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Hydrology Technical Report

San Diego State University Mission Valley Campus Project

Prepared for

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Project Number: SW0311

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ACRONYMS AND ABBREVIATIONS

BMP	Best Management Practice
FEMA	Flood Emergency Management Agency
FIRM	Flood Insurance Rate Map
IDF	Intensity Duration Frequency
LiDAR	Light detection and ranging
NFIP	National Flood Insurance Program
REC	Rick Engineering Company
SDCHM	San Diego County Hydrology Manual
SDDDM	City of San Diego Drainage Design Manual
SDSU	San Diego State University

1. PURPOSE

This technical report presents an analysis of anticipated changes to the hydrologic and hydraulic conditions associated with development of the proposed San Diego State University (SDSU) Mission Valley Campus Master Plan Project (Project). The Project proposes the redevelopment of the approximately 170-acre existing San Diego County Credit Union (SDCCU) stadium site and associated parking lot. Geosyntec prepared this hydrology technical report to support the preparation of a draft Environmental Impact Report (DEIR) and the environmental review process under the California Environmental Quality Act (CEQA).

This technical report evaluates the existing (pre-project) and proposed (post-project) hydrologic and hydraulic conditions of the site to assess if the proposed Project conditions would result in increased runoff. The existing site conditions include the SDCCU stadium and associated parking lot. The Project conditions were based on January 2019 design drawings provided by Rick Engineering Company (REC).

The remainder of this report is structured as follows:

- Section 2: Discusses the approach to evaluate existing and Project peak discharges from the site.
- Section 3: Discusses the existing storm drain infrastructure capacity and peak discharge.
- Section 4: Discusses the proposed storm drain infrastructure capacity and peak discharge.
- Section 5: Discusses the impacts to offsite drainage areas as a result of project activities.
- Section 5: Discusses the known and expected run-on and floodplain conditions.

The work described in this technical report was conducted by Geosyntec Consultants (Geosyntec) on behalf of Gatzke Dillon & Ballance LLP. The primary author of the report was Rachel Hill, PE. Senior review was conducted by Trevor Alsop and Courtney Wilson, PE in accordance with Geosyntec's quality assurance protocols.

2. APPROACH

Peak flows were estimated for onsite runoff associated with 50- and 100-year frequency storm events for the existing and proposed conditions to assess changes in peak runoff as a result of the Project.

2.1 Hydrology

The Project occupies less than one square mile of area, so in accordance with the City of San Diego Drainage Design Manual (SDDDM), the Rational Method was used to determine the peak runoff from the site. The rational method, Equation 1, relates site runoff to size of drainage area, rainfall intensity, and land cover characteristics.

$$Q = C * i * A \qquad \text{Equation 1}$$

Where Q = runoff (cubic feet per second [cfs])
C = runoff coefficient (unitless)
i = rainfall intensity (inches/hour)
A = area (acres)

2.1.1 Drainage Area Delineation

Onsite drainage areas (i.e., subcatchments) were delineated based on existing and proposed catch basin locations. Catch basins were identified on as-built plans and the January 2019 design drawings, for the existing and proposed conditions, respectively. Existing and offsite topography for the site was obtained from SanGIS data downloads, which provide two-foot contours developed from LiDAR data collected in 2014. Proposed grading was indicated in the design drawings provided by REC.

2.1.2 Runoff Coefficient

A runoff coefficient (i.e., C-Factor) is a factor within the Rational Method equation to account for rainfall losses that occur based on the soil type and land cover. In general, pervious areas such as parks create less runoff than impervious areas such as parking lots. Values applicable to the project site were determined based on Hydrologic Soil Group (HSG) Type D soils. The SDDDM provides runoff coefficients for urban land uses in Table A-1 and recommends that for "parks, golf courses, or other types of nonurban land use that are expected to be permanent, the appropriate value should be selected based upon the soil and cover and approved by the City." Table 1 provides a summary of the C-factors used based on percent of impervious and pervious areas. The precent of impervious area was determined from existing conditions and planning documents provided by Carrier Johnson (Carrier Johnson, 2019).

Table 1: Runoff Coefficients (C-Factors)

% Impervious	% Pervious	C
90	10	0.95
80	20	0.85
70	30	0.70
60	40	0.64
40	60	0.57

% Impervious	% Pervious	C
30	70	0.52
20	80	0.46
10	90	0.41
0	100	0.35

2.1.3 Time of Concentration

For the existing condition subcatchments, the time of concentration (T) was determined by the longest flow distance and Figure A-4 of the SDDDM, which indicates that Equation 2 shall be used for lengths greater than 100 feet.

$$T = \frac{1.8 * (1.1 - C) * \sqrt{D}}{\sqrt[3]{s}} \qquad \text{Equation 2}$$

Where T = time of concentration (minutes)
D = flow distance (feet)
s = slope (feet/feet)
C = runoff coefficient (unitless)

2.2 Hydraulics

HydroCAD—a software program that allows the designer to input hydrologic conditions including area, runoff coefficient, and time of concentration—was used to complete the Rational Method runoff analysis and drainage system routing evaluations.

2.2.1 IDF Curves

The SDDDM provides intensity duration frequency (IDF) curves that relate the duration of a storm event, which is equivalent to the time of concentration as determined by the Rational Method, to the rainfall intensity in a topographic region. The SDDDM IDF curves were inputs to the HydroCAD model using an elevation factor of 1.00 as appropriate for sites below an elevation of 1,500 feet. The 50- and 100-year storm event intensity was determined using a storm duration equal to the longest time of concentration for the drainage system. For rainfall intensities used for each storm event, see existing and proposed HydroCAD reports in Appendix A.4 and B.5, respectively.

2.2.2 Catch Basins

In HydroCAD, catch basins were modeled as a Catch Basin "pond" node with insignificant storage, shown as a grey node in Figure 1. Catch basin inlet and outlet structures were modeled based on information (e.g., orifice size and pipe slope) gleaned from the available as-built plans, field data, and proposed grading plans as appropriate. A standard catch basin inlet included a horizontal orifice to model the grate inlet and a vertical orifice to model the storm drain pipe outlet from the catch basin. Three inches of localized ponding were allowed before the catch basin overflows to the next downstream catch basin.

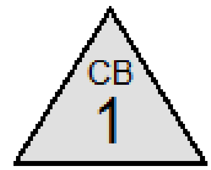

Figure 1: HydroCAD Catch Basin "pond" node

Catch basin inlets were assumed to be San Diego Regional Standard Drawing "Catch Basin – Type G" with a 2-foot by 3-foot grate inlet. See Storm Drain Network Exhibits, Standard Drawings, and Grading Plans in Appendix B.1. A sensitivity analysis was conducted to determine whether grate inlets or pipe sizes would control. At no point were the grate inlets controlling compared to pipe flow. Therefore, to optimize model convergence, the grate inlets were not included in the full pipe conveyance models.

2.2.3 Detention Pond

In the existing condition, localized ponding is known to occur along the southern boundary prior to discharge for large storm events. Based on grading plans provided, ponding will also be designed to occur in the proposed condition. To model the ponded area, the surface area at incremental elevations was measured in GIS and input as a Detention Pond "pond" node in HydroCAD, shown as a blue node in Figure 2. The pond was modeled using the Storage-Indication routing method and a 0.01-hour time step (HydroCAD User Manual). The maximum ponding elevation was used to generate figures illustrating the existing and proposed estimated extents of ponding located in Appendix A.5 and B.6 respectively.

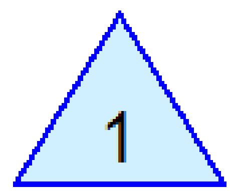

Figure 2: HydroCAD Detention Pond "pond" node

3. EXISTING DRAINAGE SYSTEM ANALYSIS

3.1 Existing Conditions

The Project site currently consists of a large multi-purpose stadium and associated parking lot. The parking lot covers most of the site (Figure 3). The Project site is bordered by the San Diego River on the south and Murphy Canyon Creek on the east. There are currently eight major outfalls from the project, six that discharge south into the San Diego River and two that discharge east into the Murphy Canyon Channel. Four outfalls are impacted by the project and included in this evaluation—Drainage Systems A, B, C and D (Figure 3)—that discharge runoff from the existing site to the San Diego River. There is no project impact to the two outfalls into Murphy Canyon Channel. The existing site is mostly impervious and includes the stadium, buildings, and surrounding parking lot. The current stadium was constructed on a raised earthen mound above the San Diego River 100-year floodplain. Much of the parking lot is within the 100-year floodplain. More detailed information about the floodplain is presented in Section 5.

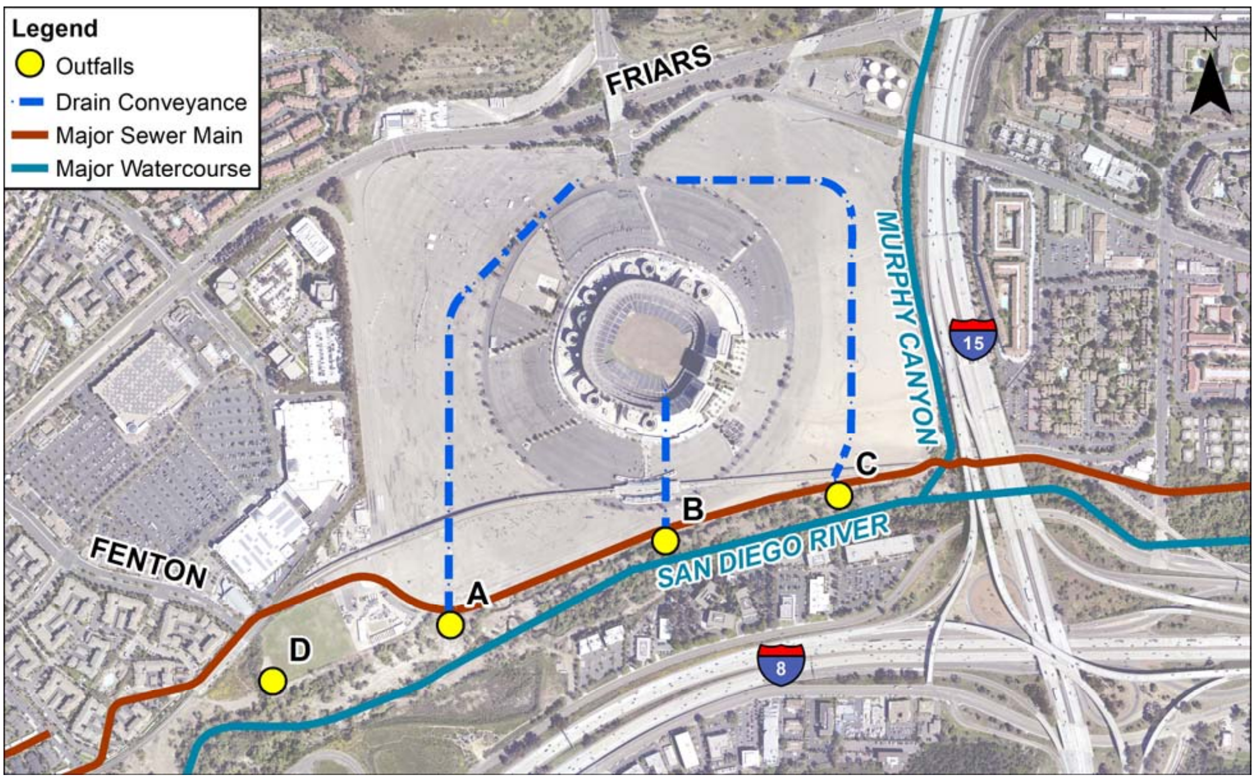

Figure 3: Existing Conditions Site Map

3.2 Existing Conditions Hydrology

3.2.1 Drainage Area

Drainage systems A and C collect runoff from and drain the parking lot area, while drainage system B drains the stadium. Drainage system D drains the practice fields and building area in the south west corner of the site. Minor areas of offsite run-on from the adjacent road and hillside discharge onto the parking lot on the north and west sides. As-built plans for the existing drainage systems are presented in Appendix A.1. A drainage area exhibit is provided in Appendix A.2.

3.2.2 Runoff Coefficient

The area surrounding the stadium is predominantly asphalt parking lot. Inside the stadium the turf was assumed to be lined and therefore all precipitation would be collected in drainage System B rather than infiltrating into the ground. As such, a runoff coefficient (i.e., C-factor) of 0.95 was used for most areas in the existing condition. See runoff coefficient references in Appendix A.3.

3.2.3 Time of Concentration

For each subcatchment the time of concentration was determined by the longest flow distance and Equation 2. The longest time of concentration for the drainage system was used to determine the design storm rainfall intensity.

3.2.4 Results

A summary of the existing conditions is provided in Table 2.

Table 2: Summary of Existing Hydrology

Drainage system	Drainage Area (acres)	C (unitless)	Max. Time of Concentration (min)	Rainfall Intensity (in/hr)		Peak Runoff (cfs)	
				50-yr	100-yr	50-yr	100-yr
A	95	0.95	7	3.80	4.00	291	309
B	10	0.95	5	4.20	4.50	37	39
C	64	0.95	7	3.80	4.00	200	212
D	3.0	0.52	20	3.25	3.45	3.6	3.8

3.3 Existing Conditions Hydraulics

3.3.1 Data Sources

As-built plans were used in conjunction with field-collected data to determine the reach lengths of the storm drain network and dimensions of the existing catch basins. As-builts for the original storm drain construction were dated 1966. The survey datum for the United States was updated in the early 1980s, resulting in inconsistent elevation data provided for a particular point before and after this adjustment, (Caltrans Survey Manual Chapter 4: Survey Datums). As-built data from 1966 plans were used to determine storm drain slopes and catch basin depths, which are independent of elevation datum discrepancies. Catch basin depths were field-verified to account for any potential discrepancies due to updated elevation datums. LiDAR data from 2014 as provided by SanGIS was used to determine catch basin grate inlet elevations.

Prior to discharging, the existing storm drains penetrate through an 84- to 96-inch diameter sanitary sewer main paralleling the north bank of the San Diego River. Drainage systems A, B, and C discharge into the San Diego River via 36-inch reinforced concrete pipes (RCP). The storm drain lines are reduced to 34-inch steel pipes to pass through the sewer main and are cased in polyethylene to prevent comingling of sewer and storm water flows. Because of this design, the outfalls cannot be modified. Drainage System D discharges into an earthen channel which discharges into the San Diego River. See Storm Drain Network Exhibits and As-Builts in Appendix A.2. Model inputs and results are presented in Appendix A.4: HydroCAD Reports.

3.3.2 Results

The diameter of the three major storm drain outfalls to the San Diego River is the limiting factor for the drainage systems discharge capacity. For large storm events (i.e., 50- and 100-year events), excess runoff ponds above ground until it can be conveyed through the pipe drainage system to the river outfalls.

Hydraulic modeling results are presented in Table 3. Estimated extents of localized ponding are shown in Appendix A.5.

Table 3: Summary of Existing Hydraulics

Drainage system	Peak Discharge (cfs)		Max Ponding Depth (ft)		Velocity (fps)	
	50-yr	100-yr	50-yr	100-yr	50-yr	100-yr
A	62	69	3.3	3.4	9.8	9.9
B	13	13	n/a	n/a	4.0	4.0
C	56	56	0.89	0.90	8.9	9.0
D	3.6	3.8	n/a	n/a	n/a	n/a

4. PROPOSED ONSITE DRAINAGE SYSTEM ANALYSIS

4.1 Proposed Conditions

The Project development includes new campus-related residential buildings, commercial/retail, stadium, roads, and creation of a River Park along the San Diego River. The River Park will serve as a floodplain buffer between the San Diego River and the developed portions of the Project, which will be constructed on pads elevated above the floodplain depths. The drainage design for the Project includes routing onsite runoff through permanent storm water quality basins (addressed under a separate technical report effort). After passing through the water quality basins, storm water would be conveyed through proposed pipe drainage systems and discharge at the existing storm drain outfalls. Water quality basins are designed to treat a "low-flow" storm event to address pollutant loads. Flows in excess of the "low-flow" bypasses the basin and is conveyed directly to the storm drain outlets. Therefore, for the purpose of flood condition modeling, the water quality basins were assumed to be full/clogged and the storage capacity of the basins was excluded from the model. As discussed in Section 3.3, the existing outfalls for drainage systems A, B, and C penetrate through an 84- to 96-inch diameter sanitary sewer main paralleling the north bank of the San Diego River and the outfalls cannot be modified. The proposed drainage system would tie into the existing outfalls for the three drainage systems indicated in Figure 4. Flow in excess of the capacity of Outfalls B and C are designed to pond above ground before discharge, similar to the existing condition. Flow in excess of the capacity of Outfall A is conveyed in a constructed channel to Outfall D.

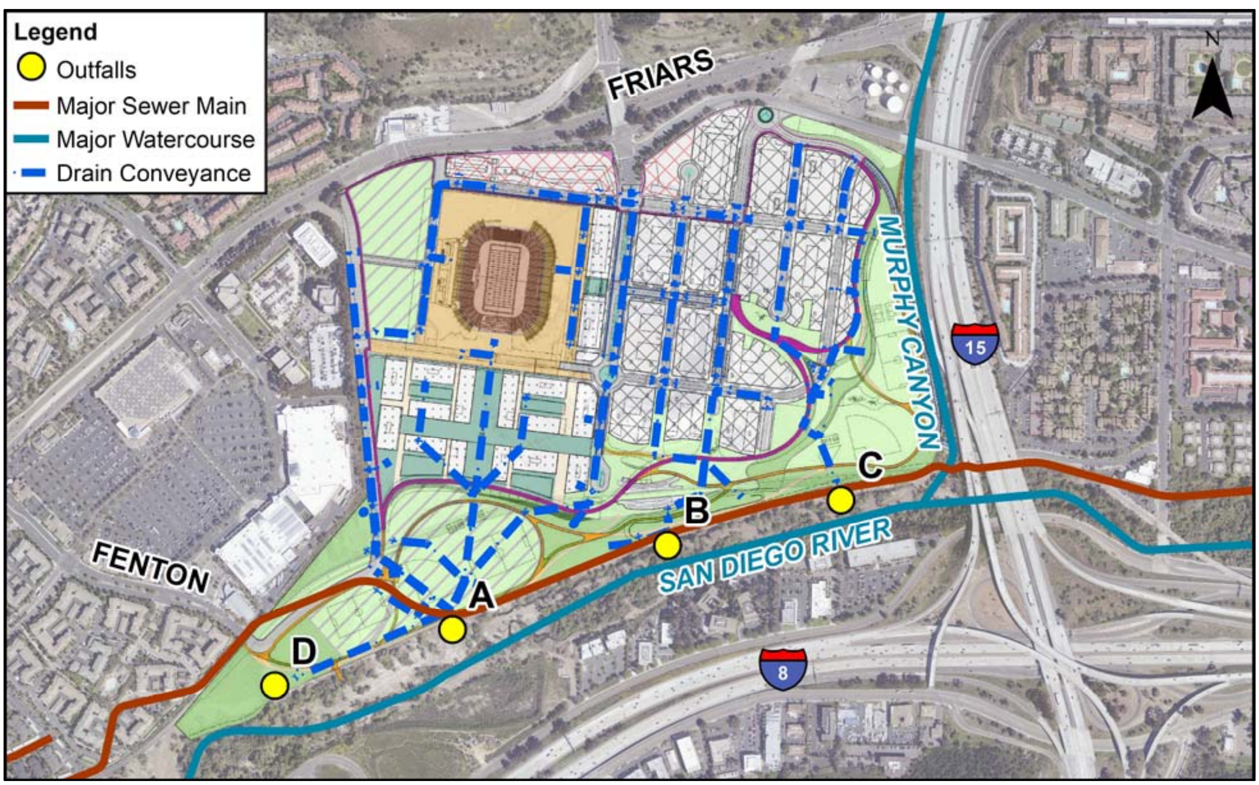

Figure 4: Proposed Conditions Site Map

4.2 Proposed Conditions Hydrology

4.2.1 Drainage Area

Drainage area delineations were made using SanGIS 2014 2-foot contours and grading plans in the 75% Design Drawings provided by REC. The site was generally assumed to drain southerly toward the San Diego River. Buildings were assumed to have flat roofs with symmetrical downspouts discharging to the adjacent streets and alleyways. Areas of offsite run-on that were included in the existing delineations were assumed to be maintained in the proposed conditions. Drainage areas were delineated to each catch basin inlet as called out in the plans; see Storm Drain Network Exhibits and Grading Plans in Appendix B.1 and Drainage Area Exhibit provided in Appendix B.2.

4.2.2 Runoff Coefficient

The Project land cover will be a campus with a mix of park areas, sport fields, buildings, and parking lots. Per the SDDDM, all soils were assumed to be HSG Type D. Drainage System A will drain the stadium, soccer fields, mall, the western portion of the proposed housing, and a large portion of the River Park. Drainage System B will drain the entrance, the central portion of housing, trolley stop, and the eastern portions of the stadium and mall. Drainage System C will drain the eastern portion of the housing and a large portion of the River Park. Drainage System D will drain the ball field and excess runoff from System A. Runoff coefficients were adapted from the Landcover Plan in the January 2019 Consultant Package provided by Carrier Johnson (Carrier Johnson, 2019), and references as discussed in Section 2.1.2, Appendix B.3 Proposed Condition: Runoff Coefficient.

4.2.3 Time of Concentration

A time of concentration for the proposed condition for small areas (i.e., less than 3 acres) was assumed to be five minutes. Five minutes is a typical conservative estimate of overland flow for sub-catchments of small size and is the smallest value reported on SDDDM intensity-duration-frequency (IDF) curves. For larger drainage areas with primarily overland flow the time of concentration was determined by the longest flow distance and Equation 2. The longest time of concentration for the drainage system was used to determine the design storm rainfall intensity. The longest flow path and time of concentration for each system was calculated as provided in Appendix B.4.

4.2.4 Results

A summary of the runoff for the 24-hour, 50- and 100-years storms in the proposed conditions is provided in Table 4.

Table 4: Summary of Proposed Hydrology

Drainage system	Drainage Area (acres)	C (unitless)	Max. Time of Concentration (min)	Rainfall Intensity (in/hr)		Peak Runoff (cfs)	
				50-yr	100-yr	50-yr	100-yr
A	87.2	0.66	30	1.90	2.00	109	116
B	43.7	0.70	24	2.15	2.26	66	69
C	37.8	0.64	29	1.90	2.00	46	49
D	2.9	0.52	20	*	*	2.9	3.1

*System D analyzed as a part of System A in the proposed models.

4.3 Proposed Conditions Hydraulics

4.3.1 Data Sources

Storm drain infrastructure and grading plans were developed and provided by REC (January 2019 design drawings). If not otherwise provided in the grading plans, pipes were assumed to be 18-inch diameter pipes at a 1% slope.

For the purposes of flood modeling, the proposed water quality basins were assumed to be full and their storage capacity was excluded from the model. Water quality basin surface areas were incorporated in their appropriate subcatchment as grassed park land use.

4.3.2 Results

Similar to the existing condition, the diameter of the three major storm drain outfalls to the San Diego River will be the limiting factor of the drainage systems discharge capacity in the proposed condition. For large storm events (i.e., 50- and 100-year events), the Drainage Systems B and C will be designed to allow excess runoff to pond above ground in the River Park buffer areas until it can be conveyed through the pipe drainage system to the three storm drain outfalls. Drainage System A is designed to convey excess runoff through a spillway to Outfall D.

Model inputs and results at each node can be found in Appendix B.5: HydroCAD Reports. A summary of hydraulic modeling results for the 50- and 100-year events are presented in Table 5. Estimated extents of localized ponding at outfalls B and C are shown in Appendix B.6.

Table 5: Summary of Proposed Hydraulics

Drainage system	Peak Discharge (cfs)		Max Ponding Depth (ft)		Velocity (fps)	
	50-yr	100-yr	50-yr	100-yr	50-yr	100-yr
A	70	70	n/a	n/a	11.0	11.1
B	63	64	0.05	0.14	10.0	10.2
C	46	49	0	0	8.7	8.7
D	34	42	n/a	n/a	1.3	1.4

5. OFFSITE

The Project involves some minor improvements to offsite areas including road widening along Friars Road and extending the existing 96-inch storm drain outfall under the new road extension of Fenton Parkway. These activities are addressed in the following section.

5.1 Road Widening

The Project includes minor impacts to Friars Road north of the site, as seen in Appendix C.1. These impacts are associated with lane widening for the on/off ramps from Friars Road to Mission Village Drive and the intersection at Friars Road and Northside Drive. Water quality from the road widening will be addressed by green street design (Rick 2019a). The result of these impacts is a slight increase in impervious area. The change in impervious area creates a negligible impact on the runoff from the affected areas. See Table 6 below for a summary of existing and proposed offsite runoff peak flow rates for the 50- and 100-year storms.

Table 6: Summary of Offsite Runoff for Road Widening

Condition	Drainage Area (ac)	% Impervious	Runoff Coefficient (C)	Peak Runoff (cfs)	
				50-yr	100-yr
Existing	27.2	83	0.88	81	86
Proposed	27.2	84	0.89	83	88
% Change	0	1%	1%	2%	2%

5.2 Storm Drain Extension

The Project includes extending Fenton Parkway into the proposed development from the intersection with the trolley line at the southwest corner of the site. In the existing conditions, there is a 96-inch diameter storm drain outfall that discharges stormwater from a large upland drainage area (offsite) into the storm drain running under Fenton Parkway. Runoff to this storm drain is from the canyons and urban areas north of the site as seen in Appendix C.4. Outfall D discharges just below this outfall and is not anticipated to have any impact on the peak discharge to this point. Because of the relative size of the Project site compared to the size of the drainage area to the 96-inch outfall, the peak in storm events will happen at significantly different times and is therefore not anticipated to affect either peak flows. The 96-inch outfall has a Tc of over an hour while the drainage from the Project area is a tenth of that size and has a time of concentration half that size. This means that the smaller peaks of the two events will not coincide and the discharge to outfall D will have minimal impact on the discharge of the 96-inch outfall to the San Diego River.

The extension of the outfall will require removal of vegetation and restoration of the existing earthen channel. The design for this channel will need to incorporate energy dissipation features to convey flow in a non-erosive manner all the way to the San Diego River.

5.3 Flood Plain

The site includes Murphy Canyon Channel within the eastern project boundary. The San Diego River is to the south of the project site. Portions of the site are located within the 100-year floodplain for both the San Diego River and Murphy Canyon Channel, as shown on the Federal Emergency Management Agency (FEMA) floodplain maps included in Appendix D. Therefore, the Project would be subject to floodplain requirements in accordance with the FEMA National Flood Insurance Program (NFIP). The Project development areas would be setback from the channels, allowing for active and passive park areas to be incorporated along the easterly and southerly edge of the development. Park areas would provide a more natural floodplain during larger storms events and reduce or eliminate the commingling of flood waters with developed areas and associated pollutants.

6. FINDINGS

As discussed in Sections 3 and 4, the Project will maintain the same outfalls and localized ponding condition in the proposed condition as the existing condition. The Project will include significant area that will be developed as active and passive park areas to further isolate flooding from developed areas. This feature of the project results in a significant reduction in the overall impervious area, as can be seen in the corresponding reductions in the C-factors, relative to the existing condition. This has the effect of reducing the overall peak runoff from the site in the proposed condition as indicated in Table 7.

Table 7: Comparison of Existing and Proposed Site Conditions for 100-year Rational Method Event

	Existing Condition				Proposed Condition			
Outfall	**Area** (acres)	**C**	**Runoff** (cfs)	**Discharge** (cfs)	**Area** (acres)	**C**	**Runoff** (cfs)	**Discharge** (cfs)
A	95	0.95	309	63	87	0.66	116	70
B	10	0.95	39	13	44	0.7	69	64
C	64	0.95	212	56	38	0.64	49	49
D	3	0.52	3.8	3.8	2.9	0.52	3.1	42

7. REFERENCES

Carrier Johnson, 2019. Carrier Johnson, Rick Engineering, and Fehr Peers. (n.d.). *SDSU Mission Valley Development Package*. *SDSU Mission Valley Development Package*, tech., 1–84.

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Rick Engineering, 2019a. Green Streets Elements for SDSU Mission Valley Campus Adjacent Improvements – PDP Exempt. Letter addressed to City of San Diego from Rick Engineering Company. February 12, 2019.

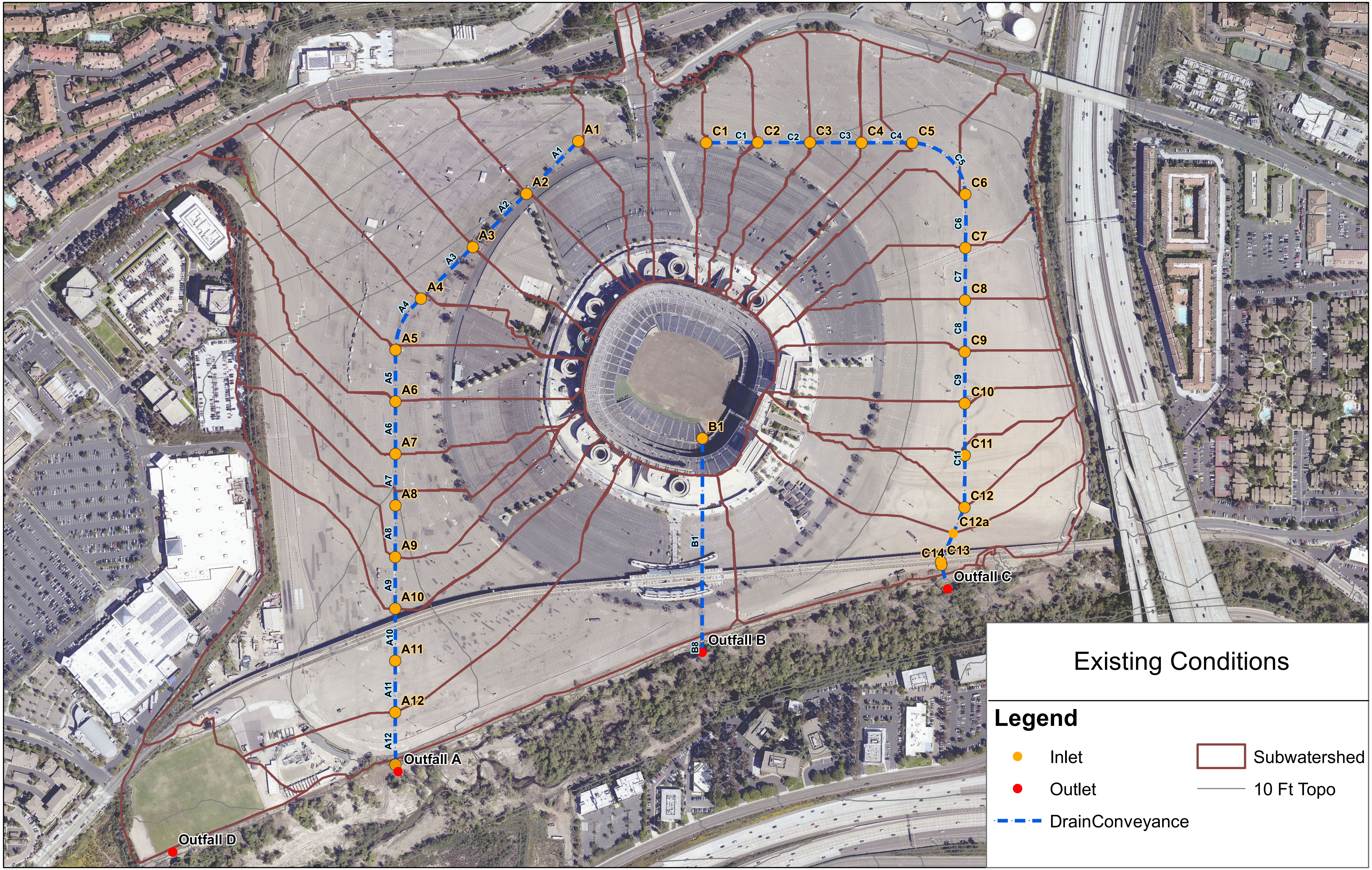
Rick Engineering, 2019b. Drainage Study for SDSU Mission Valley Campus (Onsite Improvements) (Preliminary Engineering/Design Development). Prepared for San Diego State University c/o Gatzke Dillon & Ballance LLP. February 12, 2019.

Rick Engineering, 2019c. Water Quality Report for SDSU Mission Valley Campus (Onsite Improvements) (Preliminary Engineering/Design Development). Prepared for San Diego State University c/o Gatzke Dillon & Ballance LLP. February 12, 2019.

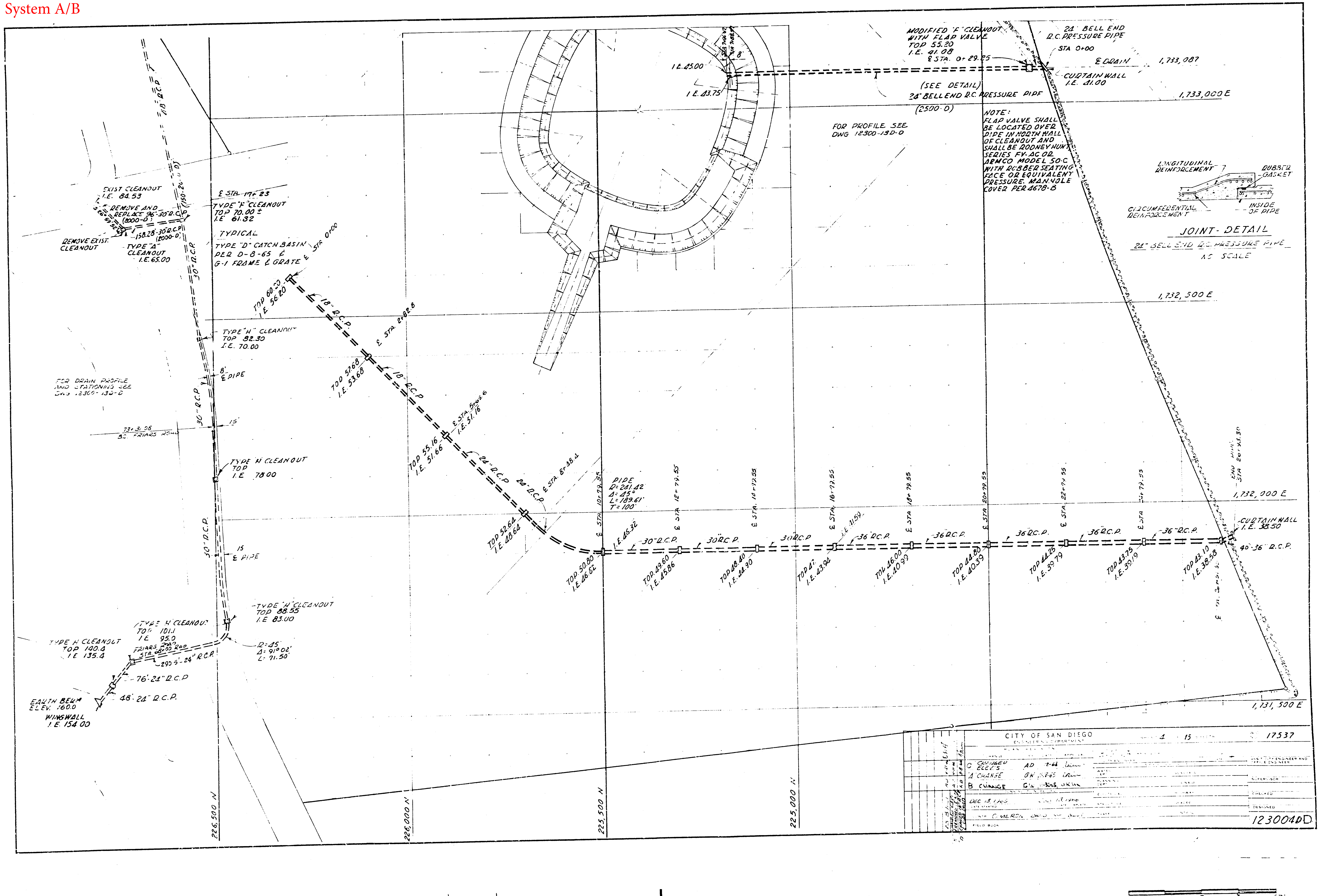
APPENDIX A

Existing Conditions Supporting Material

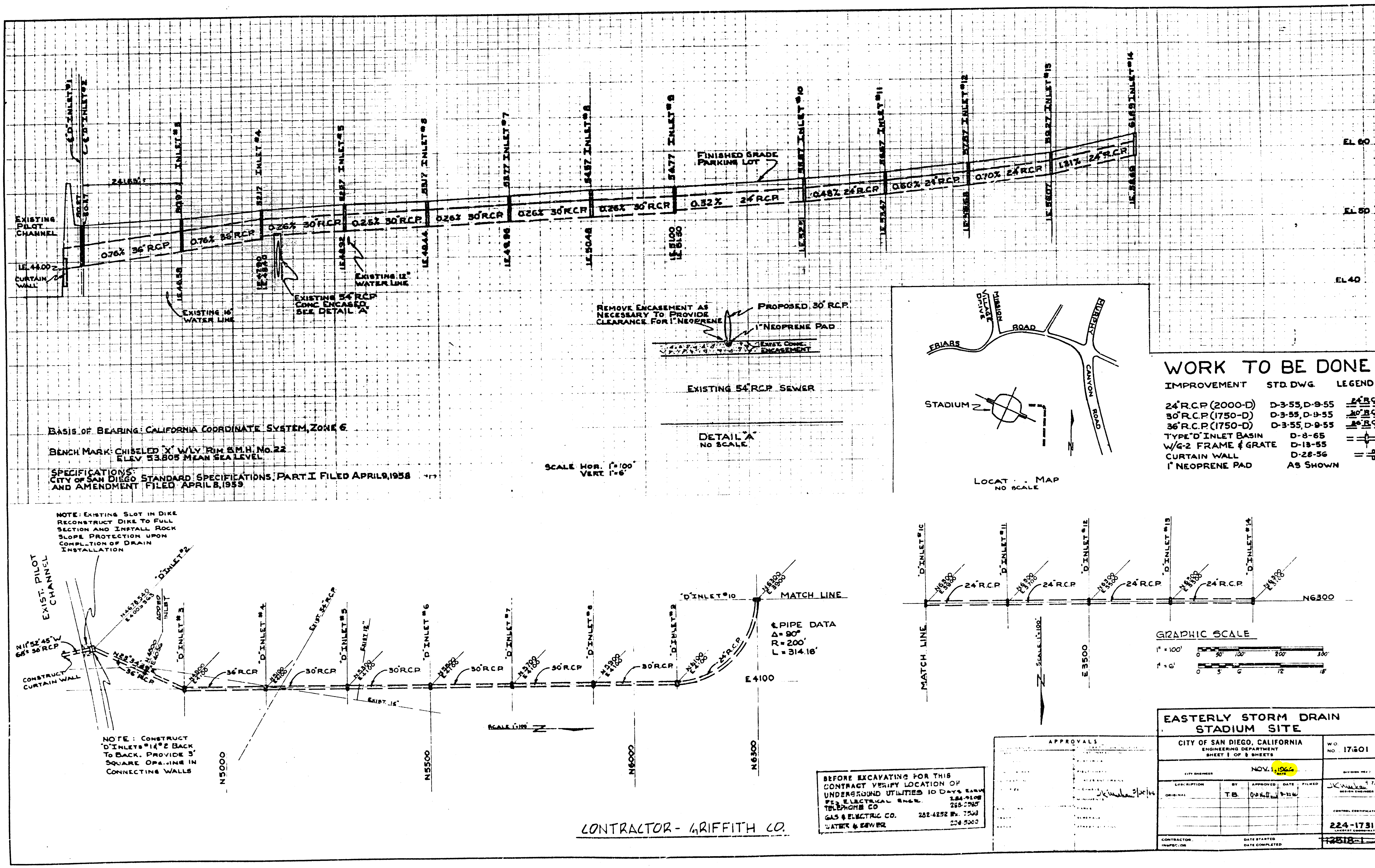
APPENDIX A.1
Existing Conditions: Strom Drain Network & As-Builts


Existing Conditions
Legend
Inlet
Outlet
DrainConveyance
Subwatershed
10 Ft Topo
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12
B1
B8
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C12a
C13
C14
Outfall A
Outfall B
Outfall C
Outfall D

System A/B


MODIFIED "F" CLEANOUT WITH FLAP VALVE
TOP 55.20
I.E. 41.08
℄ STA. 0+29.25
24" BELL END R.C. PRESSURE PIPE
STA 0+00
℄ DRAIN
CURTAIN WALL
I.E. 41.00
1,733,087
1,733,000 E
(SEE DETAIL)
24" BELL END R.C. PRESSURE PIPE
(2500-D)
I.E. 45.00
I.E. 43.75
FOR PROFILE SEE DWG 12300-13D-D
NOTE:
FLAP VALVE SHALL BE LOCATED OVER PIPE IN NORTH WALL OF CLEANOUT AND SHALL BE RODNEY HUNT SERIES FV-AC OR ARMCO MODEL 50-C WITH RUBBER SEATING FACE OR EQUIVALENT PRESSURE MANHOLE COVER PER 4678-B
LONGITUDINAL REINFORCEMENT
RUBBER GASKET
CIRCUMFERENTIAL REINFORCEMENT
INSIDE OF PIPE
JOINT - DETAIL
24" BELL END R.C. PRESSURE PIPE
NO SCALE
1,732,500 E
1,732,000 E
1,731,500 E
EXIST CLEANOUT
I.E. 84.53
REMOVE AND REPLACE 96'-30" R.C.P. (2000-D)
158.28'-30" R.C.P. (2000-D)
REMOVE EXIST. CLEANOUT
TYPE "A" CLEANOUT
I.E. 65.00
℄ STA. 17+23
TYPE "F" CLEANOUT
TOP 70.00 ±
I.E. 61.32
TYPICAL
TYPE "D" CATCH BASIN PER D-8-65 & G-1 FRAME & GRATE
℄ STA 0+00
TOP 60.20
I.E. 56.20
18" R.C.P.
TOP 57.68
I.E. 53.68
TYPE "H" CLEANOUT
TOP 82.30
I.E. 70.00
8'
℄ PIPE
30" R.C.P.
TOP 55.16
I.E. 51.66
℄ STA. 5+05.6
I.E. 51.16
24" R.C.P.
TOP 52.64
I.E. 48.64
TYPE H CLEANOUT
TOP
I.E. 78.00
PIPE
R= 241.42
Δ= 45°
L= 189.61'
T= 100'
TOP 50.80
I.E. 46.62
I.E. 46.32
30" R.C.P.
TOP 49.60
I.E. 45.86
TOP 48.40
I.E. 44.90
TOP 47
I.E. 43.94
36" R.C.P.
TOP 46.00
I.E. 40.99
TOP 44.80
I.E. 40.39
TOP 44.25
I.E. 39.79
TOP 43.75
I.E. 39.19
TOP 43.10
I.E. 38.58
CURTAIN WALL
I.E. 38.50
40'-36" R.C.P.
TYPE "H" CLEANOUT
TOP 88.55
I.E. 83.00
TYPE H CLEANOUT
TOP 101.1
I.E. 95.0
TYPE H CLEANOUT
TOP 140.4
I.E. 135.4
R= 45'
Δ= 91°02'
L= 71.50'
290.5'-24" R.C.P.
76'-24" R.C.P.
48'-24" R.C.P.
EARTH BERM ELEV. 160.0
WINGWALL
I.E. 154.00
226,500 N
226,000 N
225,500 N
225,000 N
CITY OF SAN DIEGO
17537
12300-4-D

System C



F R A N K L. H O P E & A S S O C I A T E S

A R C H I T E C T S A N D E N G I N E E R S

JOB NO.	66-30
DRAWN BY	D.V.H.
CHECKED BY	
DATE	DEC 16, 1966

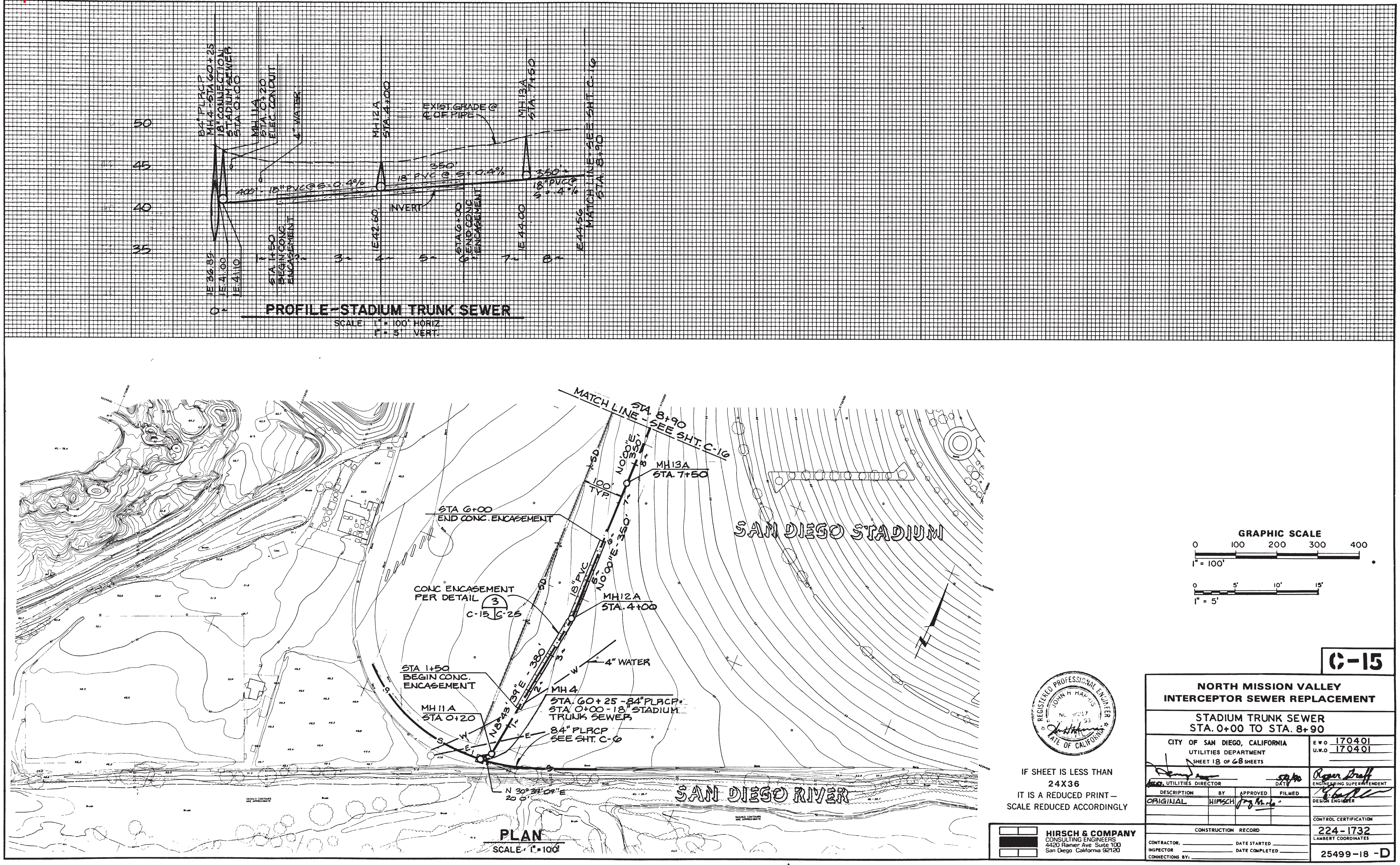
12504-8-D

EASTERLY STORM DRAIN - STADIUM SITE

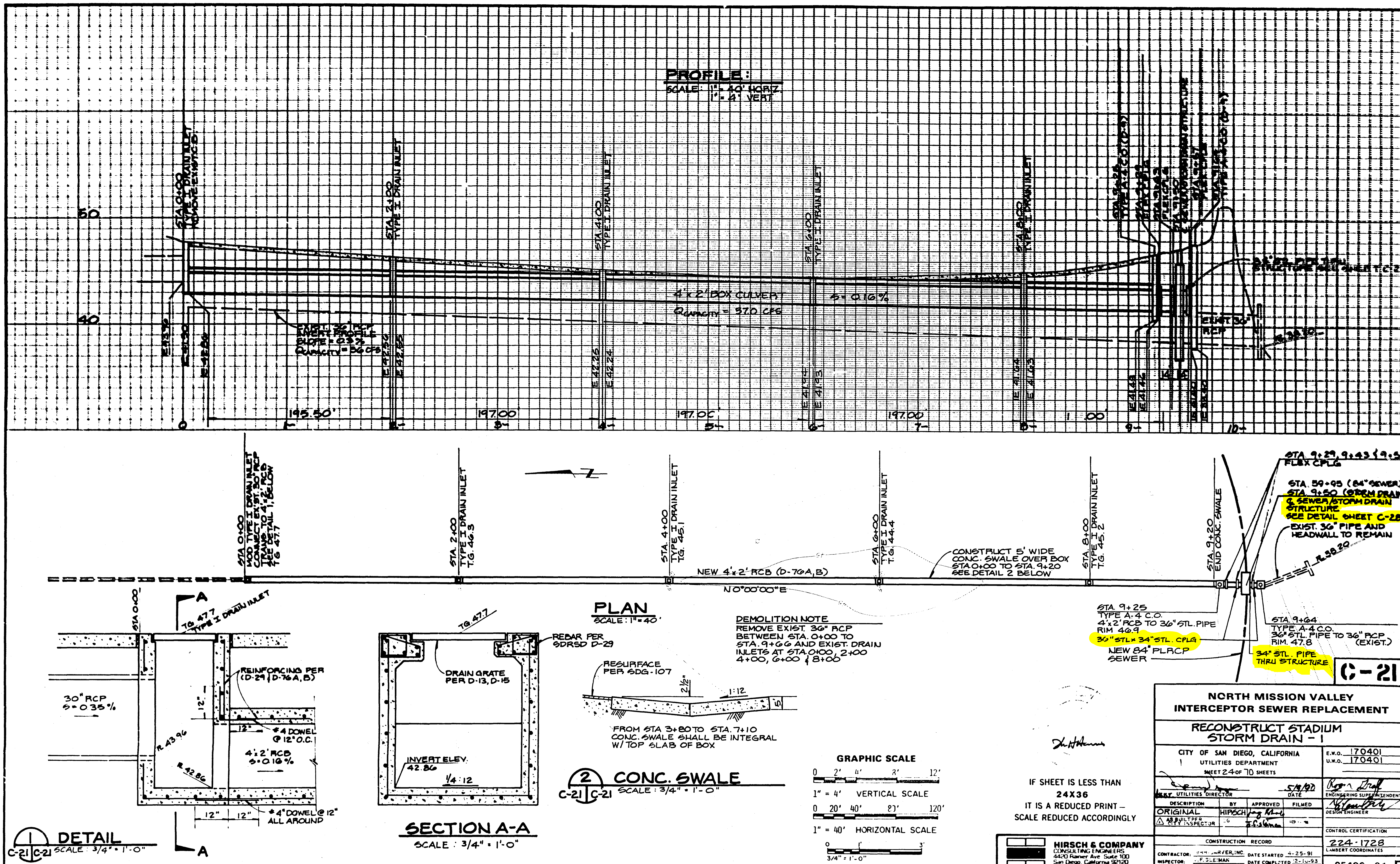
PARKING LOT & ON SITE ROAD WORK

SAN DIEGO STADIUM

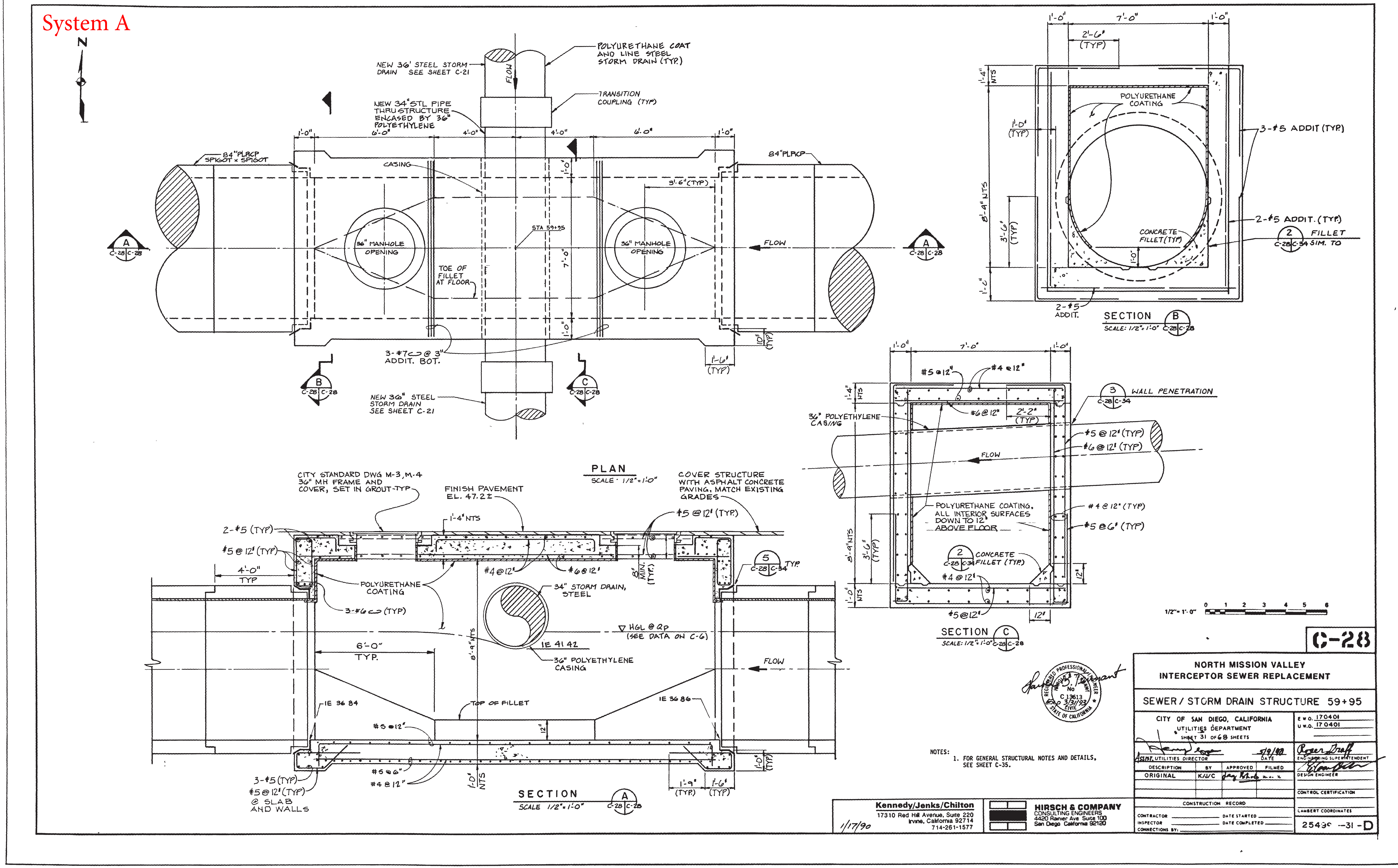
System A


PROFILE–STADIUM TRUNK SEWER
SCALE: 1" = 100' HORIZ.
1" = 5' VERT.
84" PLRCP
MH 4 - STA 60+25
18" CONNECTION
STADIUM SEWER
STA 0+00
MH 11A
STA 0+20
ELEC. CONDUIT
4" WATER
MH 12A
STA 4+00
EXIST. GRADE @ ℄ OF PIPE
MH 13A
STA 7+50
MATCH LINE - SEE SHT. C-16
STA 8+90
400' - 15" PVC @ S = 0.4%
350' 18" PVC @ S = 0.4%
350' 18" PVC @ S = .4%
INVERT
IE 36.89
IE 4.00
IE 4.10
STA 1+50
BEGIN CONC. ENCASEMENT
IE 42.60
STA 6+00
END CONC. ENCASEMENT
IE 44.00
IE 44.56
50
45
40
35
PLAN
SCALE: 1" = 100'
MATCH LINE - SEE SHT. C-16
STA. 8+90
MH 13A
STA. 7+50
STA 6+00
END CONC. ENCASEMENT
100' TYP.
N 0°00'E - 350'
SAN DIEGO STADIUM
CONC. ENCASEMENT
PER DETAIL 3 C-15 C-25
18" PVC
MH 12A
STA. 4+00
4" WATER
STA 1+50
BEGIN CONC.
ENCASEMENT
MH 4
STA. 60+25 - 84" PLRCP
STA. 0+00 - 18" STADIUM
TRUNK SEWER
MH 11A
STA 0+20
84" PLRCP
SEE SHT. C-6
N 30°39'09"E
20.0'
SAN DIEGO RIVER
GRAPHIC SCALE
0 100 200 300 400
1" = 100'
0 5' 10' 15'
1" = 5'
IF SHEET IS LESS THAN
24X36
IT IS A REDUCED PRINT –
SCALE REDUCED ACCORDINGLY
REGISTERED PROFESSIONAL ENGINEER
JOHN H. HARRIS
STATE OF CALIFORNIA
C-15
NORTH MISSION VALLEY
INTERCEPTOR SEWER REPLACEMENT
STADIUM TRUNK SEWER
STA. 0+00 TO STA. 8+90
CITY OF SAN DIEGO, CALIFORNIA
UTILITIES DEPARTMENT
SHEET 18 OF 68 SHEETS
UTILITIES DIRECTOR
DATE
E.W.O. 170401
U.W.O. 170401
ENGINEERING SUPERINTENDENT
DESIGN ENGINEER
DESCRIPTION BY APPROVED FILMED
ORIGINAL HIRSCH
CONSTRUCTION RECORD
CONTRACTOR
INSPECTOR
CONNECTIONS BY
DATE STARTED
DATE COMPLETED
CONTROL CERTIFICATION
224-1732
LAMBERT COORDINATES
25499-18 -D
HIRSCH & COMPANY
CONSULTING ENGINEERS
4420 Rainier Ave Suite 100
San Diego California 92120

System A

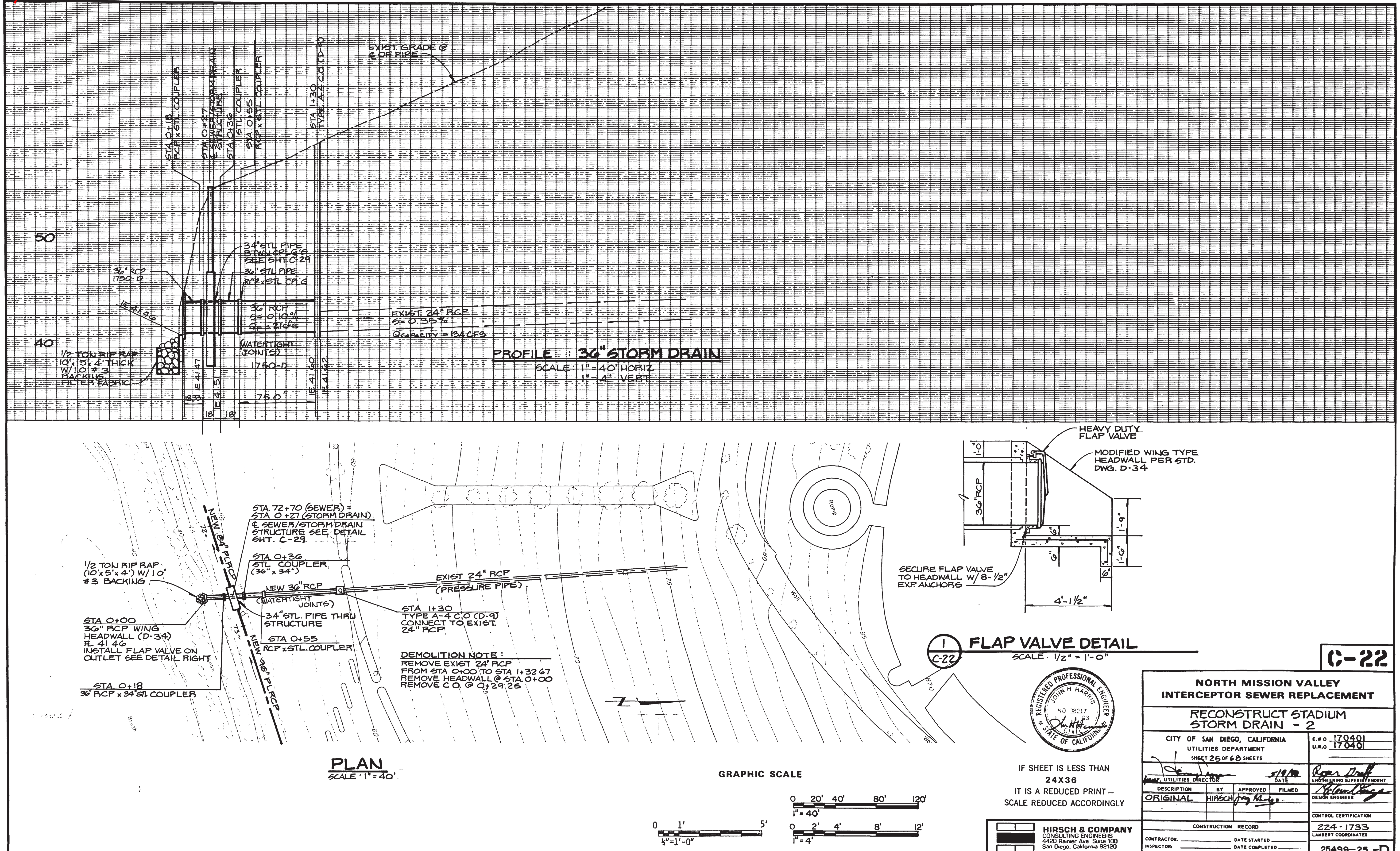


PROFILE:
SCALE: 1" = 40' HORIZ.
1" = 4' VERT.
4'x2' BOX CULVERT
S = 0.16%
Q CAPACITY = 57.0 CFS
EXIST. 36" RCP
INVERT PROFILE
SLOPE = 0.35%
Q CAPACITY = 56 CFS
EXIST. 36" RCP
STA 0+00 TYPE I DRAIN INLET REMOVE EXISTING
STA. 2+00 TYPE I DRAIN INLET
STA. 4+00 TYPE I DRAIN INLET
STA. 6+00 TYPE I DRAIN INLET
STA. 8+00 TYPE I DRAIN INLET
195.50'
197.00
197.00
197.00
PLAN
SCALE: 1" = 40'
STA 0+00 MOD. TYPE I DRAIN INLET CONNECT EXIST. 30" RCP TRANS. TO 4'x2' RCB SEE DETAIL 1, BELOW T.G. 47.7
STA. 2+00 TYPE I DRAIN INLET T.G. 46.3
STA. 4+00 TYPE I DRAIN INLET T.G. 45.1
STA. 6+00 TYPE I DRAIN INLET T.G. 44.4
STA. 8+00 TYPE I DRAIN INLET T.G. 45.2
STA. 9+20 END CONC. SWALE
NEW 4'x2' RCB (D-76A,B)
N 0°00'00" E
CONSTRUCT 5' WIDE CONC. SWALE OVER BOX STA 0+00 TO STA. 9+20 SEE DETAIL 2 BELOW
STA. 9+29, 9+43 & 9+57 FLEX CPLG.
STA. 59+95 (84" SEWER)
STA. 9+50 (STORM DRAIN)
SEWER/STORM DRAIN STRUCTURE
SEE DETAIL SHEET C-28
EXIST. 36" PIPE AND HEADWALL TO REMAIN
STA. 9+25 TYPE A-4 C.O. 4'x2' RCB TO 36" STL. PIPE RIM 46.9
36" STL x 34" STL. CPLG
NEW 84" PLRCP SEWER
STA. 9+64 TYPE A-4 C.O. 36" STL. PIPE TO 36" RCP (EXIST.) RIM. 47.8
34" STL. PIPE THRU STRUCTURE
DEMOLITION NOTE
REMOVE EXIST. 36" RCP BETWEEN STA. 0+00 TO STA. 9+66 AND EXIST. DRAIN INLETS AT STA. 0+00, 2+00, 4+00, 6+00 & 8+00
RESURFACE PER SDG-107
FROM STA 3+80 TO STA. 7+10 CONC. SWALE SHALL BE INTEGRAL W/ TOP SLAB OF BOX
2 CONC. SWALE
SCALE: 3/4" = 1'-0"
T.G. 47.7 TYPE I DRAIN INLET
30" RCP S = 0.35%
REINFORCING PER (D-29 & D-76A,B)
#4 DOWEL @ 12" O.C.
4'x2' RCB S = 0.16%
#4 DOWEL @ 12" ALL AROUND
1 DETAIL
SCALE: 3/4" = 1'-0"
REBAR PER SDRSD D-29
DRAIN GRATE PER D-13, D-15
INVERT ELEV. 42.86
SECTION A-A
SCALE: 3/4" = 1'-0"
GRAPHIC SCALE
1" = 4' VERTICAL SCALE
1" = 40' HORIZONTAL SCALE
IF SHEET IS LESS THAN 24X36 IT IS A REDUCED PRINT - SCALE REDUCED ACCORDINGLY
C-21
NORTH MISSION VALLEY INTERCEPTOR SEWER REPLACEMENT
RECONSTRUCT STADIUM STORM DRAIN - 1
CITY OF SAN DIEGO, CALIFORNIA
UTILITIES DEPARTMENT
SHEET 24 OF 70 SHEETS
E.W.O. 170401
W.O. 170401
HIRSCH & COMPANY
CONSULTING ENGINEERS
San Diego, California 92120
224-1728
25499-24-D

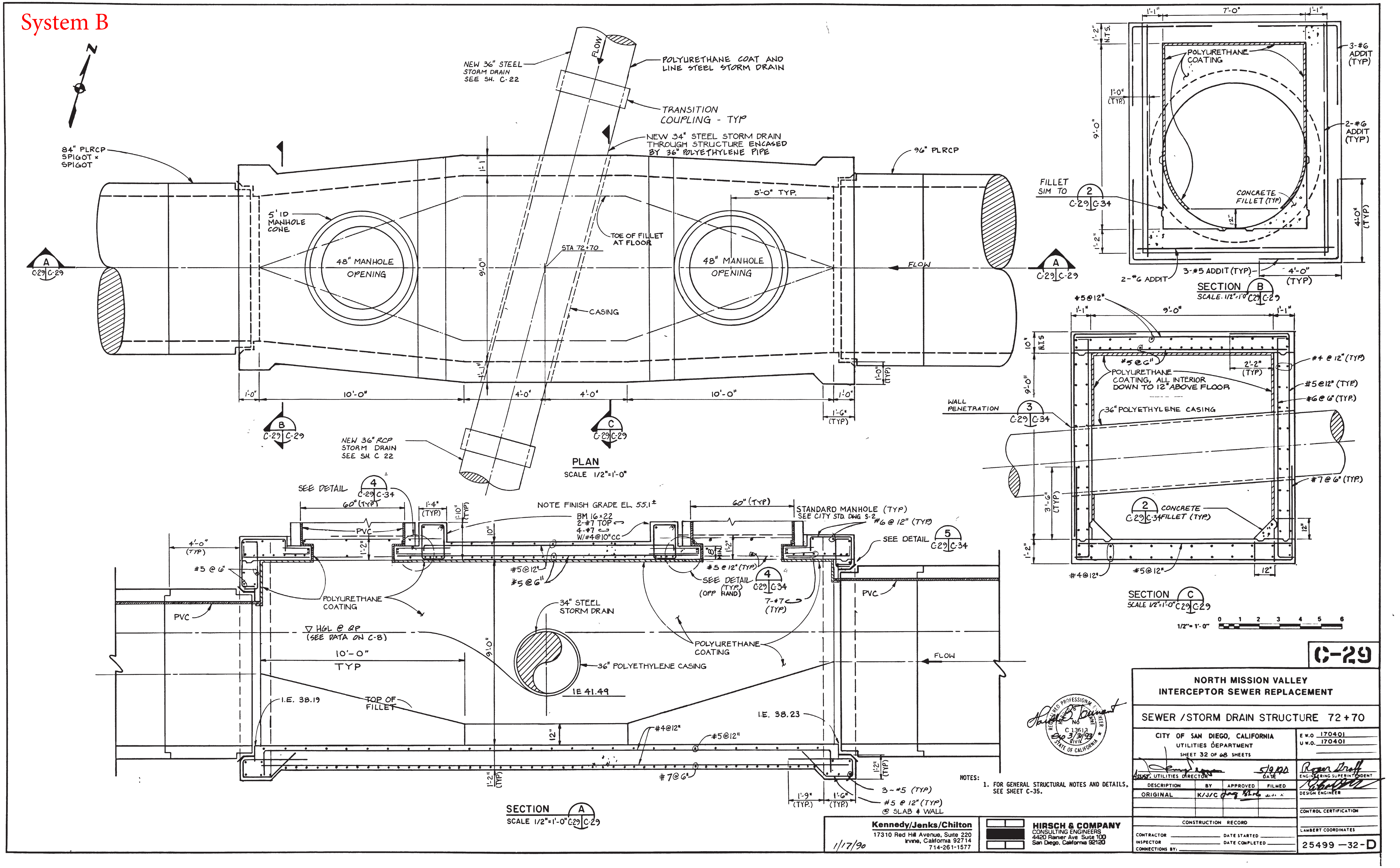


System A
N
NEW 36" STEEL STORM DRAIN SEE SHEET C-21
POLYURETHANE COAT AND LINE STEEL STORM DRAIN (TYP.)
TRANSITION COUPLING (TYP)
NEW 34" STL PIPE THRU STRUCTURE ENCASED BY 36" POLYETHYLENE
84" PLRCP SPIGOT x SPIGOT
84" PLRCP
CASING
3'-6" (TYP)
STA 59+95
36" MANHOLE OPENING
TOE OF FILLET AT FLOOR
FLOW
3-#7 @ 3" ADDIT. BOT.
NEW 36" STEEL STORM DRAIN SEE SHEET C-21
PLAN
SCALE: 1/2" = 1'-0"
POLYURETHANE COATING
3-#5 ADDIT (TYP.)
2-#5 ADDIT. (TYP.)
CONCRETE FILLET (TYP)
FILLET SIM. TO
2-#5 ADDIT.
SECTION B
SCALE: 1/2" = 1'-0"
#5 @ 12"
#4 @ 12"
#6 @ 12"
WALL PENETRATION
36" POLYETHYLENE CASING
#5 @ 12" (TYP)
#6 @ 12" (TYP)
POLYURETHANE COATING, ALL INTERIOR SURFACES DOWN TO 12" ABOVE FLOOR
#4 @ 12" (TYP)
#5 @ 6" (TYP)
CONCRETE FILLET (TYP)
SECTION C
SCALE: 1/2" = 1'-0"
CITY STANDARD DWG M-3, M-4 36" MH FRAME AND COVER, SET IN GROUT-TYP
FINISH PAVEMENT EL. 47.2±
COVER STRUCTURE WITH ASPHALT CONCRETE PAVING, MATCH EXISTING GRADES
2-#5 (TYP)
#5 @ 12" (TYP)
POLYURETHANE COATING
3-#6 (TYP)
34" STORM DRAIN, STEEL
HGL @ Qp (SEE DATA ON C-6)
IE 41.42
36" POLYETHYLENE CASING
6'-0" TYP.
IE 36.84
IE 36.86
TOP OF FILLET
3-#5 (TYP)
#5 @ 12" (TYP) @ SLAB AND WALLS
SECTION A
SCALE 1/2" = 1'-0"
NOTES:
1. FOR GENERAL STRUCTURAL NOTES AND DETAILS, SEE SHEET C-35.
C-28
NORTH MISSION VALLEY INTERCEPTOR SEWER REPLACEMENT
SEWER / STORM DRAIN STRUCTURE 59+95
CITY OF SAN DIEGO, CALIFORNIA
UTILITIES DEPARTMENT
SHEET 31 OF 68 SHEETS
W.O. 170401
Kennedy/Jenks/Chilton
17310 Red Hill Avenue, Suite 220 Irvine, California 92714 714-261-1577
HIRSCH & COMPANY CONSULTING ENGINEERS 4420 Rainier Ave Suite 100 San Diego California 92120
1/17/90
25439-31-D
STRUCT # 2

