acquisition, and contingencies	N/A	☐	☐	
	Alternative Summary Evaluation Matrix	N/A	☐	☐	

	REPORT SECTIONS	Baseline Hydrology	Alternatives Analysis	Conceptual Design	Note #
SECTION 5 (CONT'D)	Figures	N/A	☐	☐	
	Alternative Plans - Schematic drawings of each alternative plan showing proposed improvements, jurisdictional boundaries, street names and outfalls	N/A	☐	☐	
SECTION 6 – RECOMMENDED PLAN	**Plan Description**	N/A	☐	☐	
	Describe the alternative recommended by Engineer, including the rationale for arriving at the recommendation and whether each outfall can or cannot be considered independently from the overall plan (reference Recommended Plan figure and Cost Estimate table in narrative)	N/A	☐	☐	
	Describe problem areas and how the recommended plan may prevent or mitigate damages.	N/A	☐	☐	
	Provide reference to legal opinion provided by District and include in Appendix D.	N/A	☐	☐	
	Water Quality Impacts	N/A	☐	☐	
	Describe how the recommended plan affects or mitigates stormwater quality impacts on the receiving system	N/A	☐	☐	
	Operations and Maintenance	N/A	☐	☐	
	Describe operations and maintenance aspects and costs of the recommended plan	N/A	☐	☐	
	Environmental and Safety Assessment	N/A	☐	☐	
	Describe how the recommended alternative will affect the environmental character and public safety of each outfall and how it will fit into the community being served	N/A	☐	☐	
	Tables	N/A	☐	☐	
	Recommended Plan Cost Estimate – Itemize and summarize costs for recommended plan	N/A	☐	☐	
	Figures	N/A	☐	☐	
	Recommended Plan - Schematic drawing of recommended plan showing proposed improvements, jurisdictional boundaries, street names and outfalls.	N/A	☐	☐	
SECTION 7 – CONCEPTUAL DESIGN	**Plan Development Overview**	N/A	N/A	☐	
	Describe any modifications to the Selected Plan at the direction of the Sponsors and District (reference Selected Plan letter in Appendix A)	N/A	N/A	☐	
	Describe how the master plan may prevent or mitigate drainage problems and damages	N/A	N/A	☐	
	Address rationale for special recommendations	N/A	N/A	☐	
	Reference Master Plan Cost Estimate Summary table and Master Plan Schematic figure	N/A	N/A	☐	
	Master Plan Description	N/A	N/A	☐	
	Describe the Master Plan on a outfall-by-outfall basis (see EPlan Guidelines)	N/A	N/A	☐	
	Detailed Outfall Cost Estimate – updated cost estimate on outfall-by-outfall basis using UD-Cost spreadsheet (see EPlan Guidelines)	N/A	N/A	☐	
	Links to Master Plan Map and Master Plan Profile figures in Appendix G and H respectively	N/A	N/A	☐	
	Prioritization and Phasing	N/A	N/A	☐	
	Discuss priority of improvements, specifically how they are interrelated to other improvements, which are independent, which need to be implemented first and which need to be implemented as a system to avoid transferring damage potential to other areas	N/A	N/A	☐	

