6.0 Phasing Requirements

6.1 PHASE I DEVELOPMENT

Phase I development is proposed to occur in portions of the majority of drainage sub-basins delineated for the Cordes Ranch Specific Plan area. Unfortunately, the system of detention basins and future discharges cannot become operational until the provisions of the 2010 Drainage Agreement (between the City and WSID) have been met and the outfall storm drains and discharge to the WSID Sub-Main Drain have been completed. Hence, until such time as these downstream outfall provisions have been completed and become functional, new developments within the Cordes Ranch Specific Plan area will need to utilize temporary retention facilities as an interim measure for terminal drainage. These temporary retention facilities will need to have a storage capacity equal to or greater than 2 times the 10-year 48-hour storm runoff volume generated by the contributing development area in conformance with City Standards.

The following are storm drainage requirements attributable to Phase I development:

1. New development will need to include temporary retention facilities as their interim solution for terminal drainage in conformance with City Standards, subject to engineering substantiation regarding their feasibility. New development will be required to maintain temporary retention facilities until the storm drainage system for the development project is connected to the City's permanent storm drainage system and the temporary storm drainage basin is filled and decommissioned or integrated into the permanent drainage plan for detention basins. In the event that temporary retention facilities are approved by the City for individual or groups of development projects, said approvals will only be provided with the understanding or anticipation that a permanent solution that will allow for the decommissioning of applicable temporary retention facilities within a reasonable time frame is imminent. The City may require that the developer deposit enough funds with the City in advance to pay for the future decommissioning of temporary retention facilities.

    a. Temporary retention facilities may be constructed within the template for future permanent detention basins where feasible and appropriate. If this is proposed for individual or groups of development projects, the developer(s) will be required to submit a final grading plan for the applicable future detention basin(s) to the City for review and approval prior to constructing and utilizing the temporary retention facilities. The temporary retention facilities will need to be able to be easily retrofitted to conform to the approved final grading plan in the future. Overexcavation that will require filling of all or portions of the temporary retention facilities as a part of the future retrofitting process will not be allowed.

b. Temporary retention facilities may be constructed onsite and not within the template for future permanent detention basins when necessary, subject to provisions being established for their future filling and decommissioning.

2. New development projects will be required to construct elements of the master plan infrastructure that have alignments that pass through them or extend along their project boundaries and may be required by the City to construct certain offsite storm drainage improvements that are a part of the permanent storm drainage plan.

3. When private funds are used for construction of any master plan elements of the permanent storm drainage plan, these funds may be subject to storm drainage impact fee credits or future reimbursements at the discretion of the City.

4. Drainage cross-culverts having a 100-year 24-hour storm capacity will need to be constructed across the central linear wetland (and future greenbelt parkway) when applicable streets are constructed (See Sections 5.2.1.1 and 5.2.1.2).

5. Excess offsite flows in the central linear wetland (prior to the construction of DET OFF2 and the completion of downstream storm drainage storage and conveyance facilities to the WSID Sub-Main Drain) will need to continue to be conveyed to the existing 2 cell 6' x 3' CBC crossing of I-205 west of Hansen Road in a manner consistent with existing conditions and must bypass (not enter) temporary retention facilities. Onsite runoff from new development will not be allowed to discharge to the central linear wetland/greenbelt parkway until such time as the permanent outfall and permanent applicable detention basins are constructed and operational.

6. Development of the properties at the northwest corner of Hansen Road and Capital Parks Drive will need to construct an underground storm drain that will extend from Capital Parks Drive to DET LW8a in conformance with Figure 5-7 (See Section 5.2.1.2).