System B

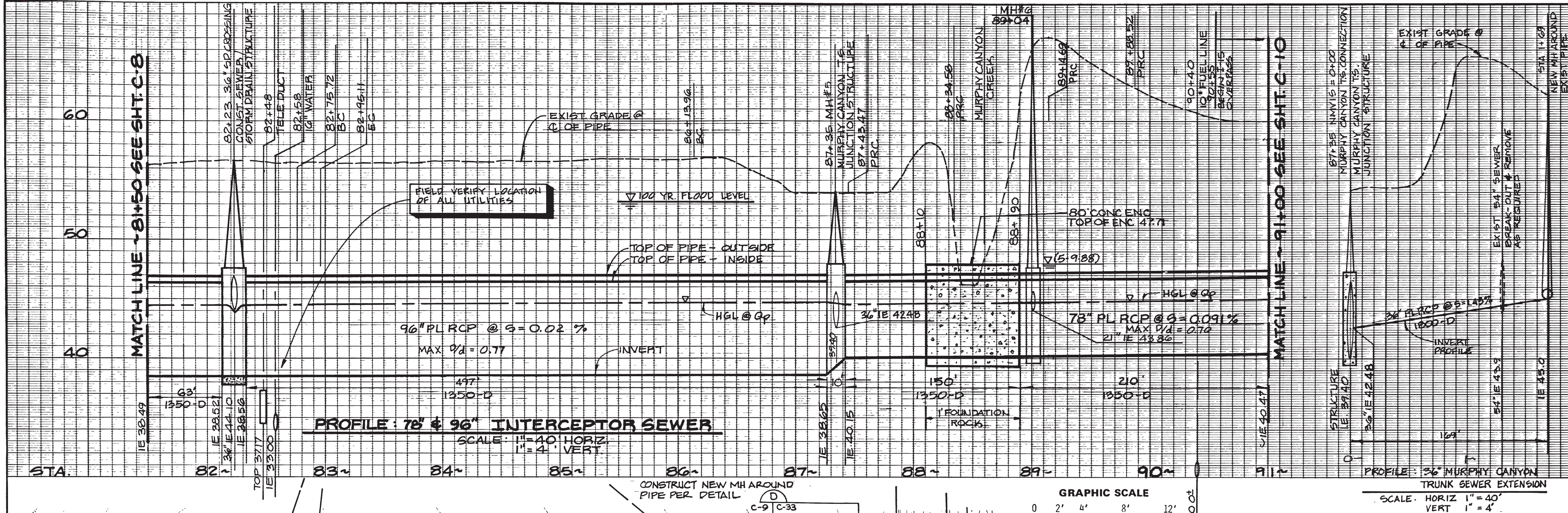

PROFILE : 36" STORM DRAIN
SCALE : 1"=40' HORIZ
1"=4' VERT
EXIST. GRADE @ ℄ OF PIPE
STA 0+18 RCP x STL COUPLER
STA 0+27 ℄ SEWER/STORM DRAIN STRUCTURE
STA 0+36 STL COUPLER
STA 0+55 RCP x STL COUPLER
STA 1+30 TYPE A-4 C.O. (D-9)
34" STL PIPE BTWN CPLG'S SEE SHT. C-29
36" STL PIPE
RCP x STL CPLG
36" RCP 1750-D
36" RCP S=0.10% QF=21cfs
EXIST 24" RCP S=0.35% QCAPACITY=134 CFS
WATERTIGHT JOINTS
1750-D
75.0'
1/2 TON RIP RAP 10'x5'x4' THICK W/10' #3 BACKING FILTER FABRIC
IE 41.46
IE 41.47
IE 41.51
IE 41.60
IE 41.62
50
40
PLAN
SCALE 1"=40'
STA. 72+70 (SEWER) = STA 0+27 (STORM DRAIN)
℄ SEWER/STORM DRAIN STRUCTURE SEE DETAIL SHT. C-29
STA 0+36 STL COUPLER (36" x 34")
NEW 36" RCP (WATERTIGHT JOINTS)
EXIST 24" RCP (PRESSURE PIPE)
1/2 TON RIP RAP (10'x5'x4') W/10' #3 BACKING
STA 0+00 36" RCP WING HEADWALL (D-34) FL 41.46 INSTALL FLAP VALVE ON OUTLET SEE DETAIL RIGHT
34" STL. PIPE THRU STRUCTURE
STA 0+55 RCP x STL. COUPLER
STA 1+30 TYPE A-4 C.O. (D-9) CONNECT TO EXIST. 24" RCP
STA 0+18 36" RCP x 34" STL COUPLER
NEW 84" PLRCP
NEW 96" PLRCP
DEMOLITION NOTE:
REMOVE EXIST 24" RCP FROM STA 0+00 TO STA 1+32.67
REMOVE HEADWALL @ STA 0+00
REMOVE C.O. @ 0+29.25
HEAVY DUTY FLAP VALVE
MODIFIED WING TYPE HEADWALL PER STD. DWG. D-34
36" RCP
SECURE FLAP VALVE TO HEADWALL W/ 8-1/2" EXP. ANCHORS
4'-1 1/2"
1 C-22 FLAP VALVE DETAIL
SCALE 1/2" = 1'-0"
GRAPHIC SCALE
1"=40'
1"=4'
1/2"=1'-0"
REGISTERED PROFESSIONAL ENGINEER JOHN H HARRIS NO 38217 CIVIL STATE OF CALIFORNIA
IF SHEET IS LESS THAN 24X36 IT IS A REDUCED PRINT — SCALE REDUCED ACCORDINGLY
C-22
NORTH MISSION VALLEY INTERCEPTOR SEWER REPLACEMENT
RECONSTRUCT STADIUM STORM DRAIN - 2
CITY OF SAN DIEGO, CALIFORNIA
UTILITIES DEPARTMENT
SHEET 25 OF 68 SHEETS
E.W.O 170401
U.W.O 170401
UTILITIES DIRECTOR
DATE 5/19/83
ENGINEERING SUPERINTENDENT
DESIGN ENGINEER
DESCRIPTION BY APPROVED FILMED
ORIGINAL HIRSCH
CONTROL CERTIFICATION
224-1733
LAMBERT COORDINATES
HIRSCH & COMPANY
CONSULTING ENGINEERS
4420 Rainier Ave Suite 100
San Diego, California 92120
CONSTRUCTION RECORD
CONTRACTOR. DATE STARTED
INSPECTOR: DATE COMPLETED
CONNECTIONS BY:
25499-25 -D

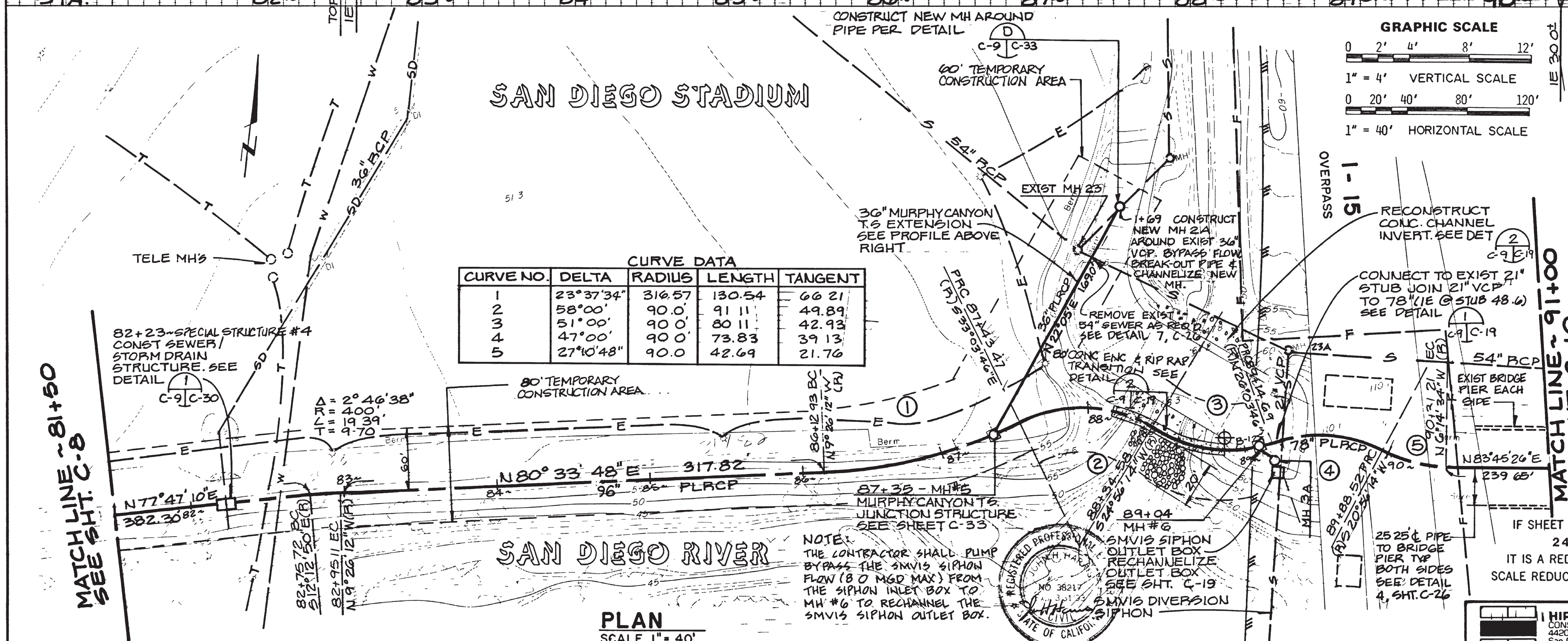
System B



NEW 36" STEEL STORM DRAIN SEE SH. C-22
POLYURETHANE COAT AND LINE STEEL STORM DRAIN
TRANSITION COUPLING - TYP
NEW 34" STEEL STORM DRAIN THROUGH STRUCTURE ENCASED BY 36" POLYETHYLENE PIPE
84" PLRCP SPIGOT × SPIGOT
96" PLRCP
5' ID MANHOLE CONE
48" MANHOLE OPENING
TOE OF FILLET AT FLOOR
STA 72+70
5'-0" TYP.
CASING
FLOW
10'-0"
4'-0"
NEW 36" RCP STORM DRAIN SEE SH. C 22
PLAN
SCALE 1/2"=1'-0"
SEE DETAIL
NOTE FINISH GRADE EL. 55.1±
BM 16×22
2-#7 TOP
4-#7
W/#4@10" CC
STANDARD MANHOLE (TYP) SEE CITY STD. DWG S-2
60" (TYP)
PVC
POLYURETHANE COATING
▽ HGL @ QP (SEE DATA ON C-8)
10'-0" TYP
34" STEEL STORM DRAIN
36" POLYETHYLENE CASING
IE 41.49
I.E. 38.19
TOP OF FILLET
I.E. 38.23
#4@12"
#5@12"
#7@6"
3-#5 (TYP)
#5 @ 12" (TYP) @ SLAB & WALL
SECTION A
SCALE 1/2"=1'-0"
POLYURETHANE COATING
CONCRETE FILLET (TYP)
3-#6 ADDIT (TYP)
2-#6 ADDIT (TYP)
FILLET SIM TO
2-#6 ADDIT
3-#5 ADDIT (TYP)
SECTION B
SCALE 1/2"=1'-0"
#5@12"
#5@6"
POLYURETHANE COATING, ALL INTERIOR DOWN TO 12" ABOVE FLOOR
#4 @ 12" (TYP)
#5@12" (TYP)
#6@6" (TYP)
WALL PENETRATION
36" POLYETHYLENE CASING
#7@6" (TYP)
CONCRETE FILLET (TYP)
#4@12"
SECTION C
SCALE 1/2"=1'-0"
1/2"=1'-0"
C-29
NOTES:
1. FOR GENERAL STRUCTURAL NOTES AND DETAILS, SEE SHEET C-35.
NORTH MISSION VALLEY INTERCEPTOR SEWER REPLACEMENT
SEWER / STORM DRAIN STRUCTURE 72+70
CITY OF SAN DIEGO, CALIFORNIA
UTILITIES DEPARTMENT
SHEET 32 OF 68 SHEETS
W.O. 170401
ASST. UTILITIES DIRECTOR
ENGINEERING SUPERINTENDENT
DESIGN ENGINEER
CONTROL CERTIFICATION
LAMBERT COORDINATES
DESCRIPTION BY APPROVED FILMED
ORIGINAL K/J/C
CONSTRUCTION RECORD
CONTRACTOR DATE STARTED
INSPECTOR DATE COMPLETED
CORRECTIONS BY:
Kennedy/Jenks/Chilton
17310 Red Hill Avenue, Suite 220
Irvine, California 92714
714-261-1577
HIRSCH & COMPANY
CONSULTING ENGINEERS
4420 Rainier Ave Suite 100
San Diego, California 92120
1/17/90
25499 -32-D

System C





CURVE DATA

CURVE NO.	DELTA	RADIUS	LENGTH	TANGENT
1	23°37'34"	316.57	130.54	66 21
2	58°00'	90.0'	91 11	49.89
3	51°00'	90 0'	80 11	42.93
4	47°00'	90 0'	73.83	39 13
5	27°10'48"	90.0	42.69	21.76

HYDRAULIC DATA

STATION	IE (ELEV)	D (FT)	HGL (ELEV)	Qp (MGD)	V (FPS)	V_H (FT)	EGL (ELEV.)	Dc (FT)	d (FT)
81+50	38.49	5 90	44 39	123 3	4 81	.36	44 75	3 46	8 0
82+13	38 52	5 91	44 43	123 3	4 80	36	44 79	3 46	8 0
82+18	38 53	6 02	44 55	123 3	3 96	24	44 89	2 61	8 0
82+23	38 54	5 96	44 50	123 3	4 49	31	44 82	2 61	5 3
82+28	38 55	6 03	44 58	123 3	3 96	24	44 83	2 61	8.0
82+33	38 56	5 94	44 50	123 3	4 78	35	44 85	3 46	8 0
86+13	38 62	6.10	44.72	123 3	4 65	34	45 05	3 46	8 0
87+31	38 65	6 13	44 78	123 3	4 62	33	45 11	3 46	8 0
87+35	39 40	5 33	44 73	93 3	5 02	39	45 12	3 20	6 5
87+36	39 62	5.07	44 69	93 3	5 26	43	45 12	3 20	6 5
87+38	39 98	4 62	44 60	93 3	5 79	52	45 12	3 20	6 5
87+39	40 15	4 40	44 54	93 3	6 13	58	45 12	3 20	6 5
88+34	40 24	4 43	44 67	93 3	6 07	57	45 24	3 20	6 5
89+15	40 32	4 45	44 77	93 3	6 03	56	45 33	3 20	6 5
89+88	40 38	4 48	44 86	93 3	5 87	55	45 42	3 20	6 5
91+00	40 47	4 53	45 00	93 3	5 91	54	45 55	3 20	6 5

IF SHEET IS LESS THAN 24X36 IT IS A REDUCED PRINT — SCALE REDUCED ACCORDINGLY

HIRSCH & COMPANY
CONSULTING ENGINEERS
4420 Ramier Ave Suite 100
San Diego California 92120

C-9

NORTH MISSION VALLEY INTERCEPTOR SEWER REPLACEMENT

78" & 96" INTERCEPTOR SEWER
STA 81+50 TO STA. 91+00

CITY OF SAN DIEGO, CALIFORNIA
UTILITIES DEPARTMENT
SHEET 12 OF 68 SHEETS

E.W.O. 170401
U.W.O. 170401

ASST. UTILITIES DIRECTOR — DATE 5/9/90
ENGINEERING SUPERINTENDENT
DESIGN ENGINEER

DESCRIPTION	BY	APPROVED	FILMED
ORIGINAL	HIRSCH		

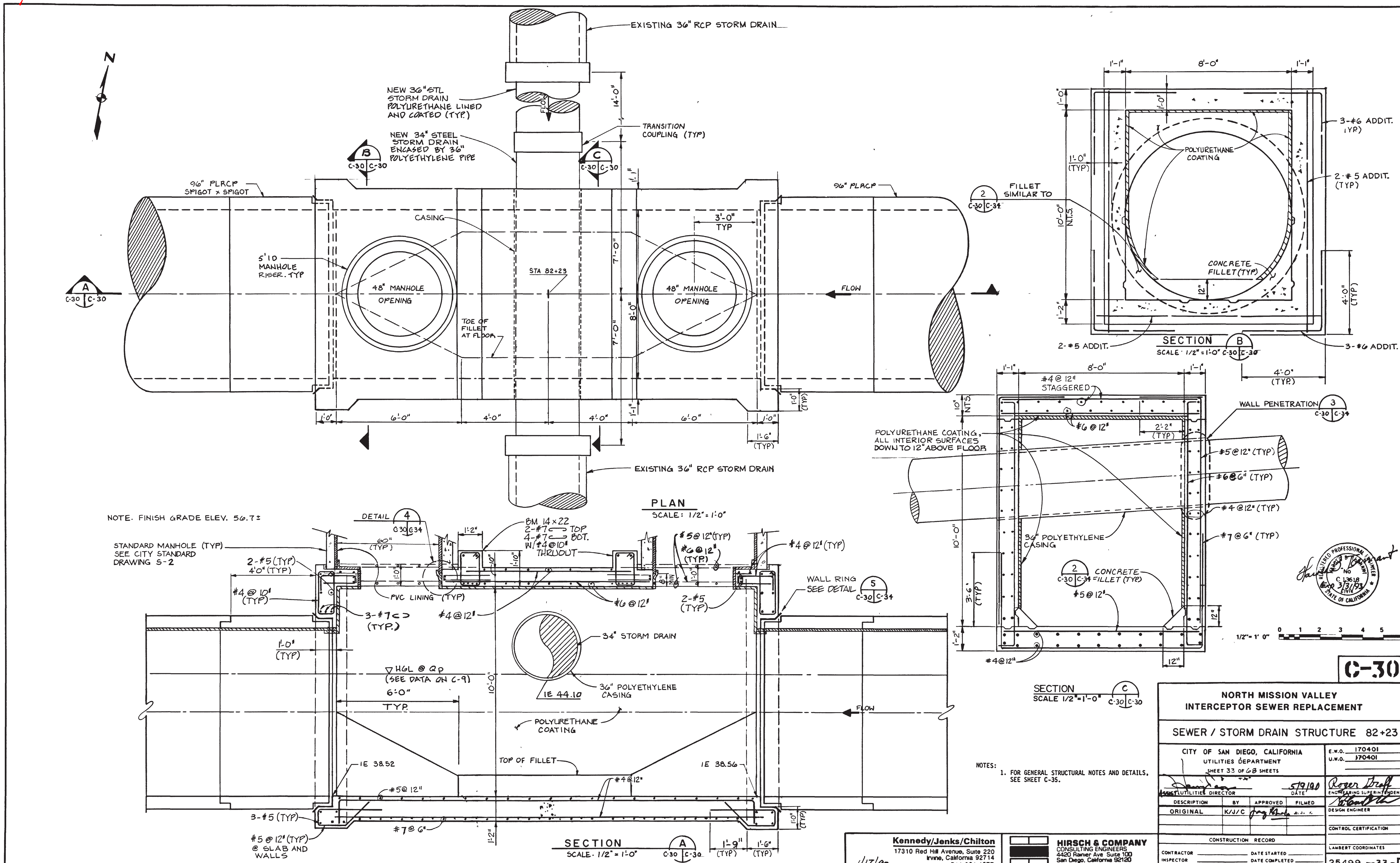
CONTROL CERTIFICATION

224-1734
LAMBERT COORDINATES

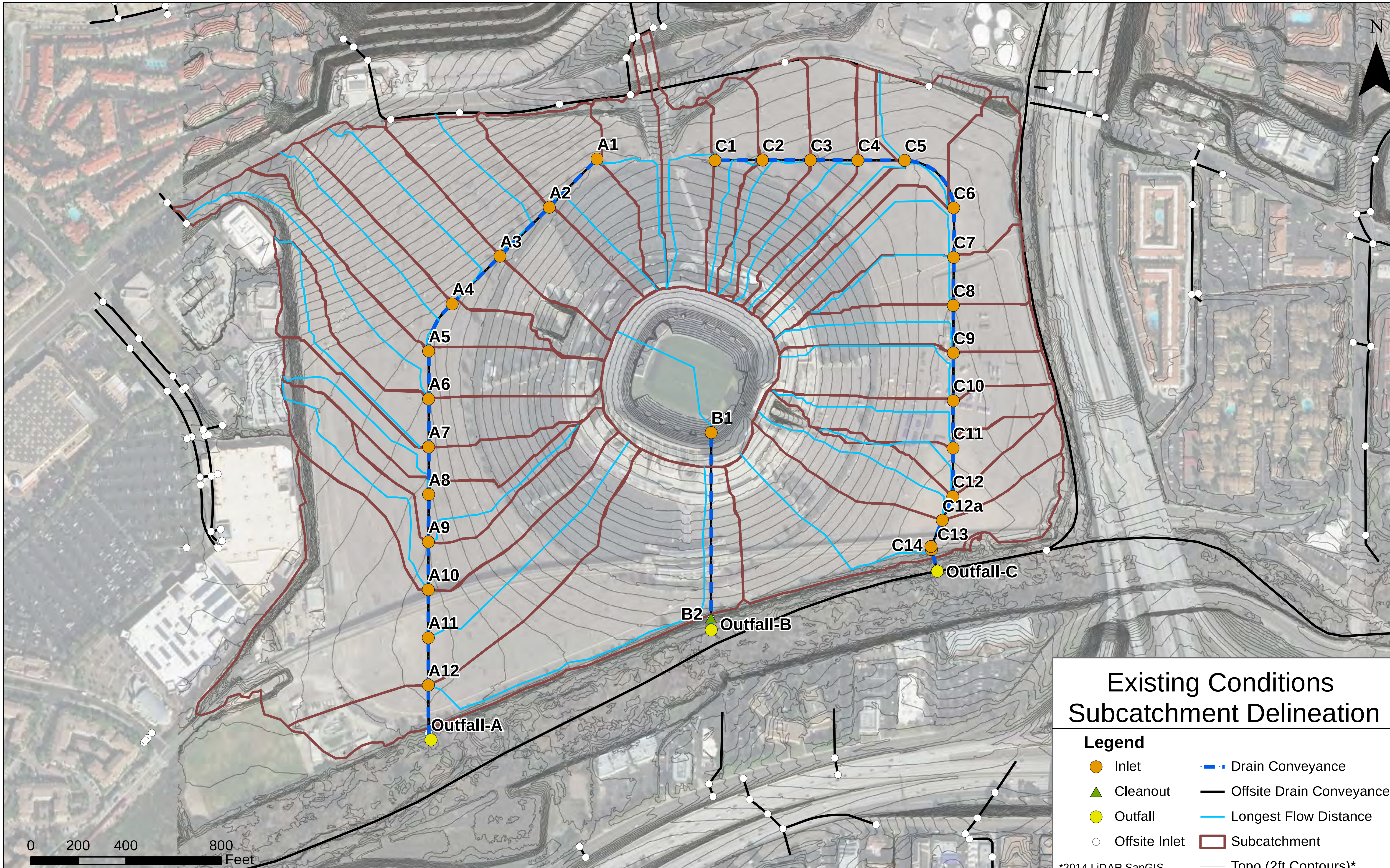
CONSTRUCTION RECORD
CONTRACTOR ______ DATE STARTED ______
INSPECTOR: ______ DATE COMPLETED ______
CONNECTIONS BY: ______

25499-12 -D

System C


EXISTING 36" RCP STORM DRAIN
NEW 36" STL STORM DRAIN POLYURETHANE LINED AND COATED (TYP.)
NEW 34" STEEL STORM DRAIN ENCASED BY 36" POLYETHYLENE PIPE
TRANSITION COUPLING (TYP)
96" PLRCP SPIGOT x SPIGOT
96" PLRCP
CASING
5'10 MANHOLE RISER, TYP
48" MANHOLE OPENING
STA 82+23
TOE OF FILLET AT FLOOR
FLOW
EXISTING 36" RCP STORM DRAIN
PLAN
SCALE: 1/2" = 1'-0"
NOTE. FINISH GRADE ELEV. 56.7±
STANDARD MANHOLE (TYP) SEE CITY STANDARD DRAWING S-2
PVC LINING (TYP)
34" STORM DRAIN
36" POLYETHYLENE CASING
POLYURETHANE COATING
TOP OF FILLET
IE 44.10
IE 38.52
IE 38.56
HGL @ Qp (SEE DATA ON C-9)
WALL RING SEE DETAIL
#5 @ 12" (TYP) @ SLAB AND WALLS
SECTION A
SCALE. 1/2" = 1'-0"
FILLET SIMILAR TO
POLYURETHANE COATING
CONCRETE FILLET (TYP)
3-#6 ADDIT. (TYP)
2-#5 ADDIT. (TYP)
2-#5 ADDIT.
3-#6 ADDIT.
SECTION B
SCALE 1/2" = 1'-0"
#4 @ 12" STAGGERED
WALL PENETRATION
POLYURETHANE COATING, ALL INTERIOR SURFACES DOWN TO 12" ABOVE FLOOR
36" POLYETHYLENE CASING
CONCRETE FILLET (TYP)
SECTION C
SCALE 1/2" = 1'-0"
NOTES:
1. FOR GENERAL STRUCTURAL NOTES AND DETAILS, SEE SHEET C-35.
C-30
NORTH MISSION VALLEY INTERCEPTOR SEWER REPLACEMENT
SEWER / STORM DRAIN STRUCTURE 82+23
CITY OF SAN DIEGO, CALIFORNIA
UTILITIES DEPARTMENT
SHEET 33 OF 68 SHEETS
Kennedy/Jenks/Chilton
17310 Red Hill Avenue, Suite 220
Irvine, California 92714
714-261-1577
HIRSCH & COMPANY
CONSULTING ENGINEERS
4420 Rainier Ave Suite 100
San Diego, California 92120
1/17/90
25499 --33-D

APPENDIX A.2
Existing Conditions: Drainage Area Exhibit



Existing Conditions
Subcatchment Delineation
Legend
Inlet
Cleanout
Outfall
Offsite Inlet
Drain Conveyance
Offsite Drain Conveyance
Longest Flow Distance
Subcatchment
Topo (2ft Contours)*
*2014 LiDAR SanGIS
N
0 200 400 800
Feet
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12
Outfall-A
B1
B2
Outfall-B
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C12a
C13
C14
Outfall-C

APPENDIX A.3

Existing Conditions: Runoff Coefficients

Combining the units for the expression CIA yields:

$$\left(\frac{1\,\text{acre}\times\text{inch}}{\text{hour}}\right)\left(\frac{43{,}560\,\text{ft}^2}{\text{acre}}\right)\left(\frac{1\,\text{foot}}{12\,\text{inches}}\right)\left(\frac{1\,\text{hour}}{3{,}600\,\text{seconds}}\right)\Rightarrow 1.008\,\text{cfs}$$

For practical purposes, the unit conversion coefficient difference of 0.8% can be ignored.

The RM formula is based on the assumption that for constant rainfall intensity, the peak discharge rate at a point will occur when the raindrop that falls at the most upstream point in the tributary drainage basin arrives at the point of interest.

Unlike the MRM (discussed in Appendix A.2) or the NRCS hydrologic method (discussed in Appendix B), the RM does not create hydrographs and therefore does not add separate subarea hydrographs at collection points. Instead, the RM develops peak discharges in the main line by increasing the T_c as flow travels downstream.

Characteristics of, or assumptions inherent to, the RM are listed below:

1. The discharge resulting from any I is maximum when the I lasts as long as or longer than the T_c.
2. The storm frequency of peak discharges is the same as that of I for the given T_c.
3. The fraction of rainfall that becomes runoff (or the runoff coefficient, C) is independent of I or precipitation zone number (PZN) condition (PZN Condition is discussed in the NRCS method).
4. The peak rate of runoff is the only information produced by using the RM.

A.1.2. Runoff Coefficient

The runoff coefficients are based on land use (see Table A–1). Soil type "D" is used throughout the City of San Diego for storm drain conveyance design. An appropriate runoff coefficient (C) for each type of land use in the subarea should be selected from this table and multiplied by the percentage of the total area (A) included in that class. The sum of the products for all land uses is the weighted runoff coefficient (Σ[CA]). Good engineering judgment should be used when applying the values presented in Table A–1, as adjustments to these values may be appropriate based on site-specific characteristics.

Table A-1. Runoff Coefficients for Rational Method

Land Use	Runoff Coefficient (C)
	Soil Type [1]
Residential:	
Single Family	0.55
Multi-Units	0.70
Mobile Homes	0.65
Rural (lots greater than ½ acre)	0.45
Commercial [2]	
80% Impervious	0.85
Industrial [2]	
90% Impervious	0.95

Note:
[1] Type D soil to be used for all areas.
[2] Where actual conditions deviate significantly from the tabulated imperviousness values of 80% or 90%, the values given for coefficient C, may be revised by multiplying 80% or 90% by the ratio of actual imperviousness to the tabulated imperviousness. However, in case shall the final coefficient be less than 0.50. For example: Consider commercial property on D soil.

Actual imperviousness = 50%
Tabulated imperviousness = 80%
Revised C = (50/80) x 0.85 = 0.53

The values in Table A–1 are typical for urban areas. However, if the basin contains rural or agricultural land use, parks, golf courses, or other types of nonurban land use that are expected to be permanent, the appropriate value should be selected based upon the soil and cover and approved by the City.

A.1.3. Rainfall Intensity

The rainfall intensity (I) is the rainfall in inches per hour (in/hr.) for a duration equal to the T_C for a selected storm frequency. Once a particular storm frequency has been selected for design and a T_C calculated for the drainage area, the rainfall intensity can be determined from the Intensity-Duration-Frequency Design Chart (Figure A-1).

APPENDIX A.4
Existing Conditions: Time of Concentration

Existing System A Time of Concentration

The Time of Concentration calculations were preformed using the following equation:

$$T = \frac{1.8 * (1.1 - C) * \sqrt{D}}{\sqrt[3]{S}}$$

Data in the table below was taken from the as-builts in Appendix A.3. Inlet IDs coincide with the labels on the Existing Conditions Figure in Appendix A.2-1.

Existing System A Time of Concentration				
INLET ID	C	LFP		T (min)
		Length	Slope (%)	
A1	0.95	792.63	3.02	5
A2	0.95	659.07	4.02	5
A3	0.95	810.57	3.93	5
A4	0.95	1102.57	4.07	6
A5	0.95	1133.47	4.54	5
A6	0.95	1485.84	4.18	6
A7	0.95	1175.67	5.07	5
A8	0.95	892.87	4.06	5
A9	0.95	866.51	3.88	5
A10	0.95	1214.76	3.59	6
A11	0.95	1210.02	3.18	6
A12	0.95	1421.00	2.67	7

Existing System B Time of Concentration

The Time of Concentration calculations were preformed using the following equation:

$$T = \frac{1.8 * (1.1 - C) * \sqrt{D}}{\sqrt[3]{S}}$$

Data in the table below was taken from the as-builts in Appendix A.3. Inlet IDs coincide with the labels on the Existing Conditions Figure in Appendix A.2-1.

Existing System B Time of Concentration				
INLET ID	C	LFP		T (min)
		Length	Slope (%)	
B1 to B2	0.95	590.51	12.08	5

Existing System C Time of Concentration

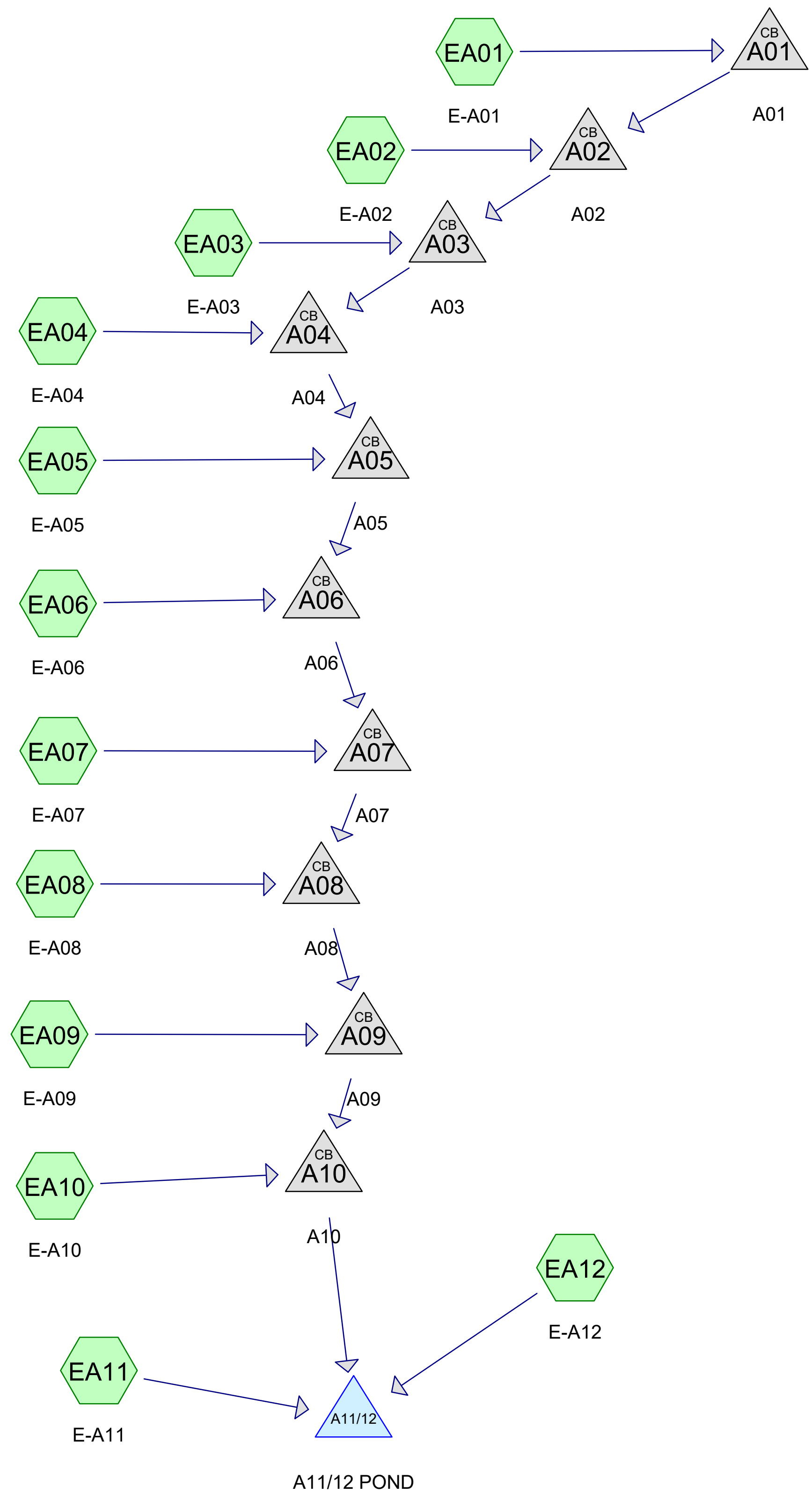
The Time of Concentration calculations were preformed using the following equation:

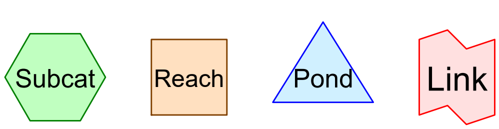
$$T = \frac{1.8 * (1.1 - C) * \sqrt{D}}{\sqrt[3]{s}}$$

Data in the table below was taken from the as-builts in Appendix A.3. Inlet IDs coincide with the labels on the Existing Conditions Figure in Appendix A.2-1.

Existing System C Time of Concentration				
INLET ID	C	LFP		Tc (min)
		Length	Slope (%)	
C1	0.95	745.33	3.11	5
C2	0.95	703.66	3.54	5
C3	0.95	793.04	3.35	5
C4	0.95	838.76	3.26	5
C5	0.95	922.69	3.04	6
C6	0.95	706.53	1.43	6
C7	0.95	1176.20	2.53	7
C8	0.95	887.74	2.49	6
C9	0.95	895.73	3.49	5
C10	0.95	927.16	3.44	5
C11	0.95	934.95	3.64	5
C12	0.95	733.44	3.12	5
C12a	0.95	976.92	4.13	5
C13	0.95	1295.96	2.64	7
C14	0.95	29.93	6.62	5

APPENDIX A.5
Existing Conditions: HydroCAD Reports





Routing Diagram for Existing System A
Prepared by SCCM, Printed 4/30/2019
HydroCAD® 10.00 s/n 03895 © 2012 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	C	Description (subcatchment-numbers)
94.950	0.95	Paved parking, HSG D (EA01, EA02, EA03, EA04, EA05, EA06, EA07, EA08, EA09, EA10, EA11, EA12)
94.950	**0.95**	**TOTAL AREA**

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	A01	59.12	56.16	282.8	0.0105	0.013	18.0	0.0	0.0
2	A02	56.16	54.30	285.8	0.0065	0.013	18.0	0.0	0.0
3	A03	54.30	51.21	279.8	0.0110	0.013	24.0	0.0	0.0
4	A04	51.21	49.52	231.1	0.0073	0.013	24.0	0.0	0.0
5	A05	49.52	48.03	200.0	0.0075	0.013	30.0	0.0	0.0
6	A06	48.03	47.71	200.0	0.0016	0.013	30.0	0.0	0.0
7	A07	47.71	43.96	200.0	0.0187	0.013	30.0	0.0	0.0
8	A08	42.86	42.56	200.0	0.0015	0.013	4.0	2.0	0.0
9	A09	42.55	42.25	200.0	0.0015	0.013	4.0	2.0	0.0
10	A10	42.24	41.94	200.0	0.0015	0.013	4.0	2.0	0.0
11	A11/12	41.93	38.20	376.0	0.0099	0.013	36.0	0.0	0.0

50-year Rainfall Intensity

ELEV.	FACTOR
0-1500	1.00
1500-3000	1.25
3000-4000	1.42
4000-5000	1.60
5000-6000	1.7
DESERT	1.25

TO OBTAIN CORRECT INTENSITY, MULTIPLY INTENSITY ON CHART BY FACTOR FOR DESIGN ELEVATION.

RAINFALL INTENSITY - DURATION - FREQUENCY CURVES FOR COUNTY OF SAN DIEGO

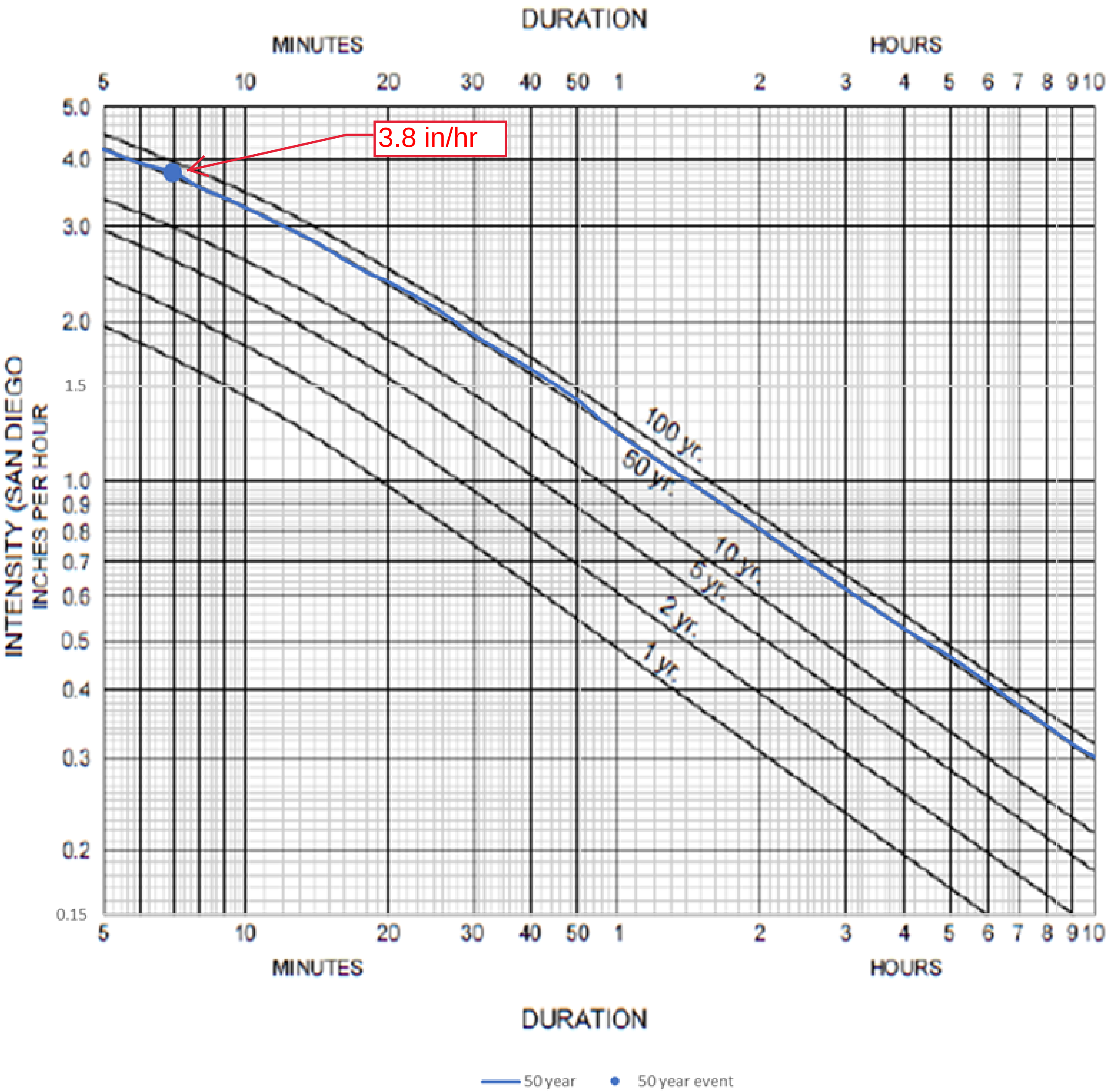


Figure A-1. Intensity-Duration-Frequency Design Chart

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 3
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Pond A01: A01 Peak Elev=63.45' Inflow=10.43 cfs 0.144 af
Primary=9.18 cfs 0.138 af Secondary=1.25 cfs 0.006 af Outflow=10.43 cfs 0.144 af

Pond A02: A02 Peak Elev=60.66' Inflow=27.65 cfs 0.381 af
Primary=8.44 cfs 0.160 af Secondary=20.20 cfs 0.220 af Outflow=27.65 cfs 0.381 af

Pond A03: A03 Peak Elev=58.81' Inflow=51.84 cfs 0.714 af
Primary=17.36 cfs 0.353 af Secondary=34.96 cfs 0.361 af Outflow=51.84 cfs 0.714 af

Pond A04: A04 Peak Elev=56.58' Inflow=77.07 cfs 1.058 af
Primary=17.99 cfs 0.353 af Secondary=62.08 cfs 0.705 af Outflow=77.07 cfs 1.058 af

Pond A05: A05 Peak Elev=55.02' Inflow=96.86 cfs 1.331 af
Primary=24.95 cfs 0.532 af Secondary=74.31 cfs 0.799 af Outflow=96.86 cfs 1.331 af

Pond A06: A06 Peak Elev=53.93' Inflow=120.95 cfs 1.679 af
Primary=26.21 cfs 0.477 af Secondary=101.31 cfs 1.206 af Outflow=120.95 cfs 1.679 af

Pond A07: A07 Peak Elev=53.10' Inflow=138.97 cfs 1.931 af
Primary=39.35 cfs 0.882 af Secondary=100.36 cfs 1.050 af Outflow=138.97 cfs 1.931 af

Pond A08: A08 Peak Elev=49.88' Inflow=151.33 cfs 2.102 af
Primary=26.51 cfs 0.552 af Secondary=127.69 cfs 1.549 af Outflow=151.33 cfs 2.102 af

Pond A09: A09 Peak Elev=48.72' Inflow=160.77 cfs 2.231 af
Primary=32.37 cfs 0.600 af Secondary=130.34 cfs 1.632 af Outflow=160.77 cfs 2.231 af

Pond A10: A10 Peak Elev=47.90' Inflow=182.00 cfs 2.524 af
Primary=30.81 cfs 0.519 af Secondary=152.43 cfs 2.005 af Outflow=182.00 cfs 2.524 af

Pond A11/12: A11/12 POND Peak Elev=47.74' Storage=117,702 cf Inflow=290.86 cfs 4.046 af
34.0" Round Culvert n=0.013 L=376.0' S=0.0099 '/' Outflow=62.12 cfs 4.050 af

Subcatchment EA01: E-A01 Runoff Area=3.350 ac 100.00% Impervious Runoff Depth=0.51"
Tc=7.6 min C=0.95 Runoff=10.43 cfs 0.144 af

Subcatchment EA02: E-A02 Runoff Area=5.530 ac 100.00% Impervious Runoff Depth=0.51"
Tc=6.9 min C=0.95 Runoff=17.22 cfs 0.237 af

Subcatchment EA03: E-A03 Runoff Area=7.770 ac 100.00% Impervious Runoff Depth=0.51"
Tc=7.7 min C=0.95 Runoff=24.19 cfs 0.333 af

Subcatchment EA04: E-A04 Runoff Area=8.040 ac 100.00% Impervious Runoff Depth=0.51"
Tc=9.0 min C=0.95 Runoff=25.24 cfs 0.345 af

Subcatchment EA05: E-A05 Runoff Area=6.350 ac 100.00% Impervious Runoff Depth=0.51"
Tc=9.1 min C=0.95 Runoff=19.78 cfs 0.272 af

Subcatchment EA06: E-A06 Runoff Area=8.460 ac 100.00% Impervious Runoff Depth=0.49"
Tc=10.4 min C=0.95 Runoff=24.88 cfs 0.349 af

Subcatchment EA07: E-A07 Runoff Area=5.790 ac 100.00% Impervious Runoff Depth=0.51"
Tc=9.3 min C=0.95 Runoff=18.03 cfs 0.248 af

Subcatchment EA08: E-A08 Runoff Area=3.970 ac 100.00% Impervious Runoff Depth=0.51"
Tc=8.1 min C=0.95 Runoff=12.36 cfs 0.170 af

Subcatchment EA09: E-A09 Runoff Area=3.030 ac 100.00% Impervious Runoff Depth=0.51"
Tc=7.9 min C=0.95 Runoff=9.43 cfs 0.130 af

Subcatchment EA10: E-A10 Runoff Area=6.820 ac 100.00% Impervious Runoff Depth=0.51"
Tc=9.4 min C=0.95 Runoff=21.25 cfs 0.292 af

Subcatchment EA11: E-A11 Runoff Area=19.520 ac 100.00% Impervious Runoff Depth=0.51"
Tc=9.4 min C=0.95 Runoff=60.82 cfs 0.837 af

Subcatchment EA12: E-A12 Runoff Area=16.320 ac 100.00% Impervious Runoff Depth=0.50"
Tc=10.2 min C=0.95 Runoff=48.94 cfs 0.686 af

Pond OA: OUTFALL A Inflow=62.12 cfs 4.050 af
Primary=62.12 cfs 4.050 af

Total Runoff Area = 94.950 ac Runoff Volume = 4.042 af Average Runoff Depth = 0.51"
0.00% Pervious = 0.000 ac 100.00% Impervious = 94.950 ac

Summary for Pond A01: A01

Inflow Area = 3.350 ac,100.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 10.43 cfs @ 0.13 hrs, Volume= 0.144 af
Outflow = 10.43 cfs @ 0.16 hrs, Volume= 0.144 af, Atten= 0%, Lag= 1.8 min
Primary = 9.18 cfs @ 0.17 hrs, Volume= 0.138 af
Secondary = 1.25 cfs @ 0.16 hrs, Volume= 0.006 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 63.45' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.12'	**18.0" Round CB A1** L= 282.8' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 59.12' / 56.16' S= 0.0105 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Secondary	63.37'	**20.0' long x 282.8' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=9.18 cfs @ 0.17 hrs HW=63.44' TW=60.65' (Dynamic Tailwater)
└─**1=CB A1** (Outlet Controls 9.18 cfs @ 5.19 fps)

Secondary OutFlow Max=1.25 cfs @ 0.16 hrs HW=63.45' TW=60.66' (Dynamic Tailwater)
└─**2=Broad-Crested Rectangular Weir** (Weir Controls 1.25 cfs @ 0.77 fps)

Summary for Pond A02: A02

Inflow Area = 8.880 ac,100.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 27.65 cfs @ 0.14 hrs, Volume= 0.381 af
Outflow = 27.65 cfs @ 0.14 hrs, Volume= 0.381 af, Atten= 0%, Lag= 0.0 min
Primary = 8.44 cfs @ 0.04 hrs, Volume= 0.160 af
Secondary = 20.20 cfs @ 0.16 hrs, Volume= 0.220 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.66' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.16'	**18.0" Round CB A02** L= 285.8' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 56.16' / 54.30' S= 0.0065 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Secondary	60.14'	**20.0' long x 285.8' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=8.16 cfs @ 0.04 hrs HW=60.23' TW=58.00' (Dynamic Tailwater)
└─**1=CB A02** (Outlet Controls 8.16 cfs @ 4.62 fps)

Secondary OutFlow Max=20.20 cfs @ 0.16 hrs HW=60.66' TW=58.81' (Dynamic Tailwater)
└─**2=Broad-Crested Rectangular Weir** (Weir Controls 20.20 cfs @ 1.95 fps)

Summary for Pond A03: A03

Inflow Area = 16.650 ac,100.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 51.84 cfs @ 0.14 hrs, Volume= 0.714 af
Outflow = 51.84 cfs @ 0.15 hrs, Volume= 0.714 af, Atten= 0%, Lag= 0.6 min
Primary = 17.36 cfs @ 0.05 hrs, Volume= 0.353 af
Secondary = 34.96 cfs @ 0.16 hrs, Volume= 0.361 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 58.81' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.30'	**24.0" Round CB A03** L= 279.8' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 54.30' / 51.21' S= 0.0110 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	58.05'	**20.0' long x 279.8' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=17.35 cfs @ 0.05 hrs HW=58.22' TW=55.85' (Dynamic Tailwater)
↑—**1=CB A03** (Outlet Controls 17.35 cfs @ 5.52 fps)

Secondary OutFlow Max=34.96 cfs @ 0.16 hrs HW=58.81' TW=56.57' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 34.96 cfs @ 2.31 fps)

Summary for Pond A04: A04

Inflow Area = 24.690 ac,100.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 77.07 cfs @ 0.15 hrs, Volume= 1.058 af
Outflow = 77.07 cfs @ 0.16 hrs, Volume= 1.058 af, Atten= 0%, Lag= 0.0 min
Primary = 17.99 cfs @ 0.03 hrs, Volume= 0.353 af
Secondary = 62.08 cfs @ 0.16 hrs, Volume= 0.705 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 56.58' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.21'	**24.0" Round CB A04** L= 231.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 51.21' / 49.52' S= 0.0073 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	55.46'	**20.0' long x 231.1' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=16.09 cfs @ 0.03 hrs HW=55.08' TW=53.29' (Dynamic Tailwater)
↑—**1=CB A04** (Outlet Controls 16.09 cfs @ 5.12 fps)

Secondary OutFlow Max=61.83 cfs @ 0.16 hrs HW=56.57' TW=55.02' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 61.83 cfs @ 2.78 fps)

Summary for Pond A05: A05

Inflow Area = 31.040 ac,100.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 96.86 cfs @ 0.16 hrs, Volume= 1.331 af
Outflow = 96.86 cfs @ 0.16 hrs, Volume= 1.331 af, Atten= 0%, Lag= 0.0 min
Primary = 24.95 cfs @ 0.05 hrs, Volume= 0.532 af
Secondary = 74.31 cfs @ 0.16 hrs, Volume= 0.799 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 55.02' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	49.52'	**30.0" Round CB A05** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 49.52' / 48.03' S= 0.0075 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Secondary	53.75'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=24.92 cfs @ 0.05 hrs HW=54.07' TW=52.72' (Dynamic Tailwater)
└─**1=CB A05** (Outlet Controls 24.92 cfs @ 5.08 fps)

Secondary OutFlow Max=73.99 cfs @ 0.16 hrs HW=55.02' TW=53.92' (Dynamic Tailwater)
└─**2=Broad-Crested Rectangular Weir** (Weir Controls 73.99 cfs @ 2.92 fps)

Summary for Pond A06: A06

Inflow Area = 39.500 ac,100.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 120.95 cfs @ 0.16 hrs, Volume= 1.679 af
Outflow = 120.95 cfs @ 0.16 hrs, Volume= 1.679 af, Atten= 0%, Lag= 0.0 min
Primary = 26.21 cfs @ 0.03 hrs, Volume= 0.477 af
Secondary = 101.31 cfs @ 0.16 hrs, Volume= 1.206 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 53.93' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	48.03'	**30.0" Round CB A06** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 48.03' / 47.71' S= 0.0016 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Secondary	52.18'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=25.48 cfs @ 0.03 hrs HW=52.07' TW=50.67' (Dynamic Tailwater)
└─**1=CB A06** (Outlet Controls 25.48 cfs @ 5.19 fps)

Secondary OutFlow Max=101.27 cfs @ 0.16 hrs HW=53.93' TW=53.10' (Dynamic Tailwater)
└─**2=Broad-Crested Rectangular Weir** (Weir Controls 101.27 cfs @ 2.89 fps)

Summary for Pond A07: A07

Inflow Area = 45.290 ac,100.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 138.97 cfs @ 0.16 hrs, Volume= 1.931 af
Outflow = 138.97 cfs @ 0.16 hrs, Volume= 1.931 af, Atten= 0%, Lag= 0.0 min
Primary = 39.35 cfs @ 0.09 hrs, Volume= 0.882 af
Secondary = 100.36 cfs @ 0.16 hrs, Volume= 1.050 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 53.10' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.71'	**30.0" Round CB A07** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 47.71' / 43.96' S= 0.0187 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Secondary	51.56'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=39.33 cfs @ 0.09 hrs HW=52.57' TW=49.23' (Dynamic Tailwater)
↑—**1=CB A07** (Outlet Controls 39.33 cfs @ 8.01 fps)

Secondary OutFlow Max=100.31 cfs @ 0.16 hrs HW=53.10' TW=49.88' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 100.31 cfs @ 3.26 fps)

Summary for Pond A08: A08

Inflow Area = 49.260 ac,100.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 151.33 cfs @ 0.16 hrs, Volume= 2.102 af
Outflow = 151.33 cfs @ 0.16 hrs, Volume= 2.102 af, Atten= 0%, Lag= 0.0 min
Primary = 26.51 cfs @ 0.03 hrs, Volume= 0.552 af
Secondary = 127.69 cfs @ 0.16 hrs, Volume= 1.549 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 49.88' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	42.86'	**30.0" Round CB A08** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 42.86' / 42.56' S= 0.0015 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Secondary	47.95'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=26.16 cfs @ 0.03 hrs HW=48.18' TW=46.70' (Dynamic Tailwater)
↑—**1=CB A08** (Outlet Controls 26.16 cfs @ 5.33 fps)

Secondary OutFlow Max=126.64 cfs @ 0.16 hrs HW=49.88' TW=48.71' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 126.64 cfs @ 3.28 fps)

Summary for Pond A09: A09

Inflow Area = 52.290 ac,100.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 160.77 cfs @ 0.16 hrs, Volume= 2.231 af
Outflow = 160.77 cfs @ 0.16 hrs, Volume= 2.231 af, Atten= 0%, Lag= 0.0 min
Primary = 32.37 cfs @ 0.05 hrs, Volume= 0.600 af
Secondary = 130.34 cfs @ 0.16 hrs, Volume= 1.632 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 48.72' @ 0.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	42.55'	**36.0" Round CB A09** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 42.55' / 42.25' S= 0.0015 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf
#2	Secondary	46.55'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=32.35 cfs @ 0.05 hrs HW=47.06' TW=46.10' (Dynamic Tailwater)
1=CB A09 (Outlet Controls 32.35 cfs @ 4.58 fps)

Secondary OutFlow Max=130.16 cfs @ 0.16 hrs HW=48.71' TW=47.86' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 130.16 cfs @ 3.02 fps)

Summary for Pond A10: A10

Inflow Area = 59.110 ac,100.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 182.00 cfs @ 0.16 hrs, Volume= 2.524 af
Outflow = 182.00 cfs @ 0.16 hrs, Volume= 2.524 af, Atten= 0%, Lag= 0.0 min
Primary = 30.81 cfs @ 0.13 hrs, Volume= 0.519 af
Secondary = 152.43 cfs @ 0.16 hrs, Volume= 2.005 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 47.90' @ 0.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	42.24'	**36.0" Round Culvert** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 42.24' / 41.94' S= 0.0015 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf
#2	Secondary	45.35'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=30.80 cfs @ 0.13 hrs HW=47.52' TW=46.65' (Dynamic Tailwater)
1=Culvert (Outlet Controls 30.80 cfs @ 4.36 fps)

Secondary OutFlow Max=152.06 cfs @ 0.16 hrs HW=47.86' TW=47.07' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 152.06 cfs @ 3.02 fps)

Summary for Pond A11/12: A11/12 POND

Inflow Area = 94.950 ac,100.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 290.86 cfs @ 0.16 hrs, Volume= 4.046 af
Outflow = 62.12 cfs @ 0.29 hrs, Volume= 4.050 af, Atten= 79%, Lag= 7.4 min
Primary = 62.12 cfs @ 0.29 hrs, Volume= 4.050 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 47.74' @ 0.29 hrs Surf.Area= 92,722 sf Storage= 117,702 cf

Plug-Flow detention time= 17.1 min calculated for 4.046 af (100% of inflow)
Center-of-Mass det. time= 17.1 min (26.7 - 9.5)

Volume	Invert	Avail.Storage	Storage Description
#1	44.40'	1,991,741 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.40	10	0	0
45.20	100	44	44
48.00	102,400	143,500	143,544
50.00	433,110	535,510	679,054
52.00	879,577	1,312,687	1,991,741

Device	Routing	Invert	Outlet Devices
#1	Primary	41.93'	**34.0" Round CB A12-Out** L= 376.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 41.93' / 38.20' S= 0.0099 '/' Cc= 0.900 n= 0.013, Flow Area= 6.31 sf

Primary OutFlow Max=62.12 cfs @ 0.29 hrs HW=47.73' TW=0.00' (Dynamic Tailwater)
└─**1=CB A12-Out** (Barrel Controls 62.12 cfs @ 9.85 fps)

Summary for Subcatchment EA01: E-A01

Runoff = 10.43 cfs @ 0.13 hrs, Volume= 0.144 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
3.350	0.95	Paved parking, HSG D
3.350		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.6					**Direct Entry, EA01**

Summary for Subcatchment EA02: E-A02

Runoff = 17.22 cfs @ 0.12 hrs, Volume= 0.237 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
5.530	0.95	Paved parking, HSG D
5.530		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9					**Direct Entry, E-A02**

Summary for Subcatchment EA03: E-A03

Runoff = 24.19 cfs @ 0.13 hrs, Volume= 0.333 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
7.770	0.95	Paved parking, HSG D
7.770		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7					**Direct Entry, E-A3**

Summary for Subcatchment EA04: E-A04

Runoff = 25.24 cfs @ 0.16 hrs, Volume= 0.345 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
8.040	0.95	Paved parking, HSG D
8.040		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0					**Direct Entry, E-A04**

Summary for Subcatchment EA05: E-A05

Runoff = 19.78 cfs @ 0.16 hrs, Volume= 0.272 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
6.350	0.95	Paved parking, HSG D
6.350		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1					**Direct Entry, E-A05**

Summary for Subcatchment EA06: E-A06

Runoff = 24.88 cfs @ 0.17 hrs, Volume= 0.349 af, Depth= 0.49"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
8.460	0.95	Paved parking, HSG D
8.460		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.4					**Direct Entry, A-A06**

Summary for Subcatchment EA07: E-A07

Runoff = 18.03 cfs @ 0.16 hrs, Volume= 0.248 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
5.790	0.95	Paved parking, HSG D
5.790		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3					**Direct Entry, E-A07**

Summary for Subcatchment EA08: E-A08

Runoff = 12.36 cfs @ 0.14 hrs, Volume= 0.170 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
3.970	0.95	Paved parking, HSG D
3.970		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1					**Direct Entry, E-A08**

Summary for Subcatchment EA09: E-A09

Runoff = 9.43 cfs @ 0.14 hrs, Volume= 0.130 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
3.030	0.95	Paved parking, HSG D
3.030		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9					**Direct Entry, E-A9**

Summary for Subcatchment EA10: E-A10

Runoff = 21.25 cfs @ 0.16 hrs, Volume= 0.292 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
6.820	0.95	Paved parking, HSG D
6.820		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4					**Direct Entry, E-A10**

Summary for Subcatchment EA11: E-A11

Runoff = 60.82 cfs @ 0.16 hrs, Volume= 0.837 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
19.520	0.95	Paved parking, HSG D
19.520		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4					**Direct Entry, E-A11**

Summary for Subcatchment EA12: E-A12

Runoff = 48.94 cfs @ 0.17 hrs, Volume= 0.686 af, Depth= 0.50"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
16.320	0.95	Paved parking, HSG D
16.320		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2					**Direct Entry, E-A12**

Summary for Pond OA: OUTFALL A

Inflow Area = 94.950 ac,100.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 62.12 cfs @ 0.29 hrs, Volume= 4.050 af
Primary = 62.12 cfs @ 0.29 hrs, Volume= 4.050 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3

100-year Rainfall Intensity

ELEV.	FACTOR
0-1500	1.00
1500-3000	1.25
3000-4000	1.42
4000-5000	1.60
5000-6000	1.7
DESERT	1.25

TO OBTAIN CORRECT INTENSITY, MULTIPLY INTENSITY ON CHART BY FACTOR FOR DESIGN ELEVATION.

RAINFALL
INTENSITY - DURATION - FREQUENCY CURVES
FOR
COUNTY OF SAN DIEGO

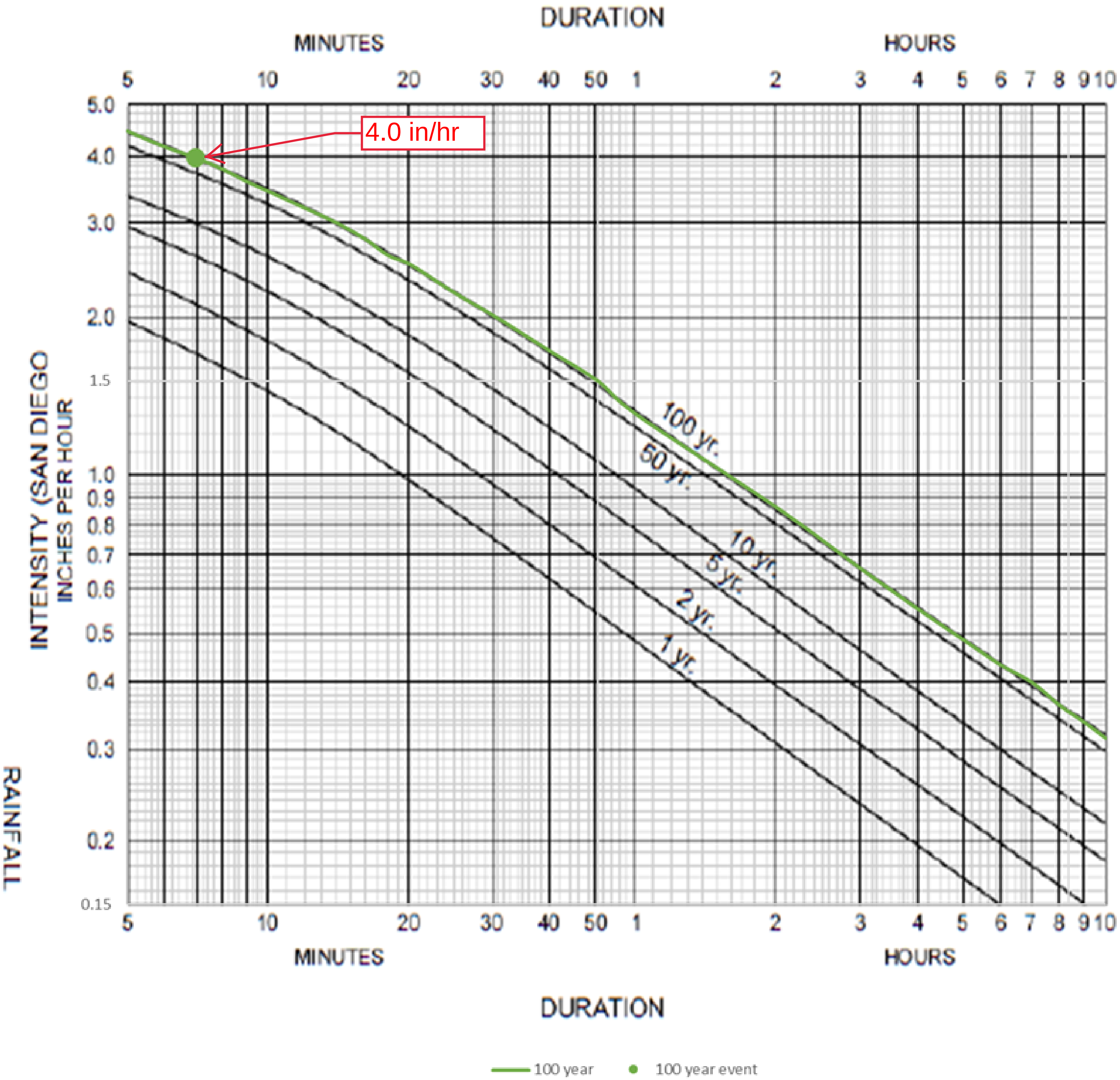


Figure A-1. Intensity-Duration-Frequency Design Chart

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 3
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Pond A01: A01 Peak Elev=63.48' Inflow=11.07 cfs 0.152 af
Primary=9.18 cfs 0.143 af Secondary=1.90 cfs 0.010 af Outflow=11.07 cfs 0.152 af

Pond A02: A02 Peak Elev=60.69' Inflow=29.35 cfs 0.404 af
Primary=8.07 cfs 0.161 af Secondary=21.94 cfs 0.243 af Outflow=29.35 cfs 0.404 af

Pond A03: A03 Peak Elev=58.86' Inflow=55.03 cfs 0.758 af
Primary=17.37 cfs 0.355 af Secondary=38.18 cfs 0.402 af Outflow=55.03 cfs 0.758 af

Pond A04: A04 Peak Elev=56.63' Inflow=81.86 cfs 1.124 af
Primary=18.91 cfs 0.354 af Secondary=66.95 cfs 0.769 af Outflow=81.82 cfs 1.124 af

Pond A05: A05 Peak Elev=55.11' Inflow=102.82 cfs 1.412 af
Primary=24.95 cfs 0.534 af Secondary=80.44 cfs 0.879 af Outflow=102.82 cfs 1.412 af

Pond A06: A06 Peak Elev=54.03' Inflow=128.39 cfs 1.783 af
Primary=26.66 cfs 0.479 af Secondary=108.62 cfs 1.304 af Outflow=128.39 cfs 1.783 af

Pond A07: A07 Peak Elev=53.19' Inflow=147.52 cfs 2.046 af
Primary=39.36 cfs 0.883 af Secondary=109.09 cfs 1.163 af Outflow=147.52 cfs 2.046 af

Pond A08: A08 Peak Elev=50.00' Inflow=160.65 cfs 2.227 af
Primary=26.36 cfs 0.548 af Secondary=137.06 cfs 1.678 af Outflow=160.65 cfs 2.227 af

Pond A09: A09 Peak Elev=48.85' Inflow=170.66 cfs 2.364 af
Primary=32.45 cfs 0.603 af Secondary=139.99 cfs 1.762 af Outflow=170.66 cfs 2.364 af

Pond A10: A10 Peak Elev=48.02' Inflow=193.20 cfs 2.675 af
Primary=31.51 cfs 0.528 af Secondary=162.95 cfs 2.146 af Outflow=193.20 cfs 2.675 af

Pond A11/12: A11/12 POND Peak Elev=47.84' Storage=127,620 cf Inflow=308.76 cfs 4.291 af
34.0" Round Culvert n=0.013 L=376.0' S=0.0099 '/' Outflow=62.61 cfs 4.304 af

Subcatchment EA01: E-A01 Runoff Area=3.350 ac 100.00% Impervious Runoff Depth=0.55"
Tc=7.6 min C=0.95 Runoff=11.07 cfs 0.152 af

Subcatchment EA02: E-A02 Runoff Area=5.530 ac 100.00% Impervious Runoff Depth=0.55"
Tc=6.9 min C=0.95 Runoff=18.28 cfs 0.252 af

Subcatchment EA03: E-A03 Runoff Area=7.770 ac 100.00% Impervious Runoff Depth=0.55"
Tc=7.7 min C=0.95 Runoff=25.68 cfs 0.354 af

Subcatchment EA04: E-A04 Runoff Area=8.040 ac 100.00% Impervious Runoff Depth=0.55"
Tc=9.0 min C=0.95 Runoff=26.79 cfs 0.366 af

Subcatchment EA05: E-A05 Runoff Area=6.350 ac 100.00% Impervious Runoff Depth=0.55"
Tc=9.1 min C=0.95 Runoff=21.00 cfs 0.289 af

Subcatchment EA06: E-A06 Runoff Area=8.460 ac 100.00% Impervious Runoff Depth=0.53"
Tc=10.4 min C=0.95 Runoff=26.41 cfs 0.370 af

Subcatchment EA07: E-A07	Runoff Area=5.790 ac 100.00% Impervious Runoff Depth=0.55" Tc=9.3 min C=0.95 Runoff=19.14 cfs 0.263 af
Subcatchment EA08: E-A08	Runoff Area=3.970 ac 100.00% Impervious Runoff Depth=0.55" Tc=8.1 min C=0.95 Runoff=13.12 cfs 0.181 af
Subcatchment EA09: E-A09	Runoff Area=3.030 ac 100.00% Impervious Runoff Depth=0.55" Tc=7.9 min C=0.95 Runoff=10.01 cfs 0.138 af
Subcatchment EA10: E-A10	Runoff Area=6.820 ac 100.00% Impervious Runoff Depth=0.55" Tc=9.4 min C=0.95 Runoff=22.56 cfs 0.310 af
Subcatchment EA11: E-A11	Runoff Area=19.520 ac 100.00% Impervious Runoff Depth=0.55" Tc=9.4 min C=0.95 Runoff=64.57 cfs 0.888 af
Subcatchment EA12: E-A12	Runoff Area=16.320 ac 100.00% Impervious Runoff Depth=0.54" Tc=10.2 min C=0.95 Runoff=51.95 cfs 0.728 af
Pond OA: OUTFALL A	Inflow=62.61 cfs 4.304 af Primary=62.61 cfs 4.304 af

Total Runoff Area = 94.950 ac Runoff Volume = 4.291 af Average Runoff Depth = 0.54"
0.00% Pervious = 0.000 ac 100.00% Impervious = 94.950 ac

Summary for Pond A01: A01

Inflow Area = 3.350 ac,100.00% Impervious, Inflow Depth = 0.55" for 100-Year event
Inflow = 11.07 cfs @ 0.13 hrs, Volume= 0.152 af
Outflow = 11.07 cfs @ 0.14 hrs, Volume= 0.152 af, Atten= 0%, Lag= 0.6 min
Primary = 9.18 cfs @ 0.18 hrs, Volume= 0.143 af
Secondary = 1.90 cfs @ 0.16 hrs, Volume= 0.010 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 63.48' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.12'	**18.0" Round CB A1** L= 282.8' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 59.12' / 56.16' S= 0.0105 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Secondary	63.37'	**20.0' long x 282.8' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=9.18 cfs @ 0.18 hrs HW=63.43' TW=60.63' (Dynamic Tailwater)
└─**1=CB A1** (Outlet Controls 9.18 cfs @ 5.19 fps)

Secondary OutFlow Max=1.90 cfs @ 0.16 hrs HW=63.48' TW=60.69' (Dynamic Tailwater)
└─**2=Broad-Crested Rectangular Weir** (Weir Controls 1.90 cfs @ 0.88 fps)

Summary for Pond A02: A02

Inflow Area = 8.880 ac,100.00% Impervious, Inflow Depth = 0.55" for 100-Year event
Inflow = 29.35 cfs @ 0.14 hrs, Volume= 0.404 af
Outflow = 29.35 cfs @ 0.15 hrs, Volume= 0.404 af, Atten= 0%, Lag= 0.6 min
Primary = 8.07 cfs @ 0.04 hrs, Volume= 0.161 af
Secondary = 21.94 cfs @ 0.16 hrs, Volume= 0.243 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.69' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.16'	**18.0" Round CB A02** L= 285.8' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 56.16' / 54.30' S= 0.0065 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf
#2	Secondary	60.14'	**20.0' long x 285.8' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=7.97 cfs @ 0.04 hrs HW=60.27' TW=58.15' (Dynamic Tailwater)
└─**1=CB A02** (Outlet Controls 7.97 cfs @ 4.51 fps)

Secondary OutFlow Max=21.94 cfs @ 0.16 hrs HW=60.69' TW=58.86' (Dynamic Tailwater)
└─**2=Broad-Crested Rectangular Weir** (Weir Controls 21.94 cfs @ 2.00 fps)

Summary for Pond A03: A03

Inflow Area = 16.650 ac,100.00% Impervious, Inflow Depth = 0.55" for 100-Year event
Inflow = 55.03 cfs @ 0.13 hrs, Volume= 0.758 af
Outflow = 55.03 cfs @ 0.13 hrs, Volume= 0.758 af, Atten= 0%, Lag= 0.0 min
Primary = 17.37 cfs @ 0.05 hrs, Volume= 0.355 af
Secondary = 38.18 cfs @ 0.16 hrs, Volume= 0.402 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 58.86' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.30'	**24.0" Round CB A03** L= 279.8' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 54.30' / 51.21' S= 0.0110 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	58.05'	**20.0' long x 279.8' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=17.36 cfs @ 0.05 hrs HW=58.25' TW=55.89' (Dynamic Tailwater)
└─**1=CB A03** (Outlet Controls 17.36 cfs @ 5.53 fps)

Secondary OutFlow Max=38.18 cfs @ 0.16 hrs HW=58.86' TW=56.63' (Dynamic Tailwater)
└─**2=Broad-Crested Rectangular Weir** (Weir Controls 38.18 cfs @ 2.37 fps)

Summary for Pond A04: A04

Inflow Area = 24.690 ac,100.00% Impervious, Inflow Depth = 0.55" for 100-Year event
Inflow = 81.86 cfs @ 0.16 hrs, Volume= 1.124 af
Outflow = 81.82 cfs @ 0.16 hrs, Volume= 1.124 af, Atten= 0%, Lag= 0.0 min
Primary = 18.91 cfs @ 0.03 hrs, Volume= 0.354 af
Secondary = 66.95 cfs @ 0.16 hrs, Volume= 0.769 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 56.63' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.21'	**24.0" Round CB A04** L= 231.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 51.21' / 49.52' S= 0.0073 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	55.46'	**20.0' long x 231.1' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=16.92 cfs @ 0.03 hrs HW=55.48' TW=53.51' (Dynamic Tailwater)
└─**1=CB A04** (Outlet Controls 16.92 cfs @ 5.39 fps)