	REPORT SECTIONS	Baseline Hydrology	Alternatives Analysis	Conceptual Design	Note #
SECTION 7 – CONCEPTUAL DESIGN (CONTINUED)	**Water Quality Impacts**	N/A	N/A	☐	
	Describe how the plan affects or mitigates stormwater quality impacts on the receiving system	N/A	N/A	☐	
	Operations and Maintenance	N/A	N/A	☐	
	Describe operations and maintenance aspects and costs of master plan	N/A	N/A	☐	
	Environmental and Safety Assessment	N/A	N/A	☐	
	Describe how the recommended alternative will affect the environmental character and public safety of each outfall and how it will fit into the community being served	N/A	N/A	☐	
	Tables	N/A	N/A	☐	
	Master Plan Cost Estimate Summary – detailed cost estimate of master plan by outfall with costs split out by jurisdiction	N/A	N/A	☐	
	Detailed Outfall Cost Estimate – updated cost estimate on outfall-by-outfall basis	N/A	N/A	☐	
	Figures	N/A	N/A	☐	
	Master Plan Schematic showing proposed improvements	N/A	N/A	☐	
	Master Plan Map and Master Plan Profile are included in Appendix G and H respectively				
SECTION 8– REFERENCES	List of all references used for report	☐	☐	☐	
APPENDICES	**Appendix A – Project Correspondence**	☐	☐	☐	
	Minutes of progress meetings and public meetings	☐	☐	☐	
	Summary of comments from Sponsors for each draft report and response of how each comment was addressed	☐	☐	☐	
	Selected Plan letter	☐	☐	☐	
	Any other pertinent correspondence documenting planning process	☐	☐	☐	
	Appendix B – Hydrologic Analysis	☐	☐	☐	
	Outfall map	☐	☐	☐	
	Soils Conditions map	☐	☐	☐	
	Land Use maps (existing and future)	☐	☐	☐	
	Design Rainfall Distribution table for each flood return period	☐	☐	☐	
	CUHP Input table (subwatershed hydrologic characteristics, including area, length, centroid length, imperviousness, time of concentration, pervious and impervious storage, and initial, final and decay rate for infiltration)	☐	☐	☐	
	Subwatershed figure showing boundaries, ID, area, existing and future percent imperviousness for each subwatershed	☐	☐	☐	
	SWMM Routing Map with aerial image in background	☐	☐	☐	
	SWMM Schematic with major crossings labeled	☐	☐	☐	
	Detention Rating Curve tables showing stage-storage-discharge relationships for all detention facilities	☐	☐	☐	
	Flow-diversion tables for all flow diversions	☐	☐	☐	
	Peak flows along drainageway for all return periods for existing and future land use conditions, including station, routing element, and landmark	☐	☐	☐	
	Runoff volumes and accumulated drainage areas at same locations as for peak flow	☐	☐	☐	
	Hydrographs at key locations for existing and future peak flows	☐	☐	☐	
	Peak Flow Profiles along drainageway centerline for existing and future	☐	☐	☐	

	REPORT SECTIONS	Baseline Hydrology	Alternatives Analysis	Conceptual Design	Note #
APPENDICES (CONTINUED)	Sample SWMM (100-yr) output report with full input included	☐	☐	☐	
	Any other hydrology tables and figures not included in Section 3	☐	☐	☐	
	Appendix C – Hydraulic Analysis	N/A	☐	☐	
	Drainage Problem Areas figure – Map depicting drainage problem areas, including peak flow for each problem area location	N/A	☐	☐	
	Any other hydraulic analysis tables and figures not included in Section 4	N/A	☐	☐	
	Appendix D – Legal Opinion	N/A	☐	☐	
	Copy of standard legal opinion provided by District	N/A	☐	☐	
	Appendix E – Wetland and Riparian Inventory	N/A	☐	☐	
	Maps showing the results of wetland and riparian inventory	N/A	☐	☐	
	Appendix F – Alternatives Analysis	N/A	☐	☐	
	Other alternatives analysis tables and figures not included in Section 5, including SWMM and/or HEC-RAS modeling results for alternatives	N/A	☐	☐	
	Appendix G – Master Plan Maps	N/A	N/A	☐	
	Figure illustrating master plan improvements in plan view (see EPlan Guidelines for required elements)	N/A	N/A	☐	
	Appendix H – Master Plan Profiles	N/A	N/A	☐	
	Figure illustrating master plan improvements in profile view (see EPlan Guidelines for required elements)	N/A	N/A	☐	
	Appendix I – Conceptual Design Information	N/A	N/A	☐	
	Typical channel section details	N/A	N/A	☐	
	Large scale drawings of detention ponds or other areas showing more detailed information	N/A	N/A	☐	
	Any other master plan details (i.e. drop structures, check structures, outlet structures)	N/A	N/A	☐	
	Any additional Conceptual Design supporting information	N/A	N/A	☐	