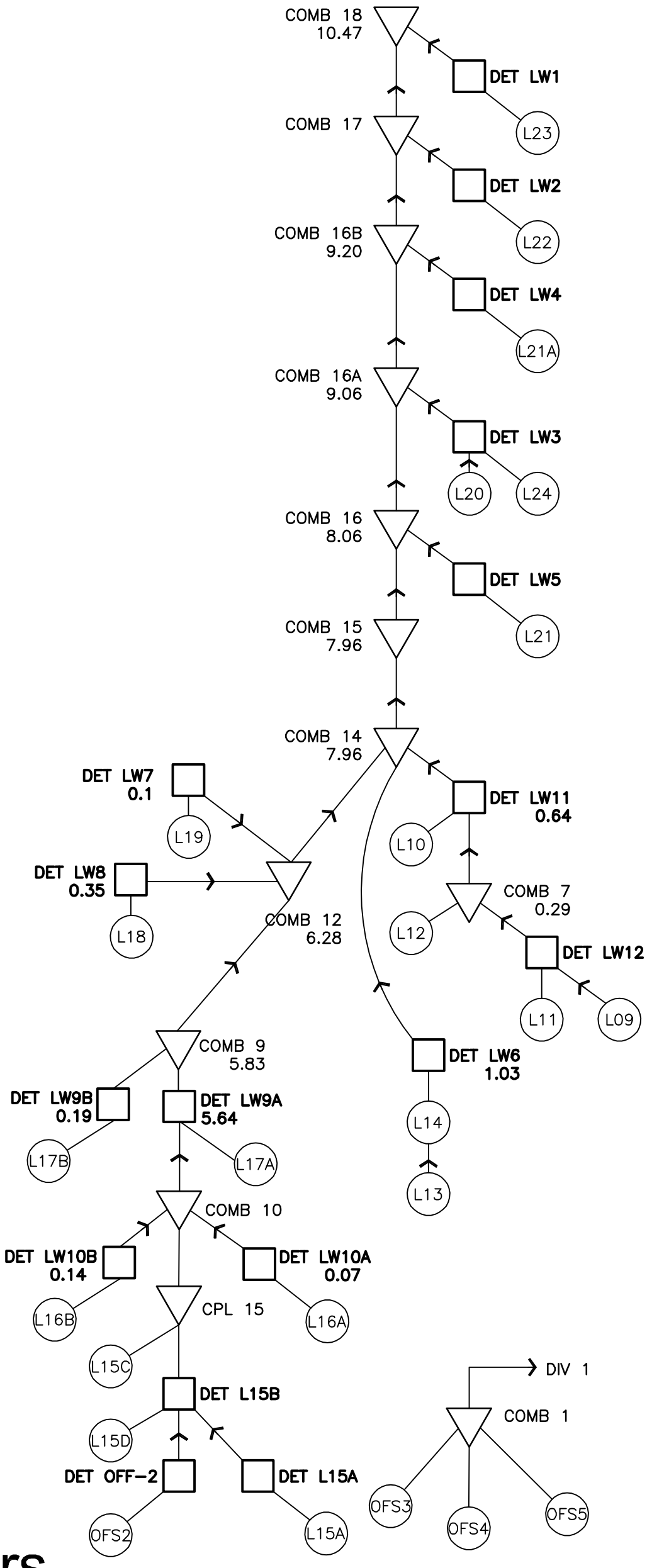
7. If a condition exists in Phase I where the downstream outfall system is constructed and operational and DET LW9a may be retrofitted to a permanent detention basin, the central linear wetland/greenbelt parkway should be redirected to drain into DET LW9a. Prior to the construction of upstream DET OFF2, provision must be made for DET LW9a to overflow and outlet structures (possibly a spillway) will need to be provided so that excess flow will continue to spill to the north to the existing 2 cell 6' x 3' CBC crossing of I-205 west of Hansen Road. This condition will be eliminated after the construction of DET OFF2.

APPENDIX

HYDROLOGIC MODELS (HEC-HMS) – LAMMERS AND MOUNTAIN HOUSE WATERSHEDS

Model Schematic Flow Diagrams

Model Output Results – Tables and Detention Basin Data



Lammers Watershed

LEGEND

- SUB–BASIN
- ROUTING REACH
- CONCENTRATION POINT
- DETENTION BASIN
- X.XX AREA (SQUARE MILES)

Stantec

TRACY

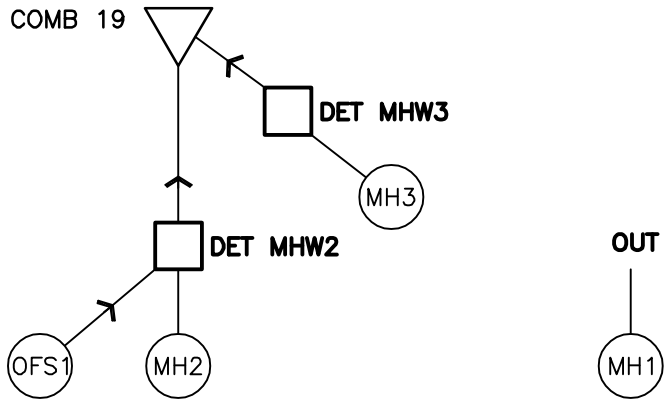
Client/Project
CITY OF TRACY
CITYWIDE STORM DRAINAGE
MASTER PLAN