Secondary OutFlow Max=66.69 cfs @ 0.16 hrs HW=56.63' TW=55.10' (Dynamic Tailwater)
└─**2=Broad-Crested Rectangular Weir** (Weir Controls 66.69 cfs @ 2.85 fps)

Summary for Pond A05: A05

Inflow Area = 31.040 ac,100.00% Impervious, Inflow Depth = 0.55" for 100-Year event
Inflow = 102.82 cfs @ 0.16 hrs, Volume= 1.412 af
Outflow = 102.82 cfs @ 0.16 hrs, Volume= 1.412 af, Atten= 0%, Lag= 0.0 min
Primary = 24.95 cfs @ 0.05 hrs, Volume= 0.534 af
Secondary = 80.44 cfs @ 0.16 hrs, Volume= 0.879 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 55.11' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	49.52'	**30.0" Round CB A05** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 49.52' / 48.03' S= 0.0075 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Secondary	53.75'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=24.92 cfs @ 0.05 hrs HW=54.06' TW=52.72' (Dynamic Tailwater)
↑—**1=CB A05** (Outlet Controls 24.92 cfs @ 5.08 fps)

Secondary OutFlow Max=80.09 cfs @ 0.16 hrs HW=55.10' TW=54.02' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 80.09 cfs @ 2.96 fps)

Summary for Pond A06: A06

Inflow Area = 39.500 ac,100.00% Impervious, Inflow Depth = 0.54" for 100-Year event
Inflow = 128.39 cfs @ 0.16 hrs, Volume= 1.783 af
Outflow = 128.39 cfs @ 0.16 hrs, Volume= 1.783 af, Atten= 0%, Lag= 0.0 min
Primary = 26.66 cfs @ 0.03 hrs, Volume= 0.479 af
Secondary = 108.62 cfs @ 0.16 hrs, Volume= 1.304 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 54.03' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	48.03'	**30.0" Round CB A06** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 48.03' / 47.71' S= 0.0016 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Secondary	52.18'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=26.19 cfs @ 0.03 hrs HW=52.28' TW=50.80' (Dynamic Tailwater)
↑—**1=CB A06** (Outlet Controls 26.19 cfs @ 5.33 fps)

Secondary OutFlow Max=108.58 cfs @ 0.16 hrs HW=54.03' TW=53.19' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 108.58 cfs @ 2.94 fps)

Summary for Pond A07: A07

Inflow Area =	45.290 ac,100.00% Impervious,	Inflow Depth = 0.54"	for 100-Year event	
Inflow =	147.52 cfs @	0.16 hrs, Volume=	2.046 af	
Outflow =	147.52 cfs @	0.16 hrs, Volume=	2.046 af,	Atten= 0%, Lag= 0.0 min
Primary =	39.36 cfs @	0.09 hrs, Volume=	0.883 af	
Secondary =	109.09 cfs @	0.16 hrs, Volume=	1.163 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 53.19' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.71'	**30.0" Round CB A07** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 47.71' / 43.96' S= 0.0187 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Secondary	51.56'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=39.33 cfs @ 0.09 hrs HW=52.56' TW=49.22' (Dynamic Tailwater)
└─**1=CB A07** (Outlet Controls 39.33 cfs @ 8.01 fps)

Secondary OutFlow Max=109.04 cfs @ 0.16 hrs HW=53.19' TW=50.00' (Dynamic Tailwater)
└─**2=Broad-Crested Rectangular Weir** (Weir Controls 109.04 cfs @ 3.35 fps)

Summary for Pond A08: A08

Inflow Area =	49.260 ac,100.00% Impervious,	Inflow Depth = 0.54"	for 100-Year event	
Inflow =	160.65 cfs @	0.16 hrs, Volume=	2.227 af	
Outflow =	160.65 cfs @	0.16 hrs, Volume=	2.227 af,	Atten= 0%, Lag= 0.0 min
Primary =	26.36 cfs @	0.03 hrs, Volume=	0.548 af	
Secondary =	137.06 cfs @	0.16 hrs, Volume=	1.678 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.00' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	42.86'	**30.0" Round CB A08** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 42.86' / 42.56' S= 0.0015 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Secondary	47.95'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=26.16 cfs @ 0.03 hrs HW=48.23' TW=46.75' (Dynamic Tailwater)
└─**1=CB A08** (Outlet Controls 26.16 cfs @ 5.33 fps)

Secondary OutFlow Max=135.85 cfs @ 0.16 hrs HW=50.00' TW=48.83' (Dynamic Tailwater)
└─**2=Broad-Crested Rectangular Weir** (Weir Controls 135.85 cfs @ 3.31 fps)

Summary for Pond A09: A09

Inflow Area = 52.290 ac,100.00% Impervious, Inflow Depth = 0.54" for 100-Year event
Inflow = 170.66 cfs @ 0.16 hrs, Volume= 2.364 af
Outflow = 170.66 cfs @ 0.16 hrs, Volume= 2.364 af, Atten= 0%, Lag= 0.0 min
Primary = 32.45 cfs @ 0.04 hrs, Volume= 0.603 af
Secondary = 139.99 cfs @ 0.16 hrs, Volume= 1.762 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 48.85' @ 0.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	42.55'	**36.0" Round CB A09** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 42.55' / 42.25' S= 0.0015 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf
#2	Secondary	46.55'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=32.45 cfs @ 0.04 hrs HW=47.00' TW=46.03' (Dynamic Tailwater)
1=CB A09 (Outlet Controls 32.45 cfs @ 4.59 fps)

Secondary OutFlow Max=139.82 cfs @ 0.16 hrs HW=48.83' TW=47.97' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 139.82 cfs @ 3.06 fps)

Summary for Pond A10: A10

Inflow Area = 59.110 ac,100.00% Impervious, Inflow Depth = 0.54" for 100-Year event
Inflow = 193.20 cfs @ 0.16 hrs, Volume= 2.675 af
Outflow = 193.20 cfs @ 0.16 hrs, Volume= 2.675 af, Atten= 0%, Lag= 0.0 min
Primary = 31.51 cfs @ 0.13 hrs, Volume= 0.528 af
Secondary = 162.95 cfs @ 0.16 hrs, Volume= 2.146 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 48.02' @ 0.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	42.24'	**36.0" Round Culvert** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 42.24' / 41.94' S= 0.0015 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf
#2	Secondary	45.35'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=31.50 cfs @ 0.13 hrs HW=47.63' TW=46.72' (Dynamic Tailwater)
1=Culvert (Outlet Controls 31.50 cfs @ 4.46 fps)

Secondary OutFlow Max=162.56 cfs @ 0.16 hrs HW=47.98' TW=47.15' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 162.56 cfs @ 3.09 fps)

Summary for Pond A11/12: A11/12 POND

Inflow Area = 94.950 ac,100.00% Impervious, Inflow Depth = 0.54" for 100-Year event
Inflow = 308.76 cfs @ 0.16 hrs, Volume= 4.291 af
Outflow = 62.61 cfs @ 0.29 hrs, Volume= 4.304 af, Atten= 80%, Lag= 7.4 min
Primary = 62.61 cfs @ 0.29 hrs, Volume= 4.304 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 47.84' @ 0.29 hrs Surf.Area= 96,551 sf Storage= 127,620 cf

Plug-Flow detention time= 18.4 min calculated for 4.290 af (100% of inflow)
Center-of-Mass det. time= 18.5 min (28.0 - 9.5)

Volume	Invert	Avail.Storage	Storage Description
#1	44.40'	1,991,741 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
44.40	10	0	0
45.20	100	44	44
48.00	102,400	143,500	143,544
50.00	433,110	535,510	679,054
52.00	879,577	1,312,687	1,991,741

Device	Routing	Invert	Outlet Devices
#1	Primary	41.93'	**34.0" Round CB A12-Out** L= 376.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 41.93' / 38.20' S= 0.0099 '/' Cc= 0.900 n= 0.013, Flow Area= 6.31 sf

Primary OutFlow Max=62.60 cfs @ 0.29 hrs HW=47.84' TW=0.00' (Dynamic Tailwater)
1=CB A12-Out (Barrel Controls 62.60 cfs @ 9.93 fps)

Summary for Subcatchment EA01: E-A01

Runoff = 11.07 cfs @ 0.13 hrs, Volume= 0.152 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
3.350	0.95	Paved parking, HSG D
3.350		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.6					**Direct Entry, EA01**

Summary for Subcatchment EA02: E-A02

Runoff = 18.28 cfs @ 0.12 hrs, Volume= 0.252 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
5.530	0.95	Paved parking, HSG D
5.530		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.9					**Direct Entry, E-A02**

Summary for Subcatchment EA03: E-A03

Runoff = 25.68 cfs @ 0.13 hrs, Volume= 0.354 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
7.770	0.95	Paved parking, HSG D
7.770		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.7					**Direct Entry, E-A3**

Summary for Subcatchment EA04: E-A04

Runoff = 26.79 cfs @ 0.16 hrs, Volume= 0.366 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
8.040	0.95	Paved parking, HSG D
8.040		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0					**Direct Entry, E-A04**

Summary for Subcatchment EA05: E-A05

Runoff = 21.00 cfs @ 0.16 hrs, Volume= 0.289 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
6.350	0.95	Paved parking, HSG D
6.350		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1					**Direct Entry, E-A05**

Summary for Subcatchment EA06: E-A06

Runoff = 26.41 cfs @ 0.17 hrs, Volume= 0.370 af, Depth= 0.53"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
8.460	0.95	Paved parking, HSG D
8.460		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.4					**Direct Entry, A-A06**

Summary for Subcatchment EA07: E-A07

Runoff = 19.14 cfs @ 0.16 hrs, Volume= 0.263 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
5.790	0.95	Paved parking, HSG D
5.790		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3					**Direct Entry, E-A07**

Summary for Subcatchment EA08: E-A08

Runoff = 13.12 cfs @ 0.14 hrs, Volume= 0.181 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
3.970	0.95	Paved parking, HSG D
3.970		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1					**Direct Entry, E-A08**

Summary for Subcatchment EA09: E-A09

Runoff = 10.01 cfs @ 0.14 hrs, Volume= 0.138 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
3.030	0.95	Paved parking, HSG D
3.030		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.9					**Direct Entry, E-A9**

Summary for Subcatchment EA10: E-A10

Runoff = 22.56 cfs @ 0.16 hrs, Volume= 0.310 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
6.820	0.95	Paved parking, HSG D
6.820		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4					**Direct Entry, E-A10**

Summary for Subcatchment EA11: E-A11

Runoff = 64.57 cfs @ 0.16 hrs, Volume= 0.888 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
19.520	0.95	Paved parking, HSG D
19.520		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4					**Direct Entry, E-A11**

Summary for Subcatchment EA12: E-A12

Runoff = 51.95 cfs @ 0.17 hrs, Volume= 0.728 af, Depth= 0.54"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

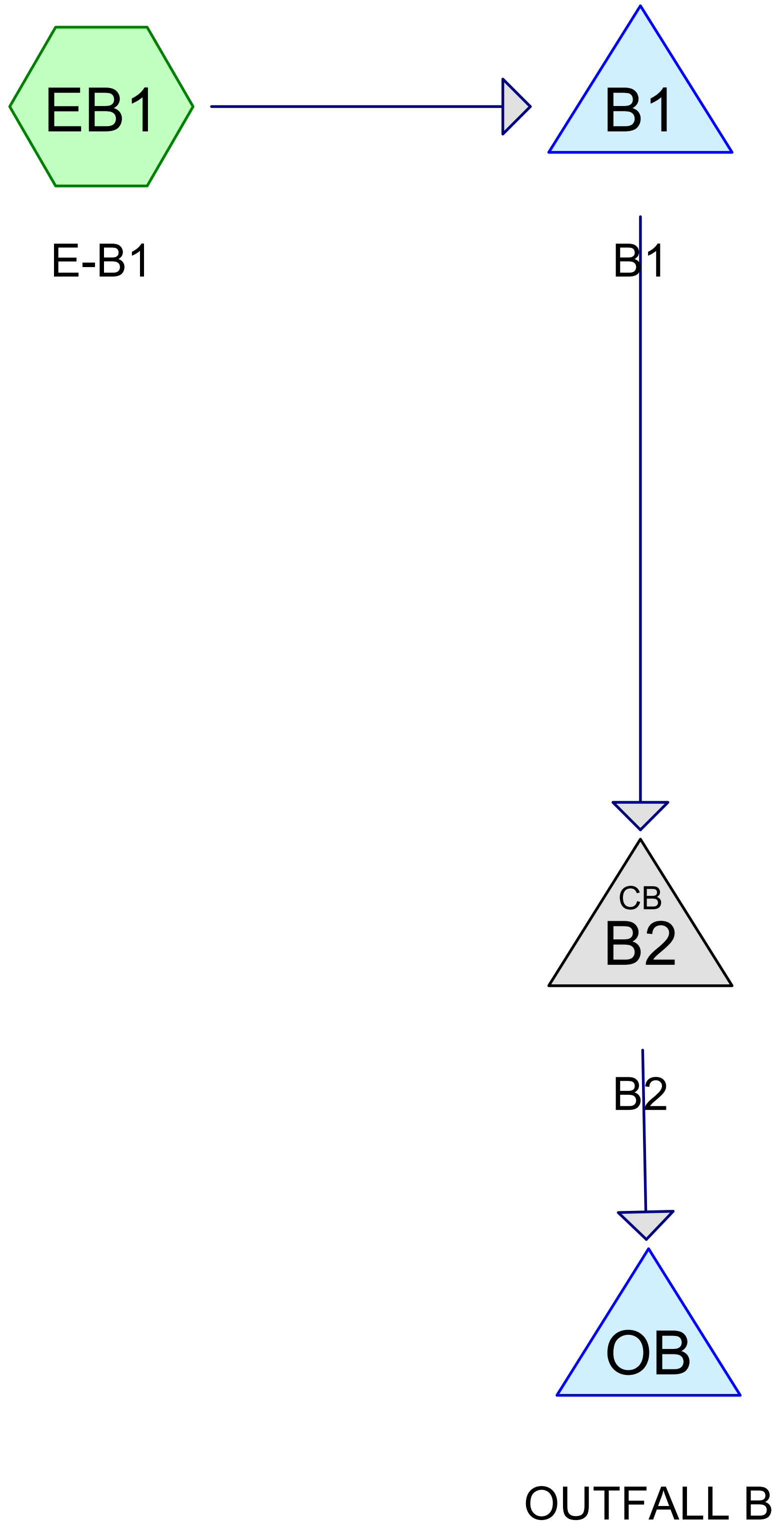
Area (ac)	C	Description
16.320	0.95	Paved parking, HSG D
16.320		100.00% Impervious Area

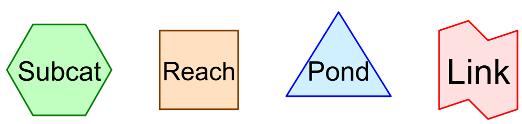
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.2					**Direct Entry, E-A12**

Summary for Pond OA: OUTFALL A

Inflow Area = 94.950 ac,100.00% Impervious, Inflow Depth = 0.54" for 100-Year event
Inflow = 62.61 cfs @ 0.29 hrs, Volume= 4.304 af
Primary = 62.61 cfs @ 0.29 hrs, Volume= 4.304 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3





Routing Diagram for Existing System B
Prepared by Geosyntec Consultants, Printed 5/24/2019

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	B1	49.75	47.88	758.6	0.0025	0.013	24.0	0.0	0.0
2	B2	47.60	47.46	130.0	0.0011	0.013	34.0	0.0	0.0

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Pond B1: B1 Peak Elev=52.27' Storage=7,859 cf Inflow=36.94 cfs 0.355 af
24.0" Round Culvert n=0.013 L=758.6' S=0.0025 '/' Outflow=12.77 cfs 0.357 af

Pond B2: B2 Peak Elev=49.51' Inflow=12.77 cfs 0.357 af
34.0" Round Culvert n=0.013 L=130.0' S=0.0011 '/' Outflow=12.77 cfs 0.357 af

Subcatchment EB1: E-B1 Runoff Area=10.110 ac 100.00% Impervious Runoff Depth=0.42"
Tc=6.6 min C=0.95 Runoff=36.94 cfs 0.355 af

Pond OB: OUTFALL B Inflow=12.77 cfs 0.357 af
Primary=12.77 cfs 0.357 af

Total Runoff Area = 10.110 ac Runoff Volume = 0.355 af Average Runoff Depth = 0.42"
0.00% Pervious = 0.000 ac 100.00% Impervious = 10.110 ac

50-year Rainfall Intensity

ELEV.	FACTOR
0-1500	1.00
1500-3000	1.25
3000-4000	1.42
4000-5000	1.60
5000-6000	1.7
DESERT	1.25

TO OBTAIN CORRECT INTENSITY, MULTIPLY INTENSITY ON CHART BY FACTOR FOR DESIGN ELEVATION.

RAINFALL INTENSITY - DURATION - FREQUENCY CURVES FOR COUNTY OF SAN DIEGO

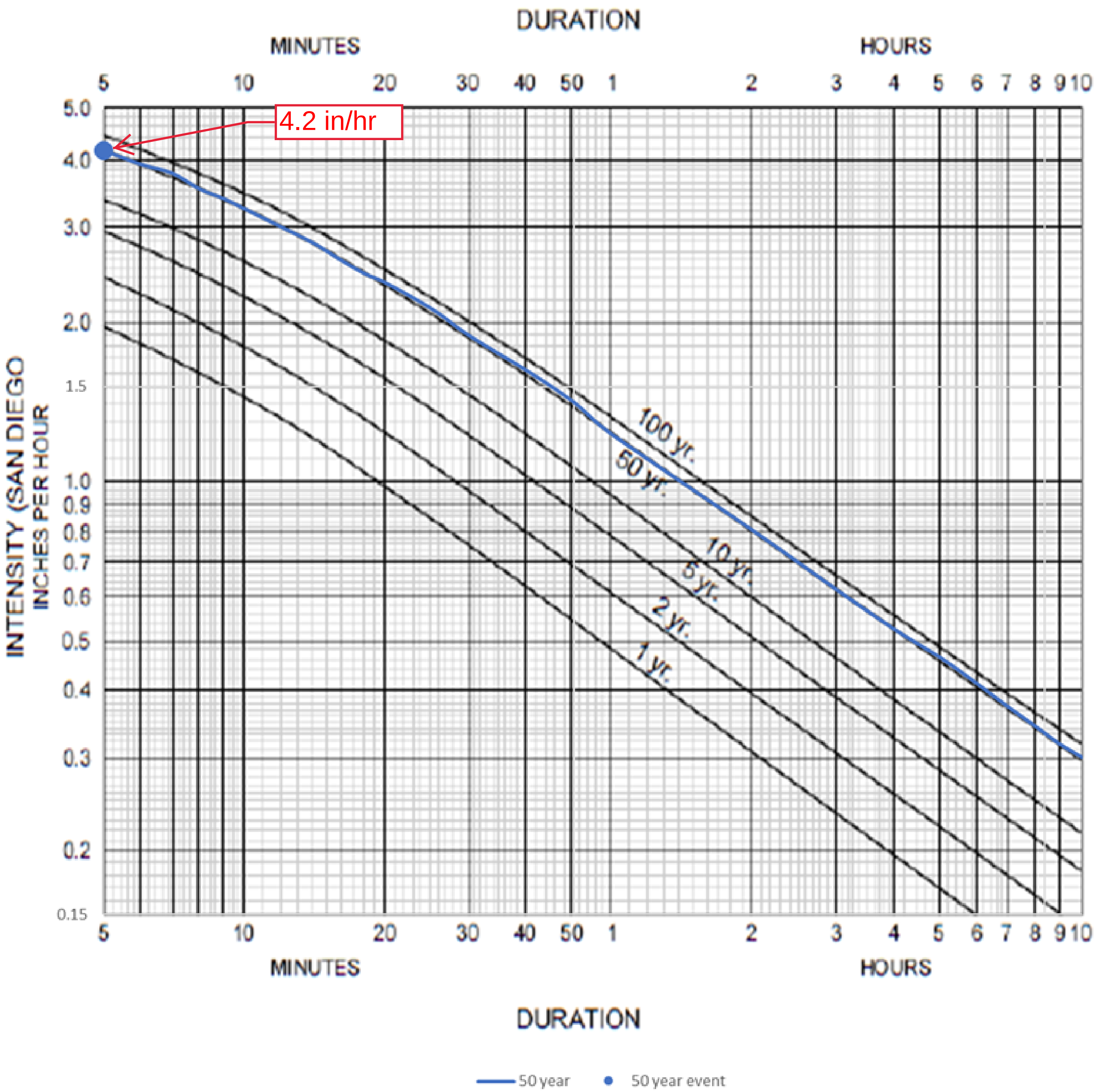


Figure A-1. Intensity-Duration-Frequency Design Chart

Summary for Pond B1: B1

Inflow Area = 10.110 ac,100.00% Impervious, Inflow Depth = 0.42" for 50-Year event
Inflow = 36.94 cfs @ 0.11 hrs, Volume= 0.355 af
Outflow = 12.77 cfs @ 0.19 hrs, Volume= 0.357 af, Atten= 65%, Lag= 4.6 min
Primary = 12.77 cfs @ 0.19 hrs, Volume= 0.357 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 52.27' @ 0.19 hrs Surf.Area= 23,651 sf Storage= 7,859 cf

Plug-Flow detention time= 5.9 min calculated for 0.355 af (100% of inflow)
Center-of-Mass det. time= 5.9 min (12.7 - 6.8)

Volume	Invert	Avail.Storage	Storage Description
#1	51.00'	141,125 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
51.00	100	0	0
52.00	7,383	3,742	3,742
54.00	130,000	137,383	141,125

Device	Routing	Invert	Outlet Devices
#1	Primary	49.75'	**24.0" Round CB B1** L= 758.6' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 49.75' / 47.88' S= 0.0025 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=12.77 cfs @ 0.19 hrs HW=52.27' TW=49.51' (Dynamic Tailwater)
↑—**1=CB B1** (Barrel Controls 12.77 cfs @ 4.16 fps)

Summary for Pond B2: B2

Inflow Area = 10.110 ac,100.00% Impervious, Inflow Depth = 0.42" for 50-Year event
Inflow = 12.77 cfs @ 0.19 hrs, Volume= 0.357 af
Outflow = 12.77 cfs @ 0.19 hrs, Volume= 0.357 af, Atten= 0%, Lag= 0.0 min
Primary = 12.77 cfs @ 0.19 hrs, Volume= 0.357 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 49.51' @ 0.19 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.60'	**34.0" Round Junction B2** L= 130.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 47.60' / 47.46' S= 0.0011 '/' Cc= 0.900 n= 0.013, Flow Area= 6.31 sf

Primary OutFlow Max=12.77 cfs @ 0.19 hrs HW=49.51' TW=0.00' (Dynamic Tailwater)
↑—**1=Junction B2** (Barrel Controls 12.77 cfs @ 3.98 fps)

Summary for Subcatchment EB1: E-B1

Runoff = 36.94 cfs @ 0.11 hrs, Volume= 0.355 af, Depth= 0.42"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=7 min, Inten=3.80 in/hr

Area (ac)	C	Description
10.110	0.95	Paved parking, HSG D
10.110		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6					**Direct Entry, EB1**

Summary for Pond OB: OUTFALL B

Inflow Area = 10.110 ac,100.00% Impervious, Inflow Depth = 0.42" for 50-Year event
Inflow = 12.77 cfs @ 0.19 hrs, Volume= 0.357 af
Primary = 12.77 cfs @ 0.19 hrs, Volume= 0.357 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

100-year Rainfall Intensity

ELEV.	FACTOR
0-1500	1.00
1500-3000	1.25
3000-4000	1.42
4000-5000	1.60
5000-6000	1.7
DESERT	1.25

TO OBTAIN CORRECT INTENSITY, MULTIPLY INTENSITY ON CHART BY FACTOR FOR DESIGN ELEVATION.

RAINFALL INTENSITY - DURATION - FREQUENCY CURVES FOR COUNTY OF SAN DIEGO

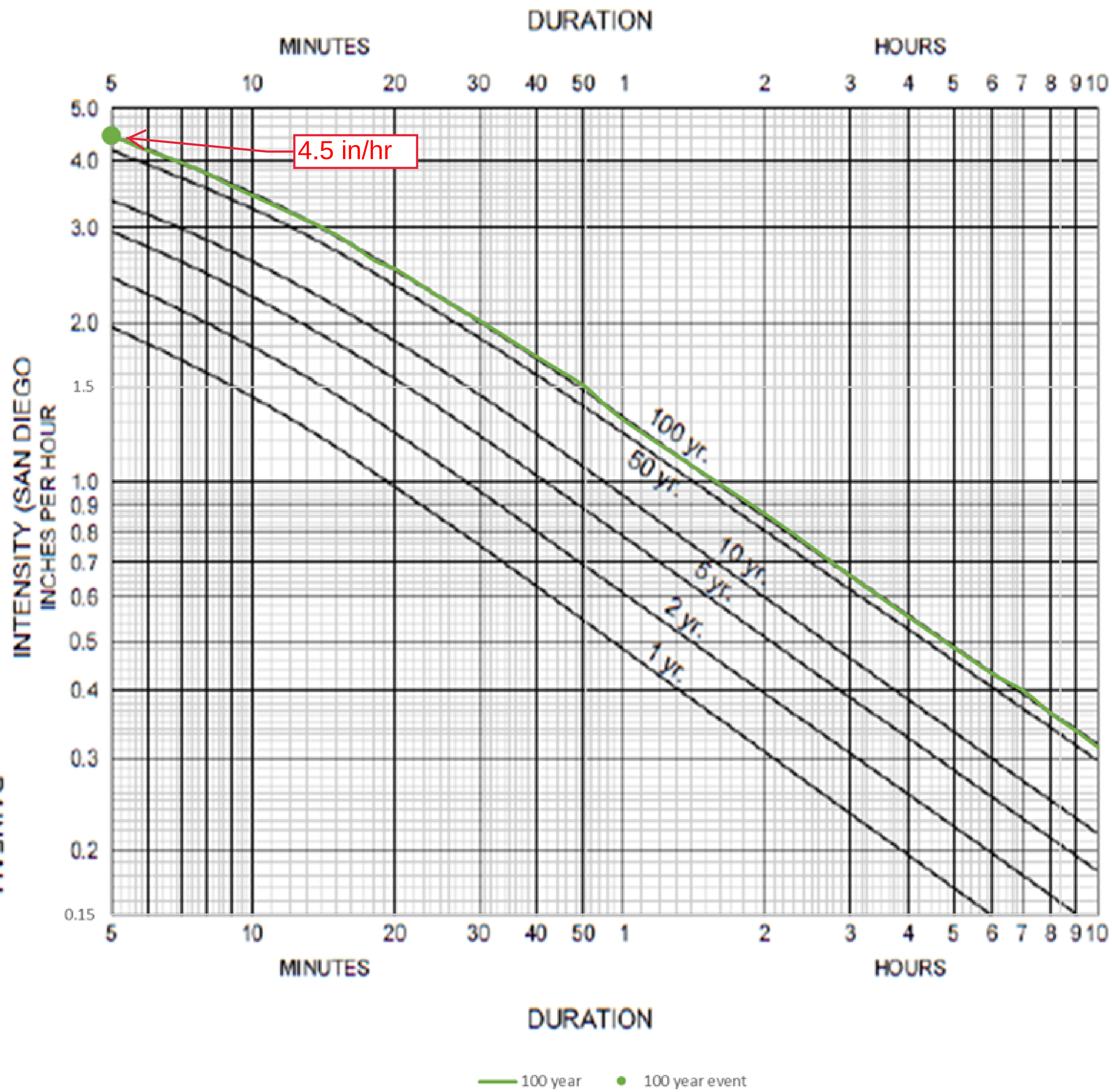


Figure A-1. Intensity-Duration-Frequency Design Chart

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Pond B1: B1 Peak Elev=52.29' Storage=8,556 cf Inflow=38.88 cfs 0.374 af
24.0" Round Culvert n=0.013 L=758.6' S=0.0025 '/' Outflow=12.78 cfs 0.374 af

Pond B2: B2 Peak Elev=49.51' Inflow=12.78 cfs 0.374 af
34.0" Round Culvert n=0.013 L=130.0' S=0.0011 '/' Outflow=12.78 cfs 0.374 af

Subcatchment EB1: E-B1 Runoff Area=10.110 ac 100.00% Impervious Runoff Depth=0.44"
Tc=6.6 min C=0.95 Runoff=38.88 cfs 0.374 af

Pond OB: OUTFALL B Inflow=12.78 cfs 0.374 af
Primary=12.78 cfs 0.374 af

Total Runoff Area = 10.110 ac Runoff Volume = 0.374 af Average Runoff Depth = 0.44"
0.00% Pervious = 0.000 ac 100.00% Impervious = 10.110 ac

Summary for Pond B1: B1

Inflow Area = 10.110 ac,100.00% Impervious, Inflow Depth = 0.44" for 100-Year event
Inflow = 38.88 cfs @ 0.11 hrs, Volume= 0.374 af
Outflow = 12.78 cfs @ 0.19 hrs, Volume= 0.374 af, Atten= 67%, Lag= 4.8 min
Primary = 12.78 cfs @ 0.19 hrs, Volume= 0.374 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 52.29' @ 0.19 hrs Surf.Area= 25,394 sf Storage= 8,556 cf

Plug-Flow detention time= 6.3 min calculated for 0.373 af (100% of inflow)
Center-of-Mass det. time= 6.3 min (13.1 - 6.8)

Volume	Invert	Avail.Storage	Storage Description
#1	51.00'	141,125 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
51.00	100	0	0
52.00	7,383	3,742	3,742
54.00	130,000	137,383	141,125

Device	Routing	Invert	Outlet Devices
#1	Primary	49.75'	**24.0" Round CB B1** L= 758.6' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 49.75' / 47.88' S= 0.0025 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=12.78 cfs @ 0.19 hrs HW=52.29' TW=49.51' (Dynamic Tailwater)
└─**1=CB B1** (Barrel Controls 12.78 cfs @ 4.14 fps)

Summary for Pond B2: B2

Inflow Area = 10.110 ac,100.00% Impervious, Inflow Depth = 0.44" for 100-Year event
Inflow = 12.78 cfs @ 0.19 hrs, Volume= 0.374 af
Outflow = 12.78 cfs @ 0.19 hrs, Volume= 0.374 af, Atten= 0%, Lag= 0.0 min
Primary = 12.78 cfs @ 0.19 hrs, Volume= 0.374 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 49.51' @ 0.19 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.60'	**34.0" Round Junction B2** L= 130.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 47.60' / 47.46' S= 0.0011 '/' Cc= 0.900 n= 0.013, Flow Area= 6.31 sf

Primary OutFlow Max=12.78 cfs @ 0.19 hrs HW=49.51' TW=0.00' (Dynamic Tailwater)
└─**1=Junction B2** (Barrel Controls 12.78 cfs @ 3.99 fps)

Summary for Subcatchment EB1: E-B1

Runoff = 38.88 cfs @ 0.11 hrs, Volume= 0.374 af, Depth= 0.44"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=7 min, Inten=4.00 in/hr

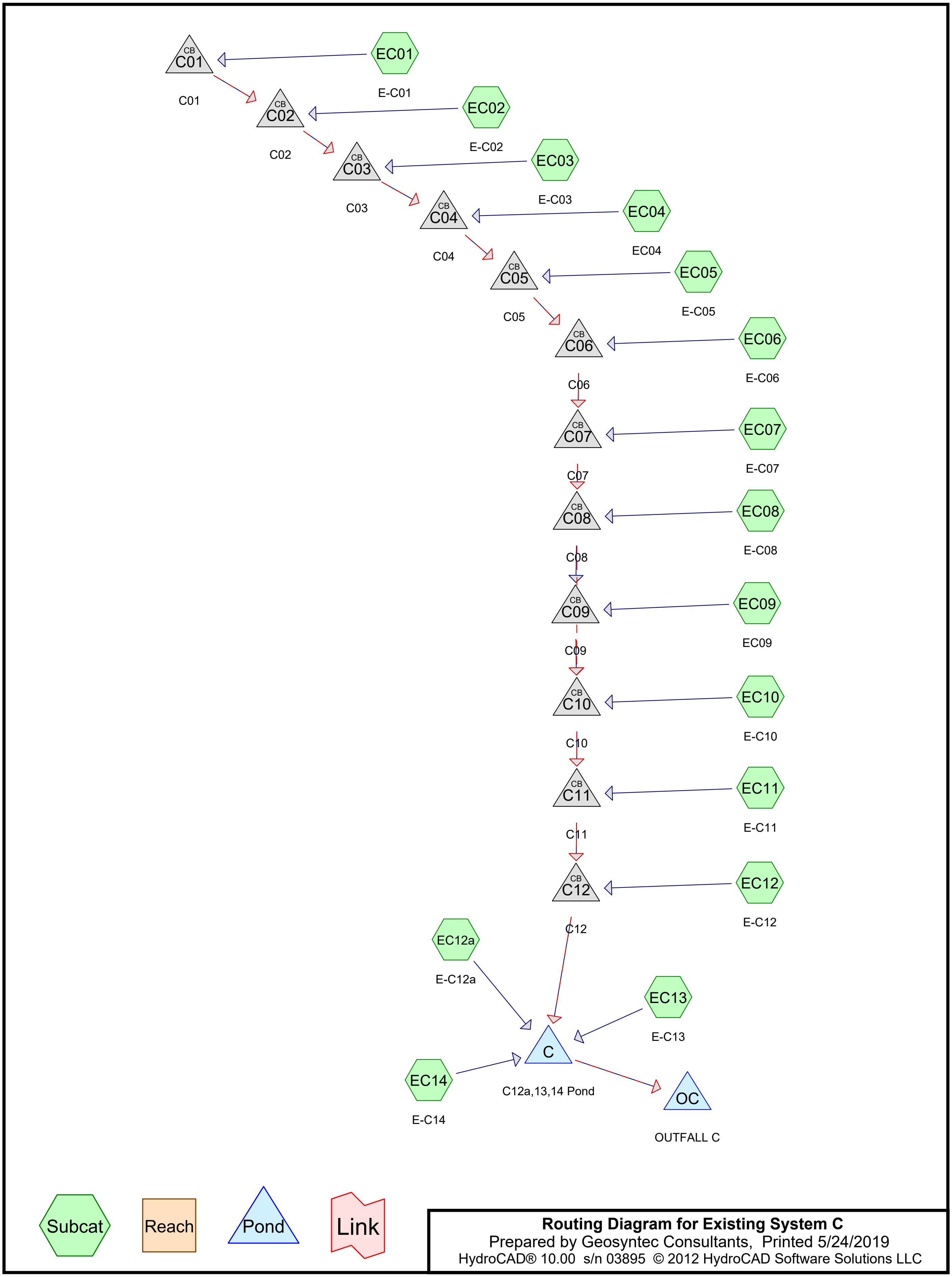
Area (ac)	C	Description
10.110	0.95	Paved parking, HSG D
10.110		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6					**Direct Entry, EB1**

Summary for Pond OB: OUTFALL B

Inflow Area = 10.110 ac,100.00% Impervious, Inflow Depth = 0.44" for 100-Year event
Inflow = 12.78 cfs @ 0.19 hrs, Volume= 0.374 af
Primary = 12.78 cfs @ 0.19 hrs, Volume= 0.374 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs



Routing Diagram for Existing System C
Prepared by Geosyntec Consultants, Printed 5/24/2019
HydroCAD® 10.00 s/n 03895 © 2012 HydroCAD Software Solutions LLC

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	C	48.22	47.68	202.0	0.0027	0.013	34.0	0.0	0.0
2	C01	60.46	58.41	200.0	0.0103	0.013	24.0	0.0	0.0
3	C02	58.41	56.77	200.0	0.0082	0.013	24.0	0.0	0.0
4	C03	56.77	56.14	200.0	0.0032	0.013	24.0	0.0	0.0
5	C04	56.14	54.98	200.0	0.0058	0.013	24.0	0.0	0.0
6	C05	54.98	53.56	314.2	0.0045	0.013	24.0	0.0	0.0
7	C06	53.56	52.63	200.0	0.0046	0.013	30.0	0.0	0.0
8	C07	52.63	52.40	200.0	0.0012	0.013	30.0	0.0	0.0
9	C08	52.40	51.69	200.0	0.0036	0.013	30.0	0.0	0.0
10	C09	51.69	50.87	200.0	0.0041	0.013	30.0	0.0	0.0
11	C10	50.87	49.90	200.0	0.0048	0.013	30.0	0.0	0.0
12	C11	49.90	48.28	200.0	0.0081	0.013	36.0	0.0	0.0
13	C12	48.28	48.22	107.0	0.0006	0.013	36.0	0.0	0.0

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 3
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Pond C: C12a,13,14 Pond Peak Elev=54.31' Storage=67,752 cf Inflow=199.84 cfs 2.755 af
34.0" Round Culvert n=0.013 L=202.0' S=0.0027 '/' Outflow=56.15 cfs 2.758 af

Pond C01: C01 Peak Elev=62.95' Inflow=11.99 cfs 0.165 af
Primary=11.99 cfs 0.165 af Secondary=0.00 cfs 0.000 af Outflow=11.99 cfs 0.165 af

Pond C02: C02 Peak Elev=62.10' Inflow=20.55 cfs 0.283 af
Primary=14.36 cfs 0.240 af Secondary=6.29 cfs 0.042 af Outflow=20.55 cfs 0.283 af

Pond C03: C03 Peak Elev=60.82' Inflow=32.75 cfs 0.451 af
Primary=9.66 cfs 0.193 af Secondary=23.91 cfs 0.258 af Outflow=32.75 cfs 0.451 af

Pond C04: C04 Peak Elev=60.33' Inflow=45.39 cfs 0.625 af
Primary=12.03 cfs 0.253 af Secondary=33.94 cfs 0.372 af Outflow=45.39 cfs 0.625 af

Pond C05: C05 Peak Elev=59.51' Inflow=52.96 cfs 0.729 af
Primary=12.66 cfs 0.223 af Secondary=43.99 cfs 0.506 af Outflow=52.96 cfs 0.729 af

Pond C06: C06 Peak Elev=58.83' Inflow=67.84 cfs 0.934 af
Primary=16.69 cfs 0.318 af Secondary=54.05 cfs 0.616 af Outflow=67.84 cfs 0.934 af

Pond C07: C07 Peak Elev=58.42' Inflow=91.22 cfs 1.255 af
Primary=17.59 cfs 0.394 af Secondary=74.19 cfs 0.861 af Outflow=91.22 cfs 1.255 af

Pond C08: C08 Peak Elev=57.80' Inflow=103.49 cfs 1.423 af
Primary=18.98 cfs 0.419 af Secondary=85.15 cfs 1.004 af Outflow=103.49 cfs 1.423 af

Pond C09: C09 Peak Elev=57.07' Inflow=31.26 cfs 0.596 af
Primary=18.03 cfs 0.203 af Secondary=26.79 cfs 0.393 af Outflow=31.26 cfs 0.596 af

Pond C10: C10 Peak Elev=57.03' Inflow=131.86 cfs 1.813 af
Primary=21.03 cfs 0.447 af Secondary=112.31 cfs 1.366 af Outflow=131.86 cfs 1.813 af

Pond C11: C11 Peak Elev=56.22' Inflow=144.10 cfs 1.981 af
Primary=34.09 cfs 0.697 af Secondary=110.16 cfs 1.284 af Outflow=144.10 cfs 1.981 af

Pond C12: C12 Peak Elev=55.16' Inflow=150.72 cfs 2.072 af
Primary=35.66 cfs 0.601 af Secondary=115.47 cfs 1.470 af Outflow=150.72 cfs 2.072 af

Subcatchment EC01: E-C01 Runoff Area=3.850 ac 100.00% Impervious Runoff Depth=0.51"
Tc=7.4 min C=0.95 Runoff=11.99 cfs 0.165 af

Subcatchment EC02: E-C02 Runoff Area=2.750 ac 100.00% Impervious Runoff Depth=0.51"
Tc=7.2 min C=0.95 Runoff=8.56 cfs 0.118 af

Subcatchment EC03: E-C03 Runoff Area=3.920 ac 100.00% Impervious Runoff Depth=0.51"
Tc=7.6 min C=0.95 Runoff=12.20 cfs 0.168 af

Subcatchment EC04: EC04 Runoff Area=4.060 ac 100.00% Impervious Runoff Depth=0.51"
Tc=7.8 min C=0.95 Runoff=12.64 cfs 0.174 af

Subcatchment EC05: E-C05 Runoff Area=2.430 ac 100.00% Impervious Runoff Depth=0.51"
Tc=8.2 min C=0.95 Runoff=7.57 cfs 0.104 af

Subcatchment EC06: E-C06 Runoff Area=4.780 ac 100.00% Impervious Runoff Depth=0.51"
Tc=7.2 min C=0.95 Runoff=14.88 cfs 0.205 af

Subcatchment EC07: E-C07 Runoff Area=7.480 ac 100.00% Impervious Runoff Depth=0.51"
Tc=9.3 min C=0.95 Runoff=23.29 cfs 0.321 af

Subcatchment EC08: E-C08 Runoff Area=3.930 ac 100.00% Impervious Runoff Depth=0.51"
Tc=8.0 min C=0.95 Runoff=12.23 cfs 0.168 af

Subcatchment EC09: EC09 Runoff Area=4.120 ac 100.00% Impervious Runoff Depth=0.51"
Tc=8.1 min C=0.95 Runoff=12.83 cfs 0.177 af

Subcatchment EC10: E-C10 Runoff Area=4.970 ac 100.00% Impervious Runoff Depth=0.51"
Tc=8.2 min C=0.95 Runoff=15.47 cfs 0.213 af

Subcatchment EC11: E-C11 Runoff Area=3.920 ac 100.00% Impervious Runoff Depth=0.51"
Tc=8.3 min C=0.95 Runoff=12.20 cfs 0.168 af

Subcatchment EC12: E-C12 Runoff Area=2.120 ac 100.00% Impervious Runoff Depth=0.51"
Tc=7.3 min C=0.95 Runoff=6.60 cfs 0.091 af

Subcatchment EC12a: E-C12a Runoff Area=5.560 ac 100.00% Impervious Runoff Depth=0.51"
Tc=8.4 min C=0.95 Runoff=17.31 cfs 0.238 af

Subcatchment EC13: E-C13 Runoff Area=10.350 ac 100.00% Impervious Runoff Depth=0.51"
Tc=9.7 min C=0.95 Runoff=32.04 cfs 0.444 af

Subcatchment EC14: E-C14 Runoff Area=0.040 ac 100.00% Impervious Runoff Depth=0.51"
Tc=5.0 min C=0.95 Runoff=0.12 cfs 0.002 af

Pond OC: OUTFALL C Inflow=56.15 cfs 2.758 af
Primary=56.15 cfs 2.758 af

Total Runoff Area = 64.280 ac Runoff Volume = 2.755 af Average Runoff Depth = 0.51"
0.00% Pervious = 0.000 ac 100.00% Impervious = 64.280 ac

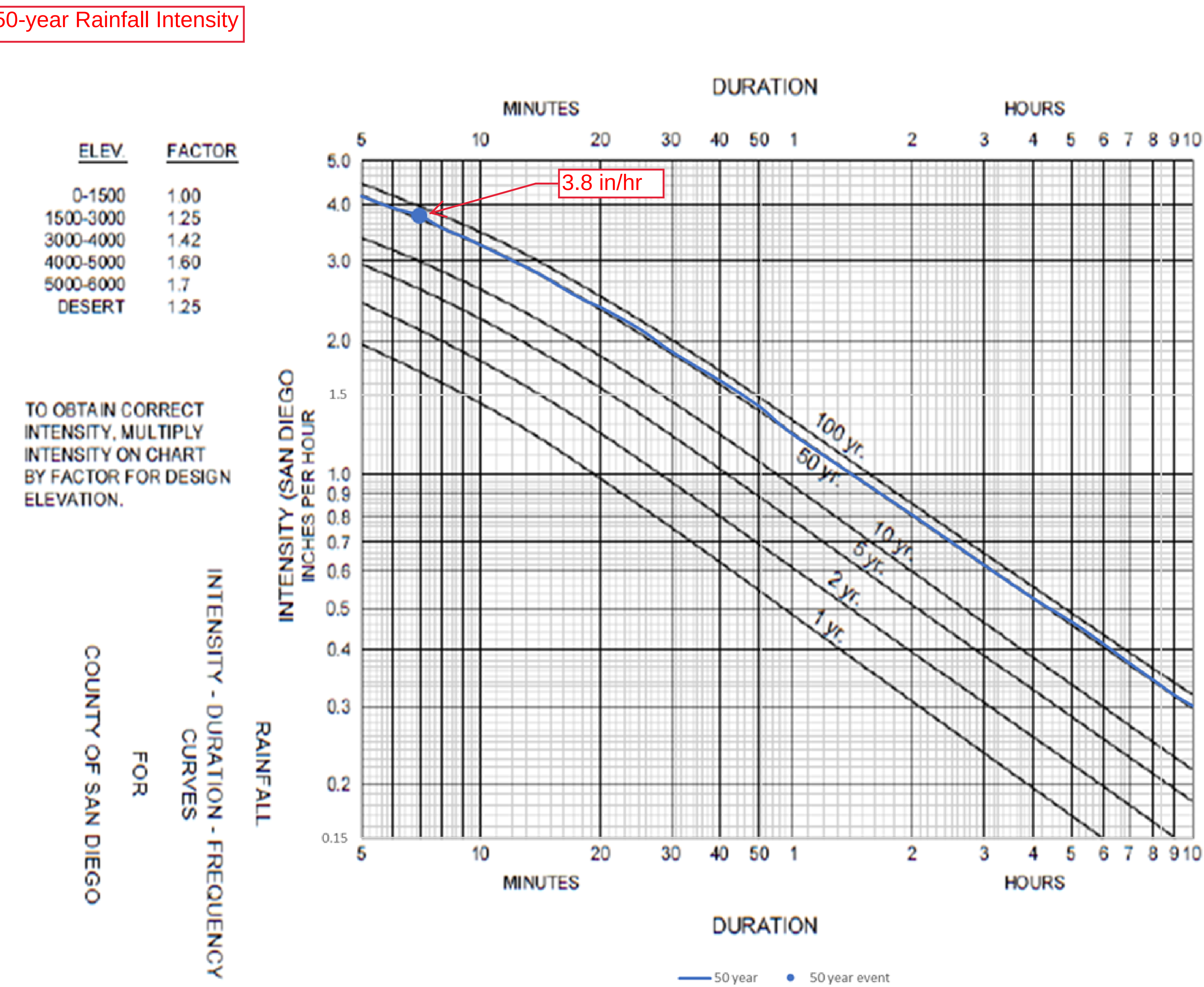


Figure A-1. Intensity-Duration-Frequency Design Chart

Summary for Pond C: C12a,13,14 Pond

Inflow Area = 64.280 ac,100.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 199.84 cfs @ 0.16 hrs, Volume= 2.755 af
Outflow = 56.15 cfs @ 0.27 hrs, Volume= 2.758 af, Atten= 72%, Lag= 6.4 min
Primary = 56.15 cfs @ 0.27 hrs, Volume= 2.758 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 54.31' @ 0.27 hrs Surf.Area= 151,007 sf Storage= 67,752 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 10.5 min (19.6 - 9.2)

Volume	Invert	Avail.Storage	Storage Description
#1	52.72'	1,636,408 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
52.72	0	0	0
53.53	100	41	41
54.00	113,857	26,780	26,820
56.00	354,249	468,106	494,926
58.00	787,233	1,141,482	1,636,408

Device	Routing	Invert	Outlet Devices
#1	Primary	48.22'	**34.0" Round CB C14-Out** L= 202.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 48.22' / 47.68' S= 0.0027 '/' Cc= 0.900 n= 0.013, Flow Area= 6.31 sf

Primary OutFlow Max=56.14 cfs @ 0.27 hrs HW=54.31' TW=0.00' (Dynamic Tailwater)
└─**1=CB C14-Out** (Barrel Controls 56.14 cfs @ 8.90 fps)

Summary for Pond C01: C01

Inflow Area = 3.850 ac,100.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 11.99 cfs @ 0.13 hrs, Volume= 0.165 af
Outflow = 11.99 cfs @ 0.13 hrs, Volume= 0.165 af, Atten= 0%, Lag= 0.0 min
Primary = 11.99 cfs @ 0.13 hrs, Volume= 0.165 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 62.95' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.46'	**24.0" Round CB C01** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 60.46' / 58.41' S= 0.0103 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	63.92'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=11.98 cfs @ 0.13 hrs HW=62.95' TW=62.10' (Dynamic Tailwater)
↑—**1=CB C01** (Outlet Controls 11.98 cfs @ 3.93 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=60.46' TW=58.41' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond C02: C02

Inflow Area =	6.600 ac,100.00% Impervious,	Inflow Depth = 0.51" for 50-Year event		
Inflow =	20.55 cfs @	0.13 hrs, Volume=	0.283 af	
Outflow =	20.55 cfs @	0.13 hrs, Volume=	0.283 af,	Atten= 0%, Lag= 0.0 min
Primary =	14.36 cfs @	0.11 hrs, Volume=	0.240 af	
Secondary =	6.29 cfs @	0.16 hrs, Volume=	0.042 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 62.10' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.41'	**24.0" Round CB C02** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 58.41' / 56.77' S= 0.0082 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	61.86'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=14.35 cfs @ 0.11 hrs HW=62.04' TW=60.75' (Dynamic Tailwater)
↑—**1=CB C02** (Outlet Controls 14.35 cfs @ 4.57 fps)

Secondary OutFlow Max=6.29 cfs @ 0.16 hrs HW=62.10' TW=60.82' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 6.29 cfs @ 1.31 fps)

Summary for Pond C03: C03

Inflow Area =	10.520 ac,100.00% Impervious,	Inflow Depth = 0.51" for 50-Year event		
Inflow =	32.75 cfs @	0.13 hrs, Volume=	0.451 af	
Outflow =	32.75 cfs @	0.14 hrs, Volume=	0.451 af,	Atten= 0%, Lag= 0.6 min
Primary =	9.66 cfs @	0.04 hrs, Volume=	0.193 af	
Secondary =	23.91 cfs @	0.16 hrs, Volume=	0.258 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.82' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.77'	**24.0" Round CB C03** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 56.77' / 56.14' S= 0.0032 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	60.23'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=9.60 cfs @ 0.04 hrs HW=60.30' TW=59.72' (Dynamic Tailwater)
1=CB C03 (Outlet Controls 9.60 cfs @ 3.05 fps)

Secondary OutFlow Max=23.91 cfs @ 0.16 hrs HW=60.82' TW=60.33' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 23.91 cfs @ 2.02 fps)

Summary for Pond C04: C04

Inflow Area = 14.580 ac,100.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 45.39 cfs @ 0.14 hrs, Volume= 0.625 af
Outflow = 45.39 cfs @ 0.15 hrs, Volume= 0.625 af, Atten= 0%, Lag= 0.6 min
Primary = 12.03 cfs @ 0.05 hrs, Volume= 0.253 af
Secondary = 33.94 cfs @ 0.16 hrs, Volume= 0.372 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.33' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.14'	**24.0" Round CB C04** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 56.14' / 54.98' S= 0.0058 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	59.59'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=12.01 cfs @ 0.05 hrs HW=59.82' TW=58.92' (Dynamic Tailwater)
1=CB C04 (Outlet Controls 12.01 cfs @ 3.82 fps)

Secondary OutFlow Max=33.94 cfs @ 0.16 hrs HW=60.33' TW=59.51' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 33.94 cfs @ 2.29 fps)

Summary for Pond C05: C05

Inflow Area = 17.010 ac,100.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 52.96 cfs @ 0.15 hrs, Volume= 0.729 af
Outflow = 52.96 cfs @ 0.15 hrs, Volume= 0.729 af, Atten= 0%, Lag= 0.0 min
Primary = 12.66 cfs @ 0.03 hrs, Volume= 0.223 af
Secondary = 43.99 cfs @ 0.16 hrs, Volume= 0.506 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 59.51' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.98'	**24.0" Round CB C05** L= 314.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 54.98' / 53.56' S= 0.0045 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	58.59'	**20.0' long x 314.2' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=8.55 cfs @ 0.03 hrs HW=58.14' TW=57.52' (Dynamic Tailwater)
1=CB C05 (Outlet Controls 8.55 cfs @ 2.72 fps)

Secondary OutFlow Max=43.96 cfs @ 0.16 hrs HW=59.51' TW=58.83' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 43.96 cfs @ 2.39 fps)

Summary for Pond C06: C06

Inflow Area = 21.790 ac,100.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 67.84 cfs @ 0.15 hrs, Volume= 0.934 af
Outflow = 67.84 cfs @ 0.15 hrs, Volume= 0.934 af, Atten= 0%, Lag= 0.0 min
Primary = 16.69 cfs @ 0.03 hrs, Volume= 0.318 af
Secondary = 54.05 cfs @ 0.16 hrs, Volume= 0.616 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 58.83' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.56'	**30.0" Round CB C6** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 53.56' / 52.63' S= 0.0046 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Secondary	57.58'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=13.41 cfs @ 0.03 hrs HW=57.58' TW=57.19' (Dynamic Tailwater)
1=CB C6 (Outlet Controls 13.41 cfs @ 2.73 fps)

Secondary OutFlow Max=53.99 cfs @ 0.16 hrs HW=58.83' TW=58.42' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 53.99 cfs @ 2.17 fps)

Summary for Pond C07: C07

Inflow Area = 29.270 ac,100.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 91.22 cfs @ 0.16 hrs, Volume= 1.255 af
Outflow = 91.22 cfs @ 0.16 hrs, Volume= 1.255 af, Atten= 0%, Lag= 0.0 min
Primary = 17.59 cfs @ 0.09 hrs, Volume= 0.394 af
Secondary = 74.19 cfs @ 0.16 hrs, Volume= 0.861 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 58.42' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	52.63'	**30.0" Round CB C07** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 52.63' / 52.40' S= 0.0012 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Secondary	56.97'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=17.39 cfs @ 0.09 hrs HW=57.91' TW=57.26' (Dynamic Tailwater)
↑—**1=CB C07** (Outlet Controls 17.39 cfs @ 3.54 fps)

Secondary OutFlow Max=73.83 cfs @ 0.16 hrs HW=58.41' TW=57.79' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 73.83 cfs @ 2.56 fps)

Summary for Pond C08: C08

Inflow Area = 33.200 ac,100.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 103.49 cfs @ 0.16 hrs, Volume= 1.423 af
Outflow = 103.49 cfs @ 0.16 hrs, Volume= 1.423 af, Atten= 0%, Lag= 0.0 min
Primary = 18.98 cfs @ 0.09 hrs, Volume= 0.419 af
Secondary = 85.15 cfs @ 0.16 hrs, Volume= 1.004 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 57.80' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	52.40'	**30.0" Round CB C08** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 52.40' / 51.69' S= 0.0036 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Secondary	56.25'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=18.69 cfs @ 0.09 hrs HW=57.27' TW=56.52' (Dynamic Tailwater)
↑—**1=CB C08** (Outlet Controls 18.69 cfs @ 3.81 fps)

Secondary OutFlow Max=84.81 cfs @ 0.16 hrs HW=57.79' TW=57.03' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 84.81 cfs @ 2.75 fps)

Summary for Pond C09: C09

Inflow Area = 37.320 ac,100.00% Impervious, Inflow Depth = 0.19" for 50-Year event
Inflow = 31.26 cfs @ 0.14 hrs, Volume= 0.596 af
Outflow = 31.26 cfs @ 0.14 hrs, Volume= 0.596 af, Atten= 0%, Lag= 0.0 min
Primary = 18.03 cfs @ 0.02 hrs, Volume= 0.203 af
Secondary = 26.79 cfs @ 0.16 hrs, Volume= 0.393 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 57.07' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.69'	**30.0" Round CB C09** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 51.69' / 50.87' S= 0.0041 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Secondary	55.64'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=12.61 cfs @ 0.02 hrs HW=55.06' TW=54.71' (Dynamic Tailwater)
└─**1=CB C09** (Outlet Controls 12.61 cfs @ 2.57 fps)

Secondary OutFlow Max=26.53 cfs @ 0.16 hrs HW=57.07' TW=57.03' (Dynamic Tailwater)
└─**2=Broad-Crested Rectangular Weir** (Weir Controls 26.53 cfs @ 0.93 fps)

Summary for Pond C10: C10

Inflow Area = 42.290 ac,100.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 131.86 cfs @ 0.16 hrs, Volume= 1.813 af
Outflow = 131.86 cfs @ 0.16 hrs, Volume= 1.813 af, Atten= 0%, Lag= 0.0 min
Primary = 21.03 cfs @ 0.03 hrs, Volume= 0.447 af
Secondary = 112.31 cfs @ 0.16 hrs, Volume= 1.366 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 57.03' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.87'	**30.0" Round CB C10** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 50.87' / 49.90' S= 0.0048 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Secondary	55.12'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=20.74 cfs @ 0.03 hrs HW=55.43' TW=54.50' (Dynamic Tailwater)
└─**1=CB C10** (Outlet Controls 20.74 cfs @ 4.23 fps)

Secondary OutFlow Max=111.60 cfs @ 0.16 hrs HW=57.03' TW=56.21' (Dynamic Tailwater)
└─**2=Broad-Crested Rectangular Weir** (Weir Controls 111.60 cfs @ 2.92 fps)

Summary for Pond C11: C11

Inflow Area = 46.210 ac,100.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 144.10 cfs @ 0.16 hrs, Volume= 1.981 af
Outflow = 144.10 cfs @ 0.16 hrs, Volume= 1.981 af, Atten= 0%, Lag= 0.0 min
Primary = 34.09 cfs @ 0.14 hrs, Volume= 0.697 af
Secondary = 110.16 cfs @ 0.16 hrs, Volume= 1.284 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 56.22' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	49.90'	**36.0" Round CB C11** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 49.90' / 48.28' S= 0.0081 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf
#2	Secondary	54.45'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=34.08 cfs @ 0.14 hrs HW=56.17' TW=55.10' (Dynamic Tailwater)
└─**1=CB C11** (Outlet Controls 34.08 cfs @ 4.82 fps)

Secondary OutFlow Max=109.73 cfs @ 0.16 hrs HW=56.21' TW=55.15' (Dynamic Tailwater)
└─**2=Broad-Crested Rectangular Weir** (Weir Controls 109.73 cfs @ 3.12 fps)

Summary for Pond C12: C12

Inflow Area = 48.330 ac,100.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 150.72 cfs @ 0.16 hrs, Volume= 2.072 af
Outflow = 150.72 cfs @ 0.16 hrs, Volume= 2.072 af, Atten= 0%, Lag= 0.0 min
Primary = 35.66 cfs @ 0.14 hrs, Volume= 0.601 af
Secondary = 115.47 cfs @ 0.16 hrs, Volume= 1.470 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 55.16' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	48.28'	**36.0" Round C12** L= 107.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 48.28' / 48.22' S= 0.0006 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf
#2	Secondary	53.33'	**20.0' long x 107.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=35.63 cfs @ 0.14 hrs HW=55.10' TW=54.00' (Dynamic Tailwater)
└─**1=C12** (Inlet Controls 35.63 cfs @ 5.04 fps)

Secondary OutFlow Max=115.13 cfs @ 0.16 hrs HW=55.16' TW=54.09' (Dynamic Tailwater)
└─**2=Broad-Crested Rectangular Weir** (Weir Controls 115.13 cfs @ 3.15 fps)

Summary for Subcatchment EC01: E-C01

Runoff = 11.99 cfs @ 0.13 hrs, Volume= 0.165 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
3.850	0.95	Paved parking, HSG D
3.850		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4					**Direct Entry, EC01**

Summary for Subcatchment EC02: E-C02

Runoff = 8.56 cfs @ 0.12 hrs, Volume= 0.118 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
2.750	0.95	Paved parking, HSG D
2.750		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2					**Direct Entry, E-C02**

Summary for Subcatchment EC03: E-C03

Runoff = 12.20 cfs @ 0.13 hrs, Volume= 0.168 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
3.920	0.95	Paved parking, HSG D
3.920		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.6					**Direct Entry, E-C03**

Summary for Subcatchment EC04: EC04

Runoff = 12.64 cfs @ 0.13 hrs, Volume= 0.174 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
4.060	0.95	Paved parking, HSG D
4.060		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8					**Direct Entry, EC04**

Summary for Subcatchment EC05: E-C05

Runoff = 7.57 cfs @ 0.14 hrs, Volume= 0.104 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
2.430	0.95	Paved parking, HSG D
2.430		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2					**Direct Entry, EC05**

Summary for Subcatchment EC06: E-C06

Runoff = 14.88 cfs @ 0.12 hrs, Volume= 0.205 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
4.780	0.95	Paved parking, HSG D
4.780		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2					**Direct Entry, E-C6**

Summary for Subcatchment EC07: E-C07

Runoff = 23.29 cfs @ 0.16 hrs, Volume= 0.321 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
7.480	0.95	Paved parking, HSG D
7.480		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3					**Direct Entry, E-A07**

Summary for Subcatchment EC08: E-C08

Runoff = 12.23 cfs @ 0.14 hrs, Volume= 0.168 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
3.930	0.95	Paved parking, HSG D
3.930		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0					**Direct Entry, E-C08**

Summary for Subcatchment EC09: EC09

Runoff = 12.83 cfs @ 0.14 hrs, Volume= 0.177 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
4.120	0.95	Paved parking, HSG D
4.120		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1					**Direct Entry, E-C09**

Summary for Subcatchment EC10: E-C10

Runoff = 15.47 cfs @ 0.14 hrs, Volume= 0.213 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
4.970	0.95	Paved parking, HSG D
4.970		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2					**Direct Entry, E-C10**

Summary for Subcatchment EC11: E-C11

Runoff = 12.20 cfs @ 0.14 hrs, Volume= 0.168 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
3.920	0.95	Paved parking, HSG D
3.920		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3					**Direct Entry, E-C11**

Summary for Subcatchment EC12: E-C12

Runoff = 6.60 cfs @ 0.13 hrs, Volume= 0.091 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
2.120	0.95	Paved parking, HSG D
2.120		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3					**Direct Entry, E-C12**

Summary for Subcatchment EC12a: E-C12a

Runoff = 17.31 cfs @ 0.14 hrs, Volume= 0.238 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
5.560	0.95	Paved parking, HSG D
5.560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4					**Direct Entry, E-C12**

Summary for Subcatchment EC13: E-C13

Runoff = 32.04 cfs @ 0.16 hrs, Volume= 0.444 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
10.350	0.95	Paved parking, HSG D
10.350		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7					**Direct Entry, E-A13**

Summary for Subcatchment EC14: E-C14

Runoff = 0.12 cfs @ 0.09 hrs, Volume= 0.002 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=10 min, Inten=3.25 in/hr

Area (ac)	C	Description
0.040	0.95	Paved parking, HSG D
0.040		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, EC14**

Summary for Pond OC: OUTFALL C

Inflow Area = 64.280 ac,100.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 56.15 cfs @ 0.27 hrs, Volume= 2.758 af
Primary = 56.15 cfs @ 0.27 hrs, Volume= 2.758 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3

100-year Rainfall Intensity

ELEV.	FACTOR
0-1500	1.00
1500-3000	1.25
3000-4000	1.42
4000-5000	1.60
5000-6000	1.7
DESERT	1.25

TO OBTAIN CORRECT INTENSITY, MULTIPLY INTENSITY ON CHART BY FACTOR FOR DESIGN ELEVATION.

RAINFALL INTENSITY - DURATION - FREQUENCY CURVES FOR COUNTY OF SAN DIEGO

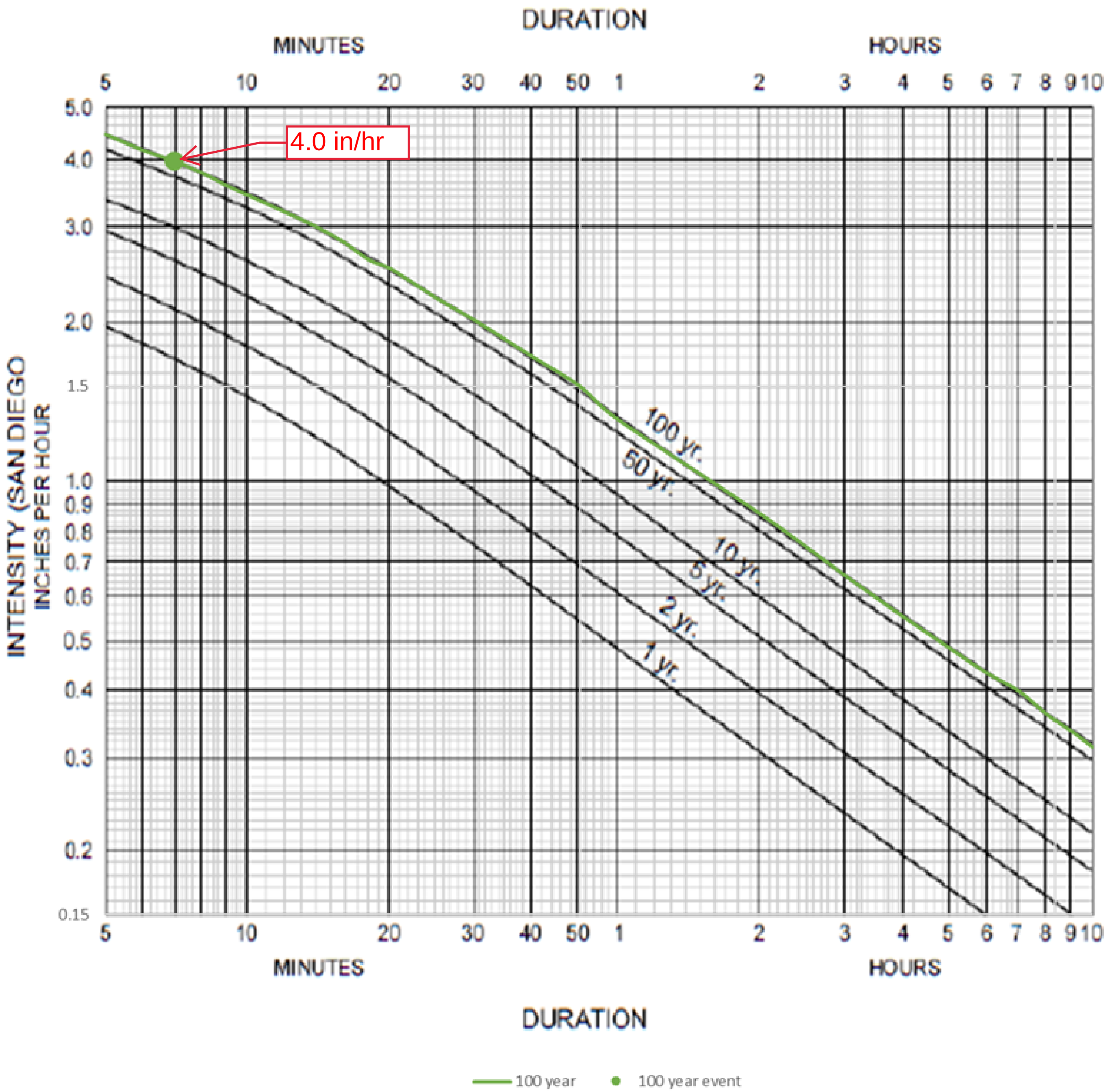


Figure A-1. Intensity-Duration-Frequency Design Chart

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 3
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Pond C: C12a,13,14 Pond Peak Elev=54.35' Storage=74,536 cf Inflow=212.14 cfs 2.926 af
34.0" Round Culvert n=0.013 L=202.0' S=0.0027 '/' Outflow=56.47 cfs 2.945 af

Pond C01: C01 Peak Elev=63.15' Inflow=12.72 cfs 0.175 af
Primary=12.72 cfs 0.175 af Secondary=0.00 cfs 0.000 af Outflow=12.72 cfs 0.175 af

Pond C02: C02 Peak Elev=62.13' Inflow=21.81 cfs 0.300 af
Primary=14.36 cfs 0.246 af Secondary=7.61 cfs 0.054 af Outflow=21.81 cfs 0.300 af

Pond C03: C03 Peak Elev=60.86' Inflow=34.77 cfs 0.479 af
Primary=9.63 cfs 0.194 af Secondary=25.96 cfs 0.284 af Outflow=34.77 cfs 0.479 af

Pond C04: C04 Peak Elev=60.38' Inflow=48.18 cfs 0.663 af
Primary=12.03 cfs 0.254 af Secondary=36.88 cfs 0.410 af Outflow=48.18 cfs 0.663 af

Pond C05: C05 Peak Elev=59.58' Inflow=56.21 cfs 0.774 af
Primary=13.37 cfs 0.223 af Secondary=47.42 cfs 0.551 af Outflow=56.21 cfs 0.774 af

Pond C06: C06 Peak Elev=58.92' Inflow=72.01 cfs 0.992 af
Primary=16.38 cfs 0.318 af Secondary=58.35 cfs 0.674 af Outflow=72.01 cfs 0.992 af

Pond C07: C07 Peak Elev=58.52' Inflow=96.84 cfs 1.333 af
Primary=17.61 cfs 0.395 af Secondary=79.86 cfs 0.937 af Outflow=96.84 cfs 1.333 af

Pond C08: C08 Peak Elev=57.90' Inflow=109.86 cfs 1.511 af
Primary=19.00 cfs 0.422 af Secondary=91.56 cfs 1.089 af Outflow=109.86 cfs 1.511 af

Pond C09: C09 Peak Elev=57.18' Inflow=32.03 cfs 0.609 af
Primary=18.90 cfs 0.197 af Secondary=27.77 cfs 0.413 af Outflow=32.03 cfs 0.609 af

Pond C10: C10 Peak Elev=57.15' Inflow=139.97 cfs 1.925 af
Primary=22.24 cfs 0.449 af Secondary=120.33 cfs 1.476 af Outflow=139.97 cfs 1.925 af

Pond C11: C11 Peak Elev=56.32' Inflow=152.96 cfs 2.103 af
Primary=34.40 cfs 0.703 af Secondary=118.71 cfs 1.400 af Outflow=152.96 cfs 2.103 af

Pond C12: C12 Peak Elev=55.25' Inflow=159.99 cfs 2.200 af
Primary=36.59 cfs 0.616 af Secondary=123.84 cfs 1.584 af Outflow=159.99 cfs 2.200 af

Subcatchment EC01: E-C01 Runoff Area=3.850 ac 100.00% Impervious Runoff Depth=0.55"
Tc=7.4 min C=0.95 Runoff=12.72 cfs 0.175 af

Subcatchment EC02: E-C02 Runoff Area=2.750 ac 100.00% Impervious Runoff Depth=0.55"
Tc=7.2 min C=0.95 Runoff=9.09 cfs 0.125 af

Subcatchment EC03: E-C03 Runoff Area=3.920 ac 100.00% Impervious Runoff Depth=0.55"
Tc=7.6 min C=0.95 Runoff=12.95 cfs 0.178 af

Subcatchment EC04: EC04 Runoff Area=4.060 ac 100.00% Impervious Runoff Depth=0.55"
Tc=7.8 min C=0.95 Runoff=13.42 cfs 0.185 af

Subcatchment EC05: E-C05 Runoff Area=2.430 ac 100.00% Impervious Runoff Depth=0.55"
Tc=8.2 min C=0.95 Runoff=8.03 cfs 0.111 af

Subcatchment EC06: E-C06 Runoff Area=4.780 ac 100.00% Impervious Runoff Depth=0.55"
Tc=7.2 min C=0.95 Runoff=15.80 cfs 0.218 af

Subcatchment EC07: E-C07 Runoff Area=7.480 ac 100.00% Impervious Runoff Depth=0.55"
Tc=9.3 min C=0.95 Runoff=24.73 cfs 0.340 af

Subcatchment EC08: E-C08 Runoff Area=3.930 ac 100.00% Impervious Runoff Depth=0.55"
Tc=8.0 min C=0.95 Runoff=12.99 cfs 0.179 af

Subcatchment EC09: EC09 Runoff Area=4.120 ac 100.00% Impervious Runoff Depth=0.55"
Tc=8.1 min C=0.95 Runoff=13.62 cfs 0.187 af

Subcatchment EC10: E-C10 Runoff Area=4.970 ac 100.00% Impervious Runoff Depth=0.55"
Tc=8.2 min C=0.95 Runoff=16.42 cfs 0.226 af

Subcatchment EC11: E-C11 Runoff Area=3.920 ac 100.00% Impervious Runoff Depth=0.55"
Tc=8.3 min C=0.95 Runoff=12.95 cfs 0.178 af

Subcatchment EC12: E-C12 Runoff Area=2.120 ac 100.00% Impervious Runoff Depth=0.55"
Tc=7.3 min C=0.95 Runoff=7.01 cfs 0.096 af

Subcatchment EC12a: E-C12a Runoff Area=5.560 ac 100.00% Impervious Runoff Depth=0.55"
Tc=8.4 min C=0.95 Runoff=18.37 cfs 0.253 af

Subcatchment EC13: E-C13 Runoff Area=10.350 ac 100.00% Impervious Runoff Depth=0.55"
Tc=9.7 min C=0.95 Runoff=34.01 cfs 0.471 af

Subcatchment EC14: E-C14 Runoff Area=0.040 ac 100.00% Impervious Runoff Depth=0.55"
Tc=5.0 min C=0.95 Runoff=0.13 cfs 0.002 af

Pond OC: OUTFALL C Inflow=56.47 cfs 2.945 af
Primary=56.47 cfs 2.945 af

Total Runoff Area = 64.280 ac Runoff Volume = 2.925 af Average Runoff Depth = 0.55"
0.00% Pervious = 0.000 ac 100.00% Impervious = 64.280 ac

Summary for Pond C: C12a,13,14 Pond

Inflow Area = 64.280 ac,100.00% Impervious, Inflow Depth = 0.55" for 100-Year event
Inflow = 212.14 cfs @ 0.16 hrs, Volume= 2.926 af
Outflow = 56.47 cfs @ 0.27 hrs, Volume= 2.945 af, Atten= 73%, Lag= 6.5 min
Primary = 56.47 cfs @ 0.27 hrs, Volume= 2.945 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 54.35' @ 0.27 hrs Surf.Area= 156,313 sf Storage= 74,536 cf

Plug-Flow detention time= 11.4 min calculated for 2.926 af (100% of inflow)
Center-of-Mass det. time= 11.6 min (20.7 - 9.2)

Volume	Invert	Avail.Storage	Storage Description
#1	52.72'	1,636,408 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
52.72	0	0	0
53.53	100	41	41
54.00	113,857	26,780	26,820
56.00	354,249	468,106	494,926
58.00	787,233	1,141,482	1,636,408

Device	Routing	Invert	Outlet Devices
#1	Primary	48.22'	**34.0" Round CB C14-Out** L= 202.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 48.22' / 47.68' S= 0.0027 '/' Cc= 0.900 n= 0.013, Flow Area= 6.31 sf

Primary OutFlow Max=56.47 cfs @ 0.27 hrs HW=54.35' TW=0.00' (Dynamic Tailwater)
└─**1=CB C14-Out** (Barrel Controls 56.47 cfs @ 8.96 fps)

Summary for Pond C01: C01

Inflow Area = 3.850 ac,100.00% Impervious, Inflow Depth = 0.55" for 100-Year event
Inflow = 12.72 cfs @ 0.13 hrs, Volume= 0.175 af
Outflow = 12.72 cfs @ 0.13 hrs, Volume= 0.175 af, Atten= 0%, Lag= 0.0 min
Primary = 12.72 cfs @ 0.13 hrs, Volume= 0.175 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 63.15' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.46'	**24.0" Round CB C01** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 60.46' / 58.41' S= 0.0103 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	63.92'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=12.72 cfs @ 0.13 hrs HW=63.15' TW=62.13' (Dynamic Tailwater)
1=CB C01 (Outlet Controls 12.72 cfs @ 4.05 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=60.46' TW=58.41' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Summary for Pond C02: C02

Inflow Area = 6.600 ac,100.00% Impervious, Inflow Depth = 0.55" for 100-Year event
Inflow = 21.81 cfs @ 0.13 hrs, Volume= 0.300 af
Outflow = 21.81 cfs @ 0.14 hrs, Volume= 0.300 af, Atten= 0%, Lag= 0.6 min
Primary = 14.36 cfs @ 0.10 hrs, Volume= 0.246 af
Secondary = 7.61 cfs @ 0.16 hrs, Volume= 0.054 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 62.13' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.41'	**24.0" Round CB C02** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 58.41' / 56.77' S= 0.0082 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	61.86'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=14.35 cfs @ 0.10 hrs HW=62.04' TW=60.75' (Dynamic Tailwater)
1=CB C02 (Outlet Controls 14.35 cfs @ 4.57 fps)

Secondary OutFlow Max=7.61 cfs @ 0.16 hrs HW=62.13' TW=60.86' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 7.61 cfs @ 1.40 fps)

Summary for Pond C03: C03

Inflow Area = 10.520 ac,100.00% Impervious, Inflow Depth = 0.55" for 100-Year event
Inflow = 34.77 cfs @ 0.16 hrs, Volume= 0.479 af
Outflow = 34.77 cfs @ 0.13 hrs, Volume= 0.479 af, Atten= 0%, Lag= 0.0 min
Primary = 9.63 cfs @ 0.04 hrs, Volume= 0.194 af
Secondary = 25.96 cfs @ 0.16 hrs, Volume= 0.284 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.86' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.77'	**24.0" Round CB C03** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 56.77' / 56.14' S= 0.0032 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	60.23'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=9.60 cfs @ 0.04 hrs HW=60.33' TW=59.75' (Dynamic Tailwater)
└─**1=CB C03** (Outlet Controls 9.60 cfs @ 3.06 fps)

Secondary OutFlow Max=25.96 cfs @ 0.16 hrs HW=60.86' TW=60.38' (Dynamic Tailwater)
└─**2=Broad-Crested Rectangular Weir** (Weir Controls 25.96 cfs @ 2.05 fps)

Summary for Pond C04: C04

Inflow Area =	14.580 ac,100.00% Impervious,	Inflow Depth = 0.55"		for 100-Year event	
Inflow =	48.18 cfs @	0.16 hrs,	Volume=	0.663 af	
Outflow =	48.18 cfs @	0.16 hrs,	Volume=	0.663 af,	Atten= 0%, Lag= 0.0 min
Primary =	12.03 cfs @	0.05 hrs,	Volume=	0.254 af	
Secondary =	36.88 cfs @	0.16 hrs,	Volume=	0.410 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.38' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.14'	**24.0" Round CB C04** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 56.14' / 54.98' S= 0.0058 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	59.59'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=12.00 cfs @ 0.05 hrs HW=59.81' TW=58.91' (Dynamic Tailwater)
└─**1=CB C04** (Outlet Controls 12.00 cfs @ 3.82 fps)

Secondary OutFlow Max=36.88 cfs @ 0.16 hrs HW=60.38' TW=59.58' (Dynamic Tailwater)
└─**2=Broad-Crested Rectangular Weir** (Weir Controls 36.88 cfs @ 2.34 fps)

Summary for Pond C05: C05

Inflow Area =	17.010 ac,100.00% Impervious,	Inflow Depth = 0.55"		for 100-Year event	
Inflow =	56.21 cfs @	0.16 hrs,	Volume=	0.774 af	
Outflow =	56.21 cfs @	0.16 hrs,	Volume=	0.774 af,	Atten= 0%, Lag= 0.0 min
Primary =	13.37 cfs @	0.03 hrs,	Volume=	0.223 af	
Secondary =	47.42 cfs @	0.16 hrs,	Volume=	0.551 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 59.58' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.98'	**24.0" Round CB C05** L= 314.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 54.98' / 53.56' S= 0.0045 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf
#2	Secondary	58.59'	**20.0' long x 314.2' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=9.97 cfs @ 0.03 hrs HW=58.54' TW=57.69' (Dynamic Tailwater)
1=CB C05 (Outlet Controls 9.97 cfs @ 3.17 fps)

Secondary OutFlow Max=47.38 cfs @ 0.16 hrs HW=59.58' TW=58.92' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 47.38 cfs @ 2.40 fps)

Summary for Pond C06: C06

Inflow Area = 21.790 ac,100.00% Impervious, Inflow Depth = 0.55" for 100-Year event
Inflow = 72.01 cfs @ 0.16 hrs, Volume= 0.992 af
Outflow = 72.01 cfs @ 0.16 hrs, Volume= 0.992 af, Atten= 0%, Lag= 0.0 min
Primary = 16.38 cfs @ 0.03 hrs, Volume= 0.318 af
Secondary = 58.35 cfs @ 0.16 hrs, Volume= 0.674 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 58.92' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.56'	**30.0" Round CB C6** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 53.56' / 52.63' S= 0.0046 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Secondary	57.58'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=15.29 cfs @ 0.03 hrs HW=57.74' TW=57.23' (Dynamic Tailwater)
1=CB C6 (Outlet Controls 15.29 cfs @ 3.11 fps)

Secondary OutFlow Max=58.26 cfs @ 0.16 hrs HW=58.92' TW=58.52' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 58.26 cfs @ 2.18 fps)

Summary for Pond C07: C07

Inflow Area = 29.270 ac,100.00% Impervious, Inflow Depth = 0.55" for 100-Year event
Inflow = 96.84 cfs @ 0.16 hrs, Volume= 1.333 af
Outflow = 96.84 cfs @ 0.16 hrs, Volume= 1.333 af, Atten= 0%, Lag= 0.0 min
Primary = 17.61 cfs @ 0.08 hrs, Volume= 0.395 af
Secondary = 79.86 cfs @ 0.16 hrs, Volume= 0.937 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 58.52' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	52.63'	**30.0" Round CB C07** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 52.63' / 52.40' S= 0.0012 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Secondary	56.97'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=17.39 cfs @ 0.08 hrs HW=57.91' TW=57.25' (Dynamic Tailwater)
1=CB C07 (Outlet Controls 17.39 cfs @ 3.54 fps)

Secondary OutFlow Max=79.47 cfs @ 0.16 hrs HW=58.51' TW=57.89' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 79.47 cfs @ 2.57 fps)

Summary for Pond C08: C08

Inflow Area = 33.200 ac,100.00% Impervious, Inflow Depth = 0.55" for 100-Year event
Inflow = 109.86 cfs @ 0.16 hrs, Volume= 1.511 af
Outflow = 109.86 cfs @ 0.16 hrs, Volume= 1.511 af, Atten= 0%, Lag= 0.0 min
Primary = 19.00 cfs @ 0.07 hrs, Volume= 0.422 af
Secondary = 91.56 cfs @ 0.16 hrs, Volume= 1.089 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 57.90' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	52.40'	**30.0" Round CB C08** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 52.40' / 51.69' S= 0.0036 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Secondary	56.25'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=18.79 cfs @ 0.07 hrs HW=57.07' TW=56.31' (Dynamic Tailwater)
1=CB C08 (Outlet Controls 18.79 cfs @ 3.83 fps)

Secondary OutFlow Max=91.18 cfs @ 0.16 hrs HW=57.89' TW=57.14' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 91.18 cfs @ 2.77 fps)

Summary for Pond C09: C09

Inflow Area = 37.320 ac,100.00% Impervious, Inflow Depth = 0.20" for 100-Year event
Inflow = 32.03 cfs @ 0.14 hrs, Volume= 0.609 af
Outflow = 32.03 cfs @ 0.14 hrs, Volume= 0.609 af, Atten= 0%, Lag= 0.0 min
Primary = 18.90 cfs @ 0.02 hrs, Volume= 0.197 af
Secondary = 27.77 cfs @ 0.16 hrs, Volume= 0.413 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 57.18' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.69'	**30.0" Round CB C09** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 51.69' / 50.87' S= 0.0041 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Secondary	55.64'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=13.97 cfs @ 0.02 hrs HW=55.22' TW=54.80' (Dynamic Tailwater)
└─**1=CB C09** (Outlet Controls 13.97 cfs @ 2.85 fps)

Secondary OutFlow Max=27.44 cfs @ 0.16 hrs HW=57.18' TW=57.14' (Dynamic Tailwater)
└─**2=Broad-Crested Rectangular Weir** (Weir Controls 27.44 cfs @ 0.89 fps)

Summary for Pond C10: C10

Inflow Area = 42.290 ac,100.00% Impervious, Inflow Depth = 0.55" for 100-Year event
Inflow = 139.97 cfs @ 0.16 hrs, Volume= 1.925 af
Outflow = 139.97 cfs @ 0.16 hrs, Volume= 1.925 af, Atten= 0%, Lag= 0.0 min
Primary = 22.24 cfs @ 0.02 hrs, Volume= 0.449 af
Secondary = 120.33 cfs @ 0.16 hrs, Volume= 1.476 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 57.15' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.87'	**30.0" Round CB C10** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 50.87' / 49.90' S= 0.0048 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf
#2	Secondary	55.12'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=20.66 cfs @ 0.02 hrs HW=55.02' TW=54.10' (Dynamic Tailwater)
└─**1=CB C10** (Outlet Controls 20.66 cfs @ 4.21 fps)

Secondary OutFlow Max=119.57 cfs @ 0.16 hrs HW=57.14' TW=56.31' (Dynamic Tailwater)
└─**2=Broad-Crested Rectangular Weir** (Weir Controls 119.57 cfs @ 2.96 fps)

Summary for Pond C11: C11

Inflow Area = 46.210 ac,100.00% Impervious, Inflow Depth = 0.55" for 100-Year event
Inflow = 152.96 cfs @ 0.16 hrs, Volume= 2.103 af
Outflow = 152.96 cfs @ 0.16 hrs, Volume= 2.103 af, Atten= 0%, Lag= 0.0 min
Primary = 34.40 cfs @ 0.14 hrs, Volume= 0.703 af
Secondary = 118.71 cfs @ 0.16 hrs, Volume= 1.400 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 56.32' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	49.90'	**36.0" Round CB C11** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 49.90' / 48.28' S= 0.0081 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf
#2	Secondary	54.45'	**20.0' long x 200.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=34.39 cfs @ 0.14 hrs HW=56.27' TW=55.19' (Dynamic Tailwater)
↑—**1=CB C11** (Outlet Controls 34.39 cfs @ 4.87 fps)

Secondary OutFlow Max=118.26 cfs @ 0.16 hrs HW=56.31' TW=55.24' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 118.26 cfs @ 3.17 fps)

Summary for Pond C12: C12

Inflow Area = 48.330 ac,100.00% Impervious, Inflow Depth = 0.55" for 100-Year event
Inflow = 159.99 cfs @ 0.16 hrs, Volume= 2.200 af
Outflow = 159.99 cfs @ 0.16 hrs, Volume= 2.200 af, Atten= 0%, Lag= 0.0 min
Primary = 36.59 cfs @ 0.14 hrs, Volume= 0.616 af
Secondary = 123.84 cfs @ 0.16 hrs, Volume= 1.584 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 55.25' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	48.28'	**36.0" Round C12** L= 107.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 48.28' / 48.22' S= 0.0006 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf
#2	Secondary	53.33'	**20.0' long x 107.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=36.56 cfs @ 0.14 hrs HW=55.18' TW=54.03' (Dynamic Tailwater)
↑—**1=C12** (Inlet Controls 36.56 cfs @ 5.17 fps)

Secondary OutFlow Max=123.47 cfs @ 0.16 hrs HW=55.24' TW=54.12' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Weir Controls 123.47 cfs @ 3.23 fps)

Summary for Subcatchment EC01: E-C01

Runoff = 12.72 cfs @ 0.13 hrs, Volume= 0.175 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
3.850	0.95	Paved parking, HSG D
3.850		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4					**Direct Entry, EC01**

Summary for Subcatchment EC02: E-C02

Runoff = 9.09 cfs @ 0.12 hrs, Volume= 0.125 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
2.750	0.95	Paved parking, HSG D
2.750		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2					**Direct Entry, E-C02**

Summary for Subcatchment EC03: E-C03

Runoff = 12.95 cfs @ 0.13 hrs, Volume= 0.178 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
3.920	0.95	Paved parking, HSG D
3.920		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.6					**Direct Entry, E-C03**

Summary for Subcatchment EC04: EC04

Runoff = 13.42 cfs @ 0.13 hrs, Volume= 0.185 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
4.060	0.95	Paved parking, HSG D
4.060		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8					**Direct Entry, EC04**

Summary for Subcatchment EC05: E-C05

Runoff = 8.03 cfs @ 0.14 hrs, Volume= 0.111 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
2.430	0.95	Paved parking, HSG D
2.430		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2					**Direct Entry, EC05**

Summary for Subcatchment EC06: E-C06

Runoff = 15.80 cfs @ 0.12 hrs, Volume= 0.218 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
4.780	0.95	Paved parking, HSG D
4.780		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.2					**Direct Entry, E-C6**

Summary for Subcatchment EC07: E-C07

Runoff = 24.73 cfs @ 0.16 hrs, Volume= 0.340 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
7.480	0.95	Paved parking, HSG D
7.480		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3					**Direct Entry, E-A07**

Summary for Subcatchment EC08: E-C08

Runoff = 12.99 cfs @ 0.14 hrs, Volume= 0.179 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
3.930	0.95	Paved parking, HSG D
3.930		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0					**Direct Entry, E-C08**

Summary for Subcatchment EC09: EC09

Runoff = 13.62 cfs @ 0.14 hrs, Volume= 0.187 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
4.120	0.95	Paved parking, HSG D
4.120		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.1					**Direct Entry, E-C09**

Summary for Subcatchment EC10: E-C10

Runoff = 16.42 cfs @ 0.14 hrs, Volume= 0.226 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
4.970	0.95	Paved parking, HSG D
4.970		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2					**Direct Entry, E-C10**

Summary for Subcatchment EC11: E-C11

Runoff = 12.95 cfs @ 0.14 hrs, Volume= 0.178 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
3.920	0.95	Paved parking, HSG D
3.920		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3					**Direct Entry, E-C11**

Summary for Subcatchment EC12: E-C12

Runoff = 7.01 cfs @ 0.13 hrs, Volume= 0.096 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
2.120	0.95	Paved parking, HSG D
2.120		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3					**Direct Entry, E-C12**

Summary for Subcatchment EC12a: E-C12a

Runoff = 18.37 cfs @ 0.14 hrs, Volume= 0.253 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
5.560	0.95	Paved parking, HSG D
5.560		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.4					**Direct Entry, E-C12**

Summary for Subcatchment EC13: E-C13

Runoff = 34.01 cfs @ 0.16 hrs, Volume= 0.471 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

Area (ac)	C	Description
10.350	0.95	Paved parking, HSG D
10.350		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.7					**Direct Entry, E-A13**

Summary for Subcatchment EC14: E-C14

Runoff = 0.13 cfs @ 0.09 hrs, Volume= 0.002 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=10 min, Inten=3.45 in/hr

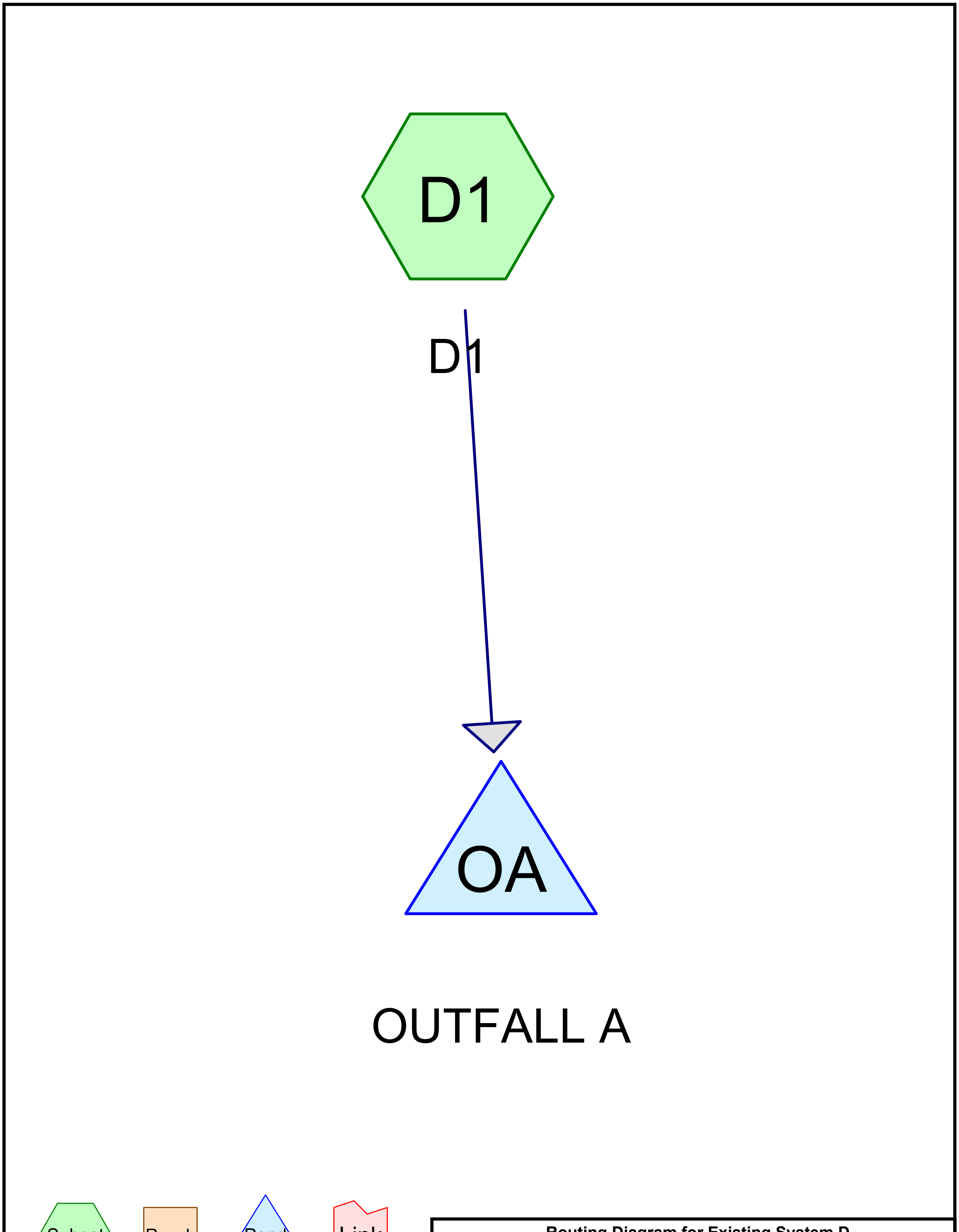
Area (ac)	C	Description
0.040	0.95	Paved parking, HSG D
0.040		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, EC14**

Summary for Pond OC: OUTFALL C

Inflow Area = 64.280 ac,100.00% Impervious, Inflow Depth = 0.55" for 100-Year event
Inflow = 56.47 cfs @ 0.27 hrs, Volume= 2.945 af
Primary = 56.47 cfs @ 0.27 hrs, Volume= 2.945 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3



Routing Diagram for Existing System D
Prepared by Geosyntec Consultants, Printed 5/24/2019
HydroCAD® 10.00 s/n 03895 © 2012 HydroCAD Software Solutions LLC

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment D1: D1 Runoff Area=2.914 ac 0.00% Impervious Runoff Depth=0.41"
Tc=20.0 min C=0.52 Runoff=3.56 cfs 0.099 af

Pond OA: OUTFALL A Inflow=3.56 cfs 0.099 af
Primary=3.56 cfs 0.099 af

Total Runoff Area = 2.914 ac Runoff Volume = 0.099 af Average Runoff Depth = 0.41"
100.00% Pervious = 2.914 ac 0.00% Impervious = 0.000 ac

50-year Rainfall Intensity

ELEV.	FACTOR
0-1500	1.00
1500-3000	1.25
3000-4000	1.42
4000-5000	1.60
5000-6000	1.7
DESERT	1.25

TO OBTAIN CORRECT INTENSITY, MULTIPLY INTENSITY ON CHART BY FACTOR FOR DESIGN ELEVATION.

RAINFALL
INTENSITY - DURATION - FREQUENCY
CURVES
FOR
COUNTY OF SAN DIEGO

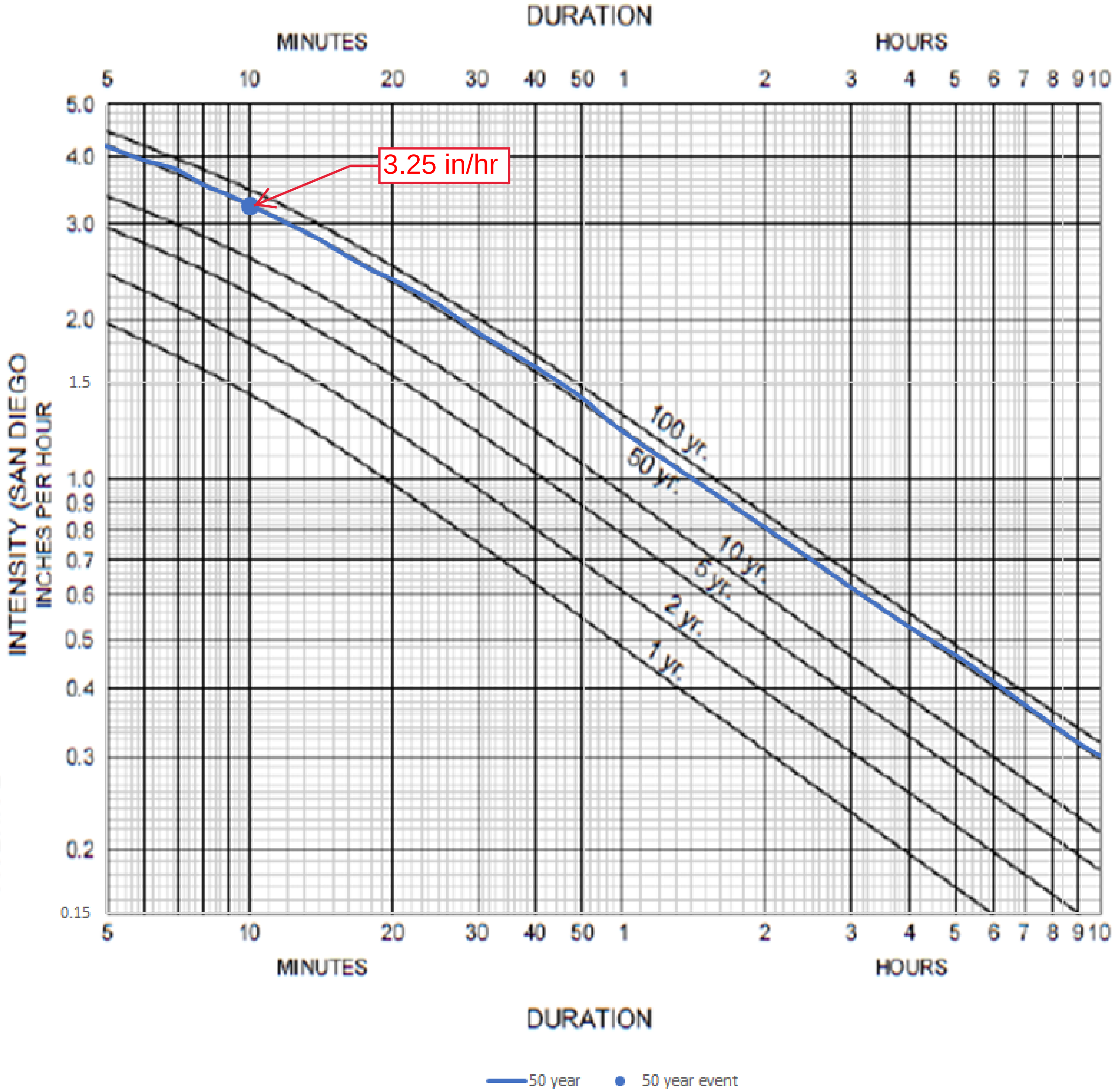


Figure A-1. Intensity-Duration-Frequency Design Chart

Summary for Subcatchment D1: D1

Runoff = 3.56 cfs @ 0.33 hrs, Volume= 0.099 af, Depth= 0.41"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=20 min, Inten=2.35 in/hr

Area (ac)	C	Description
2.914	0.52	Mixed Use, HSG D
2.914		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry, P-A02**

Summary for Pond OA: OUTFALL A

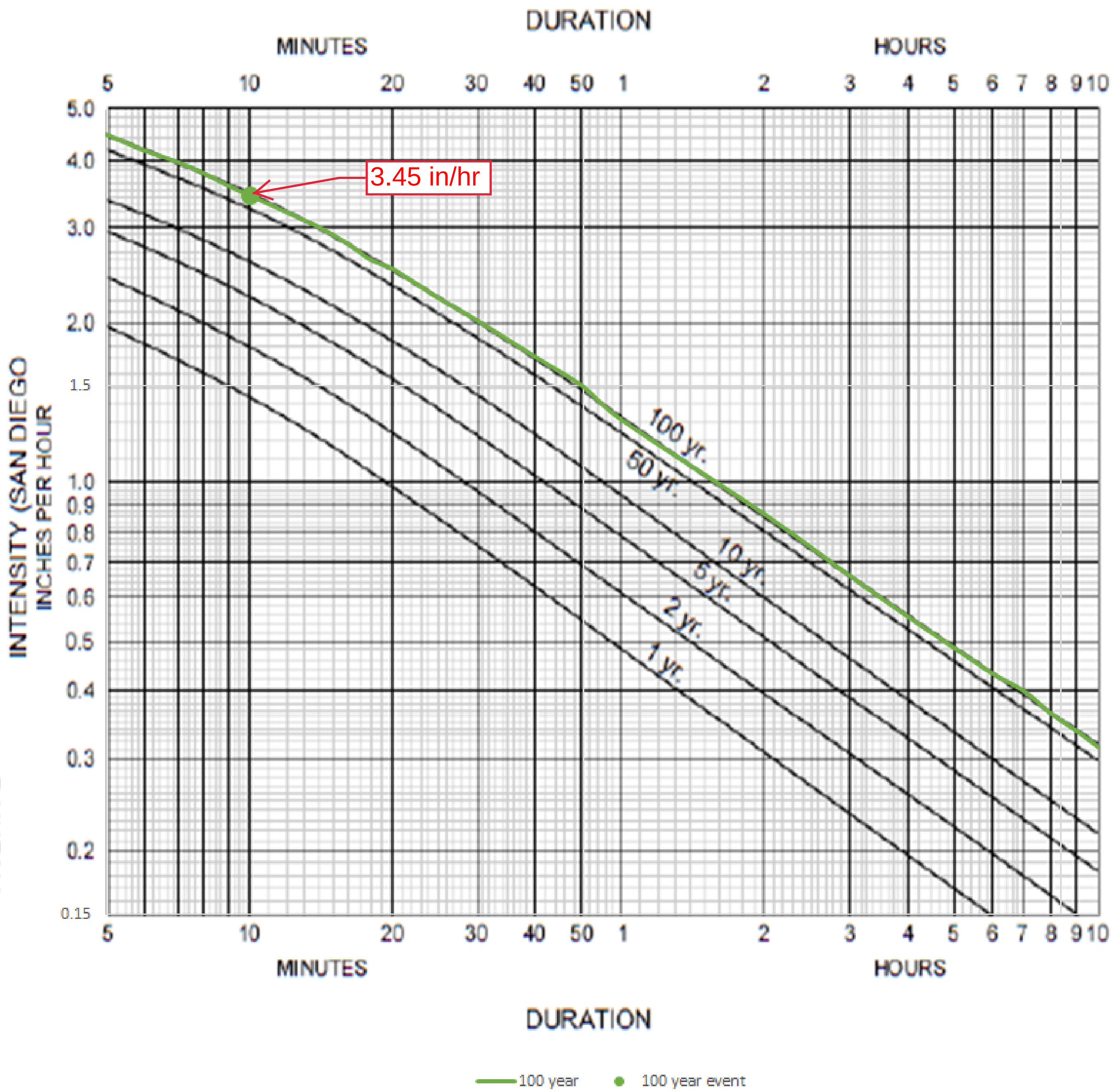
Inflow Area = 2.914 ac, 0.00% Impervious, Inflow Depth = 0.41" for 50-Year event
Inflow = 3.56 cfs @ 0.33 hrs, Volume= 0.099 af
Primary = 3.56 cfs @ 0.33 hrs, Volume= 0.099 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

100-year Rainfall Intensity

ELEV.	FACTOR
0-1500	1.00
1500-3000	1.25
3000-4000	1.42
4000-5000	1.60
5000-6000	1.7
DESERT	1.25

TO OBTAIN CORRECT INTENSITY, MULTIPLY INTENSITY ON CHART BY FACTOR FOR DESIGN ELEVATION.



RAINFALL
INTENSITY - DURATION - FREQUENCY CURVES
FOR
COUNTY OF SAN DIEGO

Figure A-1. Intensity-Duration-Frequency Design Chart

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment D1: D1 Runoff Area=2.914 ac 0.00% Impervious Runoff Depth=0.43"
Tc=20.0 min C=0.52 Runoff=3.79 cfs 0.105 af

Pond OA: OUTFALL A Inflow=3.79 cfs 0.105 af
Primary=3.79 cfs 0.105 af

Total Runoff Area = 2.914 ac Runoff Volume = 0.105 af Average Runoff Depth = 0.43"
100.00% Pervious = 2.914 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment D1: D1

Runoff = 3.79 cfs @ 0.33 hrs, Volume= 0.105 af, Depth= 0.43"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=20 min, Inten=2.50 in/hr

Area (ac)	C	Description
2.914	0.52	Mixed Use, HSG D
2.914		100.00% Pervious Area

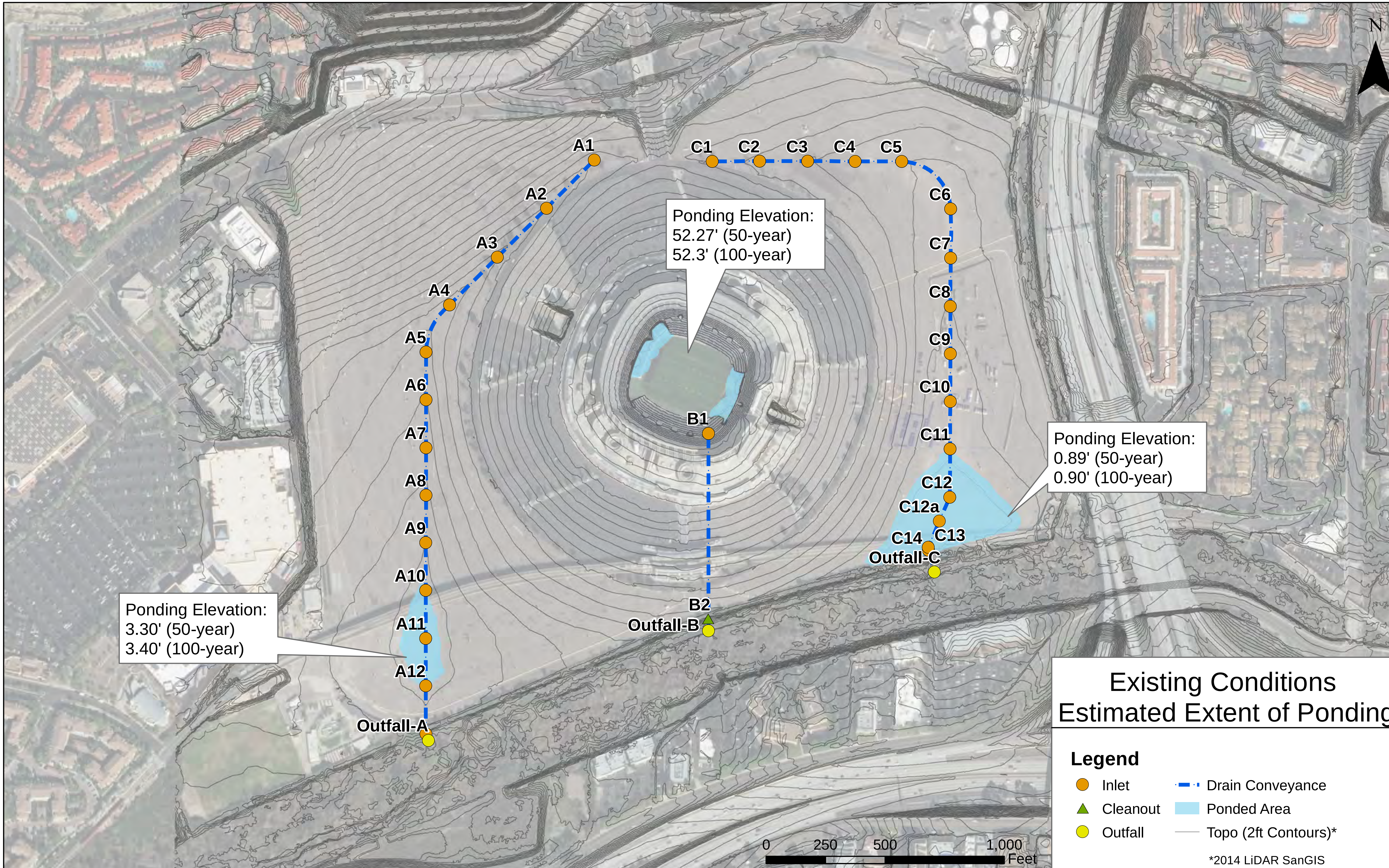
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry, P-A02**

Summary for Pond OA: OUTFALL A

Inflow Area = 2.914 ac, 0.00% Impervious, Inflow Depth = 0.43" for 100-Year event
Inflow = 3.79 cfs @ 0.33 hrs, Volume= 0.105 af
Primary = 3.79 cfs @ 0.33 hrs, Volume= 0.105 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs

APPENDIX A.6
Existing Conditions: Estimated Extent of Ponding Exhibit

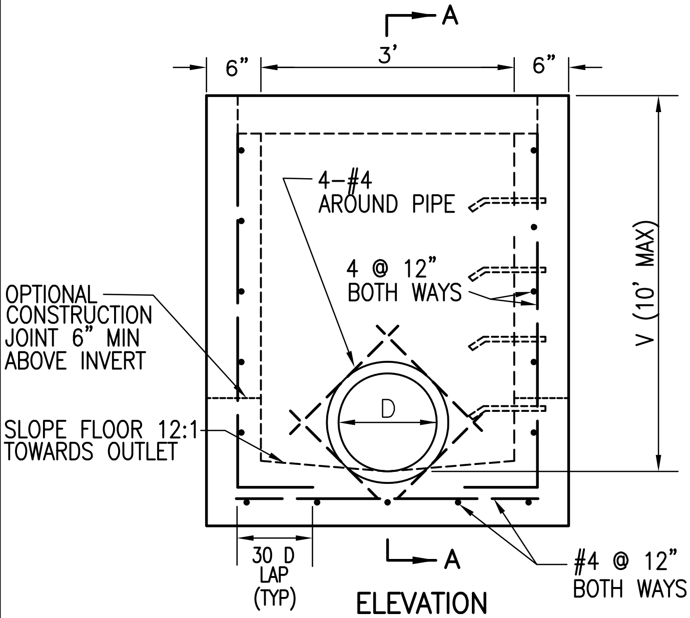


N
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12
Outfall-A
B1
B2
Outfall-B
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
C12a
C13
C14
Outfall-C
Ponding Elevation:
52.27' (50-year)
52.3' (100-year)
Ponding Elevation:
0.89' (50-year)
0.90' (100-year)
Ponding Elevation:
3.30' (50-year)
3.40' (100-year)
0 250 500 1,000
Feet
Existing Conditions
Estimated Extent of Ponding
Legend
Inlet
Cleanout
Outfall
Drain Conveyance
Ponded Area
Topo (2ft Contours)*
*2014 LiDAR SanGIS

APPENDIX B
Proposed Conditions Supporting Material

APPENDIX B.1

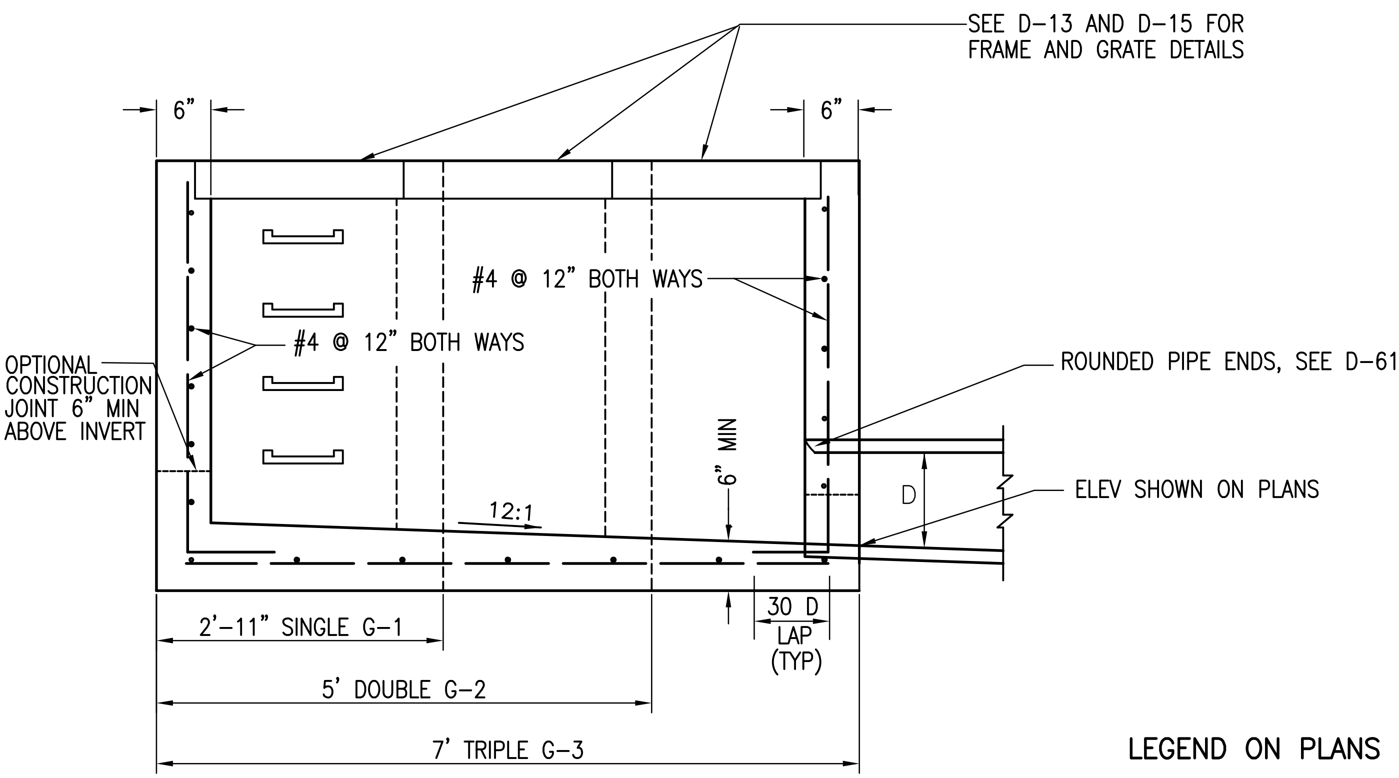
Proposed Conditions: Strom Drain Network, Standard Drawings, & Grading Plans



ELEVATION

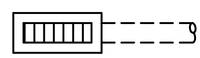
NOTES

1. SEE D-11A AND D-11B FOR ADDITIONAL NOTES AND DETAILS.
2. STEPS SHALL BE INSTALLED WHEN V EXCEEDS 4'. SEE D-11A FOR DETAILS.
3. MAINTAIN 1-1/2" CLEAR SPACING BETWEEN REINFORCING AND CONCRETE SURFACE.
4. INCREASE IN ALLOWABLE DEPTH SUBJECT TO APPROVAL BY LOCAL AGENCY.
5. SECTION A-A SHOWS 3 SIZES AND SHALL NOT IMPLY THAT AN INTERIOR WALL IS TO BE BUILT FOR THE STRUCTURES WITH DOUBLE OR TRIPLE FRAME AND GRATE.
6. ESPOSED EDGES OF CONCRETE SHALL BE ROUNDED WITH RADIUS OF 1/2".
7. DESIGNATE TYPES AS FOLLOWS: SINGLE G-1, DOUBLE G-2 OR TRIPLE G-3.
8. ONLY END BEARING GRATES SHALL BE USED. SEE D-15.



SECTION A-A

LEGEND ON PLANS



Revision	By	Approved	Date
ORIGINAL		Kercheval	12/75
Reformatted		T. Stanton	04/06
Edited		T. Stanton	02/09
Edited	S.S.	T. Regello	03/11
Edited	T.R.	T. Regello	10/15

SAN DIEGO REGIONAL STANDARD DRAWING

CATCH BASIN - TYPE G

RECOMMENDED BY THE SAN DIEGO REGIONAL STANDARDS COMMITTEE

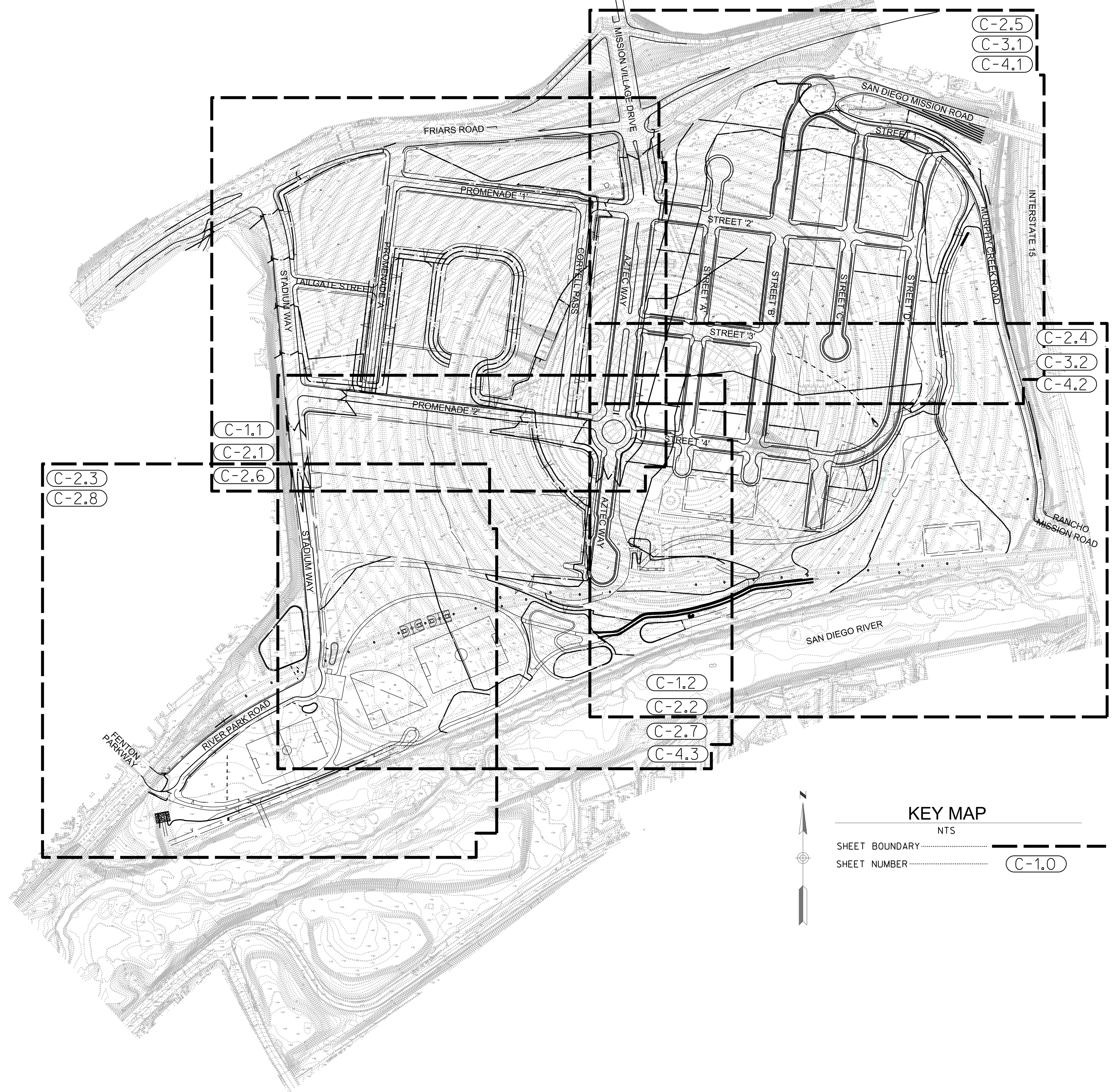
[signature] 12/17/2015

Chairperson R.C.E. 19246 Date

DRAWING NUMBER **D-08**

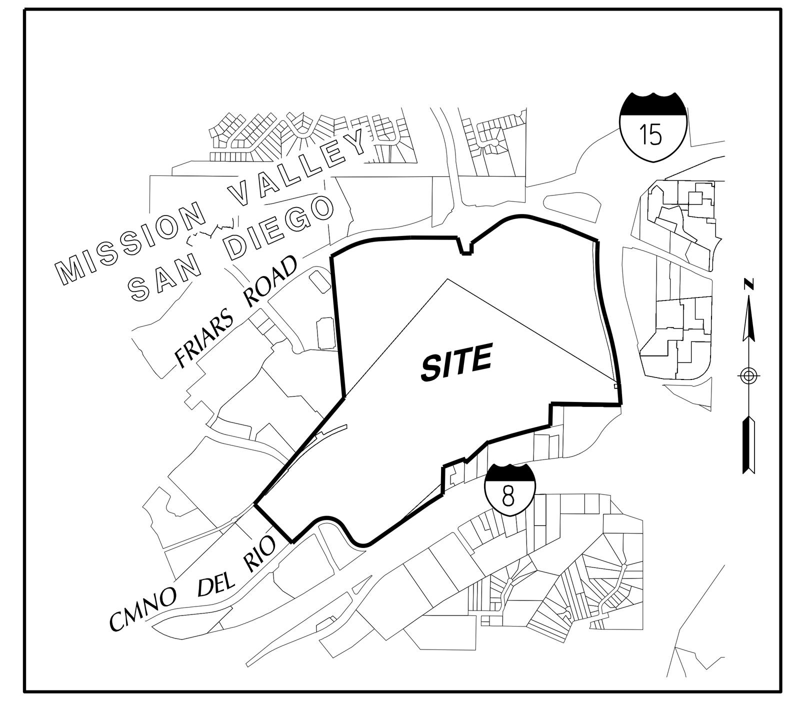
Reference: Carrier Johnson Planning Documents

SAN DIEGO STATE UNIVERSITY
MISSION VALLEY
75% DD SITE DEVELOPMENT
2/12/19



KEY MAP
NTS

SHEET BOUNDARY
SHEET NUMBER C-1.0



VICINITY MAP
NO SCALE

WORK TO BE DONE

THE IMPROVEMENTS CONSIST OF THE FOLLOWING WORK TO BE DONE ACCORDING TO THESE PLANS AND THE SPECIFICATIONS AND STANDARD DRAWINGS OF THE CITY OF SAN DIEGO. GRADING, UTILITIES INCLUDING SEWER, WATER AND STORM DRAIN, IN ADDITION TO THE INSTALLATION OF IMPROVEMENT WITHIN PROJECT LIMITS ARE TO BE DONE ACCORDING TO THESE PLANS, THE CURRENT SAN DIEGO AREA REGIONAL STANDARD DRAWING. THE SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION, THE CALIFORNIA BUILDING CODE, CALIFORNIA PLUMBING CODE AND CALIFORNIA FIRE CODE.

STANDARD SPECIFICATIONS:

DOCUMENT NO.	DESCRIPTION
PWPI070116-01	STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREENBOOK), 2018 EDITION
	2018 CALIFORNIA BUILDING CODE (CBC), VOLUMES 1 AND 2. (PART 2, TITLE 24 CCR)
	2018 CITY OF SAN DIEGO STANDARD DRAWINGS FOR PUBLIC WORKS

LEGEND

LEGEND	STANDARD DWGS.	SYMBOL
PROPERTY BOUNDARY		
EXISTING EDGE OF PAVEMENT		
EXISTING BUILDING		
EXISTING EASEMENTS		
EXISTING FENCE		
EXISTING SPOT ELEVATION		× 495.8
EXISTING MAJOR CONTOUR		550
EXISTING MINOR CONTOUR		
EXISTING SEWER MAIN		S
EXISTING SEWER MANHOLE		MH
EXISTING WATER MAIN		W
EXISTING FUEL LINE		OIL
EXISTING CATV		CATV
EXISTING ELECTRICAL		E
EXISTING STORM DRAIN MAIN		
EXISTING STORM DRAIN STRUCTURE		
EXISTING GAS		G
EXISTING TELEPHONE		T
PROPOSED EASEMENTS		
PROPOSED MAJOR CONTOUR		550
PROPOSED MINOR CONTOUR		
PROPOSED CUT/FILL LINE		F C
DAYLIGHT LINE		
PROPOSED TOP/TOE OF SLOPE		
PROPOSED SLOPE (2:1 MAX.)		
PROPOSED SWALE	(SEE DETAIL, SHT. C-N2)	
PROPOSED (PVT.) BROW DITCH (TYPE-B)	RSD D-75	
PROPOSED RETAINING WALL		
PROPOSED SEWER MAIN	(SDR-18, SDR-35)	S
PROPOSED SEWER MANHOLE	(SDS-107)	
PROPOSED WATER MAIN	12" PVC (C-900)	W
PROPOSED FIRE SERVICE	12" PVC (C-900)	FS
PROP. (PVT.) TYPE-I CATCH BASIN	RSD D-29	
PROP. (PVT.) STORM DRAIN CLEANOUT PER PLAN	RSD D-09 (UNLESS OTHERWISE NOTED)	
PROP. (PVT.) TYPE-B CURB INLET	RSD D-02 (UNLESS OTHERWISE NOTED)	
PROP. (PVT.) STORM DRAIN (RCP 2000-D)		
PROP. (PVT.) STORM DRAIN (PVC)		
HEADWALL	D-34 THRU D-35B	
PROP. (PVT.) RIP-RAP ENERGY DISSIPATOR	RSD D-40	
WATER METER (SIZE PER PLAN)		W
12" BACKFLOW		
12" FIRE SERVICE		F
IRRIGATION METER	(SIZE PER PLAN)	I
PROPOSED AC PAVEMENT	SCH. J SDG-113	
PROPOSED 6" CURB & GUTTER		
PROPOSED ZERO CURB		
PROPOSED JOINT TRENCH	BY OTHERS	JT
PROPOSED STREET LIGHT	SD-101	
PROPOSED FIRE HYDRANT	SDW-104	
PROPOSED MODULAR WETLAND	BY OTHERS	M/W

SITE ADDRESS

9449 FRIARS ROAD
SAN DIEGO, CA 92108

APN

433-250-16-00, 433-250-13-00,
433-250-14-00, 433-250-19-00

BENCHMARK

THE BENCHMARK FOR THIS SURVEY IS THE FOUND BRASS PLUG LOCATED IN THE SOUTHEASTERLY CORNER OF THE BRIDGE AT THE INTERSECTION OF MISSION VILLAGE DRIVE AND FRIARS ROAD PER THE CITY OF SAN DIEGO VERTICAL BENCHBOOK.

BM ELEVATION: 90.926, NAVD 88 (ADDED 2.15' TP 88.776 NGVD29)

TOPOGRAPHY SOURCE

AERIAL TOPOOGRAPHY PREPARED BY RICK ENGINEERING COMPANY DATED MARCH 28, 2014

BASIS OF ELEVATION

THE BASIS OF ELEVATION FOR THIS SURVEY WAS CALCULATED BY ADDING 2.15' TO THE PUBLISHED NGVD 29 ELEVATION OF THE FOUND BRASS PLUG LOCATED IN THE SOUTHEASTERLY CORNER OF THE BRIDGE AT THE INTERSECTION OF MISSION VILLAGE DRIVE AND FRIARS ROAD PER THE CITY OF SAN DIEGO VERTICAL BENCHBOOK.

BM ELEVATION: 90.926, NAVD 88 (ADDED 2.15' TO THE PUBLISHED VALUE OF 88.776 NGVD29)

LEGAL DESCRIPTION

THOSE PORTIONS OF LOTS 31, 35, 42 AND 45 IN THE CITY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO PARTITION MAP THEREOF ON FILE IN THE OFFICE OF THE COUNTY CLERK OF SAID SAN DIEGO COUNTY, IN ACTION NO. 348 ENTITLED "JUAN M. LUCO, ET AL VS. THE COMMERCIAL BANK OF SAN DIEGO, ET AL.."

BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM CCS83 ZONE 6, EPOCH 1991.35 AND IS DETERMINED BY RTK G.P.S. MEASUREMENTS USING THE CALVRS NETWORK. MEASURMENTS TAKEN ON FEBRUARY 13, 2018 AT POINT 986 AND POINT 1525 AS SHOWN HEREON, PER ROS 14492.

BEARING POINT #986 TO POINT #1525: N 08°45'13" W

GEOTECHNICAL RECOMMENDATIONS

ALL GRADING SHALL BE DONE IN ACCORDANCE WITH THE APPROVED GEOTECHNICAL REPORT FOR THIS PROJECT.

CIVIL SHEET INDEX

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CROSS-SECTIONS	SHEET	C-N4
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PHASE 1A UTILITY PLANS	SHEETS	C-1.1-C-1.2
PHASE 1A EROSION CONTROL PLAN	SHEET	C-1.3
PHASE 1B GRADING PLANS	SHEETS	C-2.1-C-2.5
PHASE 1B UTILITY PLANS	SHEETS	C-2.6-C-2.8
PHASE 1B EROSION CONTROL PLAN	SHEET	C-2.9
PHASE 3 GRADING PLANS	SHEETS	C-3.1-C-3.2
PHASE 3 UITLITY PLANS	SHEETS	C-3.1-C-3.2
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PHASE 4 UTILITY PLANS	SHEETS	C-4.1-C-4.3

ABBREVIATIONS

APN	ASSESSOR'S PARCEL NUMBER	MOD	MODIFIED
BC	BEGIN CURVE	NO	NUMBER
BM	BEGIN CURVE	NTS	NOT TO SCALE
BVC	BEGIN VERTICAL CURVE	PI	POINT OF INTERSECTION
CB	CATCH BASIN	PL	PROPERTY LINE
CL	CENTERLINE	PUB	PUBLIC
CO	CLEAN OUT	PVC	POLYVINYL CHLORIDE
CONT	CONTINUATION	PVT	PRIVATE
CYD	CUBIC YARD	R	RADIUS
EC	END CURVE	RCP	REINFORCED CONCRETE PIPE
EG	EXISTING GROUND	RIM	RIM ELEVATION
FF	FINISHED FLOOR	RT	RIGHT
FH	FIRE HYDRANT	ROW	RIGHT-OF-WAY
FL/ELEV	ELEVATION	ROW	RIGHT-OF-WAY
FS	FIRE SERVICE	S	SANITARY SEWER
EVC	END VERTICAL CURVE	SD	STORM DRAIN
EX	EXISTING	SDRSD	SAN DIEGO REGIONAL STANDARD DWG
FG	FINISH GRADE	SHT	SHEET
FL	FLOW LINE	STA	STATION
FS	FINISH SURFACE	TC	TOP OF CURB
GB	GRADE BREAK	TEMP	TEMPORARY
HP	HIGH POINT	TF	TOP OF FOOTING
IE	INVERT ELEVATION	TG	TOP OF GRATE
LP	LOW POINT	TP	TOP OF PIPE
LT	LEFT	TW	TOP OF WALL
MAX	MAXIMUM	TYP	TYPICAL
MIN	MINIMUM	VC	VERTICAL CURVE
		W	WATER
		W/	WITH

RAW EARTHWORK QUANTITIES CUT/FILL

	CUT (CY)	FILL (CY)	IMPORT/BORROW (CY)
PHASE 1a	180,000	270,000	90,000
PHASE 1b	410,000	410,000	270,000 CY (SEE NOTE 3)
PHASE 3	160,000	385,000	225,000
OPENING DAY OVERALL TOTAL	750,000	1,065,000	315,000
FUTURE PHASE 4	25,000	127,000	102,000

NOTES:

1) BASED ON RAW QUANTITIES 90,000 CY TO BE IMPORTED FROM OFFSITE SOURCES TO IMPLEMENT PHASE 1. NOTE: EXACT IMPORT REQUIREMENTS TO BE DETERMINED BY STADIUM ARCHITECT.
2) APPROXIMATE OVER EXCAVATIONS FOR PHASE 1b INCLUDE 30,000 CY FOR 1.5 FOOT STREET STRUCTURAL SECTION UNDERCUT, 5,000 FOR 4 FOOT FOOTBALL FIELD UNDERCUT, 5,000 CY FOR FOUNDATION SPOILS, 25,000 CY FOR MISCELLANEOUS SPOILS (TREES, UTILITIES, BIO-BASIN, FLATWORK ETC).
3) A PORTION OF THIS CUT ASSUMES COMPLETE STADIUM DEMOLITION AND BORROW OF EARTHWORK FOR PHASE 1b FILL. SHOULD THIS BORROW MATERIAL NOT BE AVAILABLE, THEN AN IMPORT OF MATERIAL WILL BE REQUIRED TO IMPLEMENT PHASE 1b. PHASE 3 GRADING SHALL BE EVALUATED FOR SHEET GRADE FINAL CONDITIONS TO DETERMINE IF SITE GRADE ADJUSTMENTS FOR OVERALL EARTHWORK BALANCING WILL BE REQUIRED.
4) APPROXIMATE OVER EXCAVATIONS FOR PHASE 4 INCLUDE 34,000 CY FOR 1.5 FOOT STREET STRUCTURAL SECTION UNDERCUT, 30,000 CY FOR MISCELLANEOUS SPOILS (TREES, UTILITIES, BIO-BASIN, FLATWORK ETC) AND 5,000 CY FOR FOUNDATION SPOILS.
5) IMPORT FROM OFFSITE SOURCES TO IMPLEMENT PHASE 3 WILL BE REQUIRED. NOTE: EXACT IMPORT REQUIREMENTS SHALL BE VALIDATED IN FINAL ENGINEERING.
6) QUANTITY ADJUSTMENTS DO NOT INCLUDE ADJUSTMENTS FOR THE EXISTING A.C. PAVING - THIS IS APPROXIMATELY 59,000 CY.
7) DOES NOT INCLUDE UTILIZING THE STADIUM DEMOLITION WHICH IS ESTIMATED TO BE 60,000 CY (PROVIDED BY OTHERS)
8) EARTHWORK QUANTITIES SHOWN ARE RAW CUT/FILL NUMBERS AND ARE CONCEPTUAL AND AN ORDER OF MAGNITUDE QUANTITY ESTIMATE. THESE QUANTITIES WILL CHANGE AS A RESULT OF ADDITIONAL DESIGN DETAIL FINAL ENGINEERING AND GEOTECHNICAL/SOILS REPORT RECOMMENDATIONS.
9) EARTHWORK QUANTTIES DO NOT INCLUDE REMEDIAL GRADING OR BULK/ SHRINK ADJUSTMENTS OR REFLECT GEOTECHNICAL GRADING REQUIREMENTS.
10) THESE QUANTITIES REFLECT GRADING TO THE 55 ELEVATION FOR THE SOUTH PRE-CAMPUS PARKING PARKING (DOES NOT INCLUDE EXCAVATION TO THE P3 PARKING LEVEL AT ELEVATION 44. THE QUANTITY TO EXCAVATE THE P3 LEVEL ON THE SOUTH CAMPUS IS APPROXIMATELY 120K-140K CY WHICH WILL EITHER BE USED FOR FILL ON SITE IN FUTURE PHASES OR EXPORTED AT THE TIME OF CONSTRUCTION).
11) EARTHWORK VOLUMES ARE BASED UPON THE 2018 AERIAL TOPOGRAPHY.
12) GRADING PER 75% DESIGN DEVELOPMENT DRAWINGS DATED 1/18/19.
13) ALL EARTHWORK QUANTITIES TO BE VALIDATED WITH FINAL ENGINEERING TO MIMIMIZE THE REQUIRED IMPORT TO THE PROJECT.

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PROJECT NO:
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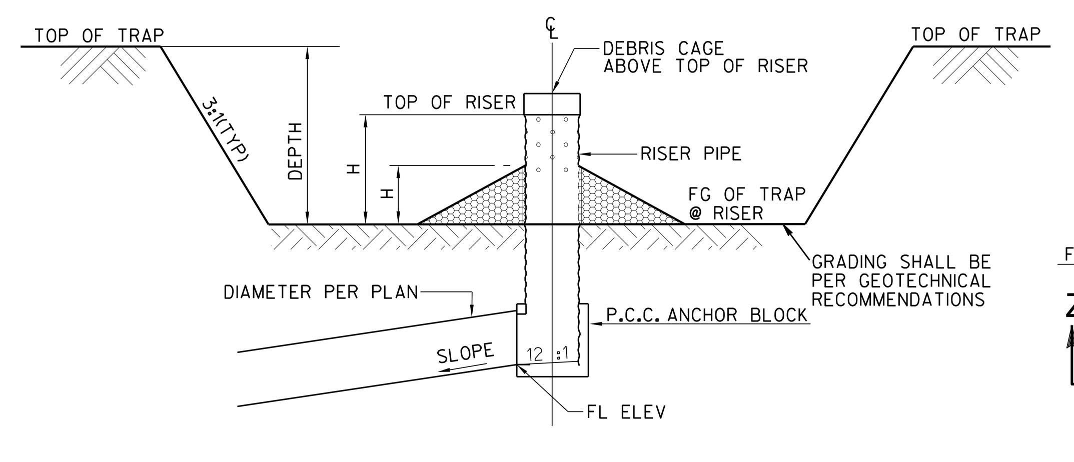
TITLE:

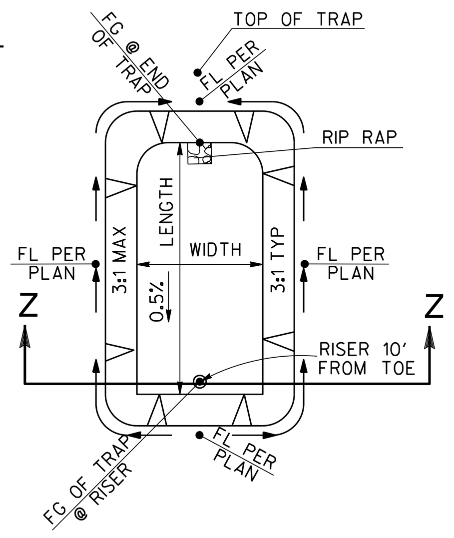
TITLE SHEET

1 OF 23
DRAWING NO:

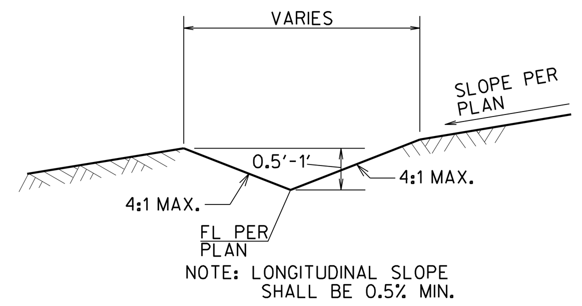
C-N1



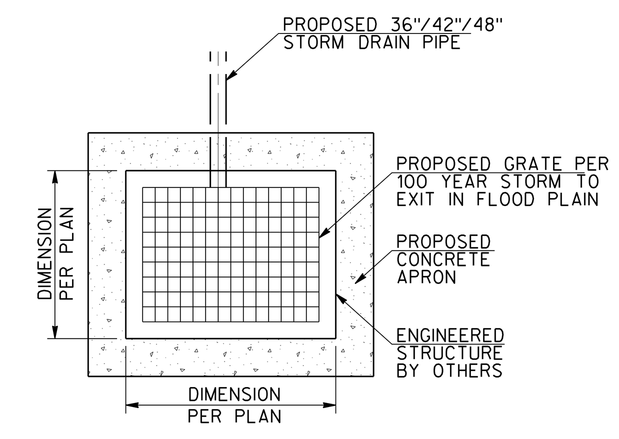
SECTION Z-Z SEDIMENT TRAP
NO SCALE



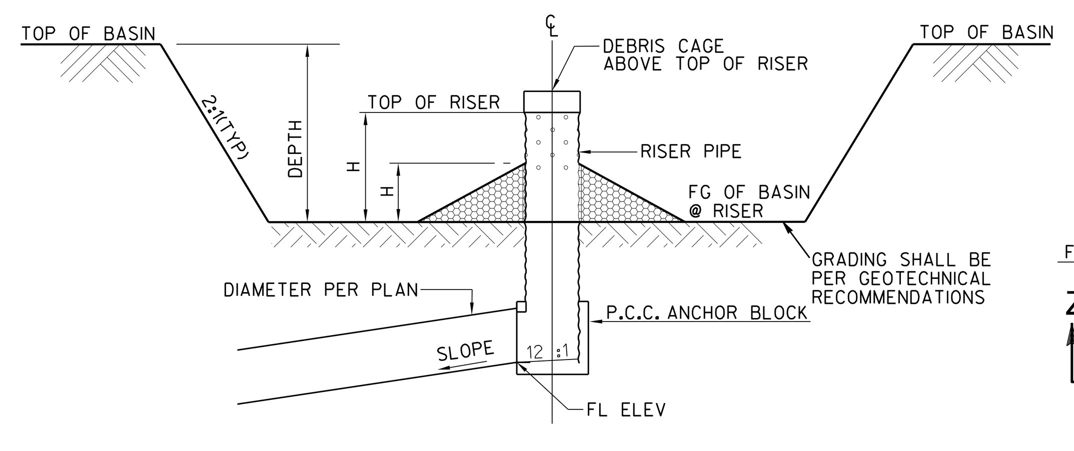
SEDIMENT TRAP DETAIL (PVT) TYPICAL
NO SCALE