APPENDIX B

Title **HEC-HMS MODEL SCHEMATIC FLOW DIAGRAM**

MARCH 2012
184010207
NOT TO SCALE

V:\1840\active\184010207\drawing\hec-hms_schematic_flow.dwg 3/16/12 11:57am dgonzalez



Mountain House Watershed

LEGEND

- SUB–BASIN
- ROUTING REACH
- CONCENTRATION POINT
- DETENTION BASIN

Stantec

TRACY

Client/Project
CITY OF TRACY
CITYWIDE STORM DRAINAGE MASTER PLAN

APPENDIX B

Title **HEC-HMS MODEL SCHEMATIC FLOW DIAGRAM**

MARCH 2012
184010207
NOT TO SCALE

V:\1840\active\184010207\drawing\hec-hms_schematic_flow.dwg 3/15/12 5:09pm dgonzalez

Lammers Watershed - 10-yr Peak Flows

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (AC-FT)

OFS2	4.516	115.59	01Jan2008, 11:44	79.24
DET-OFF2	4.516	2.34	02Jan2008, 02:56	9.4
L15a	0.26	76.93	01Jan2008, 10:56	23.71
DET L15a	0.26	8	01Jan2008, 08:36	23.71
L15b	0.138	44.42	01Jan2008, 10:48	12.6
L15d	0.064	22.2	01Jan2008, 10:44	5.84
DET L15b	4.978	62.15	01Jan2008, 11:04	51.54
L15c	0.025	9.55	01Jan2008, 10:40	2.28
CPL15	5.003	67.67	01Jan2008, 11:00	53.82
RR14	5.003	67.63	01Jan2008, 11:20	53.63
L16B	0.139	25.96	01Jan2008, 11:08	9.29
DET LW10B	0.139	0.67	01Jan2008, 11:44	3.18
L16A	0.066	15.41	01Jan2008, 10:48	4.43
DET LW10A	0.066	0.33	01Jan2008, 11:12	1.58
COMB10	5.208	68.53	01Jan2008, 11:20	58.39
RR 15	5.208	68.46	01Jan2008, 11:44	58.09
L17A	0.431	66.97	01Jan2008, 11:28	28.9
DET LW9A	5.639	9.48	01Jan2008, 12:40	44.48
L17B	0.189	31.93	01Jan2008, 11:20	12.67
DET LW9B	0.189	1.52	01Jan2008, 12:04	7.18
RR09	0.189	1.52	01Jan2008, 12:12	7.17
COMB9	5.828	11	01Jan2008, 12:40	51.64
RR 16	5.828	11	01Jan2008, 12:52	51.43
L18	0.351	56.15	01Jan2008, 11:20	22.89
DET LW8	0.351	1.5	01Jan2008, 11:52	7.11
RR 17	0.351	1.5	01Jan2008, 12:12	7.07
L19	0.098	16.83	01Jan2008, 11:16	6.57
DET LW7	0.098	0.5	01Jan2008, 11:52	2.37
COMB12	6.277	13	01Jan2008, 12:52	60.87
RR 18	6.277	13	01Jan2008, 13:08	60.61
L14	0.976	126.5	01Jan2008, 11:56	64.71
L13	0.0576	13.44	01Jan2008, 10:48	3.86
RR 13	0.0576	13.32	01Jan2008, 11:24	3.85
DET LW6	1.0336	4	01Jan2008, 13:04	18.64
L10	0.3523	9.47	01Jan2008, 12:52	7.6
L12	0.1614	26.97	01Jan2008, 11:20	10.77
L11	0.1307	26.9	01Jan2008, 10:56	8.5
L09	0.00002	0	01Jan2008, 12:28	0
RR 9	0.00002	0	01Jan2008, 16:04	0
DET LW12	0.13072	0.5	01Jan2008, 11:28	2.38
RR 10	0.13072	0.5	01Jan2008, 12:24	2.34
COMB7	0.29212	27.23	01Jan2008, 11:20	13.11
RR 11	0.29212	27.16	01Jan2008, 11:32	13.07
DET LW11	0.64442	2.5	01Jan2008, 14:00	11.52
RR 12	0.64442	2.5	01Jan2008, 14:20	11.44

Lammers Watershed - 10-yr Peak Flows

COMB14	7.95502	19.5	01Jan2008, 14:20	90.7
RR 19	7.95502	19.5	01Jan2008, 14:40	90.26
COMB15	7.95502	19.5	01Jan2008, 14:40	90.26
RR 20	7.95502	19.5	01Jan2008, 14:44	90.21
L21	0.1085	10.01	01Jan2008, 11:32	4.76
DET LW5	0.1085	0.5	01Jan2008, 13:12	2.33
COMB16	8.06352	20	01Jan2008, 14:44	92.54
RR 21	8.06352	20	01Jan2008, 14:52	92.41
L24	0.851	71.4	01Jan2008, 13:00	49.6
L20	0.146	26.1	01Jan2008, 11:08	9.51
Reach-1	0.146	26.1	01Jan2008, 11:12	9.51
DET LW3	0.997	4	01Jan2008, 13:52	18.47
Reach-2	0.997	4	01Jan2008, 13:56	18.44
COMB16A	9.06052	24	01Jan2008, 14:52	110.86
RR21A	9.06052	24	01Jan2008, 15:00	110.63
L21A	0.1345	14.44	01Jan2008, 11:36	6.78
DET LW4	0.1345	0.5	01Jan2008, 14:16	2.31
Reach-4	0.1345	0.5	01Jan2008, 14:20	2.31
COMB16B	9.19502	24.5	01Jan2008, 15:00	112.94
RR21B	9.19502	24.5	01Jan2008, 15:12	112.59
L22	0.3054	36.82	01Jan2008, 11:52	18.87
DET LW2	0.3054	2	01Jan2008, 12:40	9.38
COMB17	9.50042	26.5	01Jan2008, 15:12	121.97
RR 22	9.50042	26.5	01Jan2008, 15:32	121.23
L23	0.9656	96.48	01Jan2008, 12:32	59.49
DET LW1	0.9656	3	01Jan2008, 13:40	13.86
COMB18	10.46602	29.5	01Jan2008, 15:32	135.08
OFS3	5.6926	121.79	01Jan2008, 12:44	101.47
OFS4	0.2371	2.77	01Jan2008, 10:44	1.55
OFS5	0.0894	7.7	01Jan2008, 10:44	2.45
COMB1	6.0191	124.99	01Jan2008, 12:44	105.48
DIV1	6.0191	0	01Jan2008, 00:00	0
L05	0.2332	35.7	01Jan2008, 11:32	15.58
RR 5	0.2332	35.68	01Jan2008, 11:52	15.56
OUT1	0.2332	0	01Jan2008, 00:00	0
L04	0.00002	0	01Jan2008, 14:16	0
L03	0.00002	0	01Jan2008, 12:08	0
RR 3	0.00002	0	01Jan2008, 18:48	0
COMB3	0.00004	0	01Jan2008, 18:44	0
RR 4	0.00004	0	01Jan2008, 22:48	0
L06	0.00002	0	01Jan2008, 12:48	0
COMB4	0.00006	0	01Jan2008, 22:48	0
OUT2	0.00006	0	01Jan2008, 00:00	0
L02	0.00002	0	01Jan2008, 12:12	0
L01	0.00002	0	01Jan2008, 12:24	0
RR 1	0.00002	0	01Jan2008, 16:16	0
COMB2	0.00004	0	01Jan2008, 16:12	0

RR 2	0.00004	0	01Jan2008, 20:00	0
OUT5	0.00004	0	01Jan2008, 00:00	0
L07	0.00002	0	01Jan2008, 12:28	0
OUT3	0.00002	0	01Jan2008, 00:00	0
L08	0.00002	0	01Jan2008, 13:32	0
OUT4	0.00002	0	01Jan2008, 00:00	0

Project: lammers_watershed

Simulation Run: 10-yr 24-hr Reservoir: DET LW1

Start of Run:	01Jan2008, 00:00	Basin Model:	Basin 1
End of Run:	03Jan2008, 18:36	Meteorologic Model:	10-yr
Compute Time:	26Apr2010, 15:38:18	Control Specifications:	Control 1

Volume Units: AC-FT

Computed Results

Peak Inflow :	96.48 (CFS)	Date/Time of Peak Inflow :	01Jan2008, 12:32
Peak Outflow :	3.00 (CFS)	Date/Time of Peak Outflow :	01Jan2008, 13:40
Total Inflow :	59.5 (AC-FT)	Peak Storage :	54.9 (AC-FT)
Total Outflow :	13.9 (AC-FT)	Peak Elevation :	27.0 (FT)

Project: lammers_watershed

Simulation Run: 10-yr 24-hr Reservoir: DET LW2

Start of Run:	01Jan2008, 00:00	Basin Model:	Basin 1
End of Run:	03Jan2008, 18:36	Meteorologic Model:	10-yr
Compute Time:	26Apr2010, 15:38:18	Control Specifications:	Control 1