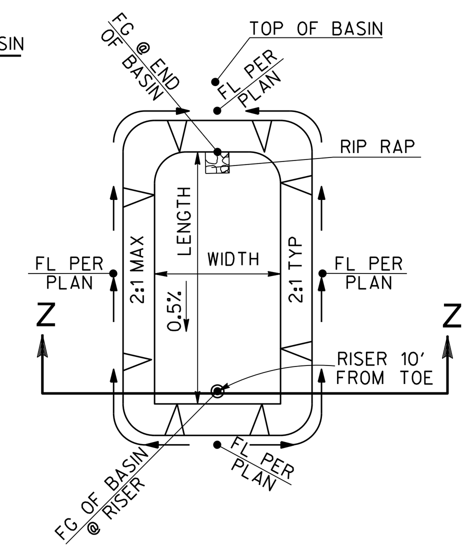
BLADED SWALE (PVT)
NO SCALE



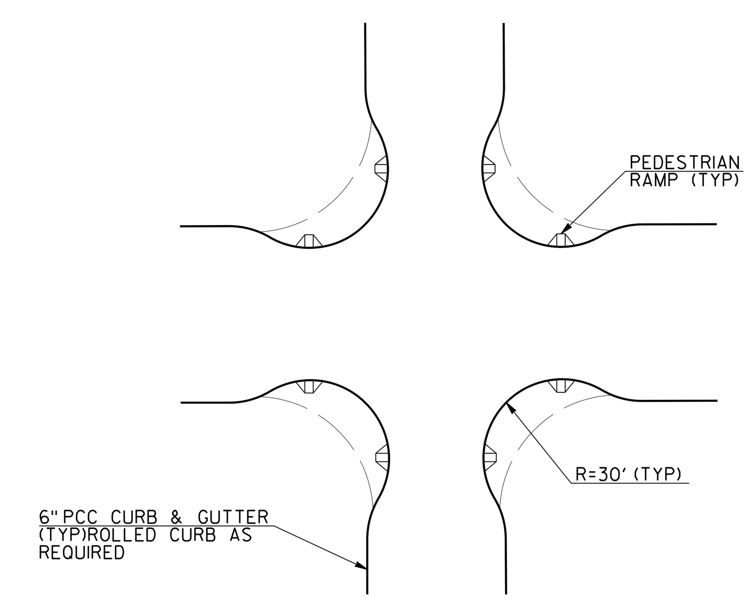
TYPICAL EMERGENCY OUTLET BUBBLER STRUCTURE PER 100 YEAR STORM
NO SCALE



SECTION Z-Z SEDIMENT BASIN
NO SCALE

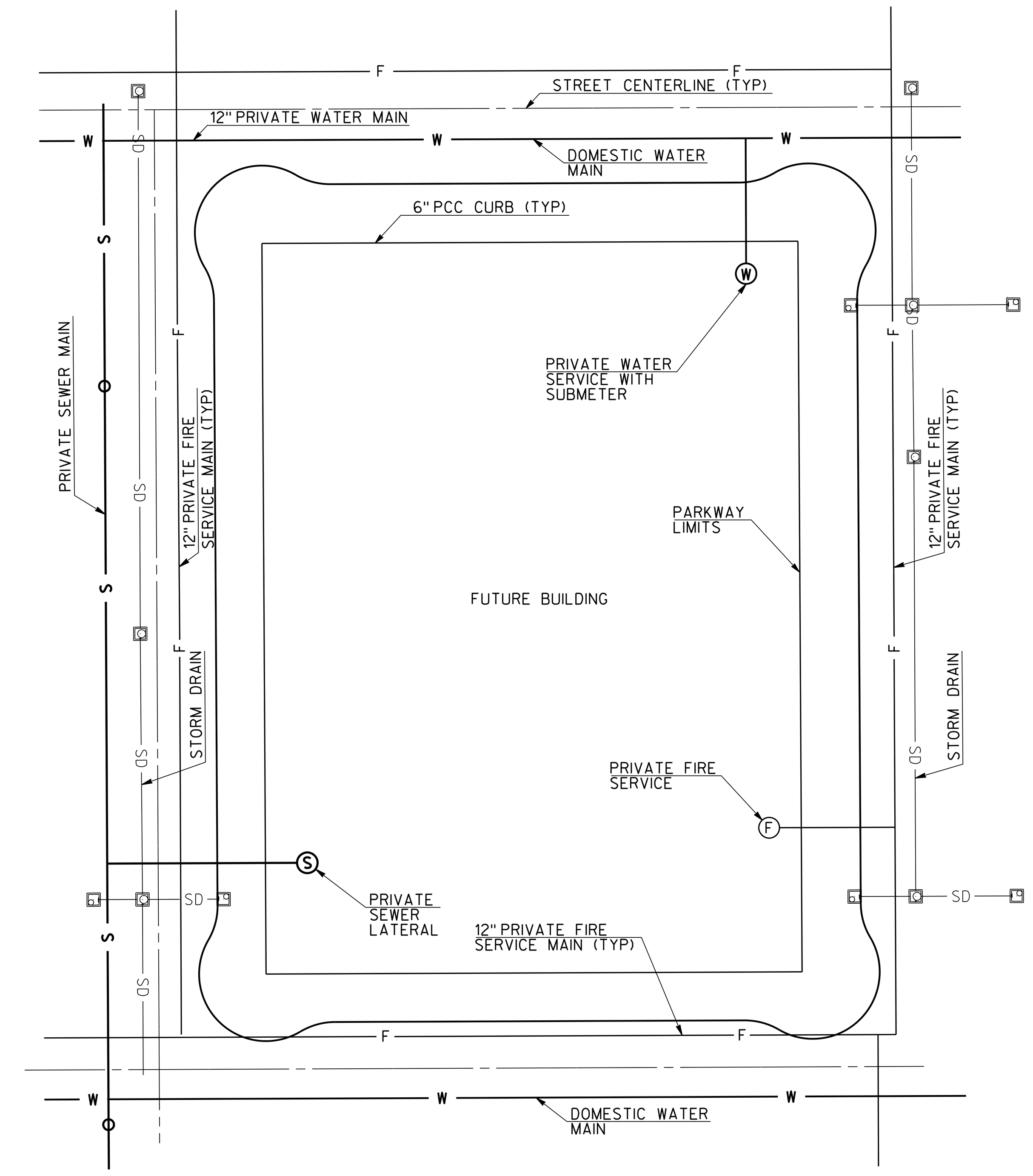


SEDIMENT BASIN DETAIL (PVT) TYPICAL
NO SCALE

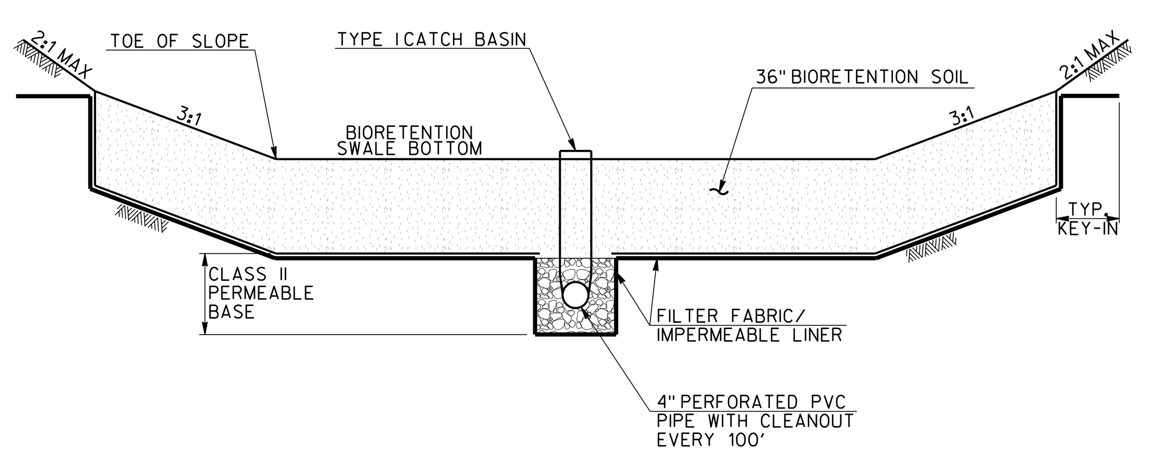


TYPICAL INTERSECTION CURB POPOUT
NO SCALE

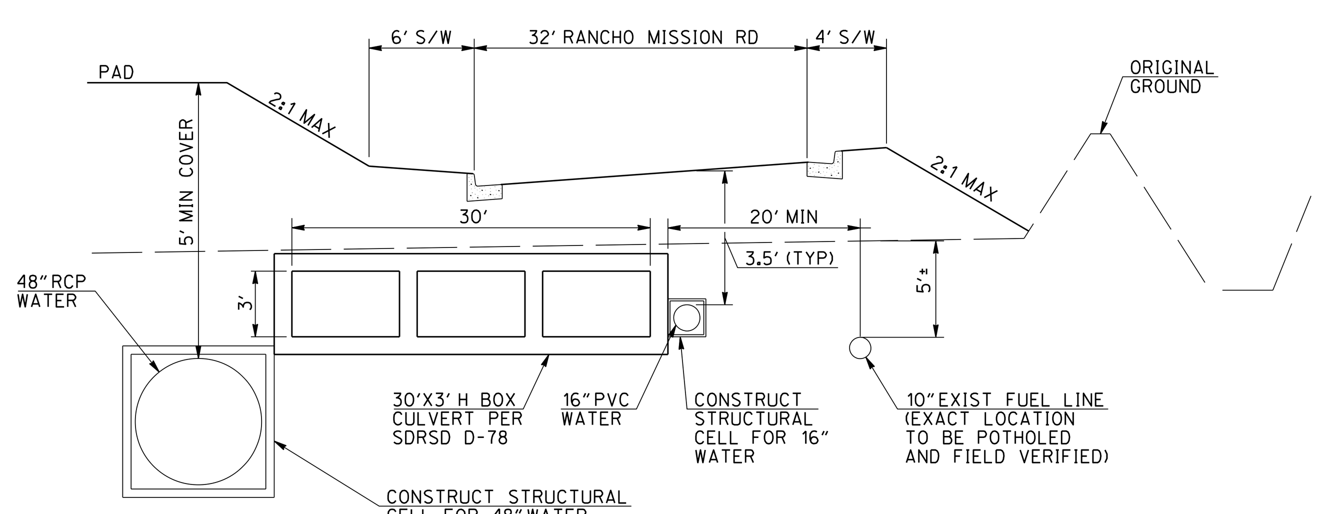
NOTE: CURB POPOUTS TO MEET MUTCD STANDARDS & FIRE ACCESSABILITY STANDARDS



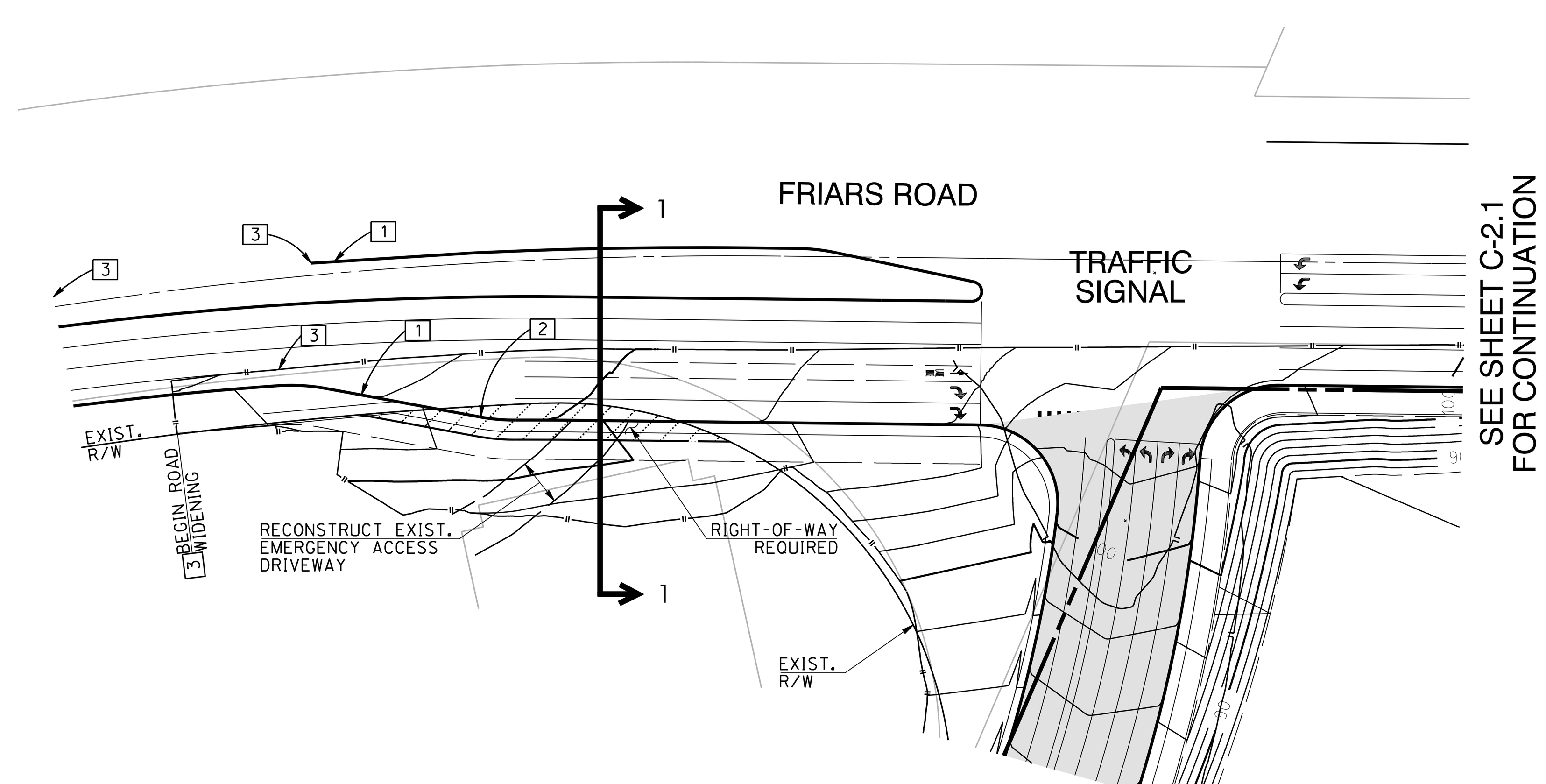
TYPICAL FUTURE RESIDENTIAL BLOCK UTILTY LATERAL DIAGRAM
NO SCALE



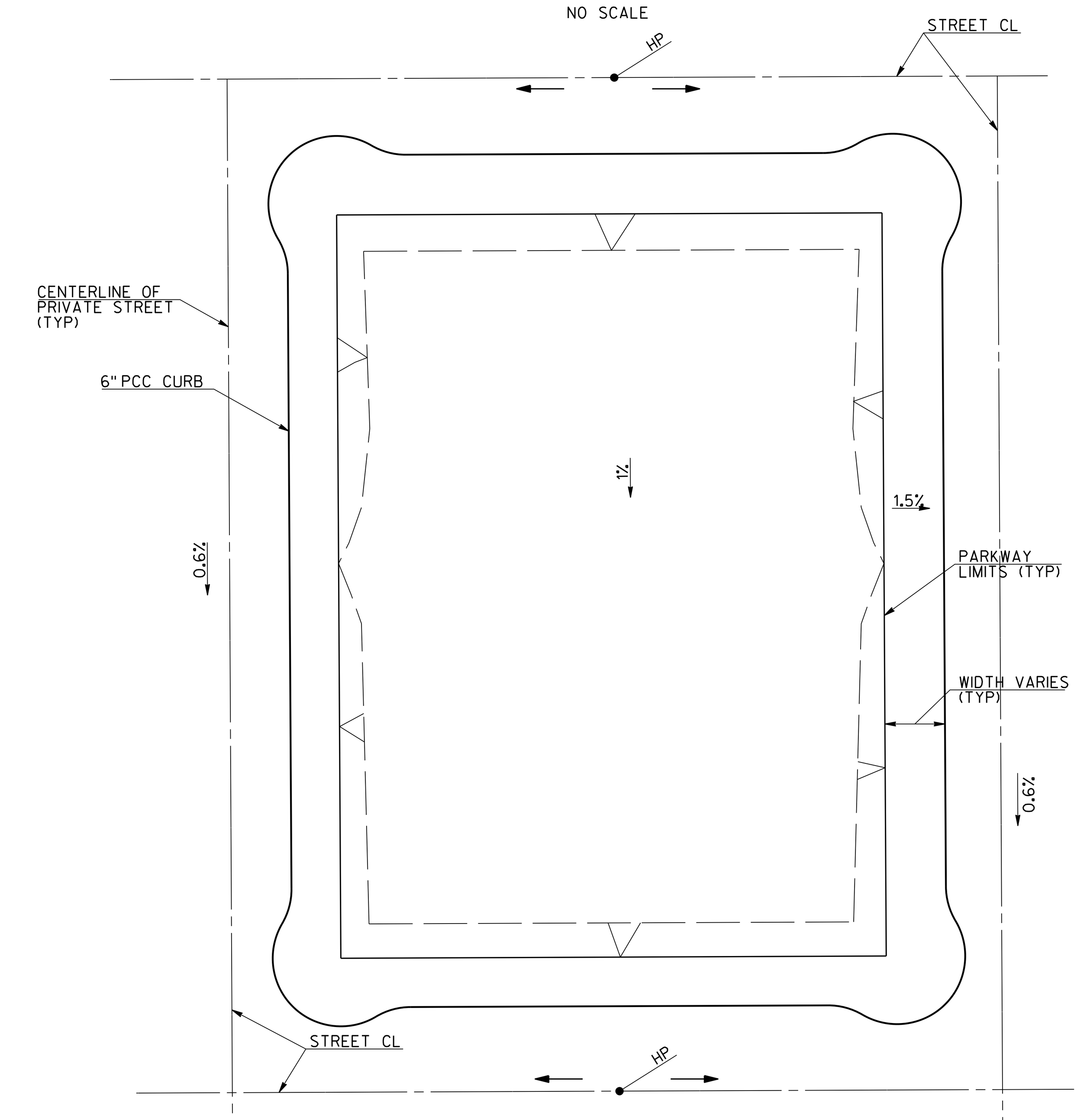
TYPICAL BIORETENTION SWALE DETAIL (PVT)
NO SCALE



BOX CULVERT DETAIL (PVT)
NO SCALE

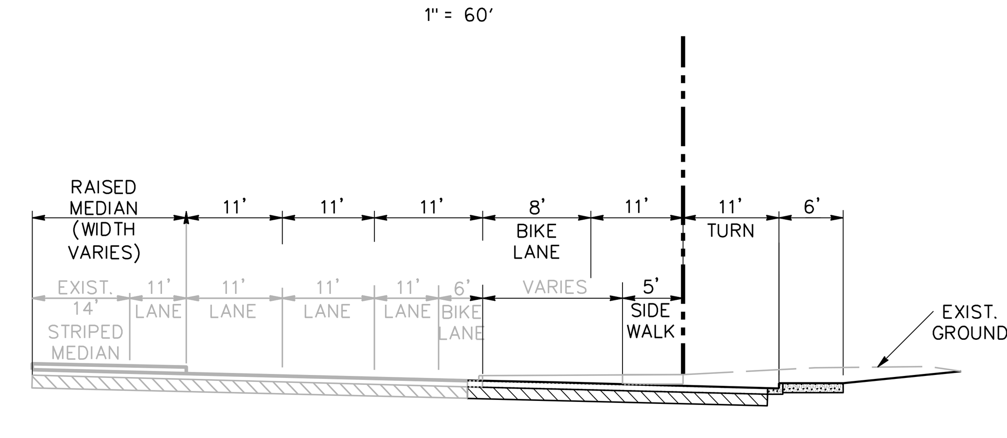


EAST BOUND FRIARS ROAD WIDENING AT STADIUM WAY
1" = 60'



FUTURE RESIDENTIAL BLOCK PAD DESIGN
NO SCALE

NOTE: PAD ELEVATION SET AT BLOCK MID POINT ELEVATION AT ROW



SECTION 1-1
NOT TO SCALE

CONTRACTOR NOTES

1) ALL EXISTING DRY AND WET UTILITIES TO BE RELOCATED AS NEEDED TO ACCOMODATE PROPOSED IMPROVEMENTS
2) ADDITIONAL RIGHT-OF-WAY REQUIRED
3) OFFSITE LETTER OF PERMISSION TO GRADE REQUIRED

IMPROVEMENT CONSTRUCTION NOTES

1. INSTALL 6" CURB AND GUTTER
2. INSTALL 0" CURB
3. MATCH EXISTING IMPROVEMENTS
4. INSTALL SCHEDULE PAVEMENT
5. INSTALL CONCRETE ASPHALT
6. LANDSCAPE PATH PER LANDSCAPE PLANS
7. PLAY AREA BY OTHERS
8. RAISED MEDIAN W/MEDIAN CURB

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PROJECT NO:
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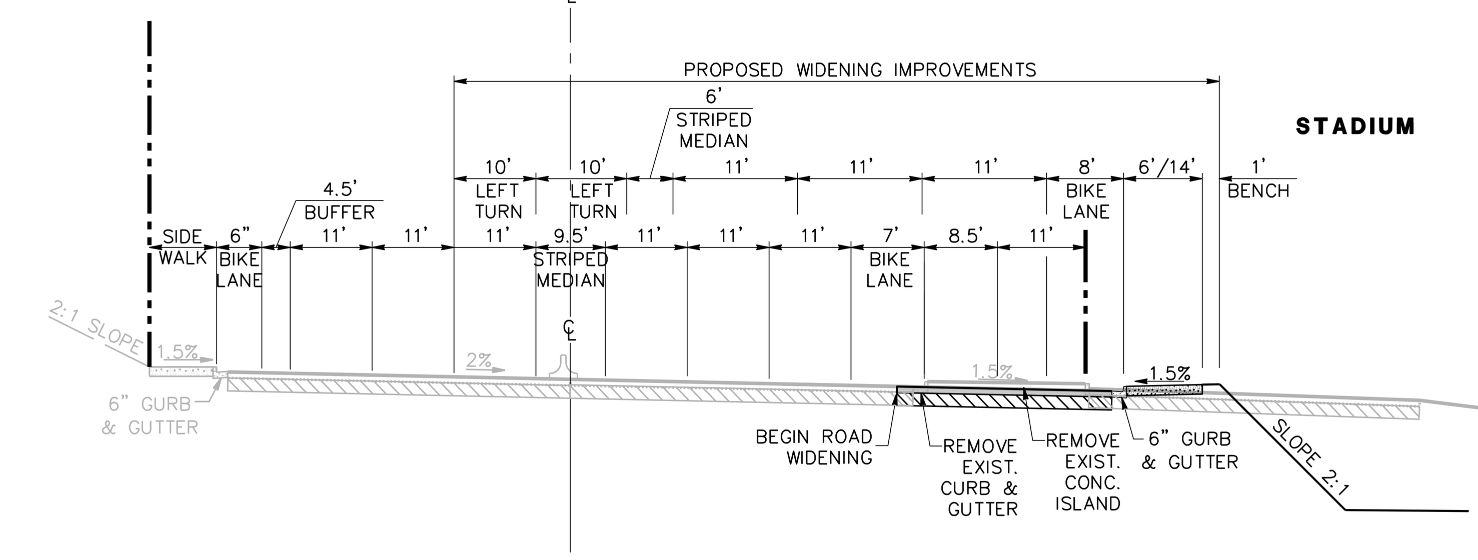
TITLE:

DETAILS

2 OF 23
DRAWING NO:
C-N2

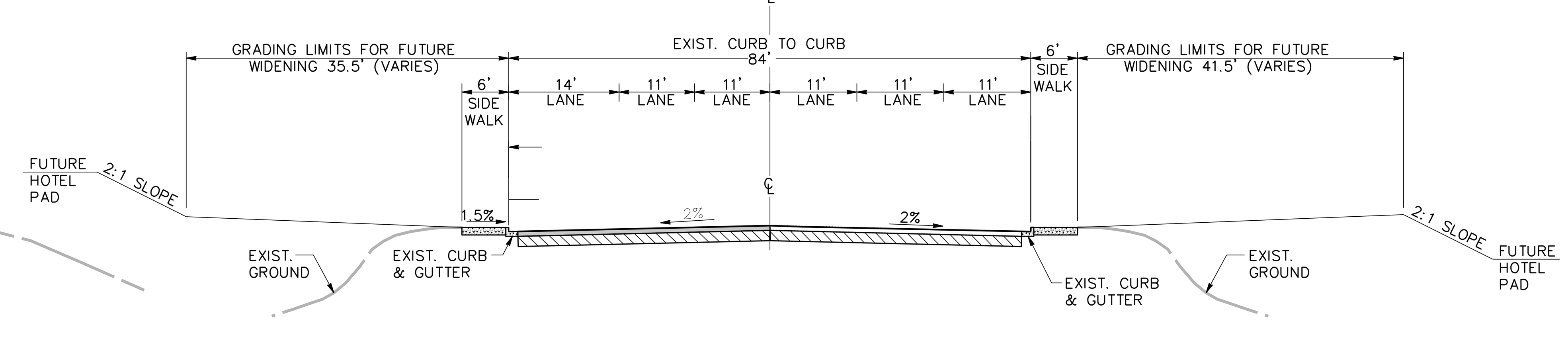
PHASE 1A/1B
(OPENING DAY TYPICAL STREET SECTIONS)

(SEE SHEET C-N5 FOR PHASE 4 STREET SECTIONS)



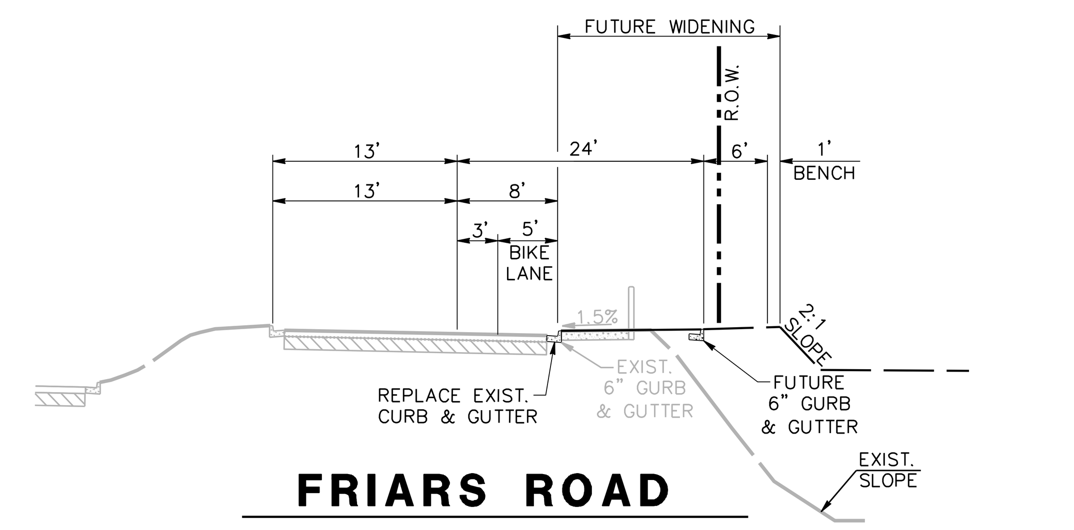
FRIARS ROAD

MODIFIED 6-LANE COLLECTOR
DESIGN SPEED: 45 MPH
NOT TO SCALE



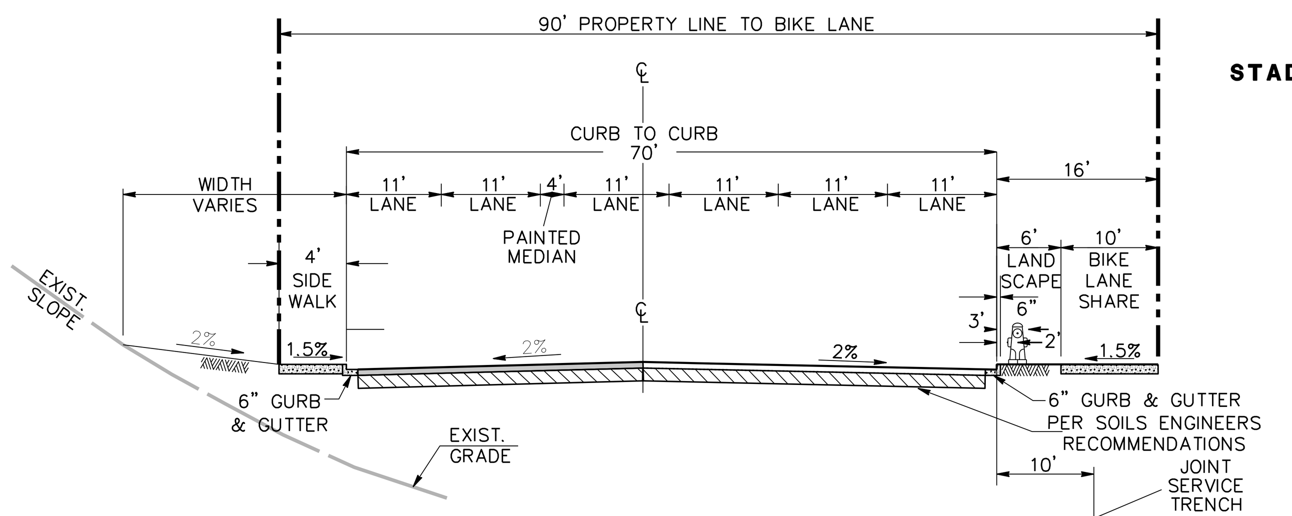
MISSION VILLAGE DRIVE

SITE ENTRANCE
NOT TO SCALE



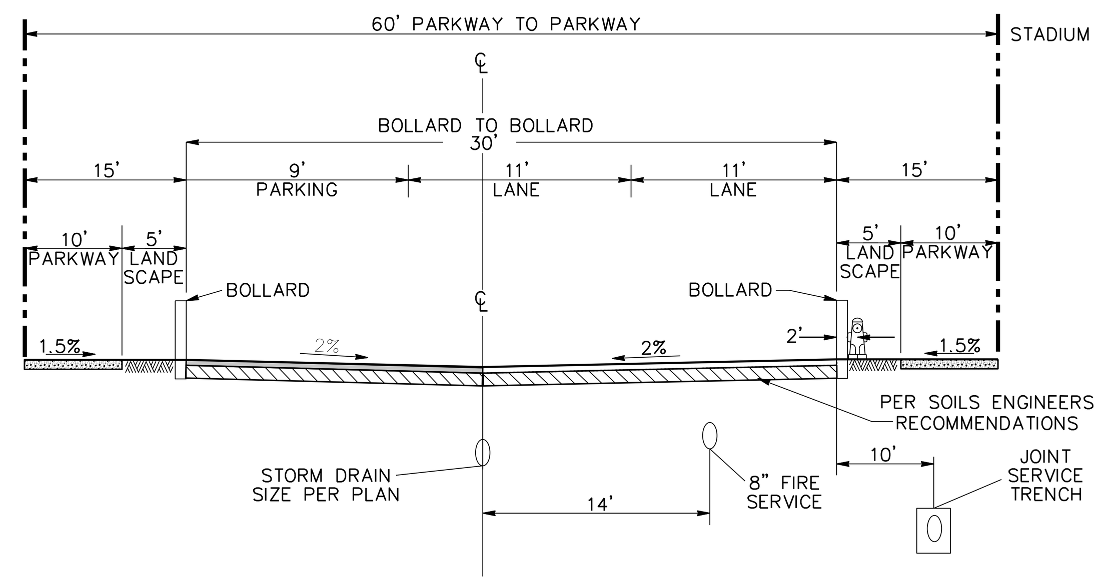
FRIARS ROAD

EB OFFRAMP
(SECTION 2-2)
NOT TO SCALE



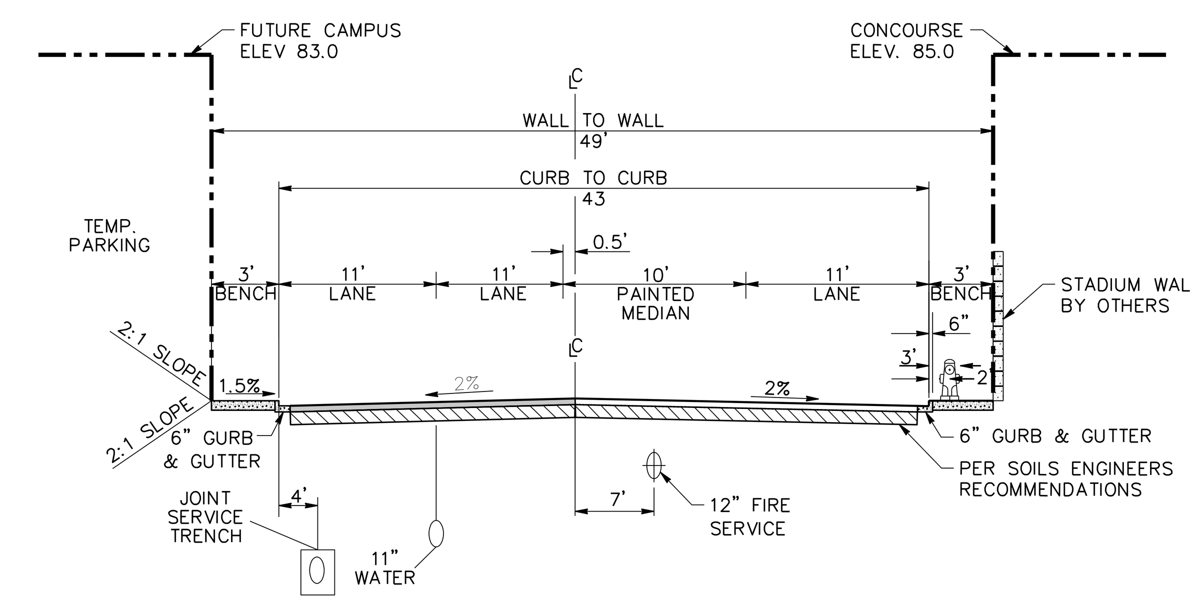
STADIUM WAY
(BETWEEN FRIARS ROAD AND PROMENADE "2")

MODIFIED 6-LANE MAJOR COLLECTOR
DESIGN SPEED: 35 MPH
NOT TO SCALE



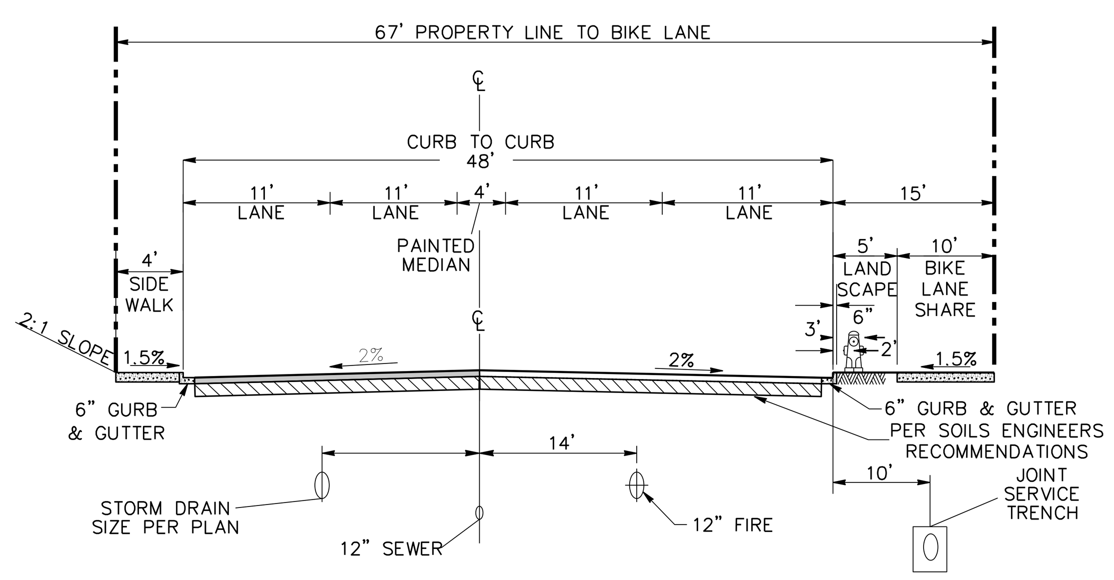
PROMENADE "A"

MODIFIED 2-LANE COLLECTOR
WITHOUT BIKE LANE
DESIGN SPEED: 25 MPH
NOT TO SCALE



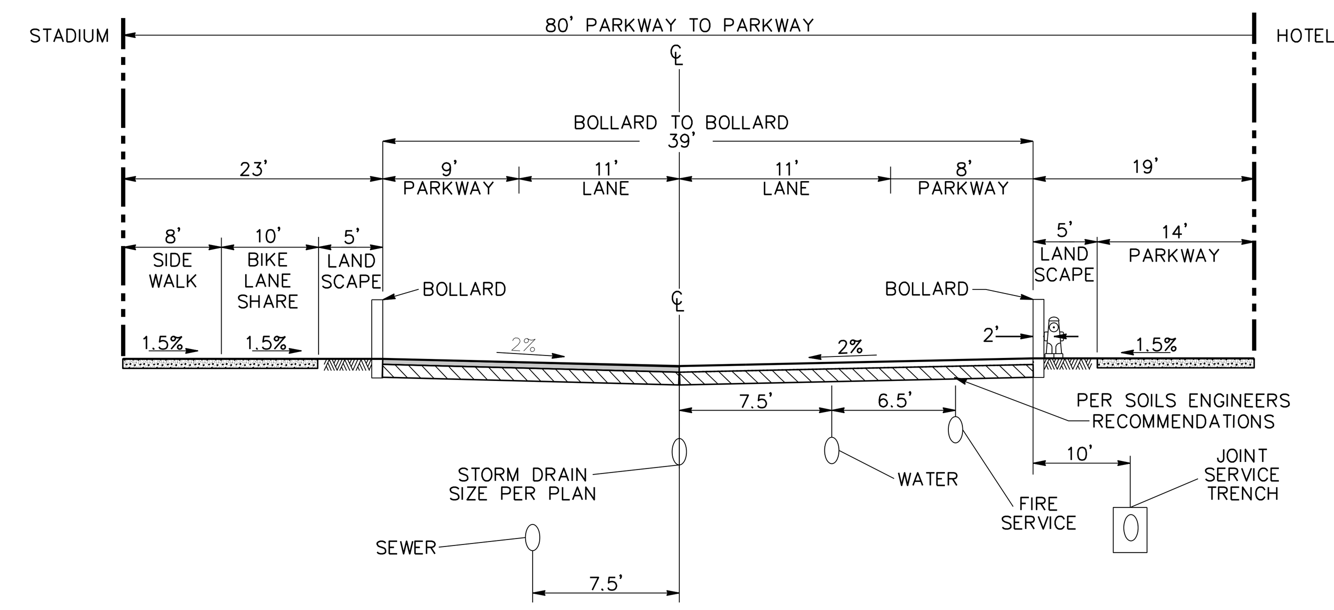
PROMENADE 2

MODIFIED 2-LANE COLLECTOR
WITHOUT BIKE LANE
DESIGN SPEED: 25 MPH
NOT TO SCALE



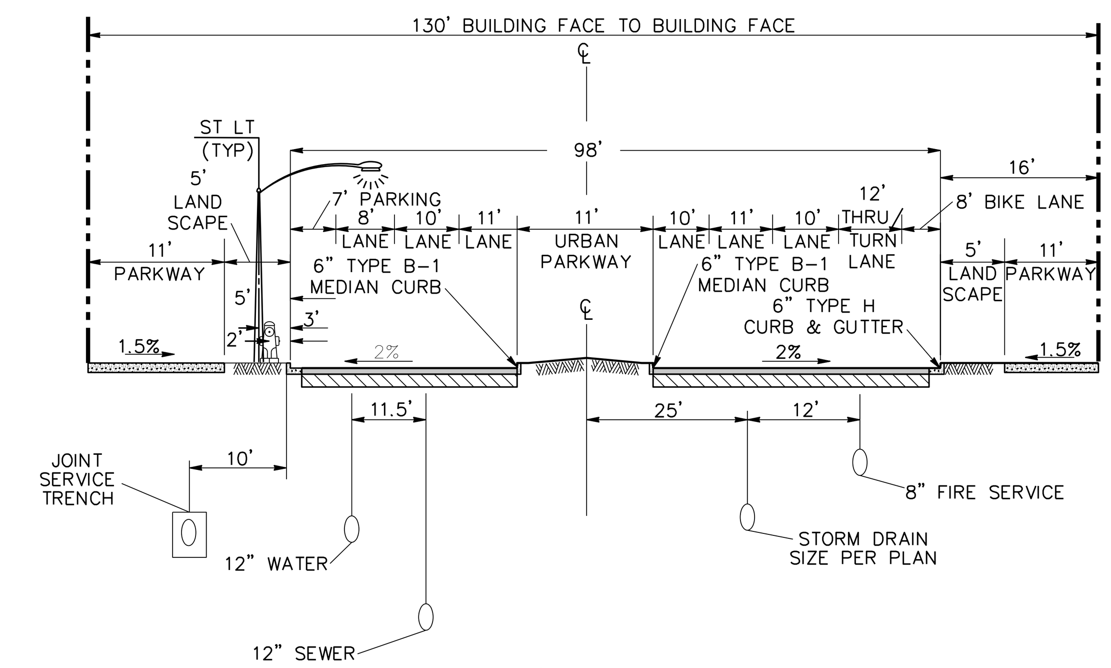
STADIUM WAY
(BETWEEN PROMENADE "2" AND TEMPORARY PARKING ENTRANCE)

MODIFIED 2-LANE COLLECTOR
WITH LEFT TURN LANE
DESIGN SPEED: 30 MPH
NOT TO SCALE



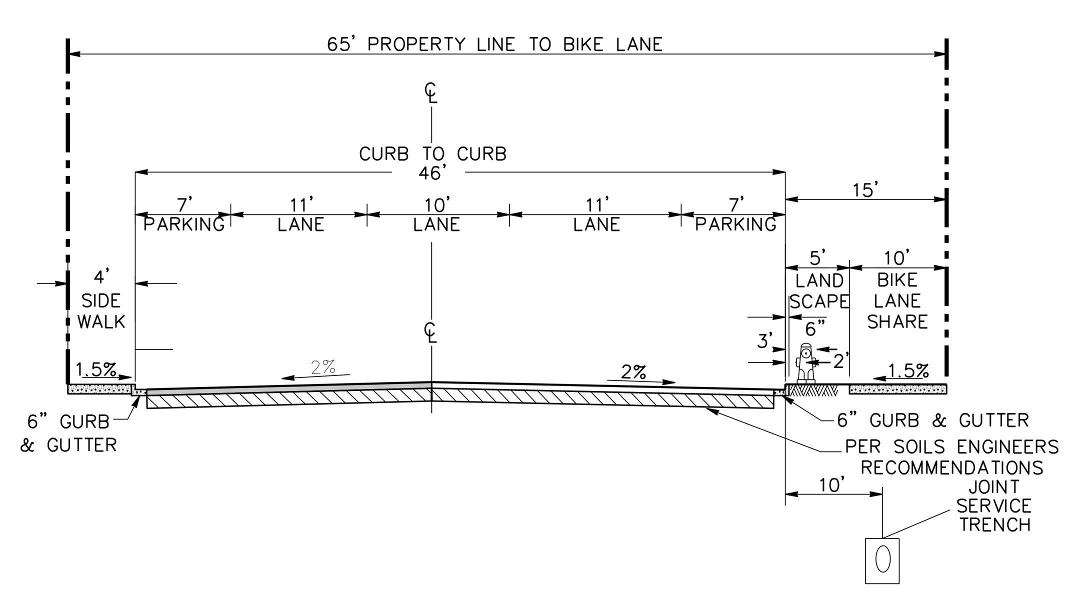
PROMENADE "1"

MODIFIED 2-LANE COLLECTOR
WITHOUT BIKE LANE
DESIGN SPEED: 25 MPH
NOT TO SCALE



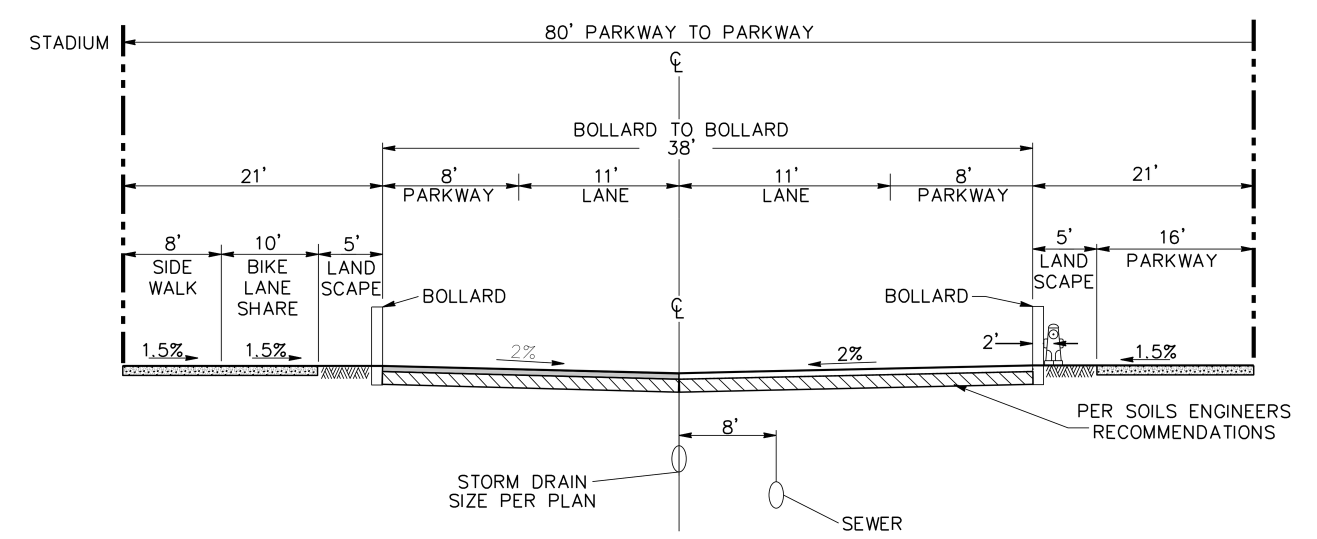
AZTEC DRIVE AT PROMENADE 1 INTERSECTION

MODIFIED 4-LANE URBAN MAJOR
WITH BIKE LANES
DESIGN SPEED: 25 MPH
NOT TO SCALE



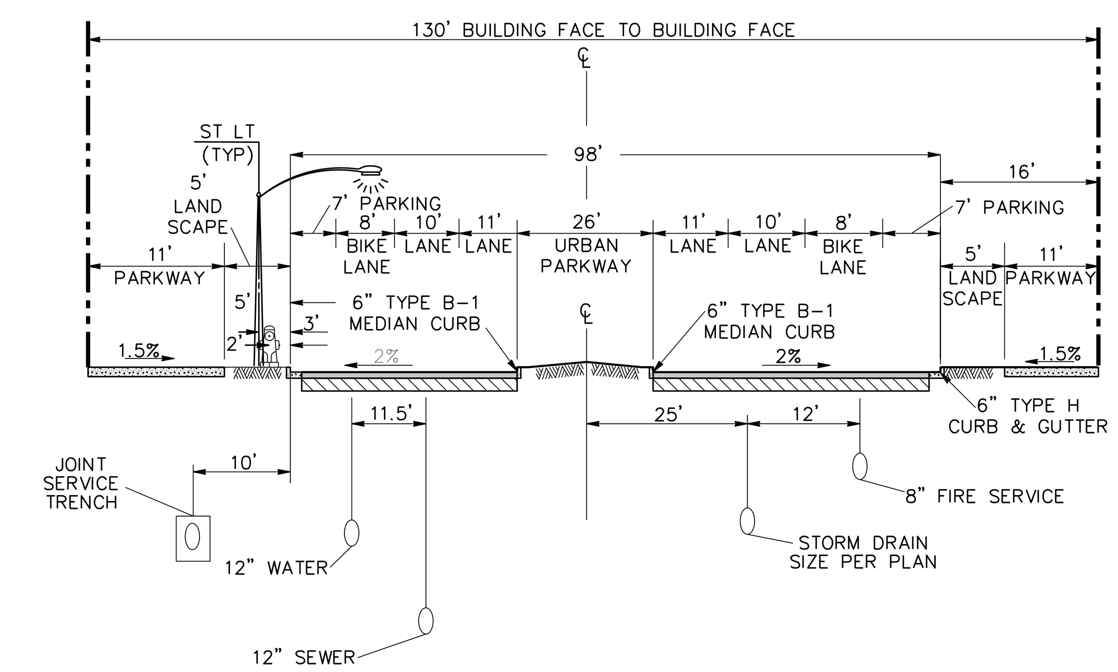
RIVER PARK ROAD/STADIUM WAY
(BETWEEN TEMPORARY PARKING AND RIVER PARK ROAD)

MODIFIED 2-LANE COLLECTOR
WITH TWO WAY LEFT TURN LANE
DESIGN SPEED: 25 MPH
NOT TO SCALE



CORYELL PASS

MODIFIED 2-LANE COLLECTOR
WITHOUT BIKE LANE
DESIGN SPEED: 25 MPH
NOT TO SCALE



AZTEC DRIVE

MODIFIED 4-LANE URBAN COLLECTOR
WITH LEFT TURN POCKETS
DESIGN SPEED: 25 MPH
NOT TO SCALE

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75% DD SITE DEVELOPMENT PACKAGE

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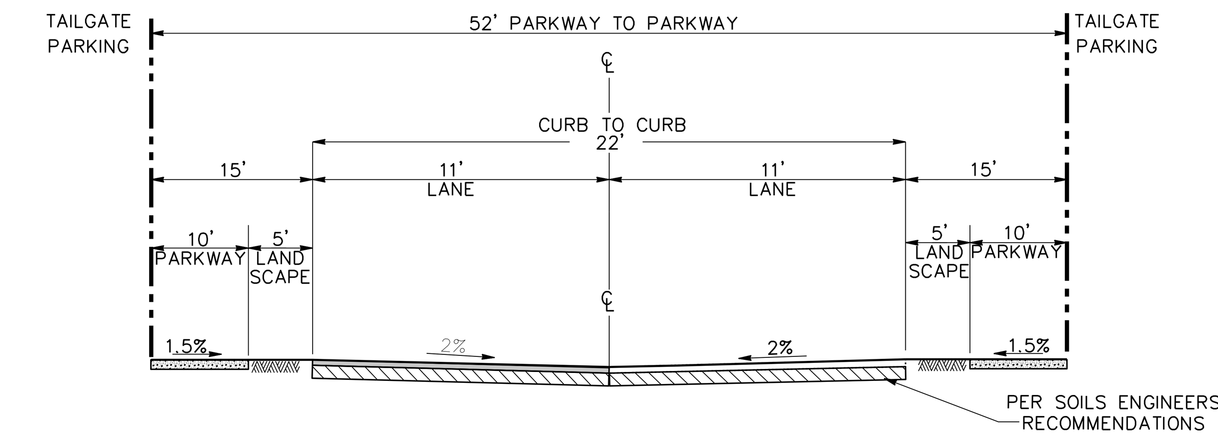
PH 1A/IB SECTIONS

DRAWING NO:
C-N3

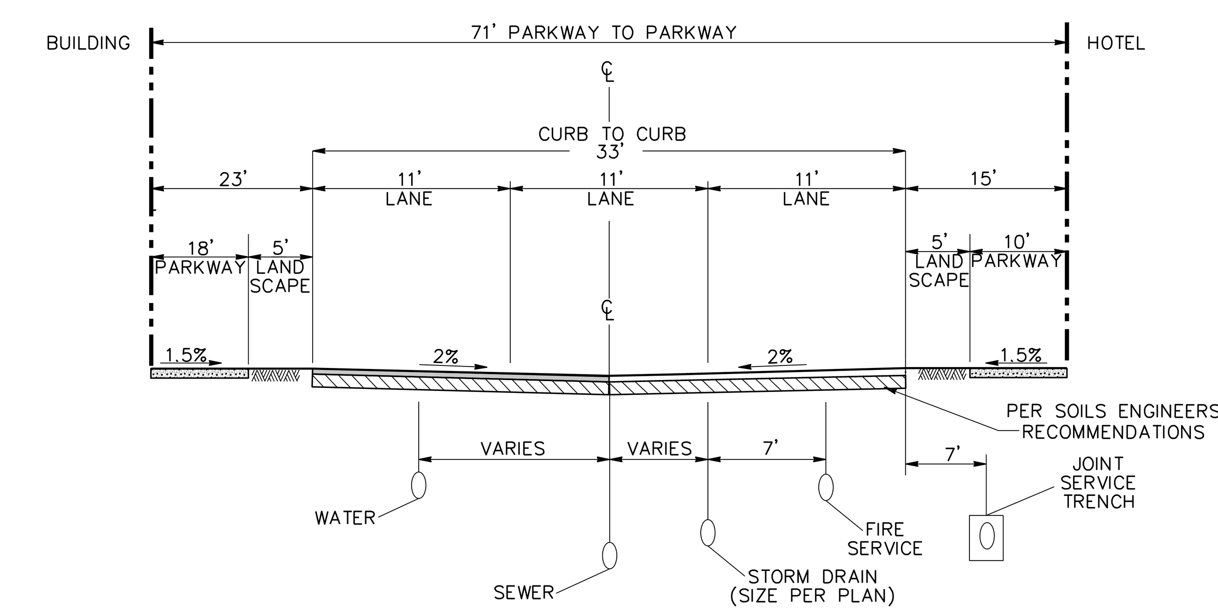
PHASE 1A/1B
(OPENING DAY TYPICAL STREET SECTIONS)

(SEE SHEET C-N5 FOR PHASE 4 STREET SECTIONS)



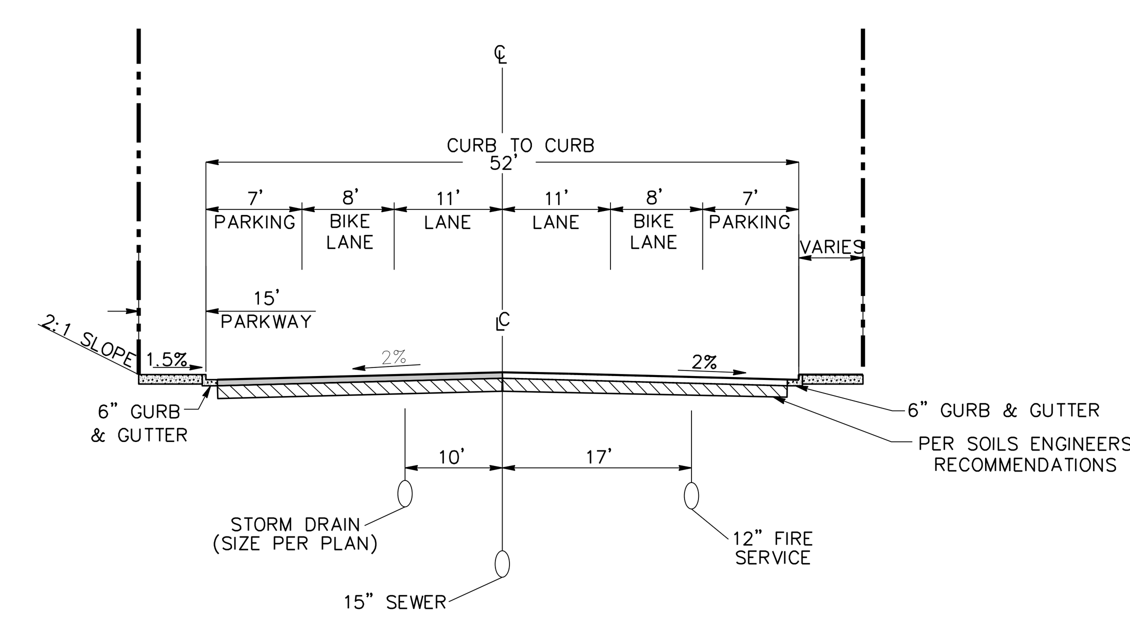
TAILGATE STREET

MODIFIED 2-LANE COLLECTOR
WITHOUT BIKE LANE
DESIGN SPEED: 25 MPH
NOT TO SCALE



PROMENADE 1
(BETWEEN CORYELL PASS AND AZTEC WAY)

MODIFIED 2-LANE COLLECTOR
WITHOUT BIKE LANE
DESIGN SPEED: 25 MPH
NOT TO SCALE



AZTEC WAY

MODIFIED 2-LANE COLLECTOR
WITH BIKE LANES
DESIGN SPEED: 25 MPH
NOT TO SCALE

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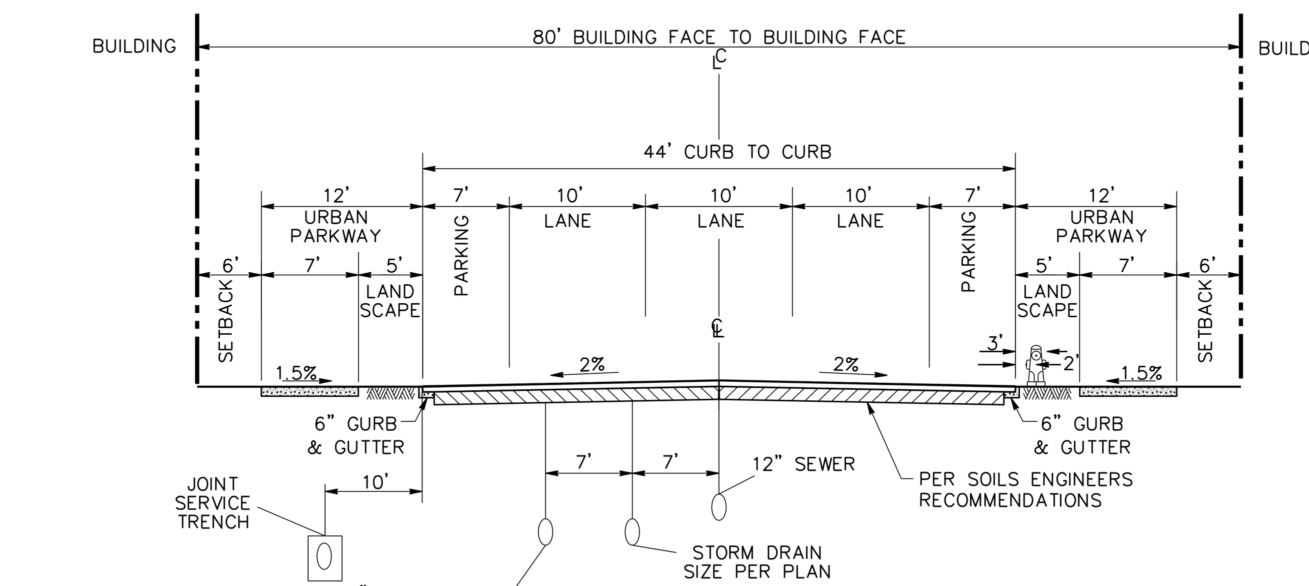
TITLE:

PH 1A/IB SECTIONS

4 OF 23
DRAWING NO:
C-N4

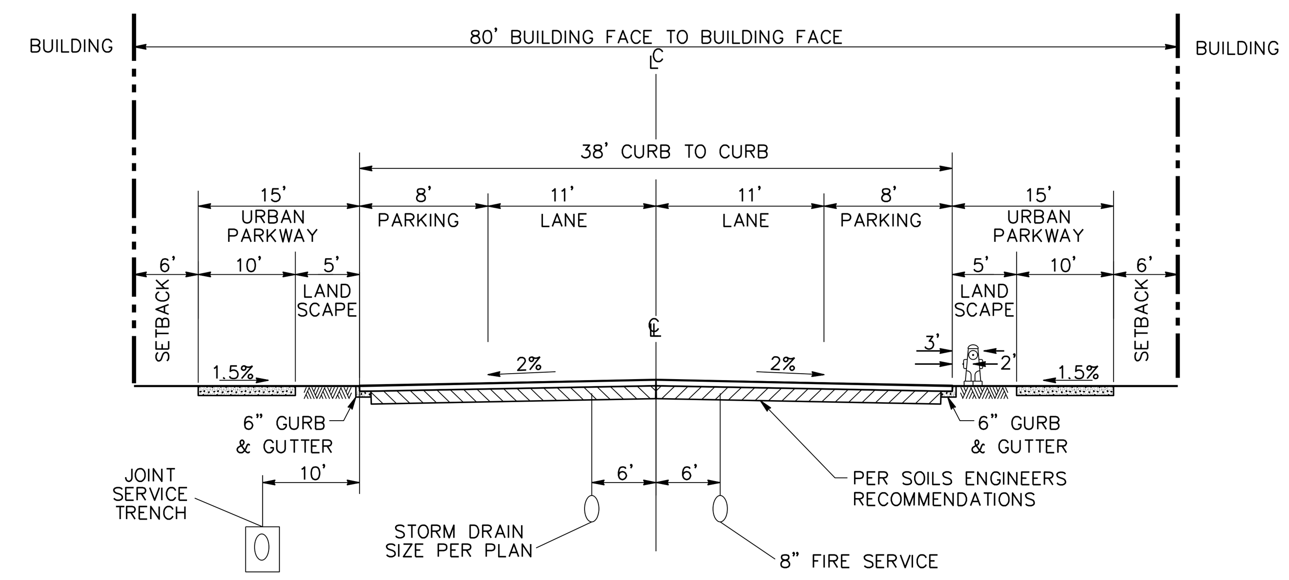
PHASE 4 STREET SECTIONS

(SEE SHEET CN-3 AND C-N4 FOR OPENING DAY SECTIONS)



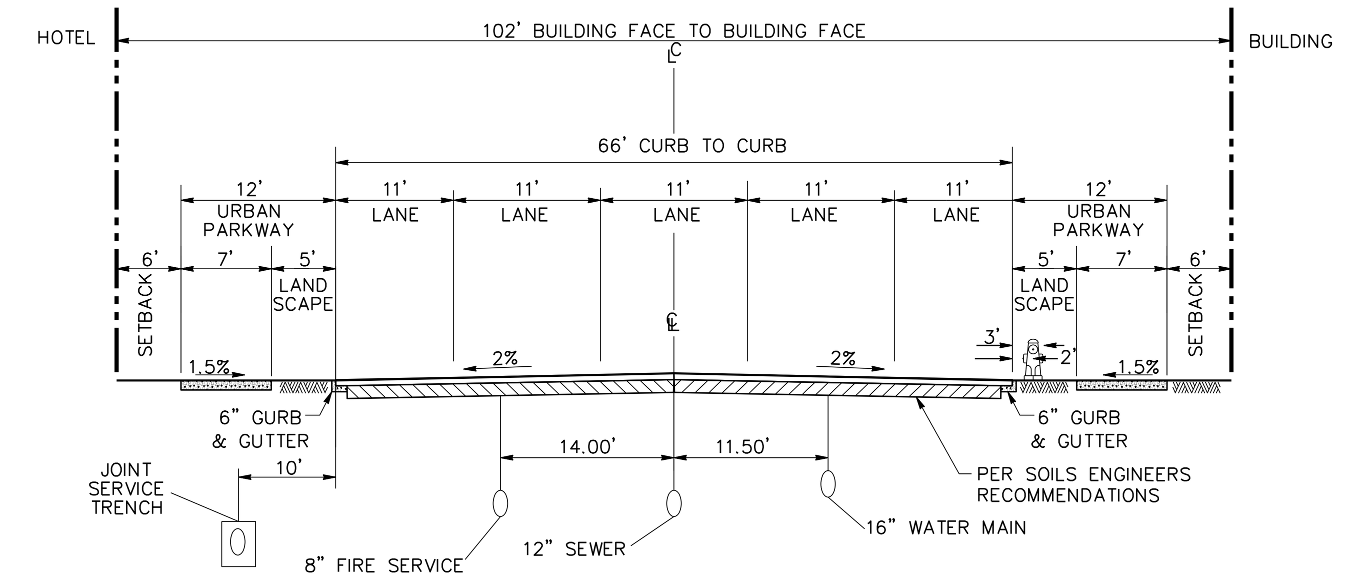
STREET A

MODIFIED 2- LANE COLLECTOR
WITHOUT BIKE LANES
DESIGN SPEED: 25 MPH
NOT TO SCALE



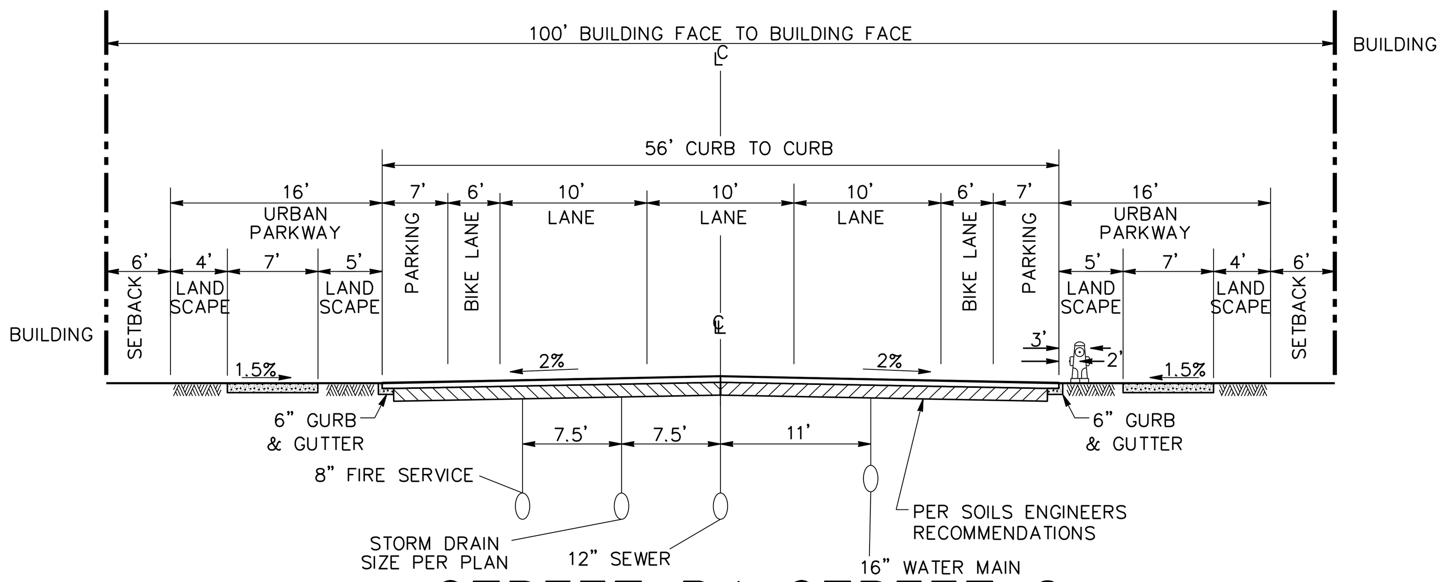
STREET C

MODIFIED 2-LANE COLLECTOR
WITHOUT BIKE LANE
DESIGN SPEED: 25 MPH
NOT TO SCALE



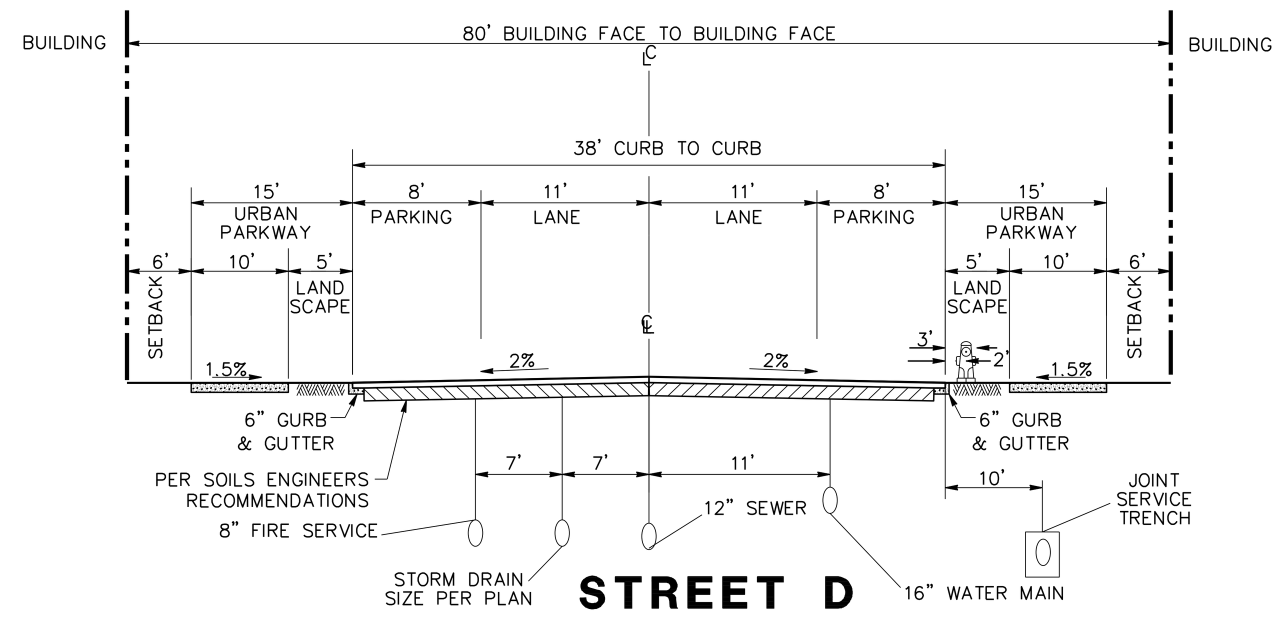
STREET 2 (BETWEEN AZTEC DRIVE AND STREET A)

MODIFIED 4-LANE MAJOR COLLECTOR
WITHOUT BIKE LANES
DESIGN SPEED: 25 MPH
NOT TO SCALE



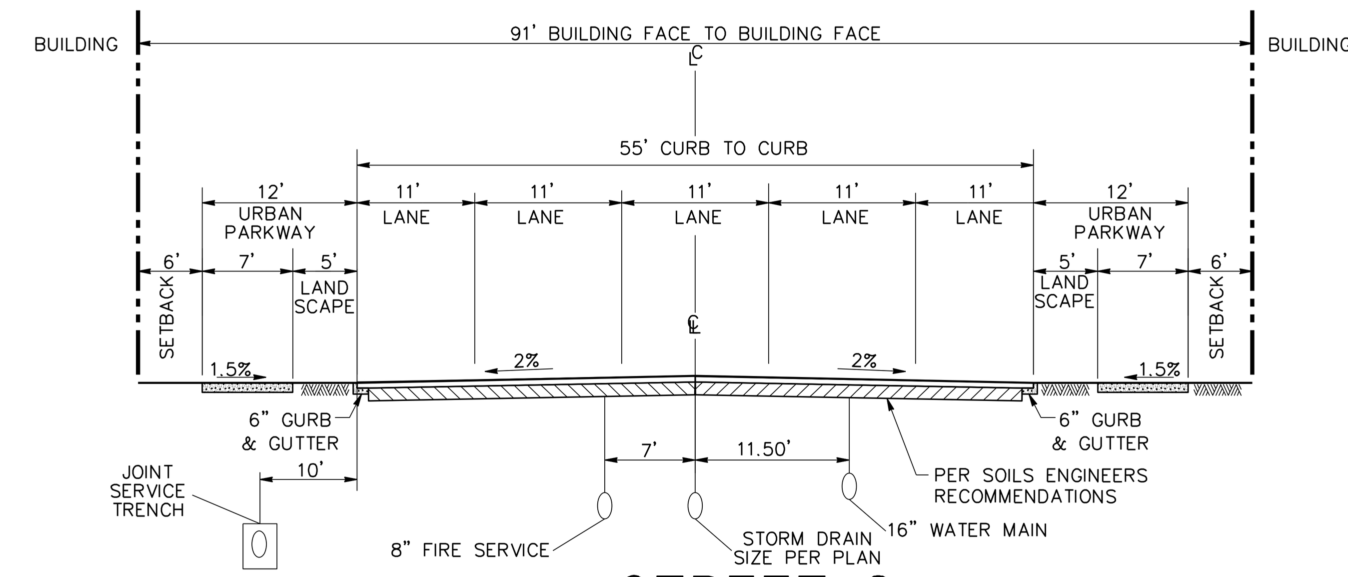
STREET B/ STREET 3 (BETWEEN STREET 4 AND STREET 2)

MODIFIED 2-LANE COLLECTOR
WITH LEFT TURN LANE AND BIKE LANES
DESIGN SPEED: 25 MPH
NOT TO SCALE



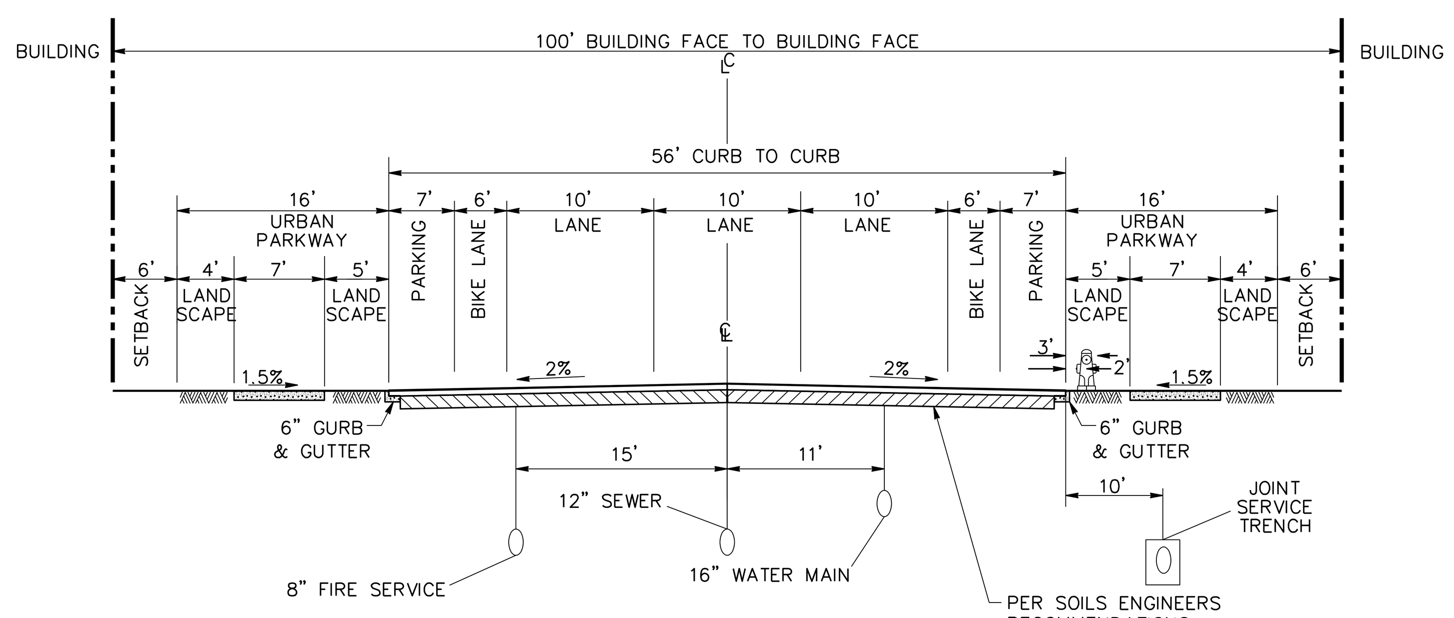
STREET D (BETWEEN MURPHY CREEK ROAD AND STREET B)

MODIFIED 2-LANE COLLECTOR
WITHOUT BIKE LANE
DESIGN SPEED: 25 MPH
NOT TO SCALE



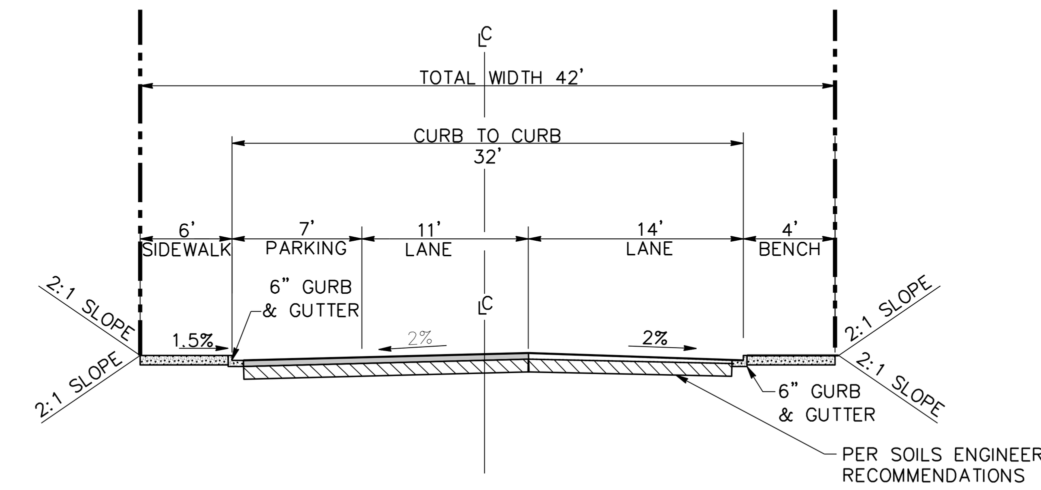
STREET 2 (BETWEEN STREET A AND STREET B)

MODIFIED 4-LANE MAJOR COLLECTOR
WITHOUT BIKE LANES
DESIGN SPEED: 25 MPH
NOT TO SCALE



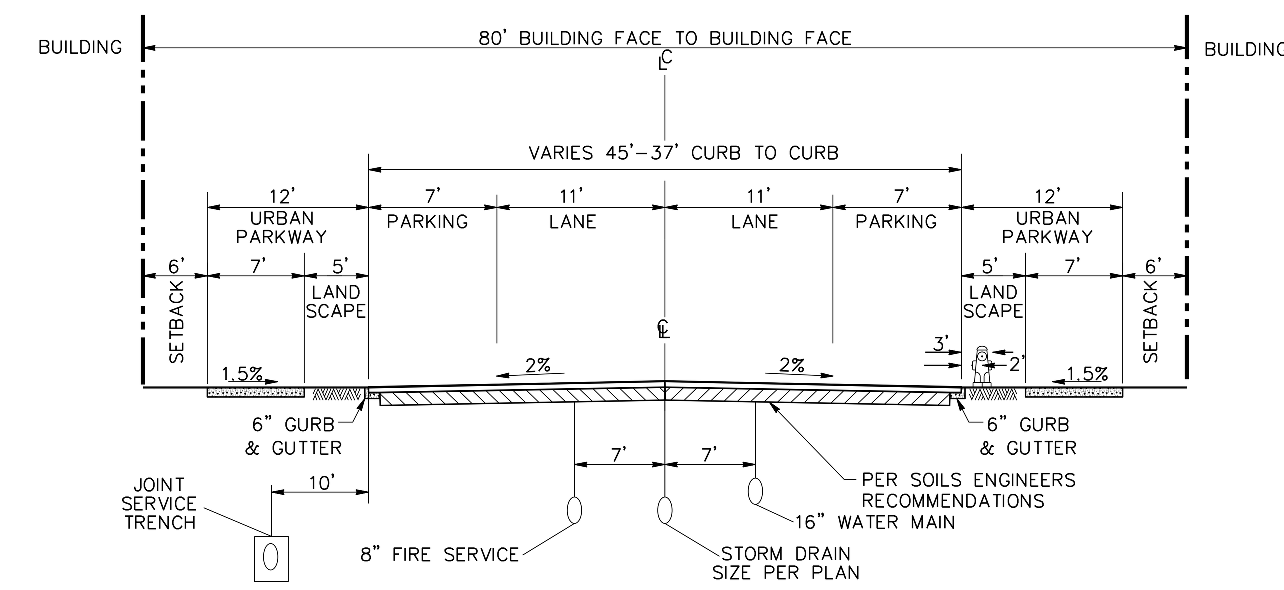
STREET B (BETWEEN STREET 2 AND MURPHY CREEK ROAD)