Volume Units: AC-FT

Computed Results

Peak Inflow :	36.82 (CFS)	Date/Time of Peak Inflow :	01Jan2008, 11:52
Peak Outflow :	2.00 (CFS)	Date/Time of Peak Outflow :	01Jan2008, 12:40
Total Inflow :	18.9 (AC-FT)	Peak Storage :	16.0 (AC-FT)
Total Outflow :	9.4 (AC-FT)	Peak Elevation :	31.9 (FT)

Project: lammers_watershed

Simulation Run: 10-yr 24-hr Reservoir: DET LW3

Start of Run:	01Jan2008, 00:00	Basin Model:	Basin 1
End of Run:	03Jan2008, 18:36	Meteorologic Model:	10-yr
Compute Time:	09Nov2010, 14:04:18	Control Specifications:	Control 1

Volume Units: AC-FT

Computed Results

Peak Inflow :	75.889 (CFS)	Date/Time of Peak Inflow :	01Jan2008, 13:04
Peak Outflow :	4.000 (CFS)	Date/Time of Peak Outflow :	01Jan2008, 14:08
Total Inflow :	58.77 (AC-FT)	Peak Storage :	52.43 (AC-FT)
Total Outflow :	18.41 (AC-FT)	Peak Elevation :	76.96 (FT)

Project: lammers_watershed

Simulation Run: 10-yr 24-hr Reservoir: DET LW4

Start of Run:	01Jan2008, 00:00	Basin Model:	Basin 1
End of Run:	03Jan2008, 18:36	Meteorologic Model:	10-yr
Compute Time:	09Nov2010, 14:04:18	Control Specifications:	Control 1

Volume Units: AC-FT

Computed Results

Peak Inflow :	14.437 (CFS)	Date/Time of Peak Inflow :	01Jan2008, 11:36
Peak Outflow :	0.500 (CFS)	Date/Time of Peak Outflow :	01Jan2008, 14:16
Total Inflow :	6.78 (AC-FT)	Peak Storage :	6.11 (AC-FT)
Total Outflow :	2.31 (AC-FT)	Peak Elevation :	51.53 (FT)

Project: lammers_watershed

Simulation Run: 10-yr 24-hr Reservoir: DET LW5

Start of Run:	01Jan2008, 00:00	Basin Model:	Basin 1
End of Run:	03Jan2008, 18:36	Meteorologic Model:	10-yr
Compute Time:	09Nov2010, 14:04:18	Control Specifications:	Control 1

Volume Units: AC-FT

Computed Results

Peak Inflow :	10.008 (CFS)	Date/Time of Peak Inflow :	01Jan2008, 11:32
Peak Outflow :	0.500 (CFS)	Date/Time of Peak Outflow :	01Jan2008, 13:12
Total Inflow :	4.76 (AC-FT)	Peak Storage :	4.08 (AC-FT)
Total Outflow :	2.33 (AC-FT)	Peak Elevation :	66.71 (FT)

Project: lammers_watershed
Simulation Run: 10-yr 24-hr Reservoir: DET LW6

Start of Run:	01Jan2008, 00:00	Basin Model:	Basin 1
End of Run:	03Jan2008, 18:36	Meteorologic Model:	10-yr
Compute Time:	14Mar2012, 15:31:23	Control Specifications:	Control 1

Volume Units: AC-FT

Computed Results

Peak Inflow :	135.98 (CFS)	Date/Time of Peak Inflow :	01Jan2008, 11:48
Peak Outflow :	4.00 (CFS)	Date/Time of Peak Outflow :	01Jan2008, 11:32
Total Inflow :	68.56 (AC-FT)	Peak Storage :	62.20 (AC-FT)
Total Outflow :	19.16 (AC-FT)	Peak Elevation :	103.33 (FT)

Project: lammers_watershed
Simulation Run: 10-yr 24-hr Reservoir: DET LW7

Start of Run:	01Jan2008, 00:00	Basin Model:	Basin 1
End of Run:	03Jan2008, 18:36	Meteorologic Model:	10-yr
Compute Time:	14Mar2012, 15:31:23	Control Specifications:	Control 1

Volume Units: AC-FT

Computed Results

Peak Inflow :	16.83 (CFS)	Date/Time of Peak Inflow :	01Jan2008, 11:16
Peak Outflow :	0.50 (CFS)	Date/Time of Peak Outflow :	01Jan2008, 11:52
Total Inflow :	6.57 (AC-FT)	Peak Storage :	5.86 (AC-FT)
Total Outflow :	2.37 (AC-FT)	Peak Elevation :	107.02 (FT)

Project: lammers_watershed
Simulation Run: 10-yr 24-hr Reservoir: DET LW8

Start of Run:	01Jan2008, 00:00	Basin Model:	Basin 1
End of Run:	03Jan2008, 18:36	Meteorologic Model:	10-yr
Compute Time:	14Mar2012, 15:31:23	Control Specifications:	Control 1

Volume Units: AC-FT

Computed Results

Peak Inflow :	56.15 (CFS)	Date/Time of Peak Inflow :	01Jan2008, 11:20
Peak Outflow :	1.50 (CFS)	Date/Time of Peak Outflow :	01Jan2008, 11:52
Total Inflow :	22.89 (AC-FT)	Peak Storage :	20.73 (AC-FT)
Total Outflow :	7.11 (AC-FT)	Peak Elevation :	107.10 (FT)

Project: lammers_watershed
Simulation Run: 10-yr 24-hr Reservoir: DET LW9A

Start of Run:	01Jan2008, 00:00	Basin Model:	Basin 1
End of Run:	03Jan2008, 18:36	Meteorologic Model:	10-yr
Compute Time:	14Mar2012, 15:31:23	Control Specifications:	Control 1

Volume Units: AC-FT

Computed Results

Peak Inflow :	133.86 (CFS)	Date/Time of Peak Inflow :	01Jan2008, 11:40
Peak Outflow :	10.00 (CFS)	Date/Time of Peak Outflow :	01Jan2008, 10:56
Total Inflow :	86.99 (AC-FT)	Peak Storage :	52.24 (AC-FT)
Total Outflow :	48.72 (AC-FT)	Peak Elevation :	129.04 (FT)

Project: lammers_watershed
Simulation Run: 10-yr 24-hr Reservoir: DET LW9B

Start of Run:	01Jan2008, 00:00	Basin Model:	Basin 1
End of Run:	03Jan2008, 18:36	Meteorologic Model:	10-yr
Compute Time:	14Mar2012, 15:31:23	Control Specifications:	Control 1

Volume Units: AC-FT

Computed Results

Peak Inflow :	31.93 (CFS)	Date/Time of Peak Inflow :	01Jan2008, 11:20
Peak Outflow :	1.00 (CFS)	Date/Time of Peak Outflow :	01Jan2008, 12:00
Total Inflow :	12.67 (AC-FT)	Peak Storage :	11.26 (AC-FT)
Total Outflow :	4.73 (AC-FT)	Peak Elevation :	126.97 (FT)

Project: lammers_watershed

Simulation Run: 10-yr 24-hr Reservoir: DET LW10A

Start of Run:	01Jan2008, 00:00	Basin Model:	Basin 1
End of Run:	03Jan2008, 18:36	Meteorologic Model:	10-yr
Compute Time:	14Mar2012, 15:31:23	Control Specifications:	Control 1

Volume Units: AC-FT

Computed Results

Peak Inflow :	15.41 (CFS)	Date/Time of Peak Inflow :	01Jan2008, 10:48
Peak Outflow :	0.33 (CFS)	Date/Time of Peak Outflow :	01Jan2008, 11:12
Total Inflow :	4.43 (AC-FT)	Peak Storage :	3.97 (AC-FT)
Total Outflow :	1.58 (AC-FT)	Peak Elevation :	187.05 (FT)

Project: lammers_watershed

Simulation Run: 10-yr 24-hr Reservoir: DET LW10B

Start of Run:	01Jan2008, 00:00	Basin Model:	Basin 1
End of Run:	03Jan2008, 18:36	Meteorologic Model:	10-yr
Compute Time:	14Mar2012, 15:31:23	Control Specifications:	Control 1

Volume Units: AC-FT

Computed Results

Peak Inflow :	25.96 (CFS)	Date/Time of Peak Inflow :	01Jan2008, 11:08
Peak Outflow :	0.67 (CFS)	Date/Time of Peak Outflow :	01Jan2008, 11:44
Total Inflow :	9.29 (AC-FT)	Peak Storage :	8.35 (AC-FT)
Total Outflow :	3.18 (AC-FT)	Peak Elevation :	186.99 (FT)

Project: lammers_watershed
Simulation Run: 10-yr 24-hr Reservoir: DET LW11

Start of Run:	01Jan2008, 00:00	Basin Model:	Basin 1
End of Run:	03Jan2008, 18:36	Meteorologic Model:	10-yr
Compute Time:	09Nov2010, 14:04:18	Control Specifications:	Control 1