MODIFIED 4- LANE MAJOR COLLECTOR
WITHOUT BIKE LANES
DESIGN SPEED: 25 MPH
NOT TO SCALE



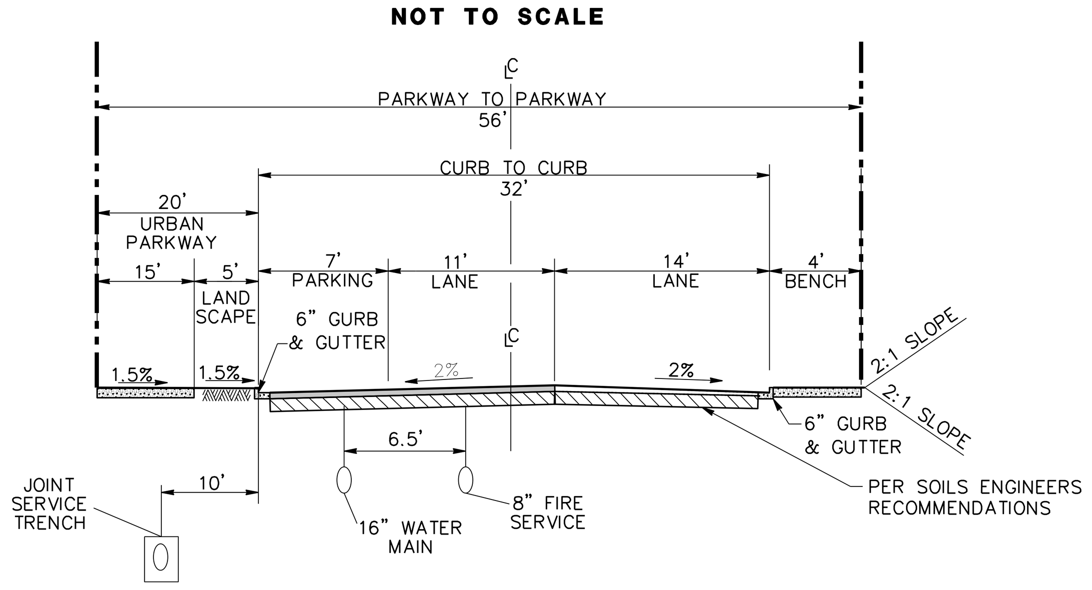
MURPHY CREEK ROAD

MODIFIED 2-LANE COLLECTOR
WITHOUT BIKE LANE
DESIGN SPEED: 25 MPH
NOT TO SCALE



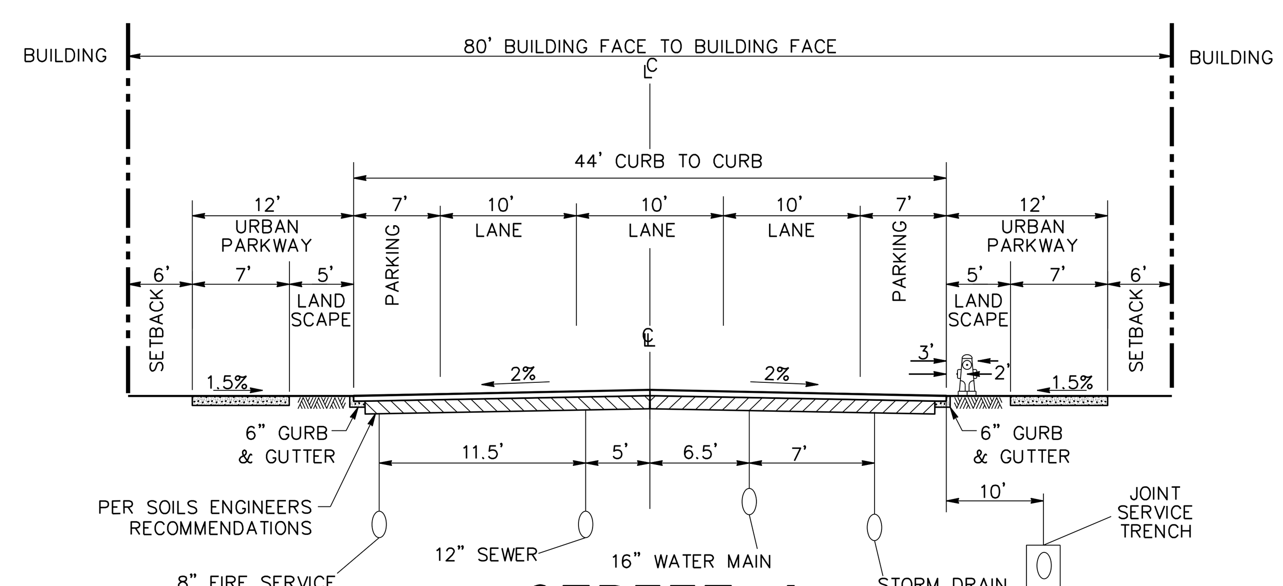
STREET 2 (BETWEEN STREET C AND STREET D)

MODIFIED 2-LANE COLLECTOR
WITHOUT BIKE LANES
DESIGN SPEED: 25 MPH
NOT TO SCALE



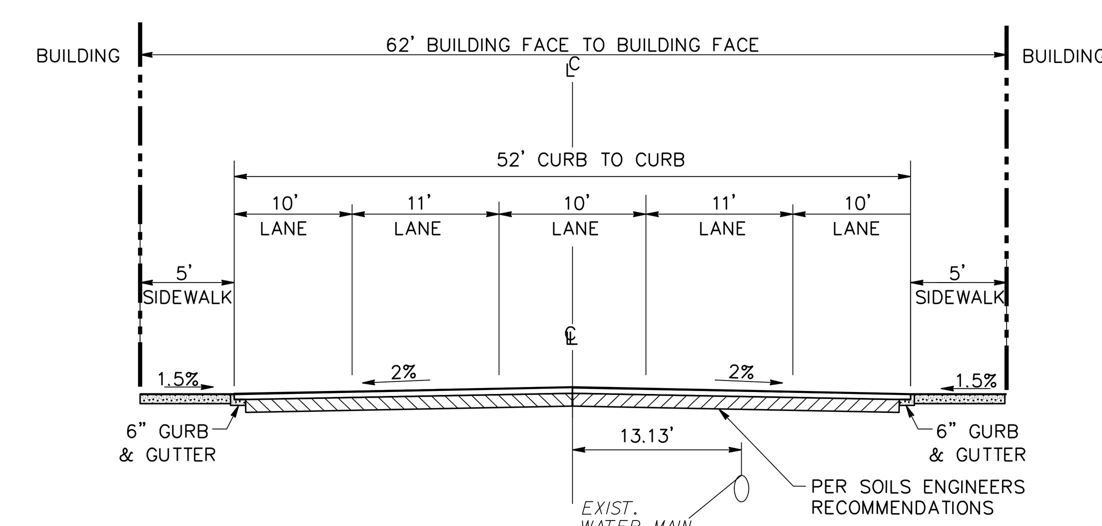
STREET 1

MODIFIED 2-LANE COLLECTOR
WITHOUT BIKE LANE
DESIGN SPEED: 25 MPH
NOT TO SCALE



STREET 4

MODIFIED 2-LANE COLLECTOR
WITH LEFT-TURN LANE WITHOUT BIKE LANES
DESIGN SPEED: 25 MPH
NOT TO SCALE



SAN DIEGO MISSION ROAD

MODIFIED 4-LANE MAJOR COLLECTOR
WITHOUT BIKE LANES
DESIGN SPEED: 25 MPH
NOT TO SCALE

GRAPHIC SCALE 1" = 60'

5620 FRIARS ROAD
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619-291-0707
(FAX) 619-291-4165
RICK ENGINEERING COMPANY

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SAN DIEGO STATE UNIVERSITY MISSION VALLEY

75% DD SITE DEVELOPMENT PACKAGE

ISSUED: 01/18/19-RFP
REV. 2/12/19

PROJECT NO:
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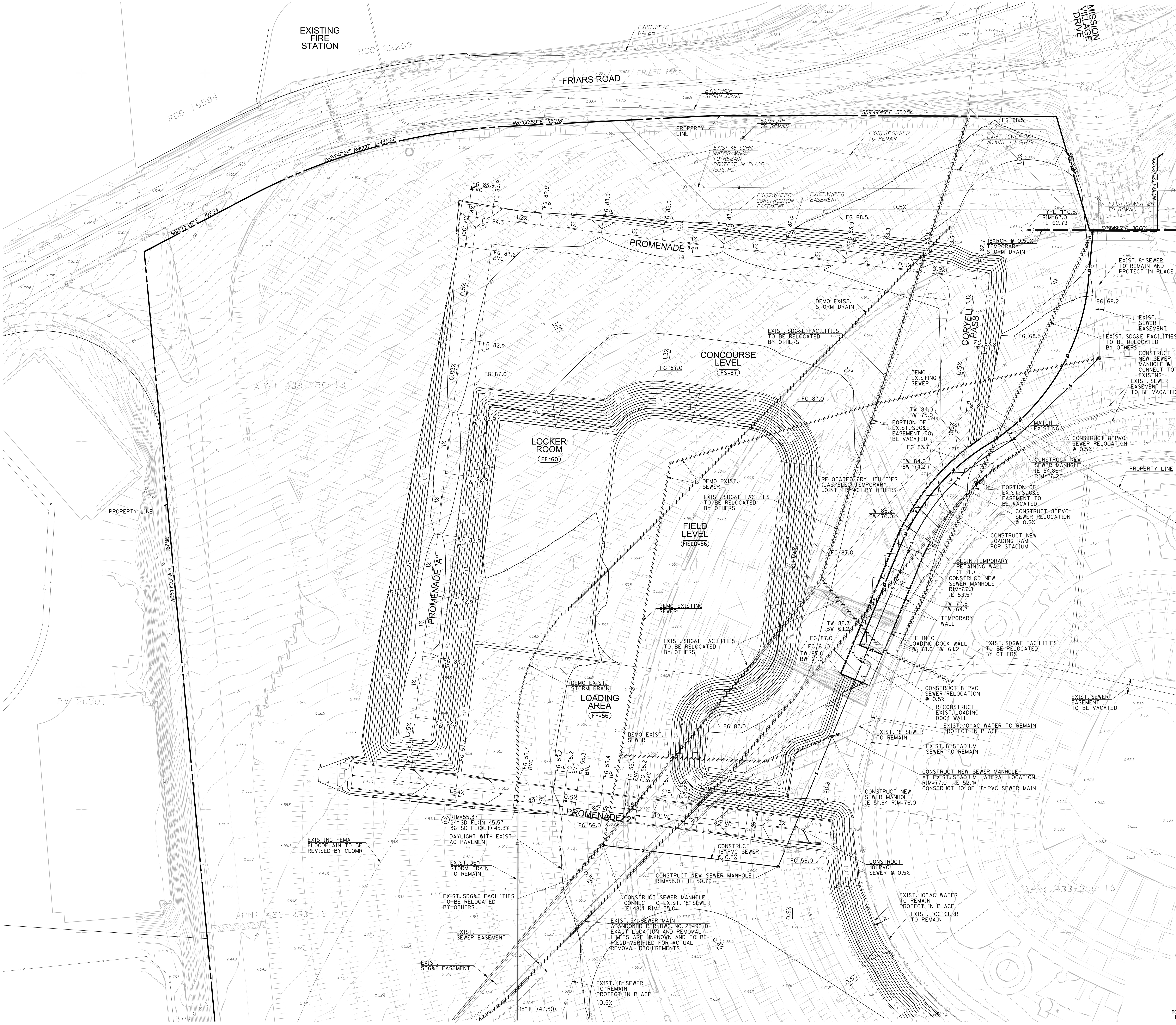
PH 4 SECTIONS

5 OF 23
DRAWING NO:

C-N5



IMPROVEMENT/UTILITY NOTES:

- ALL UTILITIES ARE PRELIMINARY AND SHALL BE VERIFIED IN FINAL ENGINEERING
- ALL STORM DRAIN IS 24"RCP UNLESS OTHERWISE NOTED
- ALL STORM DRAIN IS AT 0.5% UNLESS OTHERWISE NOTED
- ALL STORM DRAIN SHALL BE WATERTIGHT JOINTS
- ALL SEWER IS 12"PVC UNLESS OTHERWISE NOTED
- ALL SEWER IS AT 0.5% UNLESS OTHERWISE NOTED
- ALL SEWER HAVE A MINIMUM VELOCITY 2.0 fps AND CAPACITY FOR 12"-15"PVC PIPE IS LESS THAN 50% FULL
- ALL FIRE HYDRANTS TO BE LOCATED PER APPLICABLE FIRE STANDARDS
- ALL WATER AND FIRE FACILITIES TO INCORPORATE A.V., B.O., TEES AND THRUST BLOCKS AT FINAL DESIGN
- INSTALL ALL TRAFFIC SIGNAL CONDUITS FOR FUTURE TRAFFIC SIGNAL IN THAT PHASE
- ALL FIRE SERVICE LINES ARE 12"UNLESS SHOWN OTHERWISE
- ALL WATER LINES ARE 12"UNLESS SHOWN OTHERWISE
- JOINT TRENCH IN TUNNEL WILL ONLY CONTAIN ELECTRICAL, TELEPHONE AND TV. NO GAS.
- PROPOSED WATER MAIN/FIRE SERVICE WILL NEED TO DIP UNDER PROPOSED UTILITY AT THIS LOCATION

NOTE:

1. CONTRACTOR TO REMOVE ALL EXISTING PAVING WITHIN GRADING AND IMPROVEMENT AREAS AND RECYCLE ON-SITE.

2. ALL EXISTING UTILITIES SHOWN ARE APPROXIMATE AND PLOTTED PER AS-BUILT DRAWINGS. POTHOLING AND FIELD SURVEY REQUIRED TO LOCATE ALL FACILITIES HORIZONTALLY AND VERTICALLY.

3. ALL STADIUM RELATED ON-SITE DRY UTILITIES, LIGHTING AND IRRIGATION WITHIN PARKING LOTS ARE NOT SHOWN AND TO BE IDENTIFIED REMOVED OR RELOCATED AS NEEDED BY CONTRACTOR.

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5. EXISTING 100 YEAR FEMA FLOODPLAIN REVISIONS PER CLOMR IS TO BE DONE BY OTHERS.

6. ALL EXISTING MANHOLES, CLEANOUTS, DRY UTILITY BOXES THAT ARE TO REMAIN WILL NEED TO BE ADJUSTED TO GRADE WHERE APPLICABLE.

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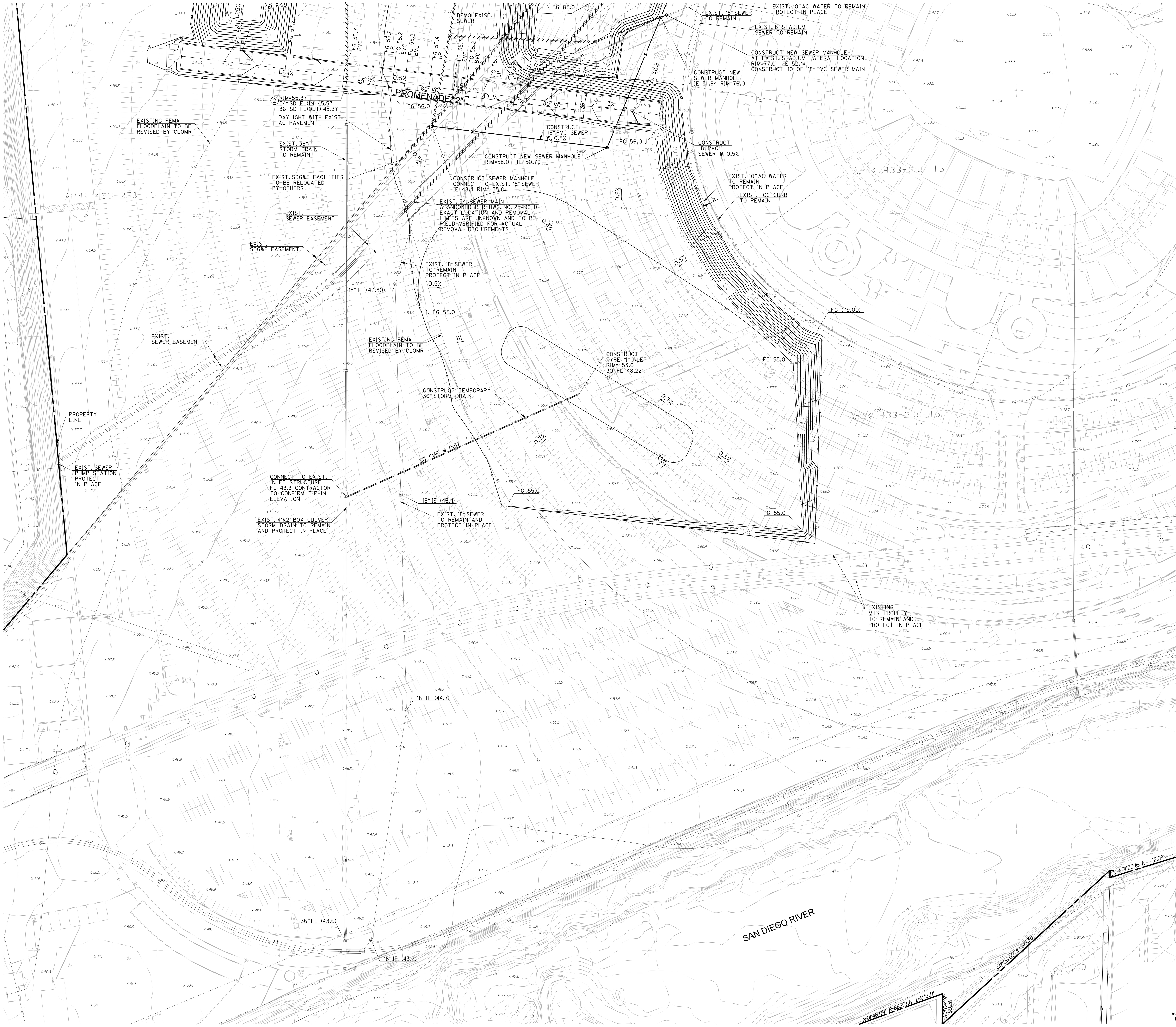
PHASE 1A GRADING & UTILITIES

DRAWING NO:

C-1.1



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PHASE 1A GRADING & UTILITIES

7 OF 23
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C-1.2

EROSION CONTROL LEGEND

	PADS (TACKFIER)
	SLOPES (BONDED FIBER MATRIX OR EQUIVALENT)

NOTES

CONTRACTOR TO PROVIDE EROSION CONTROL MEASURES AS INDICATED ON CONTRACTOR PREPARED SWPPP; IE, SILT FENCING, GRAVEL BAG CHECK DAMS, FIBER ROLL, INLET PROTECTION, CONSTRUCTION ENTRANCE AND WASHOUT STATIONS.

CONTRACTOR TO INSTALL TEMPORARY STORM DRAIN AS INDICATED HEREON TO PROPOSED SEDIMENT BASINS/TRAPS. ALL TEMPORARY STORM DRAIN TO BE REMOVED AS NEEDED AS CONSTRUCTION PROGRESSES.

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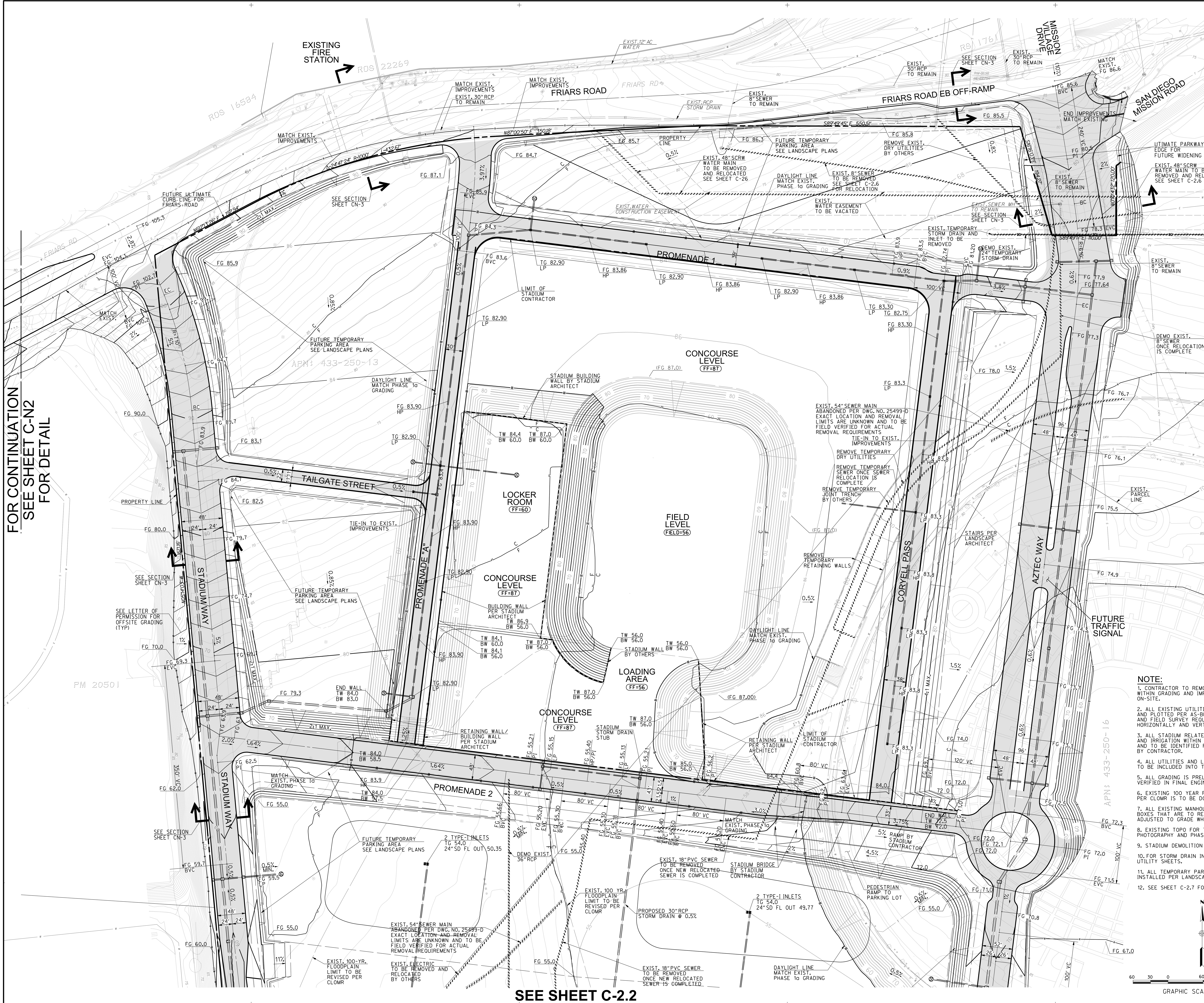
PHASE 1A EROSION CONTROL

8 OF 23

DRAWING NO:

C-1.3



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8. EXISTING TOPO FOR THIS PHASE INCLUDES AERIAL PHOTOGRAPHY AND PHASE 1a GRADING.
9. STADIUM DEMOLITION BY OTHERS.
10. FOR STORM DRAIN INFORMATION SEE PHASE 1b UTILITY SHEETS.
11. ALL TEMPORARY PARK AREAS TO HAVE GRAVEL OR AC INSTALLED PER LANDSCAPE PLANS.
12. SEE SHEET C-2.7 FOR UTILITIES IN THIS AREA.

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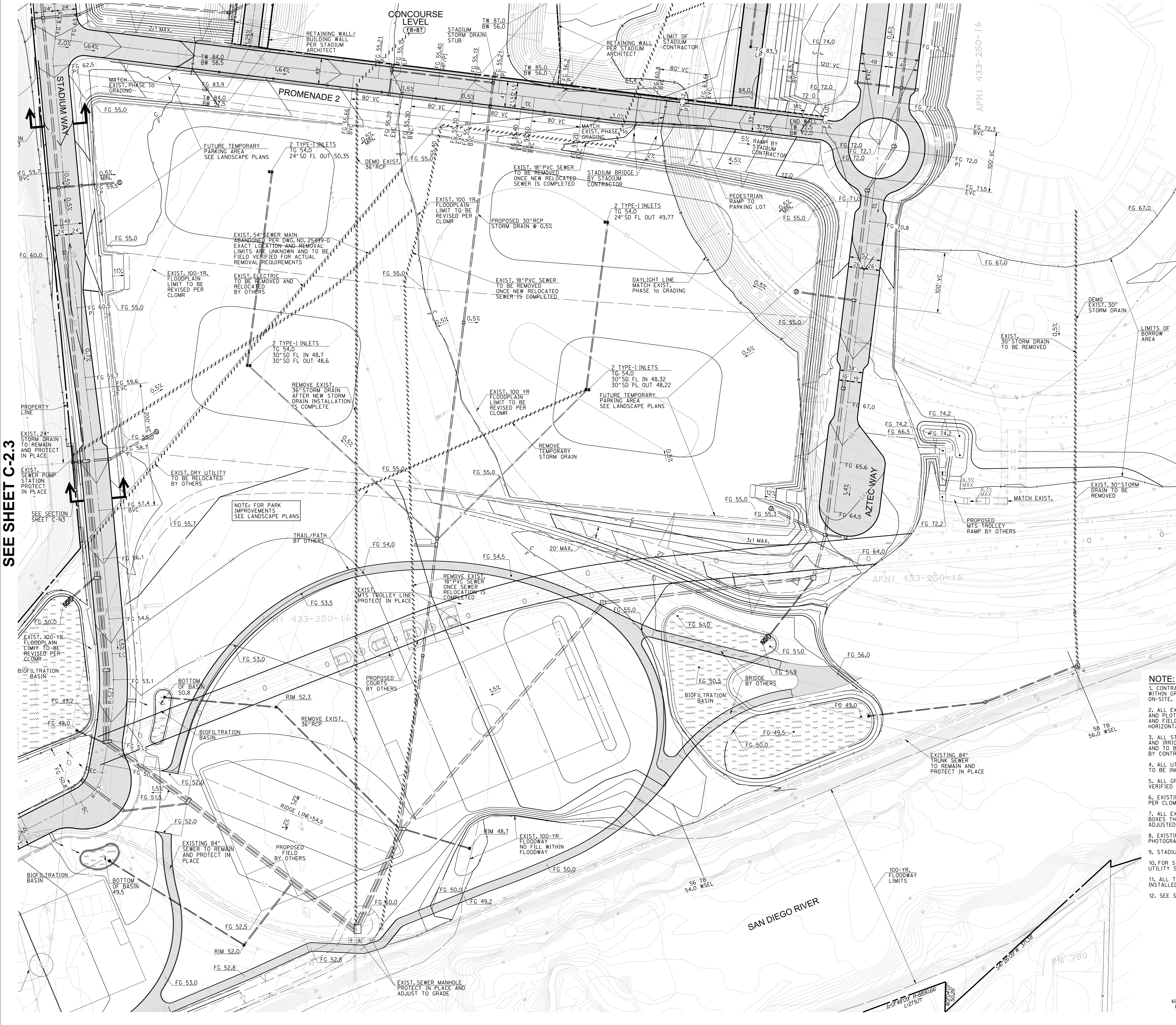
PHASE 1B GRADING

SEE SHEET C-2.1



SEE SHEET C-2.3

SEE SHEET C-2.5

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9. STADIUM DEMOLITION BY OTHERS.

10. FOR STORM DRAIN INFORMATION SEE PHASE 1b UTILITY SHEETS.

11. ALL TEMPORARY PARK AREAS TO HAVE GRAVEL OR AC INSTALLED PER LANDSCAPE PLANS.

12. SEE SHEET C-2.8 FOR UTILITIES IN THIS AREA.

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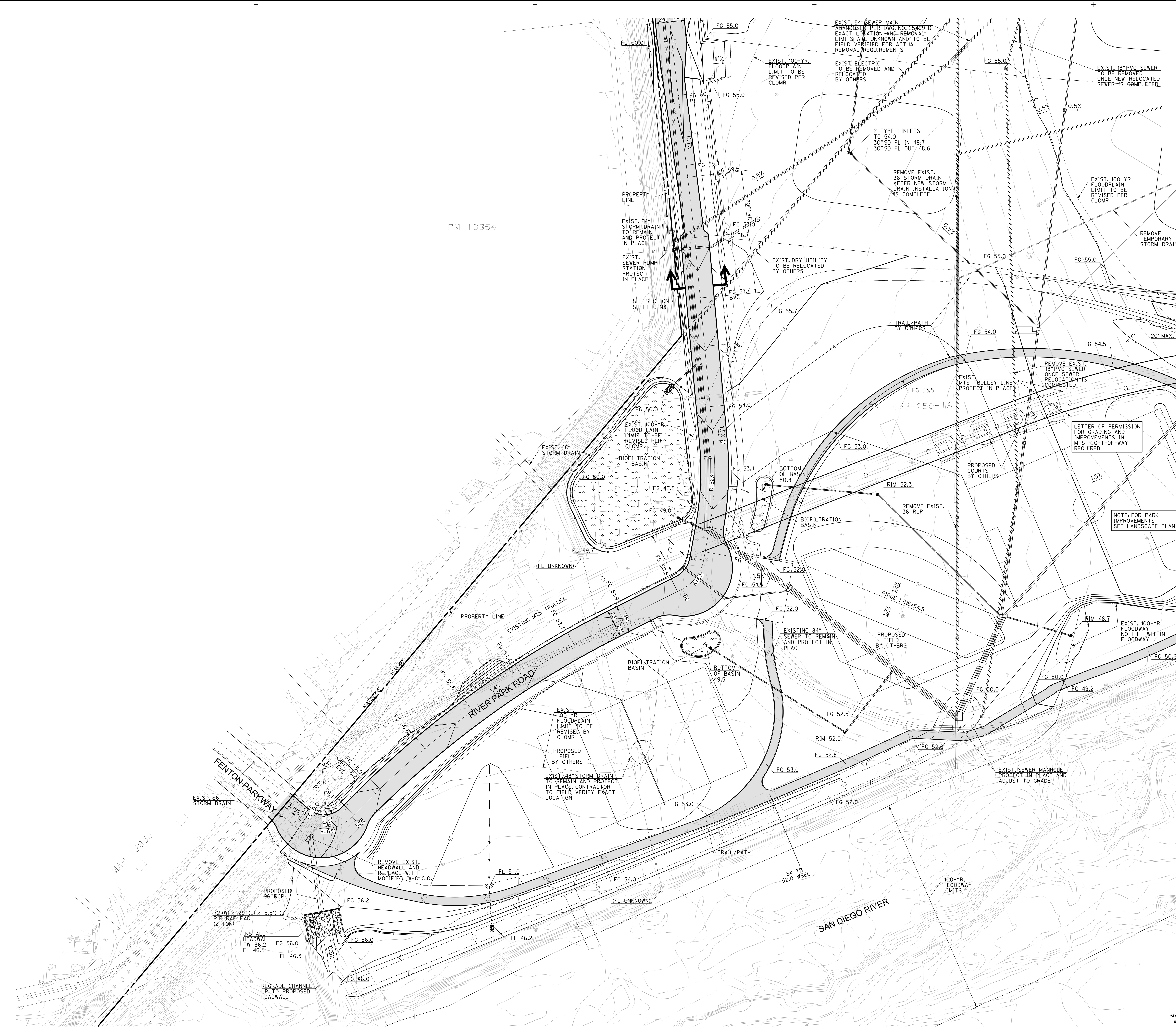
PHASE 1B GRADING

DRAWING NO:

C-2.2



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10. FOR STORM DRAIN INFORMATION SEE PHASE 1b UTILITY SHEETS.
11. ALL TEMPORARY PARK AREAS TO HAVE GRAVEL OR AC INSTALLED PER LANDSCAPE PLANS.
12. SEE SHEET C-2.9 FOR UTILITIES IN THIS AREA.

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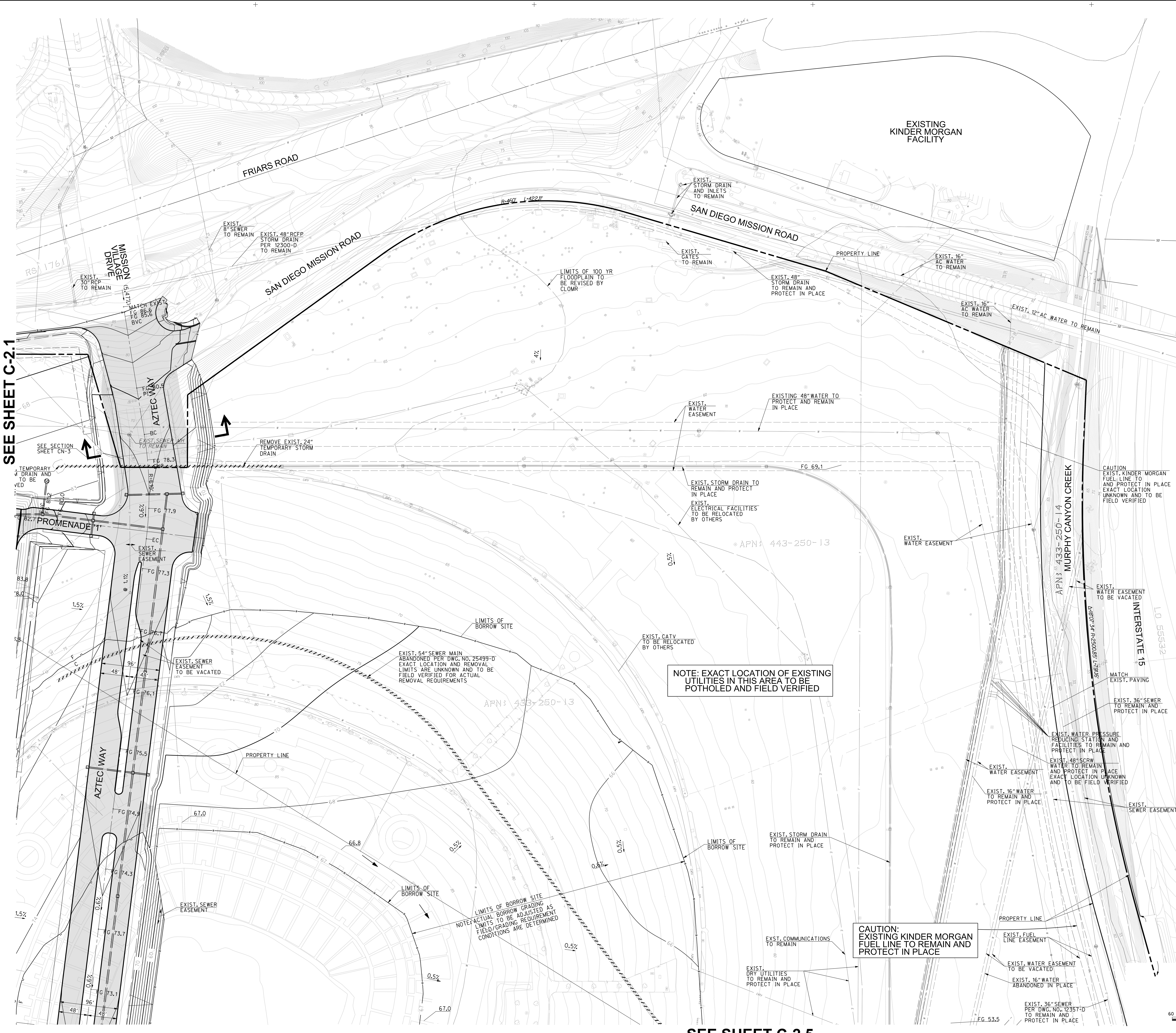
PHASE 1B GRADING

DRAWING NO:

C-2.3



SEE SHEET C-2.1

SEE SHEET C-2.5

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9. STADIUM DEMOLITION BY OTHERS.

10. FOR STORM DRAIN INFORMATION SEE PHASE 1b UTILITY SHEETS.

11. ALL TEMPORARY PARK AREAS TO HAVE GRAVEL OR AC INSTALLED PER LANDSCAPE PLANS.

GRAPHIC SCALE 1" = 60'

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PHASE 1B GRADING

12 OF 23
DRAWING NO:
C-2.4

SEE SHEET C-2.4

SEE SHEET C-2.2

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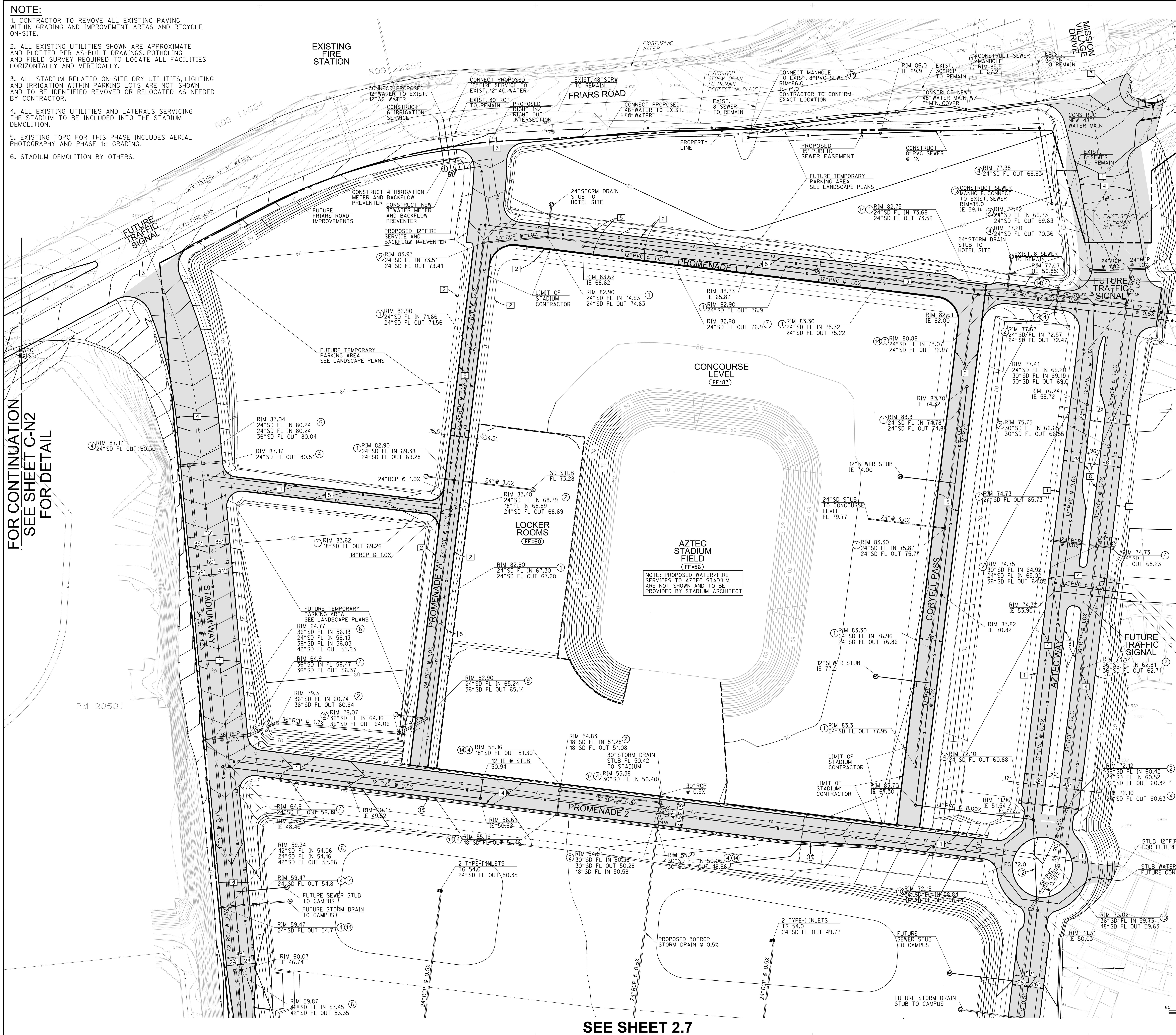

UTILITY CONSTRUCTION NOTES

1. CONSTRUCT TYPE - I INLET
2. CONSTRUCT A-4 CLEANOUT
3. CONSTRUCT MOD. A-5 CLEANOUT
4. CONSTRUCT TYPE - B CURB INLET
5. CONSTRUCT SWALE PER DETAIL SHEET 3
6. CONSTRUCT A-5 CLEANOUT
7. CONSTRUCT MOD. A-8 CLEANOUT (Y=7)
8. CONSTRUCT A-6 CLEANOUT
9. CONSTRUCT A-8 CLEANOUT WITH GRATED TOP
10. CONSTRUCT A-7 CLEANOUT
12. STEEL CASING PER SEWER MAIN
13. JOINT TRENCH IN TUNNEL WILL ONLY CONTAIN ELECTRICAL, TELEPHONE AND TV. NO GAS.
14. PROPOSED WATER MAIN/FIRE SERVICE WILL NEED TO DIP UNDER PROPOSED UTILITY AT THIS LOCATION

IMPROVEMENT CONSTRUCTION NOTES

[1] INSTALL 6" CURB AND GUTTER
[2] INSTALL 0" CURB
[3] MATCH EXISTING IMPROVEMENTS
[4] INSTALL SCHEDULE PAVEMENT
[5] INSTALL CONCRETE ASPHALT
[6] LANDSCAPE PATH PER LANDSCAPE PLANS
[7] PLAY AREA BY OTHERS
[8] RAISED MEDIAN W/MEDIAN CURB

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- ALL SEWER IS 12" PVC UNLESS OTHERWISE NOTED
- ALL SEWER IS AT 0.5% UNLESS OTHERWISE NOTED
- ALL SEWER HAVE A MINIMUM VELOCITY 2.0 fps AND CAPACITY FOR 12"-15" PVC PIPE IS LESS THAN 50% FULL
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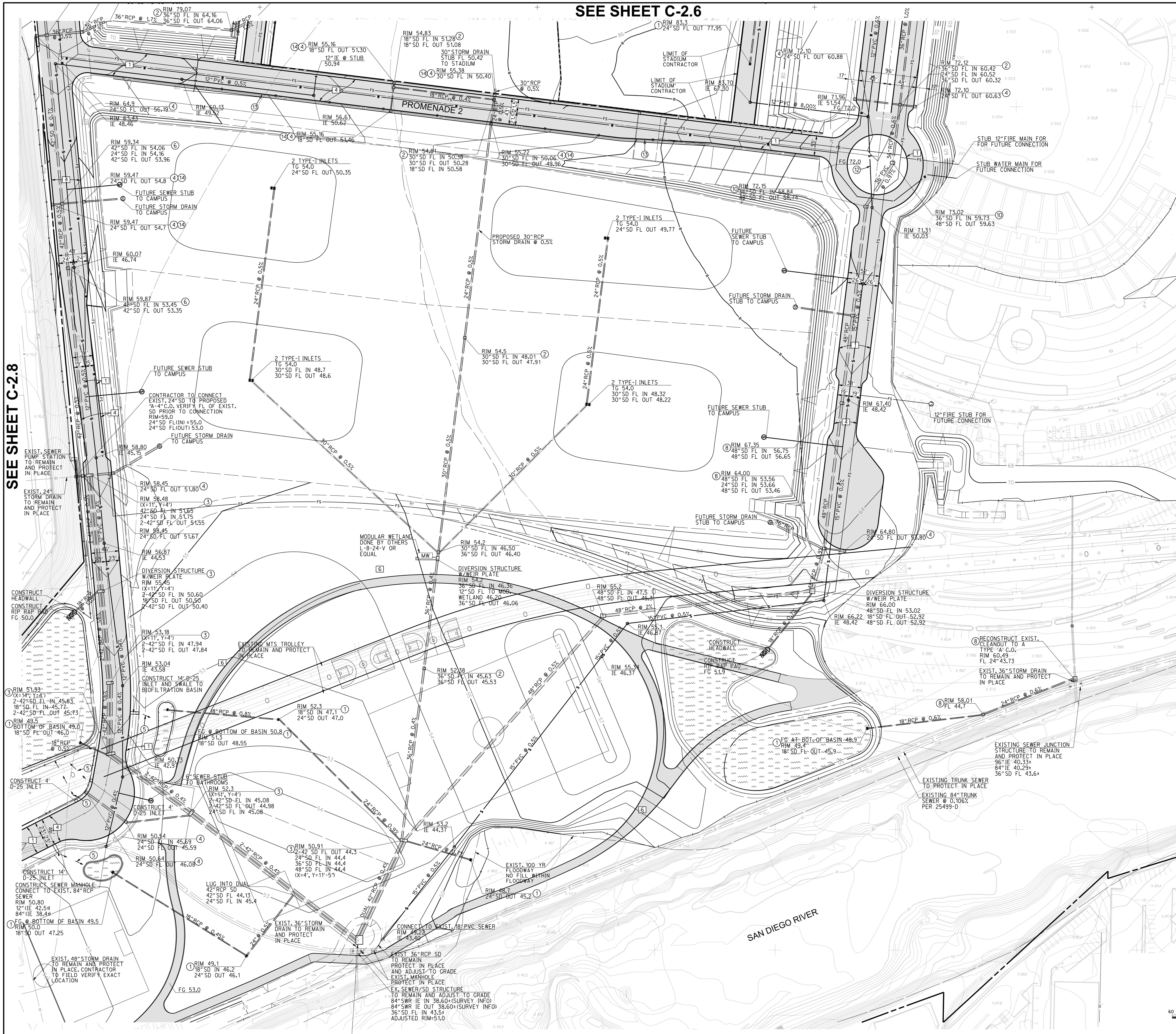
PHASE 1B UTILITIES

14 OF 23
DRAWING NO:

C-2.6



UTILITY CONSTRUCTION NOTES

1. CONSTRUCT TYPE - I INLET
2. CONSTRUCT A-4 CLEANOUT
3. CONSTRUCT MOD. CLEANOUT
4. CONSTRUCT TYPE - B CURB INLET
5. CONSTRUCT SWALE PER DETAIL SHEET 3
6. CONSTRUCT A-5 CLEANOUT
7. CONSTRUCT MOD. A-8 CLEANOUT (Y=7)
8. CONSTRUCT A-6 CLEANOUT
9. CONSTRUCT A-8 CLEANOUT WITH GRATED TOP
10. CONSTRUCT A-7 CLEANOUT
13. JOINT TRENCH IN TUNNEL WILL ONLY CONTAIN ELECTRICAL, TELEPHONE AND TV. NO GAS.
14. PROPOSED WATER MAIN/FIRE SERVICE WILL NEED TO DIP UNDER PROPOSED UTILITY AT THIS LOCATION

IMPROVEMENT CONSTRUCTION NOTES

1. INSTALL 6" CURB AND GUTTER
2. INSTALL 0" CURB
3. MATCH EXISTING
4. INSTALL SCHEDULE PAVEMENT
5. INSTALL CONCRETE ASPHALT
6. LANDSCAPE PATH PER LANDSCAPE PLANS
7. PLAY AREA BY OTHERS
8. RAISED MEDIAN W/MEDIAN CURB

IMPROVEMENT/UTILITY NOTES:

- ALL UTILITIES ARE PRELIMINARY AND SHALL BE VERIFIED IN FINAL ENGINEERING
- ALL STORM DRAIN IS 24" RCP UNLESS OTHERWISE NOTED
- ALL STORM DRAIN IS AT 0.5% UNLESS OTHERWISE NOTED
- ALL STORM DRAIN SHALL BE WATERTIGHT JOINTS
- ALL SEWER IS 12" PVC UNLESS OTHERWISE NOTED
- ALL SEWER IS AT 0.5% UNLESS OTHERWISE NOTED
- ALL SEWER HAVE A MINIMUM VELOCITY 2.0 fps AND CAPACITY FOR 12"-15" PVC PIPE IS LESS THAN 50% FULL
- ALL FIRE HYDRANTS TO BE LOCATED PER APPLICABLE FIRE STANDARDS
- ALL WATER AND FIRE FACILITIES TO INCORPORATE A.V., B.O., TEES AND THRUST BLOCKS AT FINAL DESIGN
- INSTALL ALL TRAFFIC SIGNAL CONDUITS FOR FUTURE TRAFFIC SIGNAL IN THAT PHASE
- ALL FIRE SERVICE LINES ARE 12" UNLESS SHOWN OTHERWISE
- ALL WATER LINES ARE 12" UNLESS SHOWN OTHERWISE

RICK ENGINEERING COMPANY
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SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165

SAN DIEGO STATE UNIVERSITY

SAN DIEGO STATE UNIVERSITY MISSION VALLEY

75% DD SITE DEVELOPMENT PACKAGE

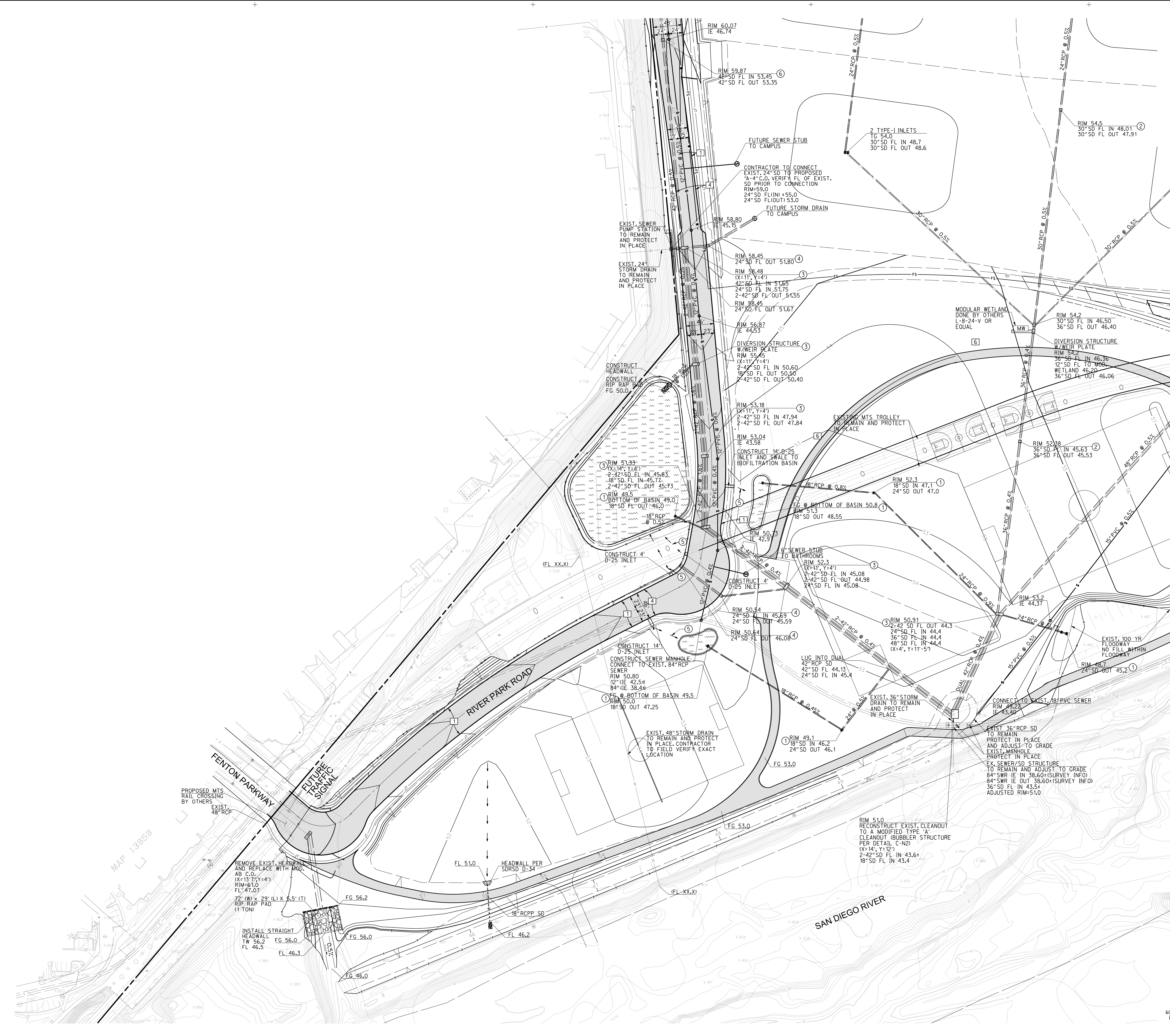
ISSUED: 01/18/19-RFP
REV. 2/12/19

PROJECT NO:
FILENAME:
DRAWN BY: CHECKED BY:
PLOT DATE:
TITLE:

PHASE 1B UTILITIES

DRAWING NO:

C-2.7



UTILITY CONSTRUCTION NOTES

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IMPROVEMENT CONSTRUCTION NOTES

1. INSTALL 6" CURB AND GUTTER
2. INSTALL 0" CURB
3. INSTALL STREET LIGHTS
4. INSTALL SCHEDULE PAVEMENT
5. INSTALL CONCRETE ASPHALT
6. LANDSCAPE PATH PER LANDSCAPE PLANS
7. PLAY AREA BY OTHERS
8. RAISED MEDIAN W/MEDIAN CURB

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- ALL WATER LINES ARE 12" UNLESS SHOWN OTHERWISE

60 30 0 60 120 180
GRAPHIC SCALE 1" = 60'

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TITLE:

PHASE 1B UTILITIES

16 OF 23
DRAWING NO:

C-2.8

EROSION CONTROL LEGEND

	PADS (TACKFIER)
	SLOPES (BONDED FIBER MATRIX OR EQUIVALENT)

NOTES

CONTRACTOR TO PROVIDE EROSION CONTROL MEASURES AS INDICATED ON CONTRACTOR PREPARED SWPPP; IE, SILT FENCING, GRAVEL BAG CHECK DAMS, FIBER ROLL, INLET PROTECTION, CONSTRUCTION ENTRANCE AND WASHOUT STATIONS.

CONTRACTOR TO INSTALL TEMPORARY STORM DRAIN AS INDICATED HEREON TO PROPOSED SEDIMENT BASINS/TRAPS. ALL TEMPORARY STORM DRAIN TO BE REMOVED AS NEEDED AS CONSTRUCTION PROGRESSES.

120 60 0 120 240 360

GRAPHIC SCALE 1"= 120'

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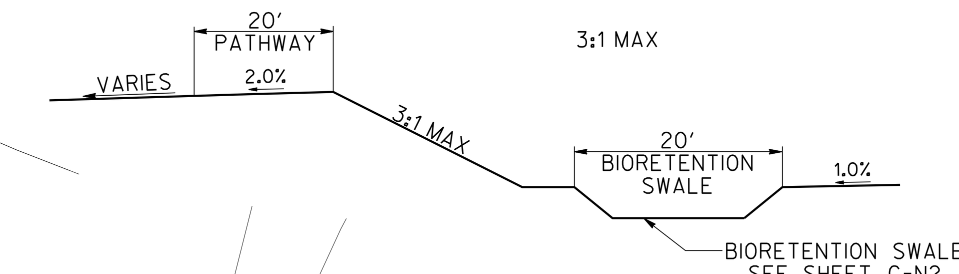
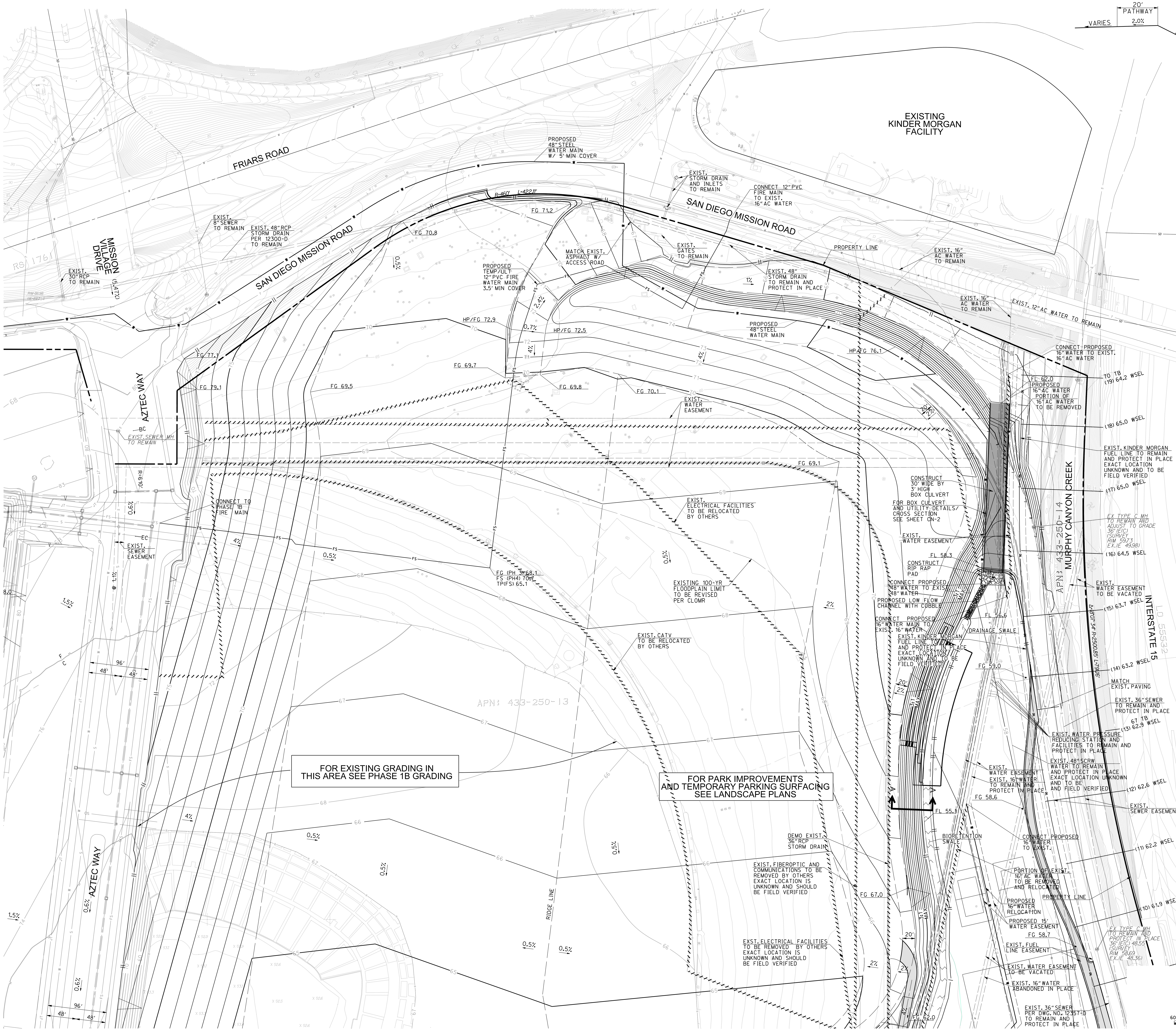
PHASE 1B EROSION CONTROL

DRAWING NO:

C-2.9



SECTION A-A
NOT TO SCALE



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- PROPOSED WATER MAIN/FIRE SERVICE WILL NEED TO DIP UNDER PROPOSED UTILITY AT THIS LOCATION

NOTE:

1. CONTRACTOR TO REMOVE ALL EXISTING PAVING WITHIN GRADING AND IMPROVEMENT AREAS AND RECYCLE ON-SITE.

2. ALL EXISTING UTILITIES SHOWN ARE APPROXIMATE AND PLOTTED PER AS-BUILT DRAWINGS. POTHOLING AND FIELD SURVEY REQUIRED TO LOCATE ALL FACILITIES HORIZONTALLY AND VERTICALLY.

3. ALL STADIUM RELATED ON-SITE DRY UTILITIES, LIGHTING AND IRRIGATION WITHIN PARKING LOTS ARE NOT SHOWN AND TO BE IDENTIFIED REMOVED OR RELOCATED AS NEEDED BY CONTRACTOR.

4. ALL UTILITIES AND LATERALS SERVICING THE STADIUM TO BE INCLUDED INTO THE STADIUM DEMOLITION.

5. ALL GRADING IS PRELIMINARY AND SHALL BE VERIFIED IN FINAL ENGINEERING.

6. EXISTING 100 YEAR FEMA FLOODPLAIN REVISIONS PER CLOMR IS TO BE DONE BY OTHERS.

7. ALL EXISTING MANHOLES, CLEANOUTS, DRY UTILITY BOXES THAT ARE TO REMAIN WILL NEED TO BE ADJUSTED TO GRADE WHERE APPLICABLE.

8. EXISTING TOPO FOR THIS PHASE INCLUDES AERIAL PHOTOGRAPHY AND PHASE 1b GRADING.

9. STADIUM DEMOLITION BY OTHERS.

10. FOR STORM DRAIN INFORMATION SEE PHASE 1b UTILITY SHEETS.

11. ALL TEMPORARY PARK AREAS TO HAVE GRAVEL OR AC INSTALLED PER LANDSCAPE PLANS.

60 30 0 60 120 180

GRAPHIC SCALE 1" = 60'

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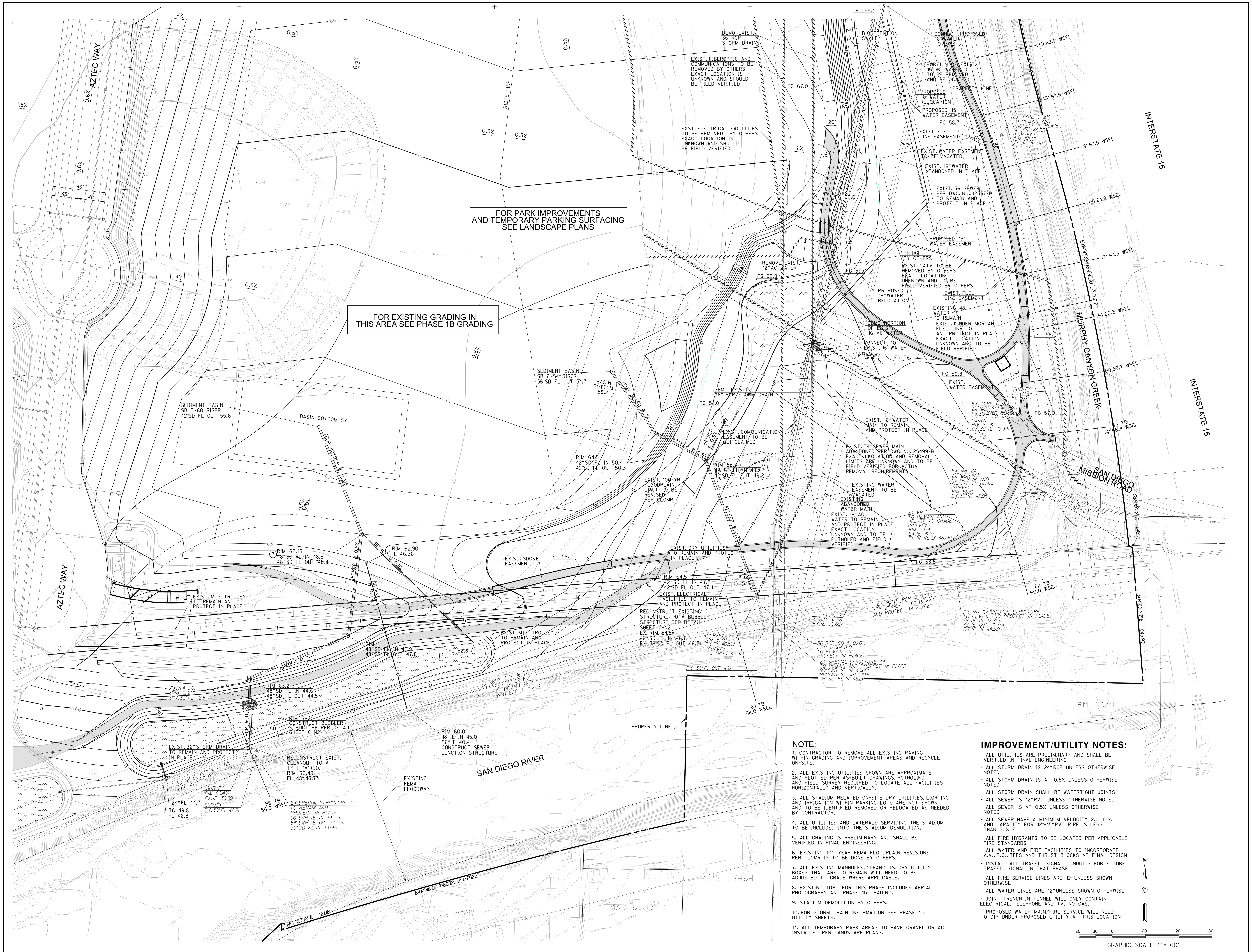
PHASE 3 GRADING AND UTILITIES

18 OF 23

DRAWING NO:

C-3.1



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60 30 0 60 120 180
GRAPHIC SCALE 1" = 60'

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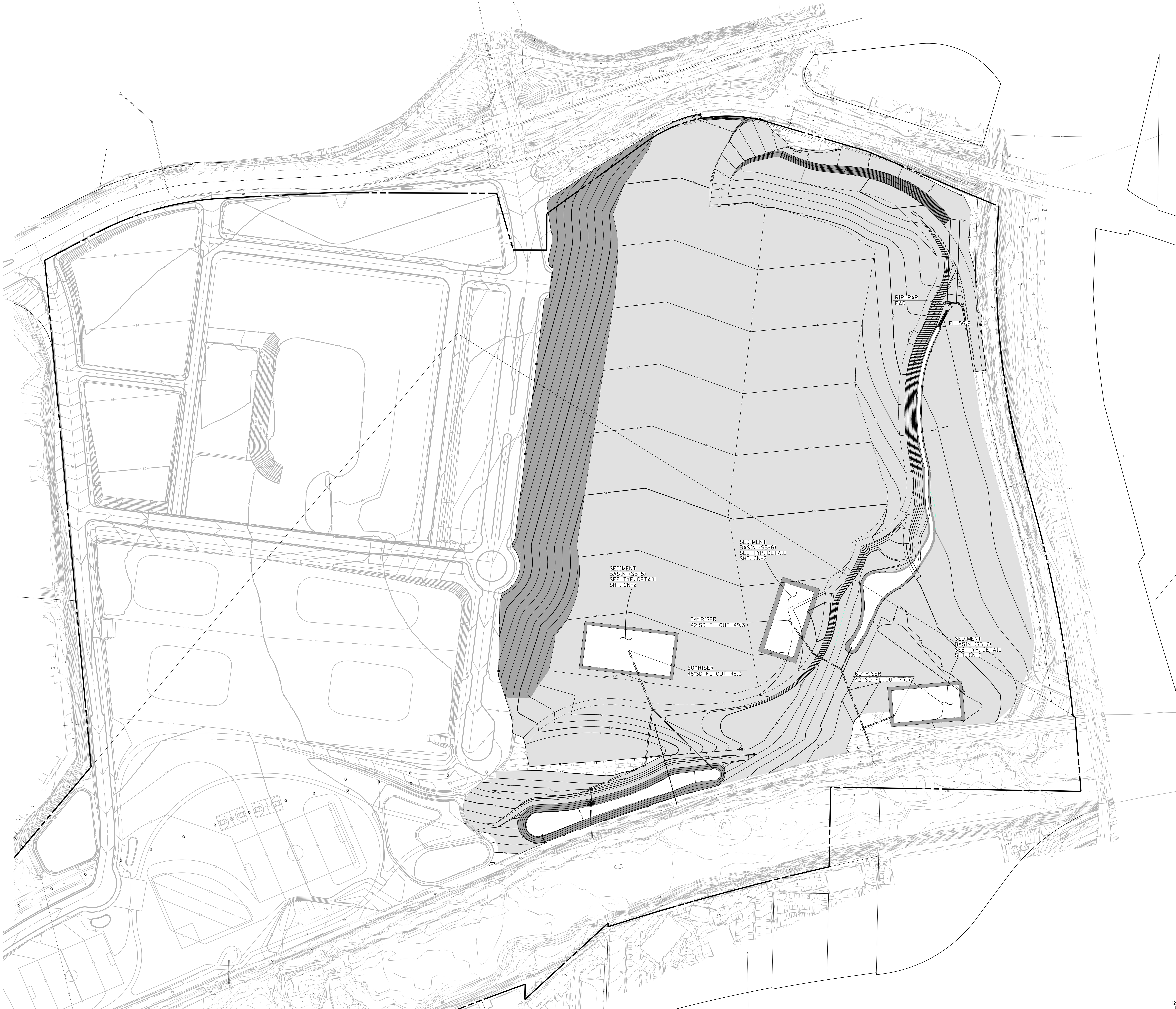
PHASE 3 GRADING AND UTILITIES

DRAWING NO:
C-3.2



120 60 0 120 240 360

GRAPHIC SCALE 1"= 120'

EROSION CONTROL LEGEND

PADS (TACKFIER)

SLOPES (BONDED FIBER MATRIX OR EQUIVALENT)

NOTES

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TITLE:
PHASE 3 AND PARK EROSION CONTROL

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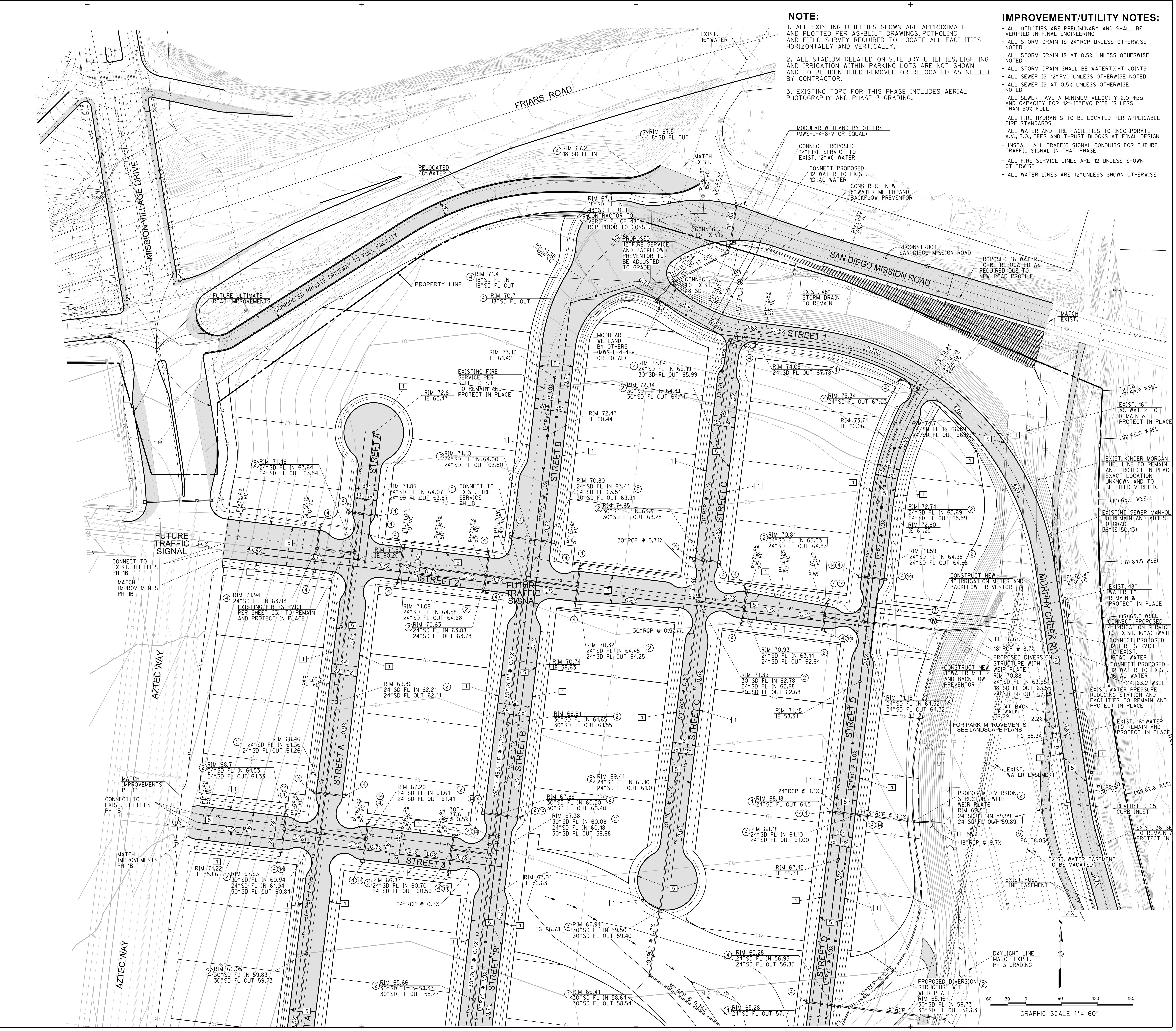
C-3.3



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UTILITY CONSTRUCTION NOTES

1. CONSTRUCT TYPE - I INLET
2. CONSTRUCT A-4 CLEANOUT
3. CONSTRUCT MOD. A-5 CLEANOUT
4. CONSTRUCT 5' TYPE - B INLET
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IMPROVEMENT CONSTRUCTION NOTES