Volume Units: AC-FT

Computed Results

Peak Inflow :	32.970 (CFS)	Date/Time of Peak Inflow :	01Jan2008, 11:40
Peak Outflow :	2.500 (CFS)	Date/Time of Peak Outflow :	01Jan2008, 14:00
Total Inflow :	20.67 (AC-FT)	Peak Storage :	15.56 (AC-FT)
Total Outflow :	11.52 (AC-FT)	Peak Elevation :	126.81 (FT)

Project: lammers_watershed

Simulation Run: 10-yr 24-hr Reservoir: DET LW12

Start of Run:	01Jan2008, 00:00	Basin Model:	Basin 1
End of Run:	03Jan2008, 18:36	Meteorologic Model:	10-yr
Compute Time:	09Nov2010, 14:04:18	Control Specifications:	Control 1

Volume Units: AC-FT

Computed Results

Peak Inflow :	26.902 (CFS)	Date/Time of Peak Inflow :	01Jan2008, 10:56
Peak Outflow :	0.500 (CFS)	Date/Time of Peak Outflow :	01Jan2008, 11:28
Total Inflow :	8.50 (AC-FT)	Peak Storage :	7.81 (AC-FT)
Total Outflow :	2.38 (AC-FT)	Peak Elevation :	186.99 (FT)

Project: lammers_watershed

Simulation Run: 10-yr 24-hr Reservoir: DET-OFF2

Start of Run:	01Jan2008, 00:00	Basin Model:	Basin 1
End of Run:	03Jan2008, 18:36	Meteorologic Model:	10-yr
Compute Time:	09Nov2010, 14:04:18	Control Specifications:	Control 1

Volume Units: AC-FT

Computed Results

Peak Inflow :	115.589 (CFS)	Date/Time of Peak Inflow :	01Jan2008, 11:44
Peak Outflow :	2.337 (CFS)	Date/Time of Peak Outflow :	02Jan2008, 02:56
Total Inflow :	79.24 (AC-FT)	Peak Storage :	77.07 (AC-FT)
Total Outflow :	9.40 (AC-FT)	Peak Elevation :	229.20 (FT)

Lammers Watershed - 100-yr Peak Flows

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (AC-FT)

OFS2	4.516	386.76	01Jan2008, 11:32	186.96
DET-OFF2	4.516	4.94	02Jan2008, 02:52	20.35
L15a	0.26	113.93	01Jan2008, 10:56	34.93
DET L15a	0.26	8	01Jan2008, 05:52	34.93
L15b	0.138	65.79	01Jan2008, 10:48	18.56
L15d	0.064	32.88	01Jan2008, 10:44	8.61
DET L15b	4.978	86.58	01Jan2008, 11:08	82.44
L15c	0.025	14.14	01Jan2008, 10:40	3.36
CPL15	5.003	94.57	01Jan2008, 11:04	85.8
RR14	5.003	94.41	01Jan2008, 11:20	85.47
L16B	0.139	41.98	01Jan2008, 11:08	14.56
DET LW10B	0.139	0.67	01Jan2008, 11:00	3.23
L16A	0.066	24.95	01Jan2008, 10:48	6.94
DET LW10A	0.066	0.33	01Jan2008, 10:40	1.6
COMB10	5.208	95.41	01Jan2008, 11:20	90.31
RR 15	5.208	95.14	01Jan2008, 11:40	89.84
L17A	0.431	108.06	01Jan2008, 11:28	45.32
DET LW9A	5.639	10	01Jan2008, 09:40	49.76
L17B	0.189	51.56	01Jan2008, 11:20	19.88
DET LW9B	0.189	1	01Jan2008, 11:08	4.81
RR09	0.189	1	01Jan2008, 11:16	4.8
COMB9	5.828	11	01Jan2008, 11:16	54.56
RR 16	5.828	11	01Jan2008, 11:32	54.35
L18	0.351	90.57	01Jan2008, 11:20	35.91
DET LW8	0.351	1.5	01Jan2008, 11:08	7.24
RR 17	0.351	1.5	01Jan2008, 11:28	7.2
L19	0.098	27.18	01Jan2008, 11:16	10.31
DET LW7	0.098	0.5	01Jan2008, 11:04	2.41
COMB12	6.277	13	01Jan2008, 11:32	63.96
RR 18	6.277	13	01Jan2008, 11:48	63.7
L14	0.976	203.6	01Jan2008, 11:56	101.52
L13	0.0576	21.76	01Jan2008, 10:48	6.06
RR 13	0.0576	21.65	01Jan2008, 11:20	6.04
DET LW6	1.0336	4	01Jan2008, 10:48	19.55
L10	0.3523	25.3	01Jan2008, 12:40	16.6
L12	0.1614	43.56	01Jan2008, 11:20	16.89
L11	0.1307	43.54	01Jan2008, 10:56	13.34
L09	0.00002	0	01Jan2008, 12:16	0
RR 9	0.00002	0	01Jan2008, 15:08	0
DET LW12	0.13072	0.5	01Jan2008, 10:48	2.42
RR 10	0.13072	0.5	01Jan2008, 11:40	2.38
COMB7	0.29212	43.96	01Jan2008, 11:20	19.27
RR 11	0.29212	43.89	01Jan2008, 11:32	19.23
DET LW11	0.64442	2.5	01Jan2008, 12:00	11.75
RR 12	0.64442	2.5	01Jan2008, 12:20	11.67

Lammers Watershed - 100-yr Peak Flows

Hydrologic Element	Drainage Area (MI2)	Peak Discharge (CFS)	Time of Peak	Volume (AC-FT)
COMB14	7.95502	19.5	01Jan2008, 12:20	94.92
RR 19	7.95502	19.5	01Jan2008, 12:36	94.48
COMB15	7.95502	19.5	01Jan2008, 12:36	94.48
RR 20	7.95502	19.5	01Jan2008, 12:40	94.43
L21	0.1085	18.39	01Jan2008, 11:32	8.17
DET LW5	0.1085	0.5	01Jan2008, 11:36	2.37
COMB16	8.06352	20	01Jan2008, 12:40	96.81
RR 21	8.06352	20	01Jan2008, 12:48	96.68
L24	0.851	117.38	01Jan2008, 13:00	79.61
L20	0.146	42.17	01Jan2008, 11:08	14.92
Reach-1	0.146	42.12	01Jan2008, 11:12	14.92
DET LW3	0.997	4	01Jan2008, 12:20	18.84
Reach-2	0.997	4	01Jan2008, 12:28	18.82
COMB16A	9.06052	24	01Jan2008, 12:48	115.5
RR21A	9.06052	24	01Jan2008, 12:56	115.28
L21A	0.1345	25.44	01Jan2008, 11:36	11.32
DET LW4	0.1345	0.5	01Jan2008, 11:56	2.36
Reach-4	0.1345	0.5	01Jan2008, 12:04	2.35
COMB16B	9.19502	24.5	01Jan2008, 12:56	117.63
RR21B	9.19502	24.5	01Jan2008, 13:08	117.28
L22	0.3054	59.64	01Jan2008, 11:52	29.84
DET LW2	0.3054	2	01Jan2008, 11:40	9.55
COMB17	9.50042	26.5	01Jan2008, 13:08	126.83
RR 22	9.50042	26.5	01Jan2008, 13:28	126.09
L23	0.9656	158.26	01Jan2008, 12:32	94.86
DET LW1	0.9656	3	01Jan2008, 12:20	14.12
COMB18	10.46602	29.5	01Jan2008, 13:28	140.21
OFS3	5.6926	375.08	01Jan2008, 12:28	238.36
OFS4	0.2371	7.05	01Jan2008, 11:04	4.83
OFS5	0.0894	19.79	01Jan2008, 10:44	5.11
COMB1	6.0191	385.06	01Jan2008, 12:28	248.3
DIV1	6.0191	0	01Jan2008, 00:00	0
L05	0.2332	57.6	01Jan2008, 11:32	24.43
RR 5	0.2332	57.5	01Jan2008, 11:48	24.41
OUT1	0.2332	0	01Jan2008, 00:00	0
L04	0.00002	0	01Jan2008, 13:56	0
L03	0.00002	0	01Jan2008, 11:56	0
RR 3	0.00002	0	01Jan2008, 17:00	0
COMB3	0.00004	0	01Jan2008, 17:00	0
RR 4	0.00004	0	01Jan2008, 20:08	0
L06	0.00002	0	01Jan2008, 12:32	0
COMB4	0.00006	0	01Jan2008, 20:08	0
OUT2	0.00006	0	01Jan2008, 00:00	0
L02	0.00002	0	01Jan2008, 12:00	0
L01	0.00002	0	01Jan2008, 12:12	0
RR 1	0.00002	0	01Jan2008, 15:20	0