1. INSTALL 6"CURB AND GUTTER
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3. INSTALL STREET LIGHTS
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PHASE 4 GRADING & UTILITIES

DRAWING NO:
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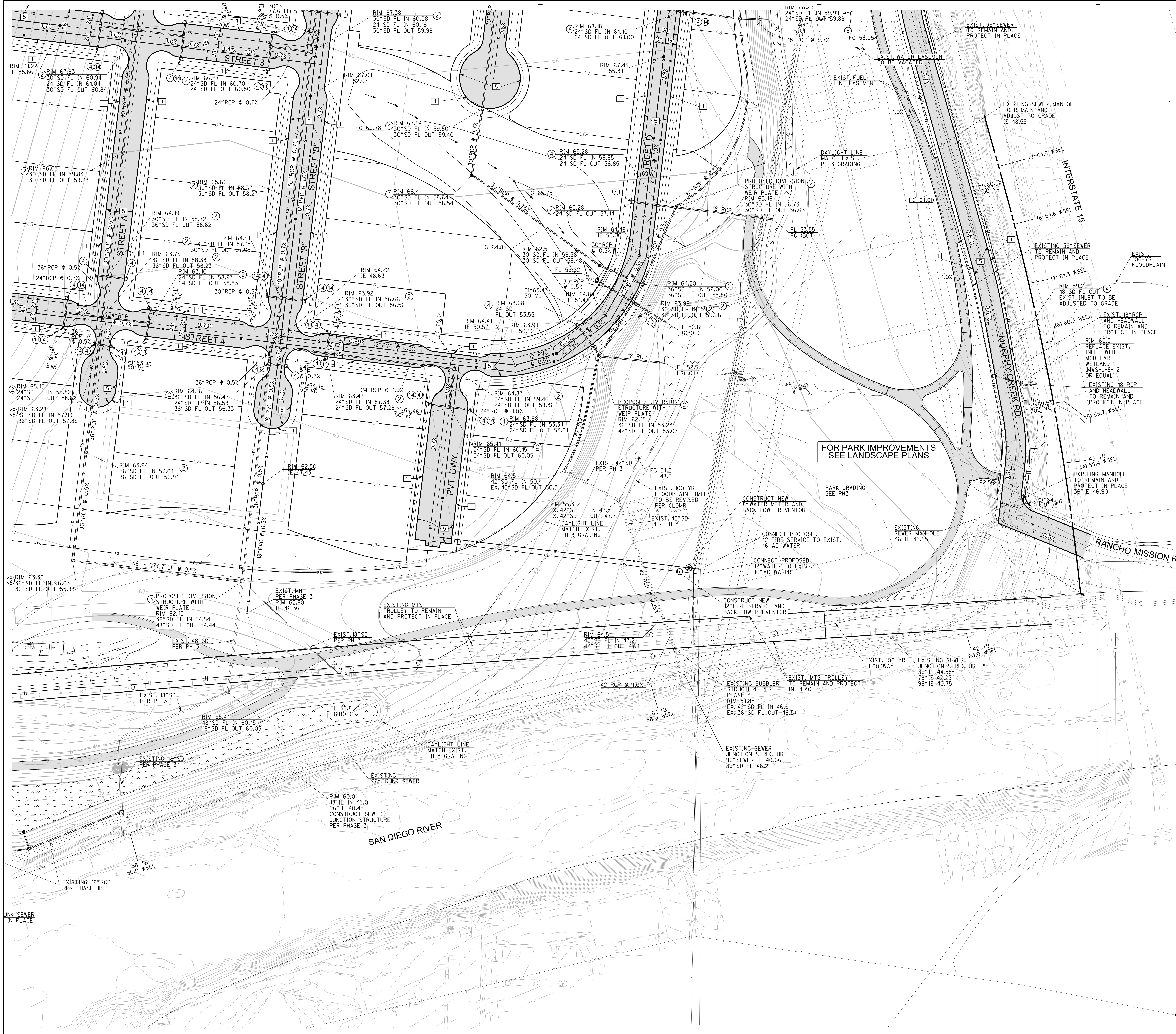

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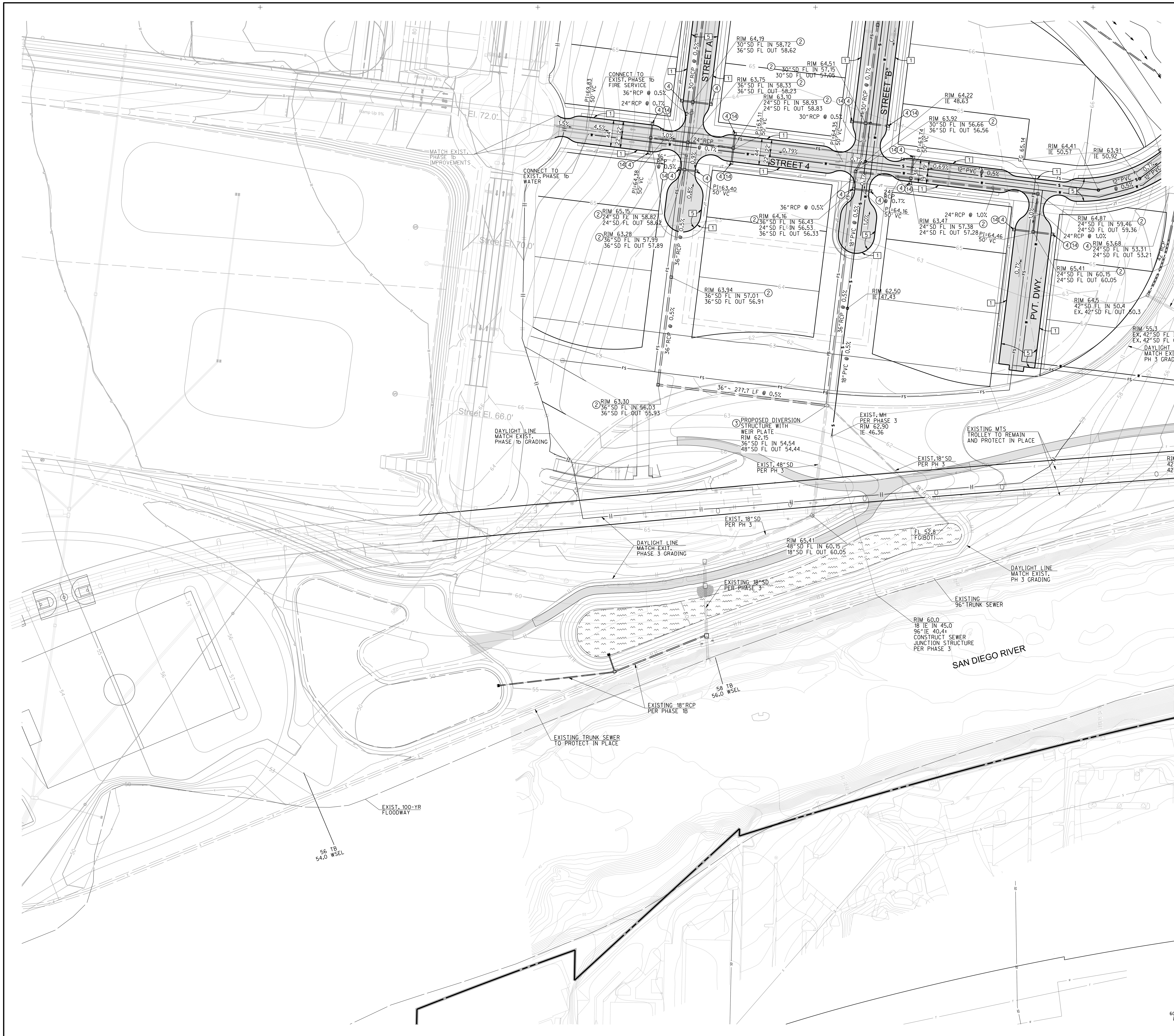
PHASE 4 GRADING & UTILITIES

22 OF 23
DRAWING NO:

C-4.2



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12. STEEL CASING PER SEWER MAIN

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SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165

SAN DIEGO STATE UNIVERSITY

SAN DIEGO STATE UNIVERSITY MISSION VALLEY

75% DD SITE DEVELOPMENT PACKAGE

ISSUED: 01/18/19-RFP
REV. 2/12/19

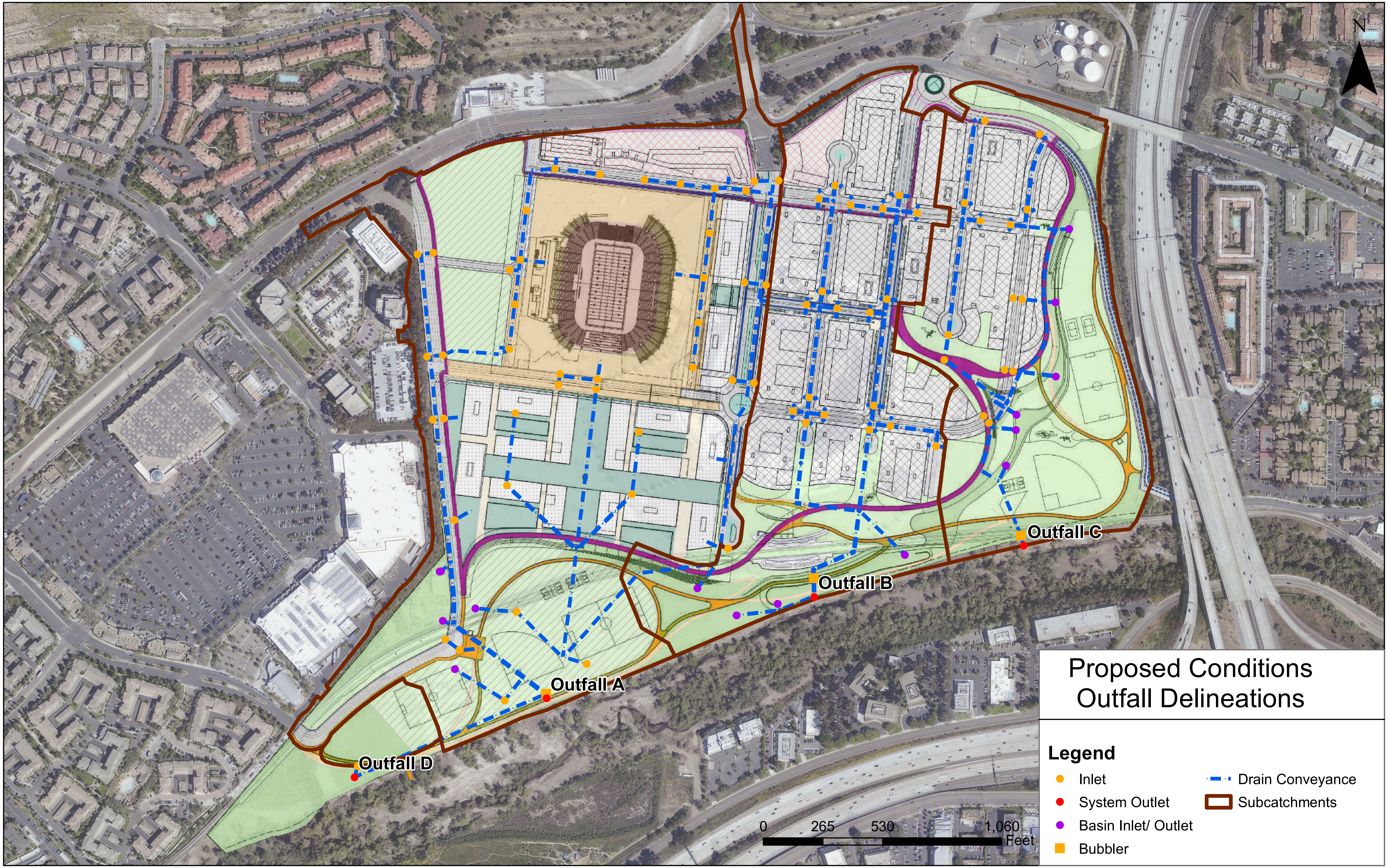
PROJECT NO:
FILENAME:
DRAWN BY: CHECKED BY:
PLOT DATE:
TITLE:

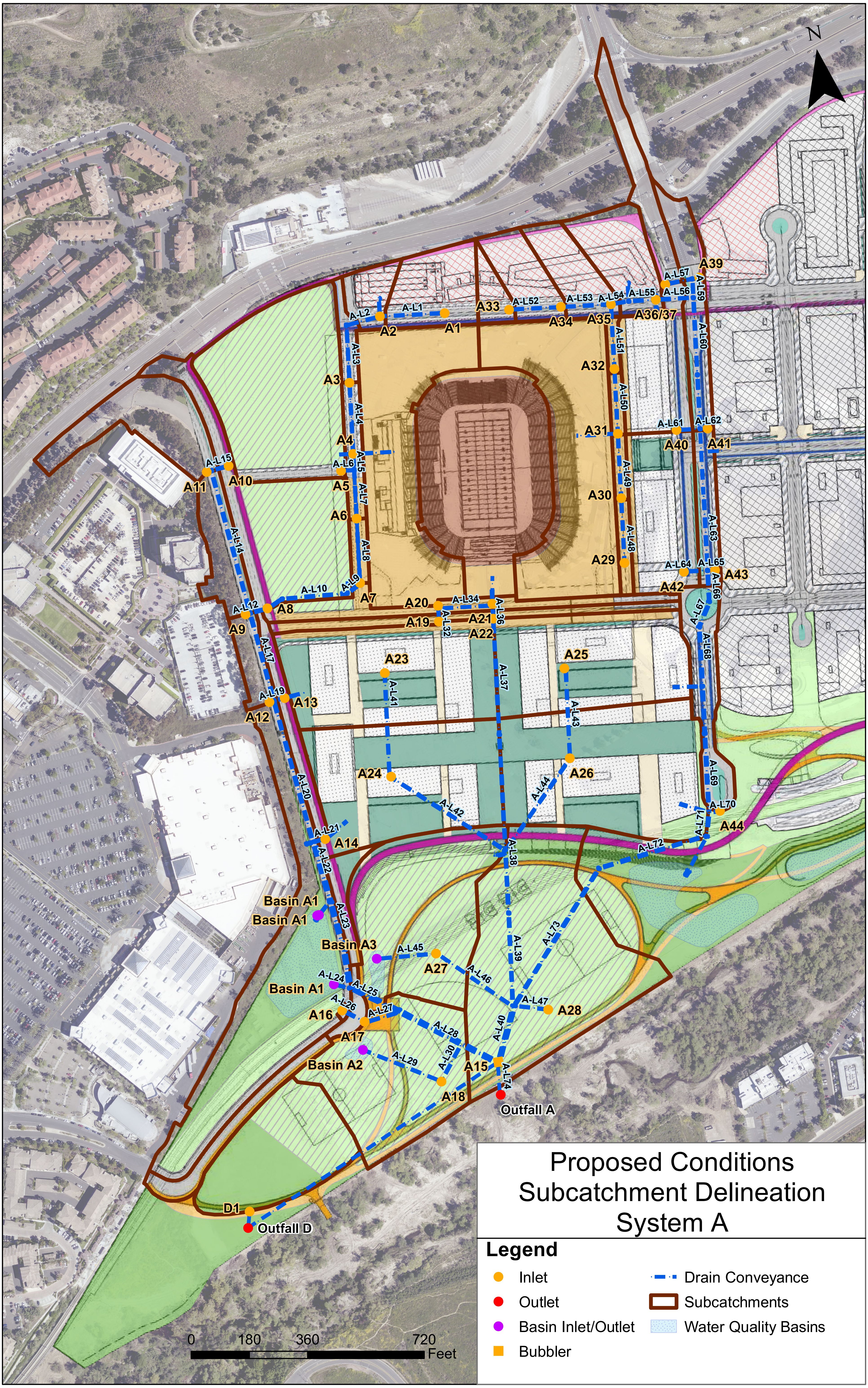
PHASE 4 GRADING

23 OF 23
DRAWING NO:
C-4.3

APPENDIX B.2

Existing Conditions: Drainage Area Exhibit


Proposed Conditions
Outfall Delineations
Legend
Inlet
System Outlet
Basin Inlet/ Outlet
Bubbler
Drain Conveyance
Subcatchments
Outfall A
Outfall B
Outfall C
Outfall D
N
0
265
530
1,060
Feet


N
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12
A13
A14
A15
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A22
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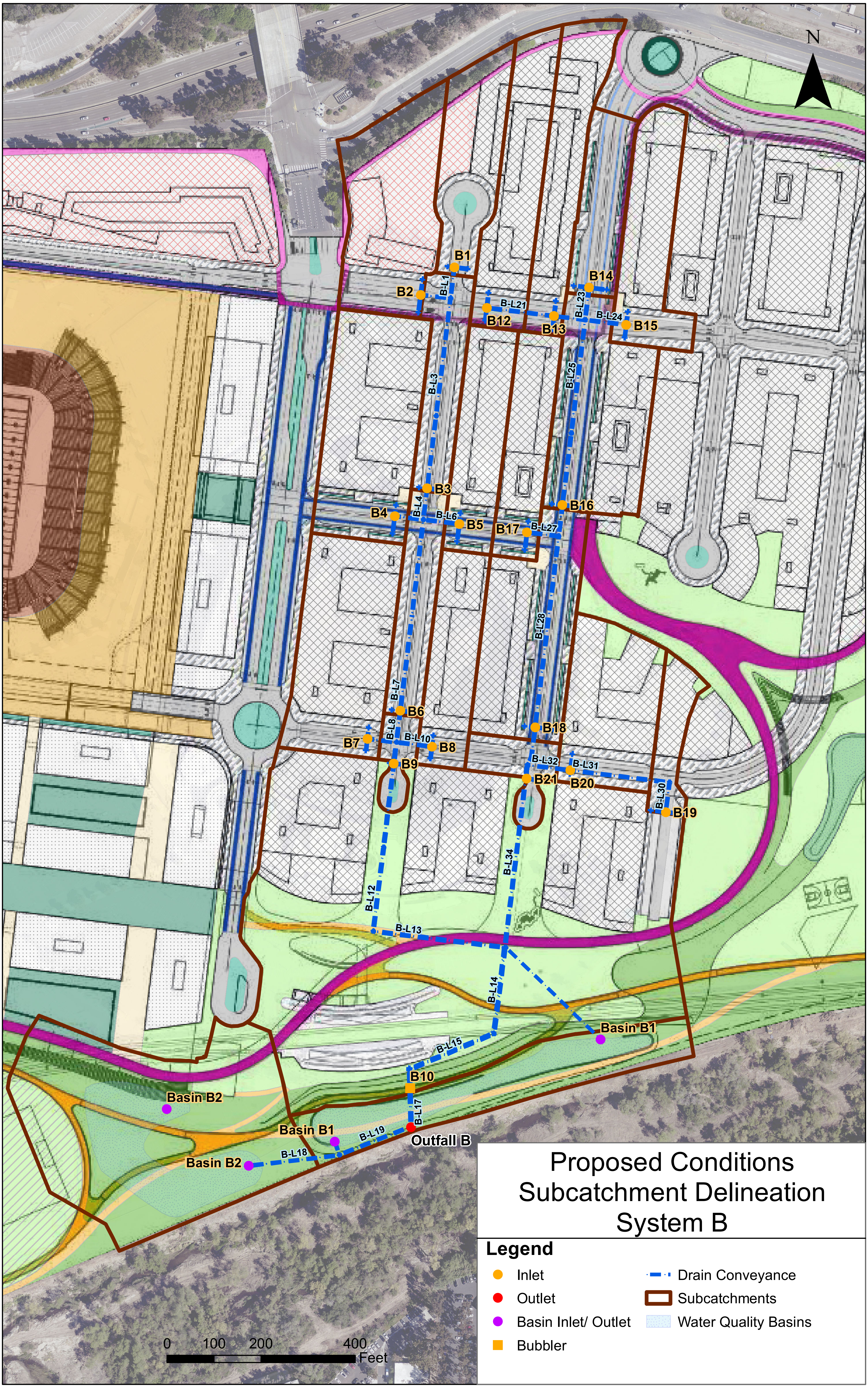
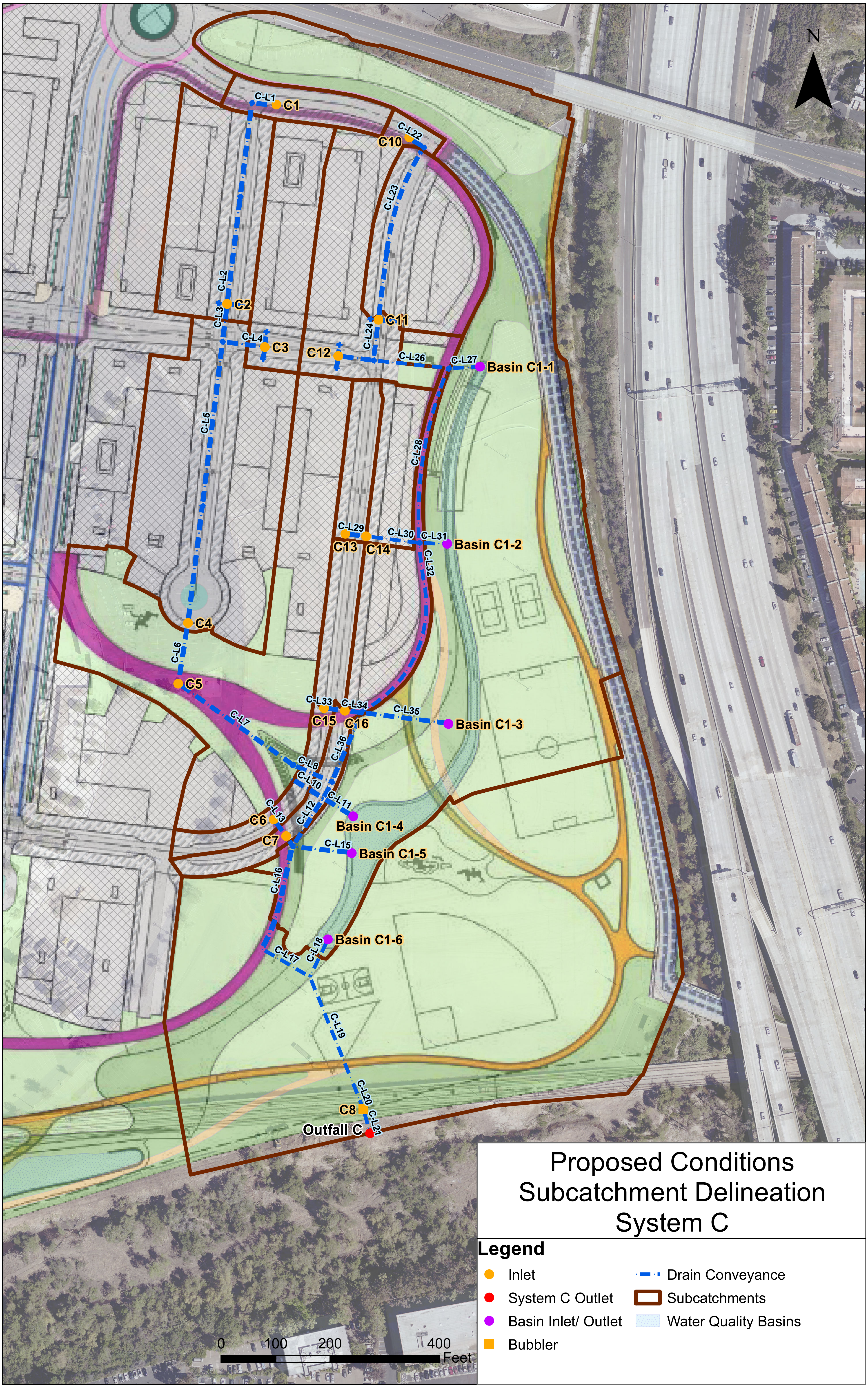
A26
A27
A28
A29
A30
A31
A32
A33
A34
A35
A36/37
A39
A40
A41
A42
A43
A44
D1
Basin A1
Basin A2
Basin A3
Outfall A
Outfall D
Proposed Conditions
Subcatchment Delineation
System A
Legend
Inlet
Outlet
Basin Inlet/Outlet
Bubbler
Drain Conveyance
Subcatchments
Water Quality Basins
0
180
360
720
Feet



Proposed Conditions Subcatchment Delineation System B



Proposed Conditions
Subcatchment Delineation
System C

APPENDIX B.3

Proposed Conditions: Runoff Coefficients

Runoff Coefficients

Runoff Coefficients (C) for each sub-catchment were determined using the values in Table 1 below. Values were determined based on Hydrologic Soils Group (HSG) Type D soils. The SDDDM provides runoff coefficients for urban land uses in Table A-1 and recommends that for "parks, golf courses, or other types of non-urban land use that are expected to be permanent, the appropriate value should be selected based upon the soil and cover and approved by the City." The percent of impervious area was determined from the preliminary plans provided at the end of this appendix.

Land Use	Area (ac)	% Impervious	% Pervious	C
Bike lane and path	1.24	90	10	0.95
Community hike and bike trail	4.08	60	40	0.64
Development	34.16	70	30	0.70
Parking	2.54	90	10	0.95
Median and Stormwater	1.63	10	90	0.41
Hike and Bike Loop	4.30	60	40	0.64
Hospitality	5.26	40	60	0.57
Park and Recreation	70.6	30	70	0.52
Paseos	2.21	40	60	0.57
Stadium	5.44	90	10	0.95
Stadium Concourse	13.53	60	40	0.64
Streets and sidewalks	23.64	90	10	0.95
Trolley Plaza	0.74	70	30	0.70

Combining the units for the expression CIA yields:

$$\left(\frac{1\,\text{acre}\times\text{inch}}{\text{hour}}\right)\left(\frac{43{,}560\,\text{ft}^2}{\text{acre}}\right)\left(\frac{1\,\text{foot}}{12\,\text{inches}}\right)\left(\frac{1\,\text{hour}}{3{,}600\,\text{seconds}}\right)\Rightarrow 1.008\,\text{cfs}$$

For practical purposes, the unit conversion coefficient difference of 0.8% can be ignored.

The RM formula is based on the assumption that for constant rainfall intensity, the peak discharge rate at a point will occur when the raindrop that falls at the most upstream point in the tributary drainage basin arrives at the point of interest.

Unlike the MRM (discussed in Appendix A.2) or the NRCS hydrologic method (discussed in Appendix B), the RM does not create hydrographs and therefore does not add separate subarea hydrographs at collection points. Instead, the RM develops peak discharges in the main line by increasing the T_c as flow travels downstream.

Characteristics of, or assumptions inherent to, the RM are listed below:

1. The discharge resulting from any I is maximum when the I lasts as long as or longer than the T_c.
2. The storm frequency of peak discharges is the same as that of I for the given T_c.
3. The fraction of rainfall that becomes runoff (or the runoff coefficient, C) is independent of I or precipitation zone number (PZN) condition (PZN Condition is discussed in the NRCS method).
4. The peak rate of runoff is the only information produced by using the RM.

A.1.2. Runoff Coefficient

The runoff coefficients are based on land use (see Table A–1). Soil type “D” is used throughout the City of San Diego for storm drain conveyance design. An appropriate runoff coefficient (C) for each type of land use in the subarea should be selected from this table and multiplied by the percentage of the total area (A) included in that class. The sum of the products for all land uses is the weighted runoff coefficient (Σ[CA]). Good engineering judgment should be used when applying the values presented in Table A–1, as adjustments to these values may be appropriate based on site-specific characteristics.

Table A-1. Runoff Coefficients for Rational Method

Land Use	Runoff Coefficient (C) Soil Type (1)
Residential:	
Single Family	0.55
Multi-Units	0.70
Mobile Homes	0.65
Rural (lots greater than ½ acre)	0.45
Commercial (2)	
80% Impervious	0.85
Industrial (2)	
90% Impervious	0.95

Note:
(1) Type D soil to be used for all areas.
(2) Where actual conditions deviate significantly from the tabulated imperviousness values of 80% or 90%, the values given for coefficient C, may be revised by multiplying 80% or 90% by the ratio of actual imperviousness to the tabulated imperviousness. However, in case shall the final coefficient be less than 0.50. For example: Consider commercial property on D soil.

Actual imperviousness			=	50%
Tabulated imperviousness			=	80%
Revised C	=	(50/80) x 0.85	=	0.53

The values in Table A–1 are typical for urban areas. However, if the basin contains rural or agricultural land use, parks, golf courses, or other types of nonurban land use that are expected to be permanent, the appropriate value should be selected based upon the soil and cover and approved by the City.

A.1.3. Rainfall Intensity

The rainfall intensity (I) is the rainfall in inches per hour (in/hr.) for a duration equal to the T_C for a selected storm frequency. Once a particular storm frequency has been selected for design and a T_C calculated for the drainage area, the rainfall intensity can be determined from the Intensity-Duration-Frequency Design Chart (Figure A-1).

OPEN SPACE

ACTIVE		
	SHARED SDSU/COMMUNITY ACTIVE PARKS INCLUDING:	21.72 ACRES
	RECREATION FIELD AND TAIL GATE ZONE (7.22 ACRES)	
	FIELDS AT RIVER PARK (14.5 ACRES)	
	ACTIVE PARK AND GREEN SPACE INCLUDING:	21.62 ACRES
	DOG PARK (1.07 ACRES)	
	COMMUNITY AQUATIC CENTER PAD (0.85)	
	HIKE AND BIKE LOOP	4.27 ACRES
	COMMUNITY HIKE AND BIKE TRAIL	4.11 ACRES
	SUBTOTAL	51.72 ACRES
PASSIVE		
	CAMPUS PASSIVE PARK AND GREEN SPACE INCLUDING:	8.45 ACRES
	CAMPUS MALL (2.18 ACRES)	
	CAMPUS GREEN (2.07 ACRES)	
	50 YARD LINE PLAZA (0.29 ACRES)	
	COURTYARDS (3.91 ACRES)	
	COMMUNITY PASSIVE PARK AND GREEN SPACE	18.85 ACRES
	SUBTOTAL	27.30 ACRES
PASEOS		
	CAMPUS PASEO	2.01 ACRES
	NEIGHBORHOOD PASEO	0.20 ACRES
	SUBTOTAL	2.21 ACRES
	TOTAL	81.23 ACRES

LEGEND

DEVELOPMENT		
	STADIUM	5.46 ACRES
	STADIUM CONCOURSE	13.53 ACRES
	CAMPUS DEVELOPMENT	9.58 ACRES
	RESIDENTIAL DEVELOPMENT	24.56 ACRES
	HOSPITALITY	5.24 ACRES
	SUBTOTAL	58.37 ACRES
CIRCULATION		
	STREETS	14.48 ACRES
	SIDEWALKS	9.15 ACRES
	MEDIAN AND STORM WATER	1.64 ACRES
	BIKE LANE AND PATH	1.22 ACRES
	PARKING	2.56 ACRES
	SUBTOTAL	29.05 ACRES
	TOTAL	87.42 ACRES

NORTH
200' 100' 0' 200'

SAN DIEGO STATE UNIVERSITY

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phone 619.239.2353 fax 619.239.6227

SDSU MV Area Calculation
1/10/2019

Qualcomm Site	Total Acres	South of River (F,G,H)	Floodway (E)	North of River (A,B,C,D,I)
APN 433-250-13 (Parcel A)	81.1	0	0	81.1
APN 433-250-16 (Parcels B,C,D,E,F,G,H,I)	133.5	11.8	31.7	90
				171.1
	214.6		214.6	

Outside Property Line		South of River		North of River
APN 433-250-19 (Parcel J)		0.8		
APN 433-250-14 (Parcel K)				2.6
APN 433-250-05 (Parcel L)		2.8		
			6.2	

	ACRES			
	CAMPUS	**NEIGHBORHOOD**	**COMMUNITY**	**TOTAL**
DEVELOPABLE LAND				
Stadium	5.46			5.46
Stadium Concourse	13.53			13.53
Entry Monument (OMITTED)	0.00			0.00
Development	9.58	24.56		34.15
Hospitality	3.83	1.41		5.24
Pad For Aquatic and Recreational Center			0.85	0.85
Trolley Green Line Station			0.74	0.74
Restrooms (count 2)	0.00		0.02	0.02
San Diego River Park Foundation Shed			0.00	0.00
Subtotal	32.41	25.97	1.61	59.98
OPEN SPACE				
Recreation Field and Tail Gate Zone (Active)	7.22			7.22
Park and Recreation (Active)[1]	15.65		18.55	34.20
Dog Park (Active)			1.07	1.07
Park and Recreation (Passive)			18.85	18.85
Mall (Passive)	2.18			2.18
Green (Passive)	2.07			2.07
50 yard line plaza (Passive)	0.29			0.29
Courtyards (Passive)	3.91			3.91
Paseo (Passive)	2.01	0.20		2.20
Medians and Stormwater (Passive)	1.11	0.53		1.64
Hike and Bike Loop (Active)			4.27	4.27
Community Hike and Bike Trail (Active)			4.11	4.11
Subtotal	34.44	0.73	46.85	82.01
ROADWAYS				
Bike lane and Paths	0.69	0.54		1.22
Streets replace with	6.80	7.67	0.00	14.48
Sidewalks updated	1.95	7.21	0.00	9.15
Parking	0.66	1.90	0.00	2.56
Subtotal	10.10	17.31	0.00	27.41
RIVERINE				
Floodway (San Diego River)			31.7	31.70
Environmentally Sensitive Land			11.8	11.80
Subtotal			43.5	43.50
TOTALS	76.95	44.01	91.95	
		212.91		

[1] Includes 1.3-acre MTD fee-title for SD Trolley Line. No development proposed within.

Proposed Land Use	Footprint (acres)
Parks (includes 1.3 ac of MTD land)	83.62
Campus (including Stadium)	28.58
Residential	24.56
Hospitality	5.24
Circulation	27.41
Total	169.41

	ACRES	SF
CEQA boundary	169.3043735	7374898.51
Area take offs	169.41	
Off by	0.10	

APPENDIX B.4
Proposed Conditions: Time of Concentration

Proposed System A Time of Concentration

The Time of Concentration calculations were preformed using the following equation:

$$T = \frac{1.8 * (1.1 - C) * \sqrt{D}}{\sqrt[3]{s}}$$

Data in the table below was taken from the Standard Drawings, Grading Plans, and proposed storm dran networks in Appendix B.2. Inlet IDs coincide with the labels on the Proposed Conditions Figure in Appendix B.1-2.

Proposed System A Time of Concentration				
Drainage Area to Pipe	C	LFP		Tc (min)
		Length	Slope (%)	
A01	0.69	100	1	7
A02	0.72	100	1	7
A03	0.95	100	1	5
A04	0.95	100	1	5
A05	0.55	550	1	23
A45	0.65	100	1	8
A06	0.75	100	1	6
A07	0.64	100	1	8
A08	0.58	450	1	20
A09	0.67	100	1	8
A10	0.88	100	1	5
A11	0.94	100	1	5
A12	0.66	100	1	8
A13	0.83	100	1	5
A14	0.77	100	1	6
BasinA1	0.59	650	1	23
A17	0.93	100	1	5
BasinA2	0.84	100	1	5
A18	0.53	300	1	18
A19	0.65	100	1	8
A20	0.61	100	1	9
A21	0.87	100	1	5
A22	0.70	100	1	7
A23	0.63	450	1	18
A24	0.59	600	1	23
A25	0.65	300	1	14

A26	0.59	450	1	19
BasinA3	0.67	100	1	8
A27	0.54	400	1	20
A28	0.53	850	1	30
A29	0.64	100	1	5
A30	0.64	100	1	5
A31	0.64	100	1	5
A32	0.64	100	1	5
A33	0.73	100	1	7
A34	0.68	100	1	8
A35	0.68	100	1	8
A36/37	0.67	100	1	8
A38	0.93	100	1	5
A39	0.91	100	1	5
A40	0.76	100	1	6
A41	0.87	100	1	5
A42	0.74	100	1	6
A43	0.87	100	1	5
A44	0.84	100	1	5
A46	0.66	100	1	5
D1	0.52	350	1	20

Proposed System B Time of Concentration

The Time of Concentration calculations were preformed using the following equation:

$$T = \frac{1.8 * (1.1 - C) * \sqrt{D}}{\sqrt[3]{s}}$$

Data in the table below was taken from the Standard Drawings, Grading Plans, and proposed storm dran networks in Appendix B.2. Inlet IDs coincide with the labels on the Proposed Conditions Figure in Appendix B.1-3.

Proposed System B Time of Concentration				
Drainage Area to Pipe	C	LFP		Tc (min)
		Length	Slope (%)	
B01	0.776126	100	1	6
B02	0.712434	100	1	7
B03	0.949656	100	1	5
B04	0.740567	100	1	6
B05	0.738174	100	1	7
B06	0.930409	100	1	5
B07	0.74655	100	1	6
B08	0.743485	100	1	6
B09	0.911508	100	1	5
B10	0.611745	750	1.3	22
BasinB2	0.539189	550	1	24
BasinB1	0.537563	100	1	10
B12	0.748752	100	1	6
B13	0.737136	100	1	7
B14	0.90873	100	1	5
B15	0.756855	100	1	6
B16	0.813638	100	1	5
B17	0.740209	100	1	6
B18	0.809238	100	1	5
B19	0.779564	100	1	6
B20	0.748089	100	1	6
B21	0.926023	100	1	5

Proposed System C Time of Concentration

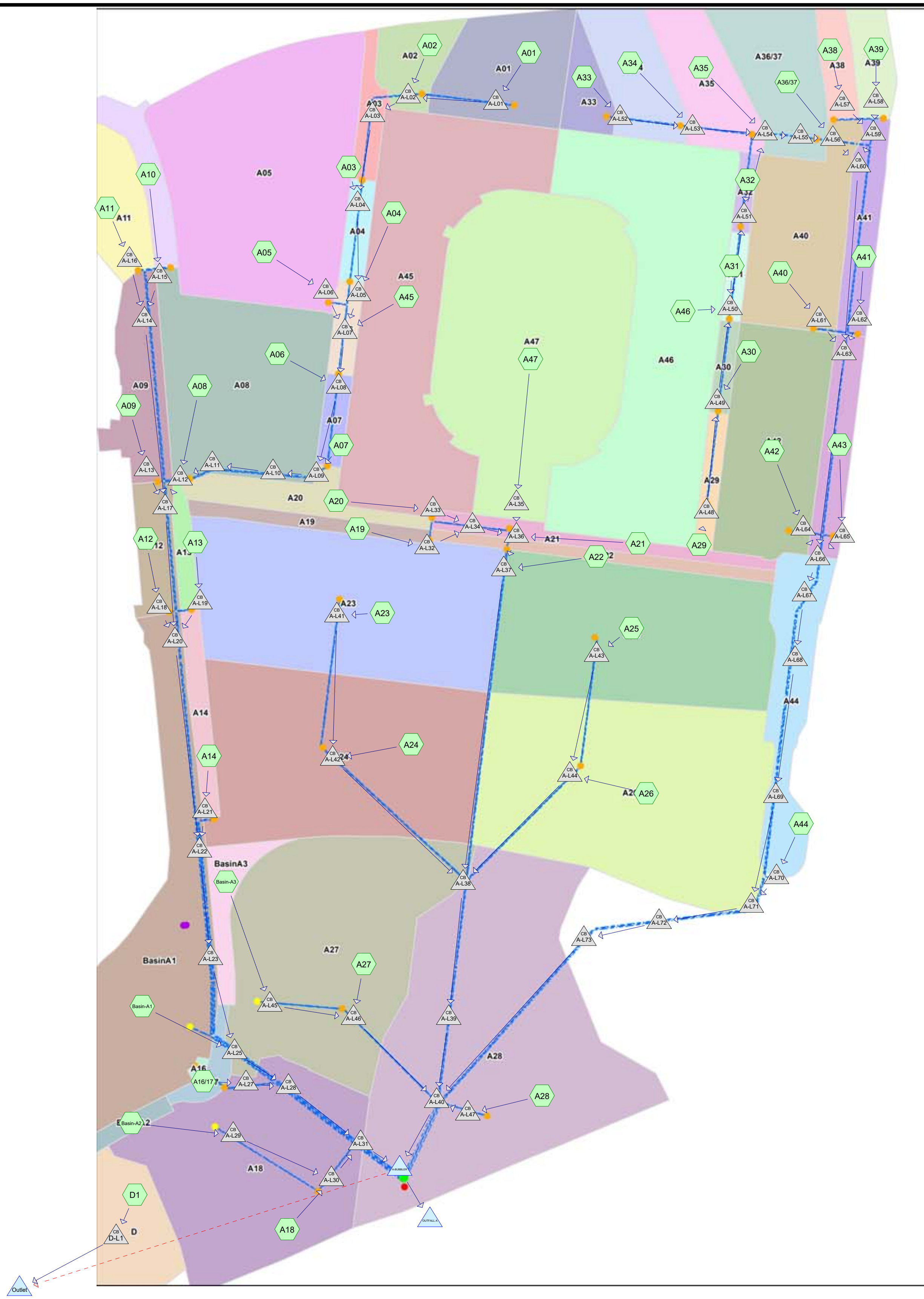
The Time of Concentration calculations were preformed using the following equation:

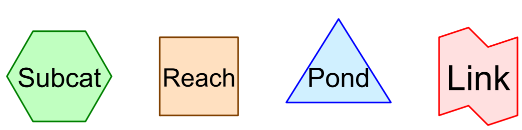
$$T = \frac{1.8 * (1.1 - C) * \sqrt{D}}{\sqrt[3]{S}}$$

Data in the table below was taken from the Standard Drawings, Grading Plans, and proposed storm dran networks in Appendix B.2. Inlet IDs coincide with the labels on the Proposed Conditions Figure in Appendix B.1-4.

Proposed System C Time of Concentration				
Drainage Area to Pipe	**C**	**LFP**		**Tc (min)**
		Length	**Slope (%)**	
C01	0.929389	100	1	5
C02	0.810714	100	1	5
C03	0.74289	100	1	6
C04	0.781098	600	1	14
C05	0.6088	350	1.2	16
C06	0.91421	100	1	5
C07	0.922744	100	1	5
BasinC1-6	0.544218	650	1	26
C08	0.552335	850	1	29
C10	0.945514	100	1	5
C11	0.795178	100	1	5
C12	0.763909	100	1	6
C13	0.949999	100	1	5
C14	0.765357	100	1	6
C15	0.95	100	1	5
C16	0.705403	100	1	7

APPENDIX B.5
Proposed Conditions: HydroCAD Reports





Routing Diagram for Proposed System AD
Prepared by Geosyntec Consultants, Printed 5/24/2019
HydroCAD® 10.00 s/n 03895 © 2012 HydroCAD Software Solutions LLC

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	A-BUBBLER	43.60	42.53	108.0	0.0099	0.013	34.0	0.0	0.0
2	A-L01	76.90	74.93	200.0	0.0098	0.013	24.0	0.0	0.0
3	A-L02	74.83	73.51	132.0	0.0100	0.013	24.0	0.0	0.0
4	A-L03	73.41	71.66	175.0	0.0100	0.013	24.0	0.0	0.0
5	A-L04	71.56	69.38	218.0	0.0100	0.013	24.0	0.0	0.0
6	A-L05	69.28	68.79	49.0	0.0100	0.013	24.0	0.0	0.0
7	A-L06	69.26	68.89	37.0	0.0100	0.013	24.0	0.0	0.0
8	A-L07	68.69	67.30	139.0	0.0100	0.013	24.0	0.0	0.0
9	A-L08	67.20	65.24	196.0	0.0100	0.013	24.0	0.0	0.0
10	A-L09	65.14	64.16	98.0	0.0100	0.013	36.0	0.0	0.0
11	A-L10	64.06	60.74	195.0	0.0170	0.013	36.0	0.0	0.0
12	A-L11	60.64	56.47	47.0	0.0887	0.013	36.0	0.0	0.0
13	A-L12	56.37	56.13	48.0	0.0050	0.013	36.0	0.0	0.0
14	A-L13	56.19	56.13	12.0	0.0050	0.013	36.0	0.0	0.0
15	A-L14	80.04	56.13	520.0	0.0460	0.013	36.0	0.0	0.0
16	A-L15	80.51	80.24	54.0	0.0050	0.013	24.0	0.0	0.0
17	A-L16	80.30	80.24	12.0	0.0050	0.013	24.0	0.0	0.0
18	A-L17	55.93	54.06	267.0	0.0070	0.013	42.0	0.0	0.0
19	A-L18	54.70	54.16	12.0	0.0450	0.013	24.0	0.0	0.0
20	A-L19	54.80	54.16	30.0	0.0213	0.013	24.0	0.0	0.0
21	A-L20	53.96	51.65	462.0	0.0050	0.013	42.0	0.0	0.0
22	A-L21	51.80	51.75	30.0	0.0017	0.013	24.0	0.0	0.0
23	A-L22	51.55	50.60	190.0	0.0050	0.013	42.0	0.0	0.0
24	A-L23	50.40	45.83	286.0	0.0160	0.013	42.0	0.0	0.0
25	A-L25	45.73	45.08	163.0	0.0040	0.013	42.0	0.0	0.0
26	A-L27	45.59	45.08	102.0	0.0050	0.013	24.0	0.0	0.0
27	A-L28	44.98	44.13	343.0	0.0025	0.013	42.0	0.0	0.0
28	A-L29	47.25	46.20	233.0	0.0045	0.013	18.0	0.0	0.0
29	A-L30	46.10	45.40	140.0	0.0050	0.013	24.0	0.0	0.0
30	A-L31	44.13	43.60	133.0	0.0040	0.013	42.0	0.0	0.0
31	A-L32	51.46	51.28	36.0	0.0050	0.013	18.0	0.0	0.0
32	A-L33	51.30	51.28	4.0	0.0050	0.013	18.0	0.0	0.0
33	A-L34	51.08	50.58	125.0	0.0040	0.013	18.0	0.0	0.0
34	A-L35	50.40	50.38	4.0	0.0050	0.013	30.0	0.0	0.0
35	A-L36	50.28	50.06	44.0	0.0050	0.013	30.0	0.0	0.0
36	A-L37	49.96	46.50	692.0	0.0050	0.013	30.0	0.0	0.0
37	A-L38	46.40	46.36	8.0	0.0050	0.013	36.0	0.0	0.0
38	A-L39	46.06	44.40	415.0	0.0040	0.013	36.0	0.0	0.0
39	A-L40	44.30	43.60	175.0	0.0040	0.013	42.0	0.0	0.0
40	A-L41	50.35	48.70	330.0	0.0050	0.013	24.0	0.0	0.0
41	A-L42	48.60	46.50	420.0	0.0050	0.013	30.0	0.0	0.0
42	A-L43	49.77	48.32	290.0	0.0050	0.013	24.0	0.0	0.0
43	A-L44	48.22	46.50	344.0	0.0050	0.013	30.0	0.0	0.0

Pipe Listing (all nodes) (continued)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
44	A-L45	48.55	47.10	181.0	0.0080	0.013	18.0	0.0	0.0
45	A-L46	47.00	44.40	289.0	0.0090	0.013	24.0	0.0	0.0
46	A-L47	45.20	44.40	114.0	0.0070	0.013	24.0	0.0	0.0
47	A-L48	77.95	76.96	198.0	0.0050	0.013	24.0	0.0	0.0
48	A-L49	76.86	75.87	198.0	0.0050	0.013	24.0	0.0	0.0
49	A-L50	75.77	74.78	198.0	0.0050	0.013	24.0	0.0	0.0
50	A-L51	74.68	73.69	198.0	0.0050	0.013	24.0	0.0	0.0
51	A-L52	76.90	75.32	160.0	0.0099	0.013	24.0	0.0	0.0
52	A-L53	75.22	73.69	155.0	0.0099	0.013	24.0	0.0	0.0
53	A-L54	73.59	73.07	55.0	0.0095	0.013	24.0	0.0	0.0
54	A-L55	72.97	72.57	80.0	0.0050	0.013	24.0	0.0	0.0
55	A-L56	72.47	69.20	113.0	0.0289	0.013	24.0	0.0	0.0
56	A-L57	70.36	69.73	63.0	0.0100	0.013	24.0	0.0	0.0
57	A-L58	69.93	69.73	20.0	0.0100	0.013	24.0	0.0	0.0
58	A-L59	69.63	69.10	53.0	0.0100	0.013	30.0	0.0	0.0
59	A-L60	69.00	64.92	408.0	0.0100	0.013	30.0	0.0	0.0
60	A-L61	65.73	65.02	71.0	0.0100	0.013	24.0	0.0	0.0
61	A-L62	65.23	65.02	21.0	0.0100	0.013	24.0	0.0	0.0
62	A-L63	64.82	60.42	440.0	0.0100	0.013	36.0	0.0	0.0
63	A-L64	60.88	60.52	72.0	0.0050	0.013	24.0	0.0	0.0
64	A-L65	60.63	60.52	22.0	0.0050	0.013	24.0	0.0	0.0
65	A-L66	60.32	59.73	98.0	0.0060	0.013	36.0	0.0	0.0
66	A-L67	59.63	58.84	88.0	0.0090	0.013	36.0	0.0	0.0
67	A-L68	58.74	56.75	398.0	0.0050	0.013	48.0	0.0	0.0
68	A-L69	56.65	53.56	240.0	0.0129	0.013	48.0	0.0	0.0
69	A-L70	53.80	53.66	28.0	0.0050	0.013	24.0	0.0	0.0
70	A-L71	53.46	53.02	49.0	0.0090	0.013	48.0	0.0	0.0
71	A-L72	52.92	47.50	340.0	0.0159	0.013	48.0	0.0	0.0
72	A-L73	45.30	44.40	492.0	0.0018	0.013	48.0	0.0	0.0
73	D-L1	51.00	46.20	50.0	0.0960	0.013	18.0	0.0	0.0

50-year Rainfall Intensity

ELEV.	FACTOR
0-1500	1.00
1500-3000	1.25
3000-4000	1.42
4000-5000	1.60
5000-6000	1.7
DESERT	1.25

TO OBTAIN CORRECT INTENSITY, MULTIPLY INTENSITY ON CHART BY FACTOR FOR DESIGN ELEVATION.

RAINFALL INTENSITY - DURATION - FREQUENCY CURVES FOR COUNTY OF SAN DIEGO

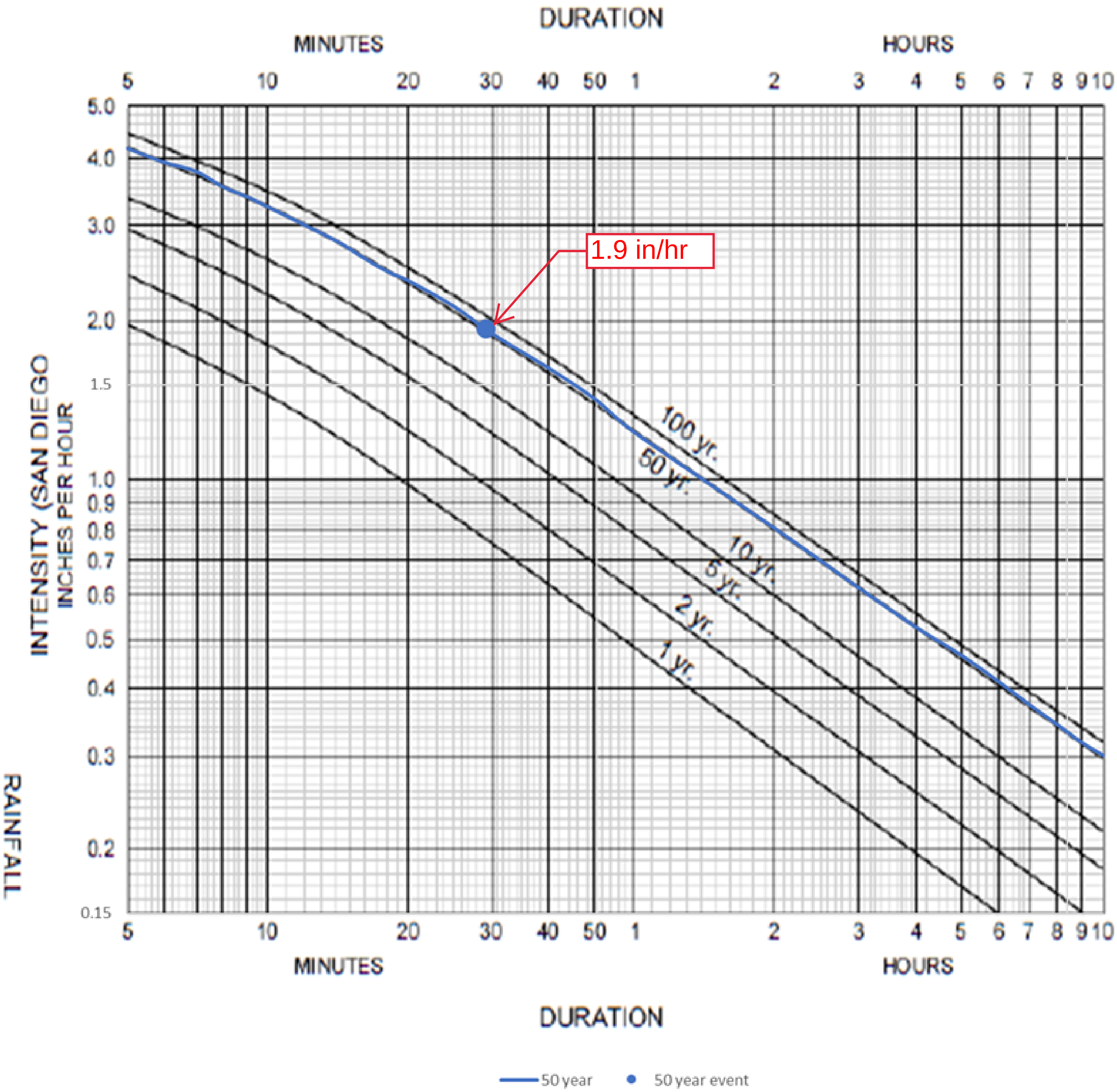


Figure A-1. Intensity-Duration-Frequency Design Chart

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points x 3
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Pond A-BUBBLER: A-BUBBLER Peak Elev=50.28' Storage=1,890 cf Inflow=108.66 cfs 4.490 af
Primary=69.62 cfs 3.501 af Secondary=38.81 cfs 0.991 af Outflow=108.42 cfs 4.492 af

Pond A-L01: A-L01 Peak Elev=77.46' Inflow=1.86 cfs 0.077 af
24.0" Round Culvert n=0.013 L=200.0' S=0.0098 '/' Outflow=1.86 cfs 0.077 af

Pond A-L02: A-L02 Peak Elev=75.51' Inflow=2.66 cfs 0.110 af
24.0" Round Culvert n=0.013 L=132.0' S=0.0100 '/' Outflow=2.66 cfs 0.110 af

Pond A-L03: A-L03 Peak Elev=74.09' Inflow=2.66 cfs 0.110 af
24.0" Round Culvert n=0.013 L=175.0' S=0.0100 '/' Outflow=2.66 cfs 0.110 af

Pond A-L04: A-L04 Peak Elev=72.36' Inflow=3.27 cfs 0.135 af
24.0" Round Culvert n=0.013 L=218.0' S=0.0100 '/' Outflow=3.27 cfs 0.135 af

Pond A-L05: A-L05 Peak Elev=70.78' Inflow=3.77 cfs 0.156 af
24.0" Round Culvert n=0.013 L=49.0' S=0.0100 '/' Outflow=3.77 cfs 0.156 af

Pond A-L06: A-L06 Peak Elev=70.84' Inflow=5.02 cfs 0.207 af
24.0" Round Culvert n=0.013 L=37.0' S=0.0100 '/' Outflow=5.02 cfs 0.207 af

Pond A-L07: A-L07 Peak Elev=70.65' Inflow=14.40 cfs 0.595 af
24.0" Round Culvert n=0.013 L=139.0' S=0.0100 '/' Outflow=14.40 cfs 0.595 af

Pond A-L08: A-L08 Peak Elev=69.14' Inflow=14.77 cfs 0.610 af
24.0" Round Culvert n=0.013 L=196.0' S=0.0100 '/' Outflow=14.77 cfs 0.610 af

Pond A-L09: A-L09 Peak Elev=66.75' Inflow=15.07 cfs 0.623 af
36.0" Round Culvert n=0.013 L=98.0' S=0.0100 '/' Outflow=15.07 cfs 0.623 af

Pond A-L10: A-L10 Peak Elev=65.58' Inflow=15.07 cfs 0.623 af
36.0" Round Culvert n=0.013 L=195.0' S=0.0170 '/' Outflow=15.07 cfs 0.623 af

Pond A-L11: A-L11 Peak Elev=62.16' Inflow=15.07 cfs 0.623 af
36.0" Round Culvert n=0.013 L=47.0' S=0.0887 '/' Outflow=15.07 cfs 0.623 af

Pond A-L12: A-L12 Peak Elev=58.54' Inflow=18.41 cfs 0.761 af
36.0" Round Culvert n=0.013 L=48.0' S=0.0050 '/' Outflow=18.41 cfs 0.761 af

Pond A-L13: A-L13 Peak Elev=57.92' Inflow=1.30 cfs 0.054 af
36.0" Round Culvert n=0.013 L=12.0' S=0.0050 '/' Outflow=1.30 cfs 0.054 af

Pond A-L14: A-L14 Peak Elev=80.81' Inflow=4.24 cfs 0.175 af
36.0" Round Culvert n=0.013 L=520.0' S=0.0460 '/' Outflow=4.24 cfs 0.175 af

Pond A-L15: A-L15 Peak Elev=81.03' Inflow=0.91 cfs 0.038 af
24.0" Round Culvert n=0.013 L=54.0' S=0.0050 '/' Outflow=0.91 cfs 0.038 af

Pond A-L16: A-L16 Peak Elev=81.25' Inflow=3.33 cfs 0.138 af
24.0" Round Culvert n=0.013 L=12.0' S=0.0050 '/' Outflow=3.33 cfs 0.138 af

Pond A-L17: A-L17 Peak Elev=57.92' Inflow=23.96 cfs 0.990 af
42.0" Round Culvert n=0.013 L=267.0' S=0.0070 '/' Outflow=23.96 cfs 0.990 af

Pond A-L18: A-L18 Peak Elev=55.98' Inflow=0.67 cfs 0.028 af
24.0" Round Culvert n=0.013 L=12.0' S=0.0450 '/' Outflow=0.67 cfs 0.028 af

Pond A-L19: A-L19 Peak Elev=55.98' Inflow=0.38 cfs 0.016 af
24.0" Round Culvert n=0.013 L=30.0' S=0.0213 '/' Outflow=0.38 cfs 0.016 af

Pond A-L20: A-L20 Peak Elev=55.98' Inflow=25.00 cfs 1.033 af
42.0" Round Culvert n=0.013 L=462.0' S=0.0050 '/' Outflow=25.00 cfs 1.033 af

Pond A-L21: A-L21 Peak Elev=53.08' Inflow=0.61 cfs 0.025 af
24.0" Round Culvert n=0.013 L=30.0' S=0.0017 '/' Outflow=0.61 cfs 0.025 af

Pond A-L22: A-L22 Peak Elev=53.07' Inflow=25.61 cfs 1.058 af
42.0" Round Culvert x 2.00 n=0.013 L=190.0' S=0.0050 '/' Outflow=25.61 cfs 1.058 af

Pond A-L23: A-L23 Peak Elev=51.97' Inflow=25.61 cfs 1.058 af
42.0" Round Culvert x 2.00 n=0.013 L=286.0' S=0.0160 '/' Outflow=25.61 cfs 1.058 af

Pond A-L25: A-L25 Peak Elev=50.71' Inflow=31.87 cfs 1.317 af
42.0" Round Culvert x 2.00 n=0.013 L=163.0' S=0.0040 '/' Outflow=31.87 cfs 1.317 af

Pond A-L27: A-L27 Peak Elev=50.59' Inflow=0.47 cfs 0.020 af
24.0" Round Culvert n=0.013 L=102.0' S=0.0050 '/' Outflow=0.47 cfs 0.020 af

Pond A-L28: A-L28 Peak Elev=50.59' Inflow=32.34 cfs 1.336 af
42.0" Round Culvert x 2.00 n=0.013 L=343.0' S=0.0025 '/' Outflow=32.34 cfs 1.336 af

Pond A-L29: A-L29 Peak Elev=50.61' Inflow=1.19 cfs 0.049 af
18.0" Round Culvert n=0.013 L=233.0' S=0.0045 '/' Outflow=1.19 cfs 0.049 af

Pond A-L30: A-L30 Peak Elev=50.57' Inflow=5.14 cfs 0.212 af
24.0" Round Culvert n=0.013 L=140.0' S=0.0050 '/' Outflow=5.14 cfs 0.212 af

Pond A-L31: A-L31 Peak Elev=50.44' Inflow=37.47 cfs 1.549 af
42.0" Round Culvert x 2.00 n=0.013 L=133.0' S=0.0040 '/' Outflow=37.47 cfs 1.549 af

Pond A-L32: A-L32 Peak Elev=54.47' Inflow=0.45 cfs 0.019 af
18.0" Round Culvert n=0.013 L=36.0' S=0.0050 '/' Outflow=0.45 cfs 0.019 af

Pond A-L33: A-L33 Peak Elev=54.48' Inflow=0.75 cfs 0.031 af
18.0" Round Culvert n=0.013 L=4.0' S=0.0050 '/' Outflow=0.75 cfs 0.031 af

Pond A-L34: A-L34 Peak Elev=54.47' Inflow=1.20 cfs 0.050 af
18.0" Round Culvert n=0.013 L=125.0' S=0.0040 '/' Outflow=1.20 cfs 0.050 af

Pond A-L35: A-L35 Peak Elev=54.61' Inflow=9.56 cfs 0.395 af
30.0" Round Culvert n=0.013 L=4.0' S=0.0050 '/' Outflow=9.56 cfs 0.395 af

Pond A-L36: A-L36 Peak Elev=54.45' Inflow=11.65 cfs 0.481 af
30.0" Round Culvert n=0.013 L=44.0' S=0.0050 '/' Outflow=11.65 cfs 0.481 af

Pond A-L37: A-L37 Peak Elev=54.20' Inflow=12.23 cfs 0.505 af
30.0" Round Culvert n=0.013 L=692.0' S=0.0050 '/' Outflow=12.23 cfs 0.505 af

Pond A-L38: A-L38 Peak Elev=53.45' Inflow=33.75 cfs 1.395 af
36.0" Round Culvert n=0.013 L=8.0' S=0.0050 '/' Outflow=33.75 cfs 1.395 af

Pond A-L39: A-L39 Peak Elev=52.46' Inflow=33.75 cfs 1.395 af
36.0" Round Culvert n=0.013 L=415.0' S=0.0040 '/' Outflow=33.75 cfs 1.395 af

Pond A-L40: A-L40 Peak Elev=50.87' Inflow=71.19 cfs 2.942 af
42.0" Round Culvert x 2.00 n=0.013 L=175.0' S=0.0040 '/' Outflow=71.19 cfs 2.942 af

Pond A-L41: A-L41 Peak Elev=54.03' Inflow=4.68 cfs 0.193 af
24.0" Round Culvert n=0.013 L=330.0' S=0.0050 '/' Outflow=4.68 cfs 0.193 af

Pond A-L42: A-L42 Peak Elev=53.83' Inflow=10.60 cfs 0.438 af
30.0" Round Culvert n=0.013 L=420.0' S=0.0050 '/' Outflow=10.60 cfs 0.438 af

Pond A-L43: A-L43 Peak Elev=53.98' Inflow=4.68 cfs 0.193 af
24.0" Round Culvert n=0.013 L=290.0' S=0.0050 '/' Outflow=4.68 cfs 0.193 af

Pond A-L44: A-L44 Peak Elev=53.80' Inflow=10.92 cfs 0.451 af
30.0" Round Culvert n=0.013 L=344.0' S=0.0050 '/' Outflow=10.92 cfs 0.451 af

Pond A-L45: A-L45 Peak Elev=51.09' Inflow=0.57 cfs 0.023 af
18.0" Round Culvert n=0.013 L=181.0' S=0.0080 '/' Outflow=0.57 cfs 0.023 af

Pond A-L46: A-L46 Peak Elev=51.08' Inflow=5.22 cfs 0.216 af
24.0" Round Culvert n=0.013 L=289.0' S=0.0090 '/' Outflow=5.22 cfs 0.216 af

Pond A-L47: A-L47 Peak Elev=51.09' Inflow=6.82 cfs 0.282 af
24.0" Round Culvert n=0.013 L=114.0' S=0.0070 '/' Outflow=6.82 cfs 0.282 af

Pond A-L48: A-L48 Peak Elev=78.24' Inflow=0.34 cfs 0.014 af
24.0" Round Culvert n=0.013 L=198.0' S=0.0050 '/' Outflow=0.34 cfs 0.014 af

Pond A-L49: A-L49 Peak Elev=77.41' Inflow=0.57 cfs 0.023 af
24.0" Round Culvert n=0.013 L=198.0' S=0.0050 '/' Outflow=0.57 cfs 0.023 af

Pond A-L50: A-L50 Peak Elev=77.22' Inflow=7.07 cfs 0.292 af
24.0" Round Culvert n=0.013 L=198.0' S=0.0050 '/' Outflow=7.07 cfs 0.292 af

Pond A-L51: A-L51 Peak Elev=76.26' Inflow=7.26 cfs 0.300 af
24.0" Round Culvert n=0.013 L=198.0' S=0.0050 '/' Outflow=7.26 cfs 0.300 af

Pond A-L52: A-L52 Peak Elev=77.22' Inflow=0.58 cfs 0.024 af
24.0" Round Culvert n=0.013 L=160.0' S=0.0099 '/' Outflow=0.58 cfs 0.024 af

Pond A-L53: A-L53 Peak Elev=75.96' Inflow=1.83 cfs 0.076 af
24.0" Round Culvert n=0.013 L=155.0' S=0.0099 '/' Outflow=1.83 cfs 0.076 af

Pond A-L54: A-L54 Peak Elev=75.46' Inflow=10.44 cfs 0.432 af
24.0" Round Culvert n=0.013 L=55.0' S=0.0095 '/' Outflow=10.44 cfs 0.432 af

Pond A-L55: A-L55 Peak Elev=74.84' Inflow=10.44 cfs 0.432 af
24.0" Round Culvert n=0.013 L=80.0' S=0.0050 '/' Outflow=10.44 cfs 0.432 af

Pond A-L56: A-L56 Peak Elev=74.13' Inflow=12.22 cfs 0.505 af
24.0" Round Culvert n=0.013 L=113.0' S=0.0289 '/' Outflow=12.22 cfs 0.505 af

Pond A-L57: A-L57 Peak Elev=71.08' Inflow=1.81 cfs 0.075 af
24.0" Round Culvert n=0.013 L=63.0' S=0.0100 '/' Outflow=1.81 cfs 0.075 af

Pond A-L58: A-L58 Peak Elev=70.79' Inflow=0.89 cfs 0.037 af
24.0" Round Culvert n=0.013 L=20.0' S=0.0100 '/' Outflow=0.89 cfs 0.037 af

Pond A-L59: A-L59 Peak Elev=70.76' Inflow=2.70 cfs 0.112 af
30.0" Round Culvert n=0.013 L=53.0' S=0.0100 '/' Outflow=2.70 cfs 0.112 af

Pond A-L60: A-L60 Peak Elev=70.64' Inflow=14.92 cfs 0.617 af
30.0" Round Culvert n=0.013 L=408.0' S=0.0100 '/' Outflow=14.92 cfs 0.617 af

Pond A-L61: A-L61 Peak Elev=66.77' Inflow=2.68 cfs 0.111 af
24.0" Round Culvert n=0.013 L=71.0' S=0.0100 '/' Outflow=2.68 cfs 0.111 af

Pond A-L62: A-L62 Peak Elev=66.56' Inflow=1.18 cfs 0.049 af
24.0" Round Culvert n=0.013 L=21.0' S=0.0100 '/' Outflow=1.18 cfs 0.049 af

Pond A-L63: A-L63 Peak Elev=66.54' Inflow=18.78 cfs 0.776 af
36.0" Round Culvert n=0.013 L=440.0' S=0.0100 '/' Outflow=18.78 cfs 0.776 af

Pond A-L64: A-L64 Peak Elev=62.77' Inflow=3.27 cfs 0.135 af
24.0" Round Culvert n=0.013 L=72.0' S=0.0050 '/' Outflow=3.27 cfs 0.135 af

Pond A-L65: A-L65 Peak Elev=62.71' Inflow=1.18 cfs 0.049 af
24.0" Round Culvert n=0.013 L=22.0' S=0.0050 '/' Outflow=1.18 cfs 0.049 af

Pond A-L66: A-L66 Peak Elev=62.71' Inflow=23.23 cfs 0.960 af
36.0" Round Culvert n=0.013 L=98.0' S=0.0060 '/' Outflow=23.23 cfs 0.960 af

Pond A-L67: A-L67 Peak Elev=61.79' Inflow=23.23 cfs 0.960 af
36.0" Round Culvert n=0.013 L=88.0' S=0.0090 '/' Outflow=23.23 cfs 0.960 af

Pond A-L68: A-L68 Peak Elev=60.63' Inflow=23.23 cfs 0.960 af
48.0" Round Culvert n=0.013 L=398.0' S=0.0050 '/' Outflow=23.23 cfs 0.960 af

Pond A-L69: A-L69 Peak Elev=58.38' Inflow=23.23 cfs 0.960 af
48.0" Round Culvert n=0.013 L=240.0' S=0.0129 '/' Outflow=23.23 cfs 0.960 af

Pond A-L70: A-L70 Peak Elev=55.60' Inflow=2.17 cfs 0.090 af
24.0" Round Culvert n=0.013 L=28.0' S=0.0050 '/' Outflow=2.17 cfs 0.090 af

Pond A-L71: A-L71 Peak Elev=55.57' Inflow=25.40 cfs 1.050 af
48.0" Round Culvert n=0.013 L=49.0' S=0.0090 '/' Outflow=25.40 cfs 1.050 af

Pond A-L72: A-L72 Peak Elev=54.73' Inflow=25.40 cfs 1.050 af
48.0" Round Culvert n=0.013 L=340.0' S=0.0159 '/' Outflow=25.40 cfs 1.050 af

Pond A-L73: A-L73 Peak Elev=51.12' Inflow=25.40 cfs 1.050 af
48.0" Round Culvert n=0.013 L=492.0' S=0.0018 '/' Outflow=25.40 cfs 1.050 af

Subcatchment A01: A01 Runoff Area=1.430 ac 0.00% Impervious Runoff Depth=0.65"
Tc=7.0 min C=0.69 Runoff=1.86 cfs 0.077 af

Subcatchment A02: A02 Runoff Area=0.590 ac 0.00% Impervious Runoff Depth=0.67"
Tc=7.0 min C=0.72 Runoff=0.80 cfs 0.033 af

Subcatchment A03: A03 Runoff Area=0.340 ac 100.00% Impervious Runoff Depth=0.89"
Tc=5.0 min C=0.95 Runoff=0.61 cfs 0.025 af

Subcatchment A04: A04 Runoff Area=0.280 ac 100.00% Impervious Runoff Depth=0.89"
Tc=5.0 min C=0.95 Runoff=0.50 cfs 0.021 af

Subcatchment A05: A05 Runoff Area=4.840 ac 0.00% Impervious Runoff Depth=0.51"
Tc=23.0 min C=0.55 Runoff=5.02 cfs 0.207 af

Subcatchment A06: A06 Runoff Area=0.260 ac 0.00% Impervious Runoff Depth=0.70"
Tc=6.0 min C=0.75 Runoff=0.37 cfs 0.015 af

Subcatchment A07: A07 Runoff Area=0.250 ac 0.00% Impervious Runoff Depth=0.60"
Tc=8.0 min C=0.64 Runoff=0.30 cfs 0.012 af

Subcatchment A08: A08 Runoff Area=3.050 ac 0.00% Impervious Runoff Depth=0.54"
Tc=20.0 min C=0.58 Runoff=3.34 cfs 0.138 af

Subcatchment A09: A09 Runoff Area=1.030 ac 0.00% Impervious Runoff Depth=0.63"
Tc=8.0 min C=0.67 Runoff=1.30 cfs 0.054 af

Subcatchment A10: A10 Runoff Area=0.550 ac 0.00% Impervious Runoff Depth=0.82"
Tc=5.0 min C=0.88 Runoff=0.91 cfs 0.038 af

Subcatchment A11: A11 Runoff Area=1.880 ac 0.00% Impervious Runoff Depth=0.88"
Tc=5.0 min C=0.94 Runoff=3.33 cfs 0.138 af

Subcatchment A12: A12 Runoff Area=0.540 ac 0.00% Impervious Runoff Depth=0.62"
Tc=5.0 min C=0.66 Runoff=0.67 cfs 0.028 af

Subcatchment A13: A13 Runoff Area=0.240 ac 0.00% Impervious Runoff Depth=0.78"
Tc=5.0 min C=0.83 Runoff=0.38 cfs 0.016 af

Subcatchment A14: A14 Runoff Area=0.420 ac 0.00% Impervious Runoff Depth=0.72"
Tc=6.0 min C=0.77 Runoff=0.61 cfs 0.025 af

Subcatchment A16/17: A16/17 Runoff Area=0.270 ac 0.00% Impervious Runoff Depth=0.87"
Tc=5.0 min C=0.93 Runoff=0.47 cfs 0.020 af

Subcatchment A18: A18 Runoff Area=3.950 ac 0.00% Impervious Runoff Depth=0.50"
Tc=18.0 min C=0.53 Runoff=3.95 cfs 0.163 af

Subcatchment A19: A19 Runoff Area=0.370 ac 0.00% Impervious Runoff Depth=0.61"
Tc=8.0 min C=0.65 Runoff=0.45 cfs 0.019 af

Subcatchment A20: A20 Runoff Area=0.650 ac 0.00% Impervious Runoff Depth=0.57"
Tc=9.0 min C=0.61 Runoff=0.75 cfs 0.031 af

Subcatchment A21: A21 Runoff Area=0.540 ac 0.00% Impervious Runoff Depth=0.81"
Tc=5.0 min C=0.87 Runoff=0.89 cfs 0.037 af

Subcatchment A22: A22 Runoff Area=0.440 ac 0.00% Impervious Runoff Depth=0.65"
Tc=7.0 min C=0.70 Runoff=0.58 cfs 0.024 af

Subcatchment A23: A23 Runoff Area=3.940 ac 0.00% Impervious Runoff Depth=0.59"
Tc=18.0 min C=0.63 Runoff=4.68 cfs 0.193 af

Subcatchment A24: A24 Runoff Area=5.320 ac 0.00% Impervious Runoff Depth=0.55"
Tc=23.0 min C=0.59 Runoff=5.92 cfs 0.245 af

Subcatchment A25: A25 Runoff Area=3.820 ac 0.00% Impervious Runoff Depth=0.61"
Tc=14.0 min C=0.65 Runoff=4.68 cfs 0.193 af

Subcatchment A26: A26 Runoff Area=5.610 ac 0.00% Impervious Runoff Depth=0.55"
Tc=19.0 min C=0.59 Runoff=6.24 cfs 0.258 af

Subcatchment A27: A27 Runoff Area=4.570 ac 0.00% Impervious Runoff Depth=0.50"
Tc=20.0 min C=0.54 Runoff=4.65 cfs 0.192 af

Subcatchment A28: A28 Runoff Area=6.820 ac 0.00% Impervious Runoff Depth=0.50"
Tc=30.0 min C=0.53 Runoff=6.82 cfs 0.282 af

Subcatchment A29: A29 Runoff Area=0.280 ac 0.00% Impervious Runoff Depth=0.60"
Tc=5.0 min C=0.64 Runoff=0.34 cfs 0.014 af

Subcatchment A30: A30 Runoff Area=0.190 ac 0.00% Impervious Runoff Depth=0.60"
Tc=5.0 min C=0.64 Runoff=0.23 cfs 0.009 af

Subcatchment A31: A31 Runoff Area=0.180 ac 0.00% Impervious Runoff Depth=0.60"
Tc=5.0 min C=0.64 Runoff=0.22 cfs 0.009 af

Subcatchment A32: A32 Runoff Area=0.160 ac 0.00% Impervious Runoff Depth=0.60"
Tc=5.0 min C=0.64 Runoff=0.19 cfs 0.008 af

Subcatchment A33: A33 Runoff Area=0.420 ac 0.00% Impervious Runoff Depth=0.68"
Tc=7.0 min C=0.73 Runoff=0.58 cfs 0.024 af

Subcatchment A34: A34 Runoff Area=0.980 ac 0.00% Impervious Runoff Depth=0.64"
Tc=8.0 min C=0.68 Runoff=1.26 cfs 0.052 af

Subcatchment A35: A35 Runoff Area=1.050 ac 0.00% Impervious Runoff Depth=0.64"
Tc=8.0 min C=0.68 Runoff=1.35 cfs 0.056 af

Subcatchment A36/37: A36/37 Runoff Area=1.410 ac 0.00% Impervious Runoff Depth=0.63"
Tc=8.0 min C=0.67 Runoff=1.78 cfs 0.074 af

Subcatchment A38: A38 Runoff Area=1.030 ac 0.00% Impervious Runoff Depth=0.87"
Tc=5.0 min C=0.93 Runoff=1.81 cfs 0.075 af

Subcatchment A39: A39 Runoff Area=0.520 ac 0.00% Impervious Runoff Depth=0.85"
Tc=5.0 min C=0.91 Runoff=0.89 cfs 0.037 af

Subcatchment A40: A40 Runoff Area=1.870 ac 0.00% Impervious Runoff Depth=0.71"
Tc=6.0 min C=0.76 Runoff=2.68 cfs 0.111 af

Subcatchment A41: A41 Runoff Area=0.720 ac 0.00% Impervious Runoff Depth=0.81"
Tc=5.0 min C=0.87 Runoff=1.18 cfs 0.049 af

Subcatchment A42: A42 Runoff Area=2.340 ac 0.00% Impervious Runoff Depth=0.69"
Tc=6.0 min C=0.74 Runoff=3.27 cfs 0.135 af

Subcatchment A43: A43 Runoff Area=0.720 ac 0.00% Impervious Runoff Depth=0.81"
Tc=5.0 min C=0.87 Runoff=1.18 cfs 0.049 af

Subcatchment A44: A44 Runoff Area=1.370 ac 0.00% Impervious Runoff Depth=0.79"
Tc=5.0 min C=0.84 Runoff=2.17 cfs 0.090 af

Subcatchment A45: A45 Runoff Area=4.580 ac 0.00% Impervious Runoff Depth=0.61"
Tc=5.0 min C=0.65 Runoff=5.61 cfs 0.232 af

Subcatchment A46: A46 Runoff Area=5.050 ac 0.00% Impervious Runoff Depth=0.62"
Tc=5.0 min C=0.66 Runoff=6.28 cfs 0.260 af

Subcatchment A47: A47 Runoff Area=5.510 ac 0.00% Impervious Runoff Depth=0.86"
Tc=5.0 min C=0.92 Runoff=9.56 cfs 0.395 af

Subcatchment Basin-A1: Basin A1 Runoff Area=5.620 ac 0.00% Impervious Runoff Depth=0.55"
Tc=23.0 min C=0.59 Runoff=6.25 cfs 0.258 af

Subcatchment Basin-A2: ABASIN2 Runoff Area=0.750 ac 0.00% Impervious Runoff Depth=0.79"
Tc=5.0 min C=0.84 Runoff=1.19 cfs 0.049 af

Subcatchment Basin-A3: Basin A3 Runoff Area=0.450 ac 0.00% Impervious Runoff Depth=0.63"
Tc=8.0 min C=0.67 Runoff=0.57 cfs 0.023 af

Pond D-L1: D-L1 Peak Elev=51.79' Inflow=2.85 cfs 0.118 af
18.0" Round Culvert n=0.013 L=50.0' S=0.0960 '/' Outflow=2.85 cfs 0.118 af

Subcatchment D1: D1 Runoff Area=2.910 ac 0.00% Impervious Runoff Depth=0.49"
Tc=20.0 min C=0.52 Runoff=2.85 cfs 0.118 af

Pond OUTFALL A: OUTFALL A Inflow=69.62 cfs 3.501 af
Primary=69.62 cfs 3.501 af

Pond Outlet: BasinOutlet Inflow=41.66 cfs 1.109 af
Primary=41.66 cfs 1.109 af

Total Runoff Area = 90.110 ac Runoff Volume = 4.608 af Average Runoff Depth = 0.61"
99.31% Pervious = 89.490 ac 0.69% Impervious = 0.620 ac

Summary for Pond A-BUBBLER: A-BUBBLER

Inflow Area = 87.200 ac, 0.71% Impervious, Inflow Depth = 0.62" for 50-Year event
Inflow = 108.66 cfs @ 0.50 hrs, Volume= 4.490 af
Outflow = 108.42 cfs @ 0.50 hrs, Volume= 4.492 af, Atten= 0%, Lag= 0.0 min
Primary = 69.62 cfs @ 0.50 hrs, Volume= 3.501 af
Secondary = 38.81 cfs @ 0.50 hrs, Volume= 0.991 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.28' @ 0.50 hrs Surf.Area= 13,634 sf Storage= 1,890 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.2 min (21.7 - 21.6)

Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	24,687 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	100	0	0
51.00	49,273	24,687	24,687

Device	Routing	Invert	Outlet Devices
#1	Primary	43.60'	**34.0" Round Outfall Pipe** L= 108.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 43.60' / 42.53' S= 0.0099 '/' Cc= 0.900 n= 0.013, Flow Area= 6.31 sf
#2	Secondary	50.00'	**100.0' long x 500.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=69.62 cfs @ 0.50 hrs HW=50.28' TW=0.00' (Dynamic Tailwater)
└—**1=Outfall Pipe** (Inlet Controls 69.62 cfs @ 11.04 fps)

Secondary OutFlow Max=38.81 cfs @ 0.50 hrs HW=50.28' TW=0.00' (Dynamic Tailwater)
└—**2=Broad-Crested Rectangular Weir** (Weir Controls 38.81 cfs @ 1.41 fps)

Summary for Pond A-L01: A-L01

Inflow Area = 1.430 ac, 0.00% Impervious, Inflow Depth = 0.65" for 50-Year event
Inflow = 1.86 cfs @ 0.12 hrs, Volume= 0.077 af
Outflow = 1.86 cfs @ 0.13 hrs, Volume= 0.077 af, Atten= 0%, Lag= 0.6 min
Primary = 1.86 cfs @ 0.13 hrs, Volume= 0.077 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 77.46' @ 0.12 hrs
Flood Elev= 82.95'

Device	Routing	Invert	Outlet Devices
#1	Primary	76.90'	**24.0" Round A-L1** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 76.90' / 74.93' S= 0.0098 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.86 cfs @ 0.13 hrs HW=77.46' TW=75.51' (Dynamic Tailwater)
└─**1=A-L1** (Inlet Controls 1.86 cfs @ 2.56 fps)

Summary for Pond A-L02: A-L02

Inflow Area = 2.020 ac, 0.00% Impervious, Inflow Depth = 0.65" for 50-Year event
Inflow = 2.66 cfs @ 0.13 hrs, Volume= 0.110 af
Outflow = 2.66 cfs @ 0.13 hrs, Volume= 0.110 af, Atten= 0%, Lag= 0.0 min
Primary = 2.66 cfs @ 0.13 hrs, Volume= 0.110 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 75.51' @ 0.12 hrs
Flood Elev= 82.95'

Device	Routing	Invert	Outlet Devices
#1	Primary	74.83'	**24.0" Round A-L2** L= 132.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 74.83' / 73.51' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=2.66 cfs @ 0.13 hrs HW=75.51' TW=74.09' (Dynamic Tailwater)
└─**1=A-L2** (Inlet Controls 2.66 cfs @ 2.81 fps)

Summary for Pond A-L03: A-L03

Inflow Area = 2.020 ac, 0.00% Impervious, Inflow Depth = 0.65" for 50-Year event
Inflow = 2.66 cfs @ 0.13 hrs, Volume= 0.110 af
Outflow = 2.66 cfs @ 0.13 hrs, Volume= 0.110 af, Atten= 0%, Lag= 0.0 min
Primary = 2.66 cfs @ 0.13 hrs, Volume= 0.110 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 74.09' @ 0.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	73.41'	**24.0" Round Pipe** L= 175.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 73.41' / 71.66' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=2.66 cfs @ 0.13 hrs HW=74.09' TW=72.33' (Dynamic Tailwater)
└─**1=Pipe** (Inlet Controls 2.66 cfs @ 2.81 fps)

Summary for Pond A-L04: A-L04

Inflow Area = 2.360 ac, 14.41% Impervious, Inflow Depth = 0.69" for 50-Year event
Inflow = 3.27 cfs @ 0.13 hrs, Volume= 0.135 af
Outflow = 3.27 cfs @ 0.12 hrs, Volume= 0.135 af, Atten= 0%, Lag= 0.0 min
Primary = 3.27 cfs @ 0.12 hrs, Volume= 0.135 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 72.36' @ 0.40 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	71.56'	**24.0" Round A-L4** L= 218.0' RCP, sq.cut end projecting, Ke= 0.500

Inlet / Outlet Invert= 71.56' / 69.38' S= 0.0100 '/' Cc= 0.900
n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=3.27 cfs @ 0.12 hrs HW=72.33' TW=70.51' (Dynamic Tailwater)
↑—**1=A-L4** (Outlet Controls 3.27 cfs @ 4.35 fps)

Summary for Pond A-L05: A-L05

Inflow Area = 2.640 ac, 23.48% Impervious, Inflow Depth = 0.71" for 50-Year event
Inflow = 3.77 cfs @ 0.12 hrs, Volume= 0.156 af
Outflow = 3.77 cfs @ 0.33 hrs, Volume= 0.156 af, Atten= 0%, Lag= 12.6 min
Primary = 3.77 cfs @ 0.33 hrs, Volume= 0.156 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 70.78' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.28'	**24.0" Round A-L5** L= 49.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 69.28' / 68.79' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=3.77 cfs @ 0.33 hrs HW=70.72' TW=70.56' (Dynamic Tailwater)
↑—**1=A-L5** (Outlet Controls 3.77 cfs @ 2.19 fps)

Summary for Pond A-L06: A-L06

Inflow Area = 4.840 ac, 0.00% Impervious, Inflow Depth = 0.51" for 50-Year event
Inflow = 5.02 cfs @ 0.39 hrs, Volume= 0.207 af
Outflow = 5.02 cfs @ 0.40 hrs, Volume= 0.207 af, Atten= 0%, Lag= 0.6 min
Primary = 5.02 cfs @ 0.40 hrs, Volume= 0.207 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 70.84' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.26'	**24.0" Round A-L6** L= 37.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 69.26' / 68.89' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=5.02 cfs @ 0.40 hrs HW=70.84' TW=70.65' (Dynamic Tailwater)
↑—**1=A-L6** (Outlet Controls 5.02 cfs @ 2.58 fps)

Summary for Pond A-L07: A-L07

Inflow Area = 12.060 ac, 5.14% Impervious, Inflow Depth = 0.59" for 50-Year event
Inflow = 14.40 cfs @ 0.39 hrs, Volume= 0.595 af
Outflow = 14.40 cfs @ 0.39 hrs, Volume= 0.595 af, Atten= 0%, Lag= 0.0 min
Primary = 14.40 cfs @ 0.39 hrs, Volume= 0.595 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 70.65' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	68.69'	**24.0" Round Pipe** L= 139.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 68.69' / 67.30' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=14.40 cfs @ 0.39 hrs HW=70.65' TW=69.14' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 14.40 cfs @ 5.83 fps)

Summary for Pond A-L08: A-L08

Inflow Area = 12.320 ac, 5.03% Impervious, Inflow Depth = 0.59" for 50-Year event
Inflow = 14.77 cfs @ 0.39 hrs, Volume= 0.610 af
Outflow = 14.77 cfs @ 0.39 hrs, Volume= 0.610 af, Atten= 0%, Lag= 0.0 min
Primary = 14.77 cfs @ 0.39 hrs, Volume= 0.610 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 69.14' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	67.20'	**24.0" Round A-L8** L= 196.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 67.20' / 65.24' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=14.77 cfs @ 0.39 hrs HW=69.14' TW=66.75' (Dynamic Tailwater)
└─**1=A-L8** (Inlet Controls 14.77 cfs @ 4.74 fps)

Summary for Pond A-L09: A-L09

Inflow Area = 12.570 ac, 4.93% Impervious, Inflow Depth = 0.59" for 50-Year event
Inflow = 15.07 cfs @ 0.39 hrs, Volume= 0.623 af
Outflow = 15.07 cfs @ 0.39 hrs, Volume= 0.623 af, Atten= 0%, Lag= 0.0 min
Primary = 15.07 cfs @ 0.39 hrs, Volume= 0.623 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 66.75' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	65.14'	**36.0" Round A-L9** L= 98.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 65.14' / 64.16' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=15.07 cfs @ 0.39 hrs HW=66.75' TW=65.58' (Dynamic Tailwater)
└─**1=A-L9** (Outlet Controls 15.07 cfs @ 5.65 fps)

Summary for Pond A-L10: A-L10

Inflow Area = 12.570 ac, 4.93% Impervious, Inflow Depth = 0.59" for 50-Year event
Inflow = 15.07 cfs @ 0.39 hrs, Volume= 0.623 af
Outflow = 15.07 cfs @ 0.39 hrs, Volume= 0.623 af, Atten= 0%, Lag= 0.0 min
Primary = 15.07 cfs @ 0.39 hrs, Volume= 0.623 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3

Peak Elev= 65.58' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	64.06'	**36.0" Round Pipe** L= 195.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 64.06' / 60.74' S= 0.0170 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=15.07 cfs @ 0.39 hrs HW=65.58' TW=62.16' (Dynamic Tailwater)
└─**1=Pipe** (Inlet Controls 15.07 cfs @ 4.20 fps)

Summary for Pond A-L11: A-L11

Inflow Area = 12.570 ac, 4.93% Impervious, Inflow Depth = 0.59" for 50-Year event
Inflow = 15.07 cfs @ 0.39 hrs, Volume= 0.623 af
Outflow = 15.07 cfs @ 0.43 hrs, Volume= 0.623 af, Atten= 0%, Lag= 2.4 min
Primary = 15.07 cfs @ 0.43 hrs, Volume= 0.623 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 62.16' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.64'	**36.0" Round Pipe** L= 47.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 60.64' / 56.47' S= 0.0887 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=15.07 cfs @ 0.43 hrs HW=62.16' TW=58.54' (Dynamic Tailwater)
└─**1=Pipe** (Inlet Controls 15.07 cfs @ 4.20 fps)

Summary for Pond A-L12: A-L12

Inflow Area = 15.620 ac, 3.97% Impervious, Inflow Depth = 0.58" for 50-Year event
Inflow = 18.41 cfs @ 0.43 hrs, Volume= 0.761 af
Outflow = 18.41 cfs @ 0.43 hrs, Volume= 0.761 af, Atten= 0%, Lag= 0.0 min
Primary = 18.41 cfs @ 0.43 hrs, Volume= 0.761 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 58.54' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.37'	**36.0" Round A-L12** L= 48.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 56.37' / 56.13' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=18.41 cfs @ 0.43 hrs HW=58.54' TW=57.92' (Dynamic Tailwater)
└─**1=A-L12** (Outlet Controls 18.41 cfs @ 4.69 fps)

Summary for Pond A-L13: A-L13

Inflow Area = 1.030 ac, 0.00% Impervious, Inflow Depth = 0.63" for 50-Year event
Inflow = 1.30 cfs @ 0.14 hrs, Volume= 0.054 af
Outflow = 1.30 cfs @ 0.33 hrs, Volume= 0.054 af, Atten= 0%, Lag= 11.4 min
Primary = 1.30 cfs @ 0.33 hrs, Volume= 0.054 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 57.92' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.19'	**36.0" Round A-L13** L= 12.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 56.19' / 56.13' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=1.30 cfs @ 0.33 hrs HW=57.89' TW=57.88' (Dynamic Tailwater)
└─**1=A-L13** (Outlet Controls 1.30 cfs @ 0.46 fps)

Summary for Pond A-L14: A-L14

Inflow Area = 2.430 ac, 0.00% Impervious, Inflow Depth = 0.87" for 50-Year event
Inflow = 4.24 cfs @ 0.09 hrs, Volume= 0.175 af
Outflow = 4.24 cfs @ 0.09 hrs, Volume= 0.175 af, Atten= 0%, Lag= 0.0 min
Primary = 4.24 cfs @ 0.09 hrs, Volume= 0.175 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 80.81' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	80.04'	**36.0" Round Pipe** L= 520.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 80.04' / 56.13' S= 0.0460 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=4.24 cfs @ 0.09 hrs HW=80.81' TW=57.52' (Dynamic Tailwater)
└─**1=Pipe** (Inlet Controls 4.24 cfs @ 2.98 fps)

Summary for Pond A-L15: A-L15

Inflow Area = 0.550 ac, 0.00% Impervious, Inflow Depth = 0.82" for 50-Year event
Inflow = 0.91 cfs @ 0.09 hrs, Volume= 0.038 af
Outflow = 0.91 cfs @ 0.09 hrs, Volume= 0.038 af, Atten= 0%, Lag= 0.0 min
Primary = 0.91 cfs @ 0.09 hrs, Volume= 0.038 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 81.03' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	80.51'	**24.0" Round A-L15** L= 54.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 80.51' / 80.24' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.91 cfs @ 0.09 hrs HW=81.03' TW=80.81' (Dynamic Tailwater)
└─**1=A-L15** (Outlet Controls 0.91 cfs @ 2.10 fps)

Summary for Pond A-L16: A-L16

Inflow Area = 1.880 ac, 0.00% Impervious, Inflow Depth = 0.88" for 50-Year event
Inflow = 3.33 cfs @ 0.09 hrs, Volume= 0.138 af
Outflow = 3.33 cfs @ 0.09 hrs, Volume= 0.138 af, Atten= 0%, Lag= 0.0 min
Primary = 3.33 cfs @ 0.09 hrs, Volume= 0.138 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 81.25' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	80.30'	**24.0" Round A-L16** L= 12.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 80.30' / 80.24' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=3.33 cfs @ 0.09 hrs HW=81.25' TW=80.81' (Dynamic Tailwater)
└─**1=A-L16** (Barrel Controls 3.33 cfs @ 3.34 fps)

Summary for Pond A-L17: A-L17

Inflow Area = 19.080 ac, 3.25% Impervious, Inflow Depth = 0.62" for 50-Year event
Inflow = 23.96 cfs @ 0.43 hrs, Volume= 0.990 af
Outflow = 23.96 cfs @ 0.43 hrs, Volume= 0.990 af, Atten= 0%, Lag= 0.0 min
Primary = 23.96 cfs @ 0.43 hrs, Volume= 0.990 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 57.92' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	55.93'	**42.0" Round Pipe** L= 267.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 55.93' / 54.06' S= 0.0070 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=23.96 cfs @ 0.43 hrs HW=57.92' TW=55.98' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 23.96 cfs @ 6.13 fps)

Summary for Pond A-L18: A-L18

Inflow Area = 0.540 ac, 0.00% Impervious, Inflow Depth = 0.62" for 50-Year event
Inflow = 0.67 cfs @ 0.09 hrs, Volume= 0.028 af
Outflow = 0.67 cfs @ 0.37 hrs, Volume= 0.028 af, Atten= 0%, Lag= 16.8 min
Primary = 0.67 cfs @ 0.37 hrs, Volume= 0.028 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 55.98' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.70'	**24.0" Round A-L18** L= 12.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 54.70' / 54.16' S= 0.0450 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.67 cfs @ 0.37 hrs HW=55.98' TW=55.97' (Dynamic Tailwater)
└─**1=A-L18** (Outlet Controls 0.67 cfs @ 0.45 fps)

Summary for Pond A-L19: A-L19

Inflow Area = 0.240 ac, 0.00% Impervious, Inflow Depth = 0.78" for 50-Year event
Inflow = 0.38 cfs @ 0.09 hrs, Volume= 0.016 af
Outflow = 0.38 cfs @ 0.30 hrs, Volume= 0.016 af, Atten= 0%, Lag= 12.6 min
Primary = 0.38 cfs @ 0.30 hrs, Volume= 0.016 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 55.98' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.80'	**24.0" Round A-L19** L= 30.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 54.80' / 54.16' S= 0.0213 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.38 cfs @ 0.30 hrs HW=55.91' TW=55.91' (Dynamic Tailwater)
1=A-L19 (Outlet Controls 0.38 cfs @ 0.30 fps)

Summary for Pond A-L20: A-L20

Inflow Area = 19.860 ac, 3.12% Impervious, Inflow Depth = 0.62" for 50-Year event
Inflow = 25.00 cfs @ 0.43 hrs, Volume= 1.033 af
Outflow = 25.00 cfs @ 0.43 hrs, Volume= 1.033 af, Atten= 0%, Lag= 0.0 min
Primary = 25.00 cfs @ 0.43 hrs, Volume= 1.033 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 55.98' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.96'	**42.0" Round Pipe** L= 462.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 53.96' / 51.65' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=25.00 cfs @ 0.43 hrs HW=55.98' TW=53.07' (Dynamic Tailwater)
1=Pipe (Barrel Controls 25.00 cfs @ 6.27 fps)

Summary for Pond A-L21: A-L21

Inflow Area = 0.420 ac, 0.00% Impervious, Inflow Depth = 0.72" for 50-Year event
Inflow = 0.61 cfs @ 0.10 hrs, Volume= 0.025 af
Outflow = 0.61 cfs @ 0.11 hrs, Volume= 0.025 af, Atten= 0%, Lag= 0.6 min
Primary = 0.61 cfs @ 0.11 hrs, Volume= 0.025 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 53.08' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.80'	**24.0" Round A-L21** L= 30.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 51.80' / 51.75' S= 0.0017 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.57 cfs @ 0.11 hrs HW=52.83' TW=52.82' (Dynamic Tailwater)
1=A-L21 (Outlet Controls 0.57 cfs @ 0.51 fps)

Summary for Pond A-L22: A-L22

Inflow Area =	20.280 ac,	3.06% Impervious,	Inflow Depth = 0.63"	for 50-Year event
Inflow =	25.61 cfs @	0.43 hrs, Volume=	1.058 af	
Outflow =	25.61 cfs @	0.43 hrs, Volume=	1.058 af, Atten= 0%, Lag= 0.0 min	
Primary =	25.61 cfs @	0.43 hrs, Volume=	1.058 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 53.07' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.55'	**42.0" Round Pipe X 2.00** L= 190.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 51.55' / 50.60' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=25.61 cfs @ 0.43 hrs HW=53.07' TW=51.97' (Dynamic Tailwater)
1=Pipe (Outlet Controls 25.61 cfs @ 4.71 fps)

Summary for Pond A-L23: A-L23

Inflow Area =	20.280 ac,	3.06% Impervious,	Inflow Depth = 0.63"	for 50-Year event
Inflow =	25.61 cfs @	0.43 hrs, Volume=	1.058 af	
Outflow =	25.61 cfs @	0.47 hrs, Volume=	1.058 af, Atten= 0%, Lag= 2.4 min	
Primary =	25.61 cfs @	0.47 hrs, Volume=	1.058 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 51.97' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.40'	**42.0" Round Pipe X 2.00** L= 286.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 50.40' / 45.83' S= 0.0160 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=25.61 cfs @ 0.47 hrs HW=51.97' TW=50.71' (Dynamic Tailwater)
1=Pipe (Outlet Controls 25.61 cfs @ 4.51 fps)

Summary for Pond A-L25: A-L25

Inflow Area =	25.900 ac,	2.39% Impervious,	Inflow Depth = 0.61"	for 50-Year event
Inflow =	31.87 cfs @	0.47 hrs, Volume=	1.317 af	
Outflow =	31.87 cfs @	0.43 hrs, Volume=	1.317 af, Atten= 0%, Lag= 0.0 min	
Primary =	31.87 cfs @	0.43 hrs, Volume=	1.317 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.71' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	45.73'	**42.0" Round Pipe X 2.00** L= 163.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 45.73' / 45.08' S= 0.0040 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=31.76 cfs @ 0.43 hrs HW=50.71' TW=50.59' (Dynamic Tailwater)
↑—**1=Pipe** (Inlet Controls 31.76 cfs @ 1.65 fps)

Summary for Pond A-L27: A-L27

Inflow Area = 0.270 ac, 0.00% Impervious, Inflow Depth = 0.87" for 50-Year event
Inflow = 0.47 cfs @ 0.09 hrs, Volume= 0.020 af
Outflow = 0.47 cfs @ 0.09 hrs, Volume= 0.020 af, Atten= 0%, Lag= 0.0 min
Primary = 0.47 cfs @ 0.09 hrs, Volume= 0.020 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.59' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	45.59'	**24.0" Round A-L27** L= 102.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 45.59' / 45.08' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.00 cfs @ 0.09 hrs HW=50.12' TW=50.12' (Dynamic Tailwater)
↑—**1=A-L27** (Controls 0.00 cfs)

Summary for Pond A-L28: A-L28

Inflow Area = 26.170 ac, 2.37% Impervious, Inflow Depth = 0.61" for 50-Year event
Inflow = 32.34 cfs @ 0.43 hrs, Volume= 1.336 af
Outflow = 32.34 cfs @ 0.41 hrs, Volume= 1.336 af, Atten= 0%, Lag= 0.0 min
Primary = 32.34 cfs @ 0.41 hrs, Volume= 1.336 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.59' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.98'	**42.0" Round Pipe X 2.00** L= 343.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.98' / 44.13' S= 0.0025 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=32.34 cfs @ 0.41 hrs HW=50.59' TW=50.43' (Dynamic Tailwater)
↑—**1=Pipe** (Outlet Controls 32.34 cfs @ 1.68 fps)

Summary for Pond A-L29: A-L29

Inflow Area = 0.750 ac, 0.00% Impervious, Inflow Depth = 0.79" for 50-Year event
Inflow = 1.19 cfs @ 0.09 hrs, Volume= 0.049 af
Outflow = 1.19 cfs @ 0.47 hrs, Volume= 0.049 af, Atten= 0%, Lag= 22.8 min
Primary = 1.19 cfs @ 0.47 hrs, Volume= 0.049 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.61' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.25'	**18.0" Round A-L29** L= 233.0' RCP, sq.cut end projecting, Ke= 0.500

Inlet / Outlet Invert= 47.25' / 46.20' S= 0.0045 '/' Cc= 0.900
n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=1.18 cfs @ 0.47 hrs HW=50.61' TW=50.57' (Dynamic Tailwater)
└─**1=A-L29** (Outlet Controls 1.18 cfs @ 0.67 fps)

Summary for Pond A-L30: A-L30

Inflow Area =	4.700 ac,	0.00% Impervious,	Inflow Depth = 0.54"	for 50-Year event
Inflow =	5.14 cfs @	0.30 hrs, Volume=	0.212 af	
Outflow =	5.14 cfs @	0.39 hrs, Volume=	0.212 af,	Atten= 0%, Lag= 5.4 min
Primary =	5.14 cfs @	0.39 hrs, Volume=	0.212 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.57' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.10'	**24.0" Round A-L30** L= 140.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 46.10' / 45.40' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=5.14 cfs @ 0.39 hrs HW=50.56' TW=50.43' (Dynamic Tailwater)
└─**1=A-L30** (Outlet Controls 5.14 cfs @ 1.63 fps)

Summary for Pond A-L31: A-L31

Inflow Area =	30.870 ac,	2.01% Impervious,	Inflow Depth = 0.60"	for 50-Year event
Inflow =	37.47 cfs @	0.41 hrs, Volume=	1.549 af	
Outflow =	37.47 cfs @	0.41 hrs, Volume=	1.549 af,	Atten= 0%, Lag= 0.0 min
Primary =	37.47 cfs @	0.41 hrs, Volume=	1.549 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.44' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.13'	**42.0" Round Pipe X 2.00** L= 133.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 44.13' / 43.60' S= 0.0040 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=37.47 cfs @ 0.41 hrs HW=50.43' TW=50.27' (Dynamic Tailwater)
└─**1=Pipe** (Inlet Controls 37.47 cfs @ 1.95 fps)

Summary for Pond A-L32: A-L32

Inflow Area =	0.370 ac,	0.00% Impervious,	Inflow Depth = 0.61"	for 50-Year event
Inflow =	0.45 cfs @	0.14 hrs, Volume=	0.019 af	
Outflow =	0.45 cfs @	0.42 hrs, Volume=	0.019 af,	Atten= 0%, Lag= 16.8 min
Primary =	0.45 cfs @	0.42 hrs, Volume=	0.019 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3

Peak Elev= 54.47' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.46'	**18.0" Round A-L32** L= 36.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 51.46' / 51.28' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=0.21 cfs @ 0.42 hrs HW=54.45' TW=54.45' (Dynamic Tailwater)
└─**1=A-L32** (Inlet Controls 0.21 cfs @ 0.12 fps)

Summary for Pond A-L33: A-L33

Inflow Area = 0.650 ac, 0.00% Impervious, Inflow Depth = 0.57" for 50-Year event
Inflow = 0.75 cfs @ 0.15 hrs, Volume= 0.031 af
Outflow = 0.75 cfs @ 0.25 hrs, Volume= 0.031 af, Atten= 0%, Lag= 6.0 min
Primary = 0.75 cfs @ 0.25 hrs, Volume= 0.031 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 54.48' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.30'	**18.0" Round A-L33** L= 4.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 51.30' / 51.28' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=0.00 cfs @ 0.25 hrs HW=53.51' TW=53.52' (Dynamic Tailwater)
└─**1=A-L33** (Controls 0.00 cfs)

Summary for Pond A-L34: A-L34

Inflow Area = 1.020 ac, 0.00% Impervious, Inflow Depth = 0.58" for 50-Year event
Inflow = 1.20 cfs @ 0.23 hrs, Volume= 0.050 af
Outflow = 1.20 cfs @ 0.31 hrs, Volume= 0.050 af, Atten= 0%, Lag= 4.8 min
Primary = 1.20 cfs @ 0.31 hrs, Volume= 0.050 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 54.47' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.08'	**18.0" Round Pipe** L= 125.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 51.08' / 50.58' S= 0.0040 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=0.24 cfs @ 0.31 hrs HW=54.11' TW=54.11' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 0.24 cfs @ 0.14 fps)

Summary for Pond A-L35: A-L35

Inflow Area = 5.510 ac, 0.00% Impervious, Inflow Depth = 0.86" for 50-Year event
Inflow = 9.56 cfs @ 0.09 hrs, Volume= 0.395 af
Outflow = 9.56 cfs @ 0.42 hrs, Volume= 0.395 af, Atten= 0%, Lag= 19.8 min
Primary = 9.56 cfs @ 0.42 hrs, Volume= 0.395 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 54.61' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.40'	**30.0" Round A-L35** L= 4.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 50.40' / 50.38' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=9.52 cfs @ 0.42 hrs HW=54.59' TW=54.42' (Dynamic Tailwater)
↑—**1=A-L35** (Inlet Controls 9.52 cfs @ 1.94 fps)

Summary for Pond A-L36: A-L36

Inflow Area =	7.070 ac,	0.00% Impervious,	Inflow Depth = 0.82"	for 50-Year event
Inflow =	11.65 cfs @	0.25 hrs, Volume=	0.481 af	
Outflow =	11.65 cfs @	0.46 hrs, Volume=	0.481 af,	Atten= 0%, Lag= 12.6 min
Primary =	11.65 cfs @	0.46 hrs, Volume=	0.481 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 54.45' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.28'	**30.0" Round Pipe** L= 44.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 50.28' / 50.06' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=11.65 cfs @ 0.46 hrs HW=54.44' TW=54.19' (Dynamic Tailwater)
↑—**1=Pipe** (Inlet Controls 11.65 cfs @ 2.37 fps)

Summary for Pond A-L37: A-L37

Inflow Area =	7.510 ac,	0.00% Impervious,	Inflow Depth = 0.81"	for 50-Year event
Inflow =	12.23 cfs @	0.46 hrs, Volume=	0.505 af	
Outflow =	12.23 cfs @	0.46 hrs, Volume=	0.505 af,	Atten= 0%, Lag= 0.0 min
Primary =	12.23 cfs @	0.46 hrs, Volume=	0.505 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 54.20' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	49.96'	**30.0" Round A-L37** L= 692.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 49.96' / 46.50' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=12.21 cfs @ 0.46 hrs HW=54.19' TW=53.43' (Dynamic Tailwater)
↑—**1=A-L37** (Outlet Controls 12.21 cfs @ 2.49 fps)

Summary for Pond A-L38: A-L38

Inflow Area =	26.200 ac,	0.00% Impervious,	Inflow Depth = 0.64"	for 50-Year event
Inflow =	33.75 cfs @	0.39 hrs, Volume=	1.395 af	
Outflow =	33.75 cfs @	0.39 hrs, Volume=	1.395 af,	Atten= 0%, Lag= 0.0 min
Primary =	33.75 cfs @	0.39 hrs, Volume=	1.395 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 53.45' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.40'	**36.0" Round Pipe** L= 8.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.40' / 46.36' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=33.71 cfs @ 0.39 hrs HW=53.41' TW=52.43' (Dynamic Tailwater)
└─**1=Pipe** (Inlet Controls 33.71 cfs @ 4.77 fps)

Summary for Pond A-L39: A-L39

Inflow Area =	26.200 ac,	0.00% Impervious,	Inflow Depth = 0.64"	for 50-Year event
Inflow =	33.75 cfs @	0.39 hrs, Volume=	1.395 af	
Outflow =	33.75 cfs @	0.43 hrs, Volume=	1.395 af,	Atten= 0%, Lag= 2.4 min
Primary =	33.75 cfs @	0.43 hrs, Volume=	1.395 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 52.46' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.06'	**36.0" Round Pipe** L= 415.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.06' / 44.40' S= 0.0040 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=33.75 cfs @ 0.43 hrs HW=52.44' TW=50.85' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 33.75 cfs @ 4.77 fps)

Summary for Pond A-L40: A-L40

Inflow Area =	56.330 ac,	0.00% Impervious,	Inflow Depth = 0.63"	for 50-Year event
Inflow =	71.19 cfs @	0.50 hrs, Volume=	2.942 af	
Outflow =	71.19 cfs @	0.50 hrs, Volume=	2.942 af,	Atten= 0%, Lag= 0.0 min
Primary =	71.19 cfs @	0.50 hrs, Volume=	2.942 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.87' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.30'	**42.0" Round Pipe X 2.00** L= 175.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.30' / 43.60' S= 0.0040 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=71.19 cfs @ 0.50 hrs HW=50.87' TW=50.28' (Dynamic Tailwater)
↑—**1=Pipe** (Inlet Controls 71.19 cfs @ 3.70 fps)

Summary for Pond A-L41: A-L41

Inflow Area =	3.940 ac,	0.00% Impervious, Inflow Depth = 0.59"	for 50-Year event	
Inflow =	4.68 cfs @	0.30 hrs, Volume=	0.193 af	
Outflow =	4.68 cfs @	0.31 hrs, Volume=	0.193 af,	Atten= 0%, Lag= 0.6 min
Primary =	4.68 cfs @	0.31 hrs, Volume=	0.193 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 54.03' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.35'	**24.0" Round A-L41** L= 330.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 50.35' / 48.70' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=4.28 cfs @ 0.31 hrs HW=53.61' TW=53.45' (Dynamic Tailwater)
↑—**1=A-L41** (Outlet Controls 4.28 cfs @ 1.36 fps)

Summary for Pond A-L42: A-L42

Inflow Area =	9.260 ac,	0.00% Impervious, Inflow Depth = 0.57"	for 50-Year event	
Inflow =	10.60 cfs @	0.39 hrs, Volume=	0.438 af	
Outflow =	10.60 cfs @	0.39 hrs, Volume=	0.438 af,	Atten= 0%, Lag= 0.0 min
Primary =	10.60 cfs @	0.39 hrs, Volume=	0.438 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 53.83' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	48.60'	**30.0" Round A-L42** L= 420.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 48.60' / 46.50' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=10.56 cfs @ 0.39 hrs HW=53.80' TW=53.41' (Dynamic Tailwater)
↑—**1=A-L42** (Outlet Controls 10.56 cfs @ 2.15 fps)

Summary for Pond A-L43: A-L43

Inflow Area =	3.820 ac,	0.00% Impervious, Inflow Depth = 0.61"	for 50-Year event	
Inflow =	4.68 cfs @	0.24 hrs, Volume=	0.193 af	
Outflow =	4.68 cfs @	0.45 hrs, Volume=	0.193 af,	Atten= 0%, Lag= 12.6 min
Primary =	4.68 cfs @	0.45 hrs, Volume=	0.193 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 53.98' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	49.77'	**24.0" Round A-L43** L= 290.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 49.77' / 48.32' S= 0.0050 '/' Cc= 0.900

n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=4.68 cfs @ 0.45 hrs HW=53.97' TW=53.79' (Dynamic Tailwater)
└─**1=A-L43** (Outlet Controls 4.68 cfs @ 1.49 fps)

Summary for Pond A-L44: A-L44

Inflow Area = 9.430 ac, 0.00% Impervious, Inflow Depth = 0.57" for 50-Year event
Inflow = 10.92 cfs @ 0.45 hrs, Volume= 0.451 af
Outflow = 10.92 cfs @ 0.33 hrs, Volume= 0.451 af, Atten= 0%, Lag= 0.0 min
Primary = 10.92 cfs @ 0.33 hrs, Volume= 0.451 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 53.80' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	48.22'	**30.0" Round A-L44** L= 344.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 48.22' / 46.50' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=10.82 cfs @ 0.33 hrs HW=53.59' TW=53.24' (Dynamic Tailwater)
└─**1=A-L44** (Outlet Controls 10.82 cfs @ 2.20 fps)

Summary for Pond A-L45: A-L45

Inflow Area = 0.450 ac, 0.00% Impervious, Inflow Depth = 0.63" for 50-Year event
Inflow = 0.57 cfs @ 0.14 hrs, Volume= 0.023 af
Outflow = 0.57 cfs @ 0.15 hrs, Volume= 0.023 af, Atten= 0%, Lag= 0.6 min
Primary = 0.57 cfs @ 0.15 hrs, Volume= 0.023 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 51.09' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	48.55'	**18.0" Round A-L45** L= 181.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 48.55' / 47.10' S= 0.0080 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=0.00 cfs @ 0.15 hrs HW=50.49' TW=50.49' (Dynamic Tailwater)
└─**1=A-L45** (Controls 0.00 cfs)

Summary for Pond A-L46: A-L46

Inflow Area = 5.020 ac, 0.00% Impervious, Inflow Depth = 0.52" for 50-Year event
Inflow = 5.22 cfs @ 0.34 hrs, Volume= 0.216 af
Outflow = 5.22 cfs @ 0.35 hrs, Volume= 0.216 af, Atten= 0%, Lag= 0.6 min
Primary = 5.22 cfs @ 0.35 hrs, Volume= 0.216 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 51.08' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.00'	**24.0" Round A-L46** L= 289.0' RCP, sq.cut end projecting, Ke= 0.500

Inlet / Outlet Invert= 47.00' / 44.40' S= 0.0090 '/' Cc= 0.900
n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=5.22 cfs @ 0.35 hrs HW=51.02' TW=50.80' (Dynamic Tailwater)
↑—**1=A-L46** (Outlet Controls 5.22 cfs @ 1.66 fps)

Summary for Pond A-L47: A-L47

Inflow Area =	6.820 ac,	0.00% Impervious, Inflow Depth = 0.50"	for 50-Year event	
Inflow =	6.82 cfs @	0.50 hrs, Volume=	0.282 af	
Outflow =	6.82 cfs @	0.50 hrs, Volume=	0.282 af,	Atten= 0%, Lag= 0.0 min
Primary =	6.82 cfs @	0.50 hrs, Volume=	0.282 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 51.09' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	45.20'	**24.0" Round A-L47** L= 114.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 45.20' / 44.40' S= 0.0070 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=6.82 cfs @ 0.50 hrs HW=51.08' TW=50.87' (Dynamic Tailwater)
↑—**1=A-L47** (Outlet Controls 6.82 cfs @ 2.17 fps)

Summary for Pond A-L48: A-L48

Inflow Area =	0.280 ac,	0.00% Impervious, Inflow Depth = 0.60"	for 50-Year event	
Inflow =	0.34 cfs @	0.09 hrs, Volume=	0.014 af	
Outflow =	0.34 cfs @	0.10 hrs, Volume=	0.014 af,	Atten= 0%, Lag= 0.6 min
Primary =	0.34 cfs @	0.10 hrs, Volume=	0.014 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 78.24' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	77.95'	**24.0" Round A-L48** L= 198.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 77.95' / 76.96' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.34 cfs @ 0.10 hrs HW=78.24' TW=77.40' (Dynamic Tailwater)
↑—**1=A-L48** (Outlet Controls 0.34 cfs @ 1.86 fps)

Summary for Pond A-L49: A-L49

Inflow Area =	0.470 ac,	0.00% Impervious, Inflow Depth = 0.60"	for 50-Year event	
Inflow =	0.57 cfs @	0.10 hrs, Volume=	0.023 af	
Outflow =	0.57 cfs @	0.15 hrs, Volume=	0.023 af,	Atten= 0%, Lag= 3.0 min
Primary =	0.57 cfs @	0.15 hrs, Volume=	0.023 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 77.41' @ 0.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	76.86'	**24.0" Round A-L49** L= 198.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 76.86' / 75.87' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.57 cfs @ 0.15 hrs HW=77.41' TW=77.22' (Dynamic Tailwater)
└─**1=A-L49** (Outlet Controls 0.57 cfs @ 1.23 fps)

Summary for Pond A-L50: A-L50

Inflow Area = 5.700 ac, 0.00% Impervious, Inflow Depth = 0.61" for 50-Year event
Inflow = 7.07 cfs @ 0.09 hrs, Volume= 0.292 af
Outflow = 7.07 cfs @ 0.10 hrs, Volume= 0.292 af, Atten= 0%, Lag= 0.6 min
Primary = 7.07 cfs @ 0.10 hrs, Volume= 0.292 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 77.22' @ 0.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	75.77'	**24.0" Round A-L50** L= 198.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 75.77' / 74.78' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=7.06 cfs @ 0.10 hrs HW=77.21' TW=76.21' (Dynamic Tailwater)
└─**1=A-L50** (Outlet Controls 7.06 cfs @ 4.09 fps)

Summary for Pond A-L51: A-L51

Inflow Area = 5.860 ac, 0.00% Impervious, Inflow Depth = 0.61" for 50-Year event
Inflow = 7.26 cfs @ 0.10 hrs, Volume= 0.300 af
Outflow = 7.26 cfs @ 0.10 hrs, Volume= 0.300 af, Atten= 0%, Lag= 0.0 min
Primary = 7.26 cfs @ 0.10 hrs, Volume= 0.300 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 76.26' @ 0.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	74.68'	**24.0" Round A-L51** L= 198.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 74.68' / 73.69' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=7.22 cfs @ 0.10 hrs HW=76.21' TW=75.35' (Dynamic Tailwater)
└─**1=A-L51** (Outlet Controls 7.22 cfs @ 3.87 fps)

Summary for Pond A-L52: A-L52

Inflow Area = 0.420 ac, 0.00% Impervious, Inflow Depth = 0.68" for 50-Year event
Inflow = 0.58 cfs @ 0.12 hrs, Volume= 0.024 af
Outflow = 0.58 cfs @ 0.18 hrs, Volume= 0.024 af, Atten= 0%, Lag= 3.6 min
Primary = 0.58 cfs @ 0.18 hrs, Volume= 0.024 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3

Peak Elev= 77.22' @ 0.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	76.90'	**24.0" Round A-L52** L= 160.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 76.90' / 75.32' S= 0.0099 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.58 cfs @ 0.18 hrs HW=77.22' TW=75.96' (Dynamic Tailwater)
↑—**1=A-L52** (Outlet Controls 0.58 cfs @ 2.68 fps)

Summary for Pond A-L53: A-L53

Inflow Area = 1.400 ac, 0.00% Impervious, Inflow Depth = 0.65" for 50-Year event
Inflow = 1.83 cfs @ 0.16 hrs, Volume= 0.076 af
Outflow = 1.83 cfs @ 0.15 hrs, Volume= 0.076 af, Atten= 0%, Lag= 0.0 min
Primary = 1.83 cfs @ 0.15 hrs, Volume= 0.076 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 75.96' @ 0.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	75.22'	**24.0" Round A-L53** L= 155.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 75.22' / 73.69' S= 0.0099 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.83 cfs @ 0.15 hrs HW=75.96' TW=75.46' (Dynamic Tailwater)
↑—**1=A-L53** (Outlet Controls 1.83 cfs @ 2.56 fps)

Summary for Pond A-L54: A-L54

Inflow Area = 8.310 ac, 0.00% Impervious, Inflow Depth = 0.62" for 50-Year event
Inflow = 10.44 cfs @ 0.15 hrs, Volume= 0.432 af
Outflow = 10.44 cfs @ 0.15 hrs, Volume= 0.432 af, Atten= 0%, Lag= 0.0 min
Primary = 10.44 cfs @ 0.15 hrs, Volume= 0.432 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 75.46' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	73.59'	**24.0" Round A-L54** L= 55.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 73.59' / 73.07' S= 0.0095 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=10.44 cfs @ 0.15 hrs HW=75.46' TW=74.84' (Dynamic Tailwater)
↑—**1=A-L54** (Outlet Controls 10.44 cfs @ 4.44 fps)

Summary for Pond A-L55: A-L55

Inflow Area = 8.310 ac, 0.00% Impervious, Inflow Depth = 0.62" for 50-Year event
Inflow = 10.44 cfs @ 0.15 hrs, Volume= 0.432 af
Outflow = 10.44 cfs @ 0.15 hrs, Volume= 0.432 af, Atten= 0%, Lag= 0.0 min
Primary = 10.44 cfs @ 0.15 hrs, Volume= 0.432 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 74.84' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	72.97'	**24.0" Round Pipe** L= 80.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 72.97' / 72.57' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=10.44 cfs @ 0.15 hrs HW=74.84' TW=74.13' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 10.44 cfs @ 4.45 fps)

Summary for Pond A-L56: A-L56

Inflow Area = 9.720 ac, 0.00% Impervious, Inflow Depth = 0.62" for 50-Year event
Inflow = 12.22 cfs @ 0.15 hrs, Volume= 0.505 af
Outflow = 12.22 cfs @ 0.15 hrs, Volume= 0.505 af, Atten= 0%, Lag= 0.0 min
Primary = 12.22 cfs @ 0.15 hrs, Volume= 0.505 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 74.13' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	72.47'	**24.0" Round A-L56** L= 113.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 72.47' / 69.20' S= 0.0289 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=12.22 cfs @ 0.15 hrs HW=74.13' TW=70.64' (Dynamic Tailwater)
└─**1=A-L56** (Inlet Controls 12.22 cfs @ 4.39 fps)

Summary for Pond A-L57: A-L57

Inflow Area = 1.030 ac, 0.00% Impervious, Inflow Depth = 0.87" for 50-Year event
Inflow = 1.81 cfs @ 0.09 hrs, Volume= 0.075 af
Outflow = 1.81 cfs @ 0.09 hrs, Volume= 0.075 af, Atten= 0%, Lag= 0.0 min
Primary = 1.81 cfs @ 0.09 hrs, Volume= 0.075 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 71.08' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	70.36'	**24.0" Round A-L57** L= 63.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 70.36' / 69.73' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.81 cfs @ 0.09 hrs HW=71.05' TW=70.68' (Dynamic Tailwater)
└─**1=A-L57** (Outlet Controls 1.81 cfs @ 2.80 fps)

Summary for Pond A-L58: A-L58

Inflow Area = 0.520 ac, 0.00% Impervious, Inflow Depth = 0.85" for 50-Year event
Inflow = 0.89 cfs @ 0.09 hrs, Volume= 0.037 af
Outflow = 0.89 cfs @ 0.12 hrs, Volume= 0.037 af, Atten= 0%, Lag= 1.8 min
Primary = 0.89 cfs @ 0.12 hrs, Volume= 0.037 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 70.79' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.93'	**24.0" Round A-L58** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 69.93' / 69.73' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.89 cfs @ 0.12 hrs HW=70.77' TW=70.74' (Dynamic Tailwater)
└─**1=A-L58** (Outlet Controls 0.89 cfs @ 1.05 fps)

Summary for Pond A-L59: A-L59

Inflow Area = 1.550 ac, 0.00% Impervious, Inflow Depth = 0.86" for 50-Year event
Inflow = 2.70 cfs @ 0.09 hrs, Volume= 0.112 af
Outflow = 2.70 cfs @ 0.10 hrs, Volume= 0.112 af, Atten= 0%, Lag= 0.6 min
Primary = 2.70 cfs @ 0.10 hrs, Volume= 0.112 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 70.76' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.63'	**30.0" Round Pipe** L= 53.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 69.63' / 69.10' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=2.70 cfs @ 0.10 hrs HW=70.70' TW=70.56' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 2.70 cfs @ 1.98 fps)

Summary for Pond A-L60: A-L60

Inflow Area = 11.270 ac, 0.00% Impervious, Inflow Depth = 0.66" for 50-Year event
Inflow = 14.92 cfs @ 0.15 hrs, Volume= 0.617 af
Outflow = 14.92 cfs @ 0.15 hrs, Volume= 0.617 af, Atten= 0%, Lag= 0.0 min
Primary = 14.92 cfs @ 0.15 hrs, Volume= 0.617 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 70.64' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.00'	**30.0" Round Pipe** L= 408.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 69.00' / 64.92' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=14.92 cfs @ 0.15 hrs HW=70.64' TW=66.54' (Dynamic Tailwater)
└─**1=Pipe** (Inlet Controls 14.92 cfs @ 4.36 fps)

Summary for Pond A-L61: A-L61

Inflow Area = 1.870 ac, 0.00% Impervious, Inflow Depth = 0.71" for 50-Year event
Inflow = 2.68 cfs @ 0.10 hrs, Volume= 0.111 af
Outflow = 2.68 cfs @ 0.10 hrs, Volume= 0.111 af, Atten= 0%, Lag= 0.0 min
Primary = 2.68 cfs @ 0.10 hrs, Volume= 0.111 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 66.77' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	65.73'	**24.0" Round A-L61** L= 71.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 65.73' / 65.02' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=2.68 cfs @ 0.10 hrs HW=66.73' TW=66.48' (Dynamic Tailwater)
↑—**1=A-L61** (Outlet Controls 2.68 cfs @ 2.48 fps)

Summary for Pond A-L62: A-L62

Inflow Area = 0.720 ac, 0.00% Impervious, Inflow Depth = 0.81" for 50-Year event
Inflow = 1.18 cfs @ 0.09 hrs, Volume= 0.049 af
Outflow = 1.18 cfs @ 0.09 hrs, Volume= 0.049 af, Atten= 0%, Lag= 0.0 min
Primary = 1.18 cfs @ 0.09 hrs, Volume= 0.049 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 66.56' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	65.23'	**24.0" Round A-L62** L= 21.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 65.23' / 65.02' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.18 cfs @ 0.09 hrs HW=66.46' TW=66.44' (Dynamic Tailwater)
↑—**1=A-L62** (Outlet Controls 1.18 cfs @ 0.83 fps)

Summary for Pond A-L63: A-L63

Inflow Area = 13.860 ac, 0.00% Impervious, Inflow Depth = 0.67" for 50-Year event
Inflow = 18.78 cfs @ 0.15 hrs, Volume= 0.776 af
Outflow = 18.78 cfs @ 0.15 hrs, Volume= 0.776 af, Atten= 0%, Lag= 0.0 min
Primary = 18.78 cfs @ 0.15 hrs, Volume= 0.776 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 66.54' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	64.82'	**36.0" Round Pipe** L= 440.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 64.82' / 60.42' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=18.78 cfs @ 0.15 hrs HW=66.54' TW=62.71' (Dynamic Tailwater)
↑—**1=Pipe** (Inlet Controls 18.78 cfs @ 4.47 fps)

Summary for Pond A-L64: A-L64

Inflow Area =	2.340 ac,	0.00% Impervious,	Inflow Depth = 0.69"	for 50-Year event
Inflow =	3.27 cfs @	0.10 hrs,	Volume=	0.135 af
Outflow =	3.27 cfs @	0.12 hrs,	Volume=	0.135 af, Atten= 0%, Lag= 1.2 min
Primary =	3.27 cfs @	0.12 hrs,	Volume=	0.135 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 62.77' @ 0.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.88'	**24.0" Round A-L64** L= 72.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 60.88' / 60.52' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=3.20 cfs @ 0.12 hrs HW=62.74' TW=62.68' (Dynamic Tailwater)
1=A-L64 (Outlet Controls 3.20 cfs @ 1.37 fps)

Summary for Pond A-L65: A-L65

Inflow Area =	0.720 ac,	0.00% Impervious,	Inflow Depth = 0.81"	for 50-Year event
Inflow =	1.18 cfs @	0.09 hrs,	Volume=	0.049 af
Outflow =	1.18 cfs @	0.10 hrs,	Volume=	0.049 af, Atten= 0%, Lag= 0.6 min
Primary =	1.18 cfs @	0.10 hrs,	Volume=	0.049 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 62.71' @ 0.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.63'	**24.0" Round A-L65** L= 22.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 60.63' / 60.52' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.00 cfs @ 0.10 hrs HW=62.62' TW=62.62' (Dynamic Tailwater)
1=A-L65 (Controls 0.00 cfs)

Summary for Pond A-L66: A-L66

Inflow Area =	16.920 ac,	0.00% Impervious,	Inflow Depth = 0.68"	for 50-Year event
Inflow =	23.23 cfs @	0.15 hrs,	Volume=	0.960 af
Outflow =	23.23 cfs @	0.15 hrs,	Volume=	0.960 af, Atten= 0%, Lag= 0.0 min
Primary =	23.23 cfs @	0.15 hrs,	Volume=	0.960 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 62.71' @ 0.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.32'	**36.0" Round Pipe** L= 98.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 60.32' / 59.73' S= 0.0060 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=23.23 cfs @ 0.15 hrs HW=62.71' TW=61.79' (Dynamic Tailwater)
1=Pipe (Outlet Controls 23.23 cfs @ 5.28 fps)

Summary for Pond A-L67: A-L67

Inflow Area = 16.920 ac, 0.00% Impervious, Inflow Depth = 0.68" for 50-Year event
Inflow = 23.23 cfs @ 0.15 hrs, Volume= 0.960 af
Outflow = 23.23 cfs @ 0.15 hrs, Volume= 0.960 af, Atten= 0%, Lag= 0.0 min
Primary = 23.23 cfs @ 0.15 hrs, Volume= 0.960 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 61.79' @ 0.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.63'	**36.0" Round Pipe** L= 88.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 59.63' / 58.84' S= 0.0090 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=23.23 cfs @ 0.15 hrs HW=61.79' TW=60.63' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 23.23 cfs @ 5.97 fps)

Summary for Pond A-L68: A-L68

Inflow Area = 16.920 ac, 0.00% Impervious, Inflow Depth = 0.68" for 50-Year event
Inflow = 23.23 cfs @ 0.15 hrs, Volume= 0.960 af
Outflow = 23.23 cfs @ 0.15 hrs, Volume= 0.960 af, Atten= 0%, Lag= 0.0 min
Primary = 23.23 cfs @ 0.15 hrs, Volume= 0.960 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.63' @ 0.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.74'	**48.0" Round Pipe** L= 398.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 58.74' / 56.75' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf

Primary OutFlow Max=23.23 cfs @ 0.15 hrs HW=60.63' TW=58.38' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 23.23 cfs @ 5.84 fps)

Summary for Pond A-L69: A-L69

Inflow Area = 16.920 ac, 0.00% Impervious, Inflow Depth = 0.68" for 50-Year event
Inflow = 23.23 cfs @ 0.15 hrs, Volume= 0.960 af
Outflow = 23.23 cfs @ 0.15 hrs, Volume= 0.960 af, Atten= 0%, Lag= 0.0 min
Primary = 23.23 cfs @ 0.15 hrs, Volume= 0.960 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 58.38' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.65'	**48.0" Round Pipe** L= 240.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 56.65' / 53.56' S= 0.0129 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf

Primary OutFlow Max=23.23 cfs @ 0.15 hrs HW=58.38' TW=55.57' (Dynamic Tailwater)
└─**1=Pipe** (Inlet Controls 23.23 cfs @ 4.47 fps)

Summary for Pond A-L70: A-L70

Inflow Area = 1.370 ac, 0.00% Impervious, Inflow Depth = 0.79" for 50-Year event
Inflow = 2.17 cfs @ 0.09 hrs, Volume= 0.090 af
Outflow = 2.17 cfs @ 0.10 hrs, Volume= 0.090 af, Atten= 0%, Lag= 0.6 min
Primary = 2.17 cfs @ 0.10 hrs, Volume= 0.090 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 55.60' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.80'	**24.0" Round A-L77** L= 28.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 53.80' / 53.66' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=2.17 cfs @ 0.10 hrs HW=55.54' TW=55.51' (Dynamic Tailwater)
1=A-L77 (Outlet Controls 2.17 cfs @ 1.00 fps)

Summary for Pond A-L71: A-L71

Inflow Area = 18.290 ac, 0.00% Impervious, Inflow Depth = 0.69" for 50-Year event
Inflow = 25.40 cfs @ 0.15 hrs, Volume= 1.050 af
Outflow = 25.40 cfs @ 0.15 hrs, Volume= 1.050 af, Atten= 0%, Lag= 0.0 min
Primary = 25.40 cfs @ 0.15 hrs, Volume= 1.050 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 55.57' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.46'	**48.0" Round Pipe** L= 49.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 53.46' / 53.02' S= 0.0090 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf

Primary OutFlow Max=25.40 cfs @ 0.15 hrs HW=55.57' TW=54.73' (Dynamic Tailwater)
1=Pipe (Outlet Controls 25.40 cfs @ 5.48 fps)

Summary for Pond A-L72: A-L72

Inflow Area = 18.290 ac, 0.00% Impervious, Inflow Depth = 0.69" for 50-Year event
Inflow = 25.40 cfs @ 0.15 hrs, Volume= 1.050 af
Outflow = 25.40 cfs @ 0.15 hrs, Volume= 1.050 af, Atten= 0%, Lag= 0.0 min
Primary = 25.40 cfs @ 0.15 hrs, Volume= 1.050 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 54.73' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	52.92'	**48.0" Round Pipe** L= 340.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 52.92' / 47.50' S= 0.0159 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf

Primary OutFlow Max=25.40 cfs @ 0.15 hrs HW=54.73' TW=50.68' (Dynamic Tailwater)
1=Pipe (Inlet Controls 25.40 cfs @ 4.59 fps)

Summary for Pond A-L73: A-L73

Inflow Area = 18.290 ac, 0.00% Impervious, Inflow Depth = 0.69" for 50-Year event
Inflow = 25.40 cfs @ 0.15 hrs, Volume= 1.050 af
Outflow = 25.40 cfs @ 0.15 hrs, Volume= 1.050 af, Atten= 0%, Lag= 0.0 min
Primary = 25.40 cfs @ 0.15 hrs, Volume= 1.050 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 51.12' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	45.30'	**48.0" Round Pipe** L= 492.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 45.30' / 44.40' S= 0.0018 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf

Primary OutFlow Max=25.40 cfs @ 0.15 hrs HW=50.68' TW=50.44' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 25.40 cfs @ 2.02 fps)

Summary for Subcatchment A01: A01

Runoff = 1.86 cfs @ 0.12 hrs, Volume= 0.077 af, Depth= 0.65"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
1.430	0.69	Mixed Use, HSG D
1.430		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					**Direct Entry, PA01**

Summary for Subcatchment A02: A02

Runoff = 0.80 cfs @ 0.12 hrs, Volume= 0.033 af, Depth= 0.67"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.590	0.72	Mixed Use, HSG D
0.590		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					**Direct Entry, P-A02**

Summary for Subcatchment A03: A03

Runoff = 0.61 cfs @ 0.09 hrs, Volume= 0.025 af, Depth= 0.89"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.340	0.95	Mixed Use, HSG D
0.340		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment A04: A04

Runoff = 0.50 cfs @ 0.09 hrs, Volume= 0.021 af, Depth= 0.89"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.280	0.95	Mixed Use, HSG D
0.280		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment A05: A05

Runoff = 5.02 cfs @ 0.39 hrs, Volume= 0.207 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
4.840	0.55	Mixed Use, HSG D
4.840		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.0					**Direct Entry, P-A02**

Summary for Subcatchment A06: A06

Runoff = 0.37 cfs @ 0.10 hrs, Volume= 0.015 af, Depth= 0.70"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.260	0.75	Mixed Use, HSG D
0.260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, P-A02**

Summary for Subcatchment A07: A07

Runoff = 0.30 cfs @ 0.14 hrs, Volume= 0.012 af, Depth= 0.60"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.250	0.64	Mixed Use, HSG D
0.250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0					**Direct Entry, P-A02**

Summary for Subcatchment A08: A08

Runoff = 3.34 cfs @ 0.34 hrs, Volume= 0.138 af, Depth= 0.54"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
3.050	0.58	Mixed Use, HSG D
3.050		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry, P-A02**

Summary for Subcatchment A09: A09

Runoff = 1.30 cfs @ 0.14 hrs, Volume= 0.054 af, Depth= 0.63"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
1.030	0.67	Mixed Use, HSG D
1.030		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0					**Direct Entry, P-A02**

Summary for Subcatchment A10: A10

Runoff = 0.91 cfs @ 0.09 hrs, Volume= 0.038 af, Depth= 0.82"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.550	0.88	Mixed Use, HSG D
0.550		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment A11: A11

Runoff = 3.33 cfs @ 0.09 hrs, Volume= 0.138 af, Depth= 0.88"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
1.880	0.94	Mixed Use, HSG D
1.880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment A12: A12

Runoff = 0.67 cfs @ 0.09 hrs, Volume= 0.028 af, Depth= 0.62"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.540	0.66	Mixed Use, HSG D
0.540		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment A13: A13

Runoff = 0.38 cfs @ 0.09 hrs, Volume= 0.016 af, Depth= 0.78"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.240	0.83	Mixed Use, HSG D
0.240		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment A14: A14

Runoff = 0.61 cfs @ 0.10 hrs, Volume= 0.025 af, Depth= 0.72"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.420	0.77	Mixed Use, HSG D
0.420		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, P-A02**

Summary for Subcatchment A16/17: A16/17

Runoff = 0.47 cfs @ 0.09 hrs, Volume= 0.020 af, Depth= 0.87"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.270	0.93	Mixed Use, HSG D
0.270		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment A18: A18

Runoff = 3.95 cfs @ 0.30 hrs, Volume= 0.163 af, Depth= 0.50"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
3.950	0.53	Mixed Use, HSG D
3.950		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.0					**Direct Entry, P-A02**

Summary for Subcatchment A19: A19

Runoff = 0.45 cfs @ 0.14 hrs, Volume= 0.019 af, Depth= 0.61"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.370	0.65	Mixed Use, HSG D
0.370		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0					**Direct Entry, P-A02**

Summary for Subcatchment A20: A20

Runoff = 0.75 cfs @ 0.15 hrs, Volume= 0.031 af, Depth= 0.57"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.650	0.61	Mixed Use, HSG D
0.650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0					**Direct Entry, P-A02**

Summary for Subcatchment A21: A21

Runoff = 0.89 cfs @ 0.09 hrs, Volume= 0.037 af, Depth= 0.81"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.540	0.87	Mixed Use, HSG D
0.540		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment A22: A22

Runoff = 0.58 cfs @ 0.12 hrs, Volume= 0.024 af, Depth= 0.65"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.440	0.70	Mixed Use, HSG D
0.440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					**Direct Entry, P-A02**

Summary for Subcatchment A23: A23

Runoff = 4.68 cfs @ 0.30 hrs, Volume= 0.193 af, Depth= 0.59"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
3.940	0.63	Mixed Use, HSG D
3.940		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.0					**Direct Entry, P-A02**

Summary for Subcatchment A24: A24

Runoff = 5.92 cfs @ 0.39 hrs, Volume= 0.245 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
5.320	0.59	Mixed Use, HSG D
5.320		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.0					**Direct Entry, P-A02**

Summary for Subcatchment A25: A25

Runoff = 4.68 cfs @ 0.24 hrs, Volume= 0.193 af, Depth= 0.61"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
3.820	0.65	Mixed Use, HSG D
3.820		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.0					**Direct Entry, P-A02**

Summary for Subcatchment A26: A26

Runoff = 6.24 cfs @ 0.32 hrs, Volume= 0.258 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
5.610	0.59	Mixed Use, HSG D
5.610		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.0					**Direct Entry, P-A02**

Summary for Subcatchment A27: A27

Runoff = 4.65 cfs @ 0.34 hrs, Volume= 0.192 af, Depth= 0.50"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
4.570	0.54	Mixed Use, HSG D
4.570		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry, P-A02**

Summary for Subcatchment A28: A28

Runoff = 6.82 cfs @ 0.50 hrs, Volume= 0.282 af, Depth= 0.50"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
6.820	0.53	Mixed Use, HSG D
6.820		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.0					**Direct Entry, P-A02**

Summary for Subcatchment A29: A29

Runoff = 0.34 cfs @ 0.09 hrs, Volume= 0.014 af, Depth= 0.60"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.280	0.64	Mixed Use, HSG D
0.280		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment A30: A30

Runoff = 0.23 cfs @ 0.09 hrs, Volume= 0.009 af, Depth= 0.60"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.190	0.64	Mixed Use, HSG D
0.190		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment A31: A31

Runoff = 0.22 cfs @ 0.09 hrs, Volume= 0.009 af, Depth= 0.60"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.180	0.64	Mixed Use, HSG D
0.180		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment A32: A32

Runoff = 0.19 cfs @ 0.09 hrs, Volume= 0.008 af, Depth= 0.60"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.160	0.64	Mixed Use, HSG D
0.160		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment A33: A33

Runoff = 0.58 cfs @ 0.12 hrs, Volume= 0.024 af, Depth= 0.68"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.420	0.73	Mixed Use, HSG D
0.420		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					**Direct Entry, PA01**

Summary for Subcatchment A34: A34

Runoff = 1.26 cfs @ 0.14 hrs, Volume= 0.052 af, Depth= 0.64"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.980	0.68	Mixed Use, HSG D
0.980		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0					**Direct Entry, PA01**

Summary for Subcatchment A35: A35

Runoff = 1.35 cfs @ 0.14 hrs, Volume= 0.056 af, Depth= 0.64"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
1.050	0.68	Mixed Use, HSG D
1.050		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0					**Direct Entry, PA01**

Summary for Subcatchment A36/37: A36/37

Runoff = 1.78 cfs @ 0.14 hrs, Volume= 0.074 af, Depth= 0.63"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
1.410	0.67	Mixed Use, HSG D
1.410		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0					**Direct Entry, PA01**

Summary for Subcatchment A38: A38

Runoff = 1.81 cfs @ 0.09 hrs, Volume= 0.075 af, Depth= 0.87"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
1.030	0.93	Mixed Use, HSG D
1.030		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment A39: A39

Runoff = 0.89 cfs @ 0.09 hrs, Volume= 0.037 af, Depth= 0.85"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.520	0.91	Mixed Use, HSG D
0.520		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment A40: A40

Runoff = 2.68 cfs @ 0.10 hrs, Volume= 0.111 af, Depth= 0.71"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
1.870	0.76	Mixed Use, HSG D
1.870		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PA01**

Summary for Subcatchment A41: A41

Runoff = 1.18 cfs @ 0.09 hrs, Volume= 0.049 af, Depth= 0.81"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.720	0.87	Mixed Use, HSG D
0.720		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment A42: A42

Runoff = 3.27 cfs @ 0.10 hrs, Volume= 0.135 af, Depth= 0.69"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
2.340	0.74	Mixed Use, HSG D
2.340		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PA01**

Summary for Subcatchment A43: A43

Runoff = 1.18 cfs @ 0.09 hrs, Volume= 0.049 af, Depth= 0.81"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.720	0.87	Mixed Use, HSG D
0.720		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment A44: A44

Runoff = 2.17 cfs @ 0.09 hrs, Volume= 0.090 af, Depth= 0.79"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
1.370	0.84	Mixed Use, HSG D
1.370		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment A45: A45

Runoff = 5.61 cfs @ 0.09 hrs, Volume= 0.232 af, Depth= 0.61"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
4.580	0.65	Mixed Use, HSG D
4.580		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment A46: A46

Runoff = 6.28 cfs @ 0.09 hrs, Volume= 0.260 af, Depth= 0.62"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
5.050	0.66	Mixed Use, HSG D
5.050		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment A47: A47

Runoff = 9.56 cfs @ 0.09 hrs, Volume= 0.395 af, Depth= 0.86"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
5.510	0.92	Mixed Use, HSG D
5.510		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment Basin-A1: Basin A1

Runoff = 6.25 cfs @ 0.39 hrs, Volume= 0.258 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
5.620	0.59	Mixed Use, HSG D
5.620		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.0					**Direct Entry, P-A02**

Summary for Subcatchment Basin-A2: ABASIN2

Runoff = 1.19 cfs @ 0.09 hrs, Volume= 0.049 af, Depth= 0.79"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.750	0.84	Mixed Use, HSG D
0.750		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment Basin-A3: Basin A3

Runoff = 0.57 cfs @ 0.14 hrs, Volume= 0.023 af, Depth= 0.63"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
0.450	0.67	Mixed Use, HSG D
0.450		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0					**Direct Entry, P-A02**

Summary for Pond D-L1: D-L1

Inflow Area = 2.910 ac, 0.00% Impervious, Inflow Depth = 0.49" for 50-Year event
Inflow = 2.85 cfs @ 0.34 hrs, Volume= 0.118 af
Outflow = 2.85 cfs @ 0.34 hrs, Volume= 0.118 af, Atten= 0%, Lag= 0.0 min
Primary = 2.85 cfs @ 0.34 hrs, Volume= 0.118 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 51.79' @ 0.34 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.00'	**18.0" Round D-L1** L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 51.00' / 46.20' S= 0.0960 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=2.85 cfs @ 0.34 hrs HW=51.79' TW=0.00' (Dynamic Tailwater)
↑**1=D-L1** (Inlet Controls 2.85 cfs @ 3.03 fps)

Summary for Subcatchment D1: D1

Runoff = 2.85 cfs @ 0.34 hrs, Volume= 0.118 af, Depth= 0.49"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=30 min, Inten=1.87 in/hr

Area (ac)	C	Description
2.910	0.52	Mixed Use, HSG D
2.910		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry, P-A02**

Summary for Pond OUTFALL A: OUTFALL A

Inflow Area = 87.200 ac, 0.71% Impervious, Inflow Depth = 0.48" for 50-Year event
Inflow = 69.62 cfs @ 0.50 hrs, Volume= 3.501 af
Primary = 69.62 cfs @ 0.50 hrs, Volume= 3.501 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3

Summary for Pond Outlet: BasinOutlet

Inflow Area = 2.910 ac, 0.00% Impervious, Inflow Depth = 4.57" for 50-Year event
Inflow = 41.66 cfs @ 0.50 hrs, Volume= 1.109 af
Primary = 41.66 cfs @ 0.50 hrs, Volume= 1.109 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3

100-year Rainfall Intensity

ELEV.	FACTOR
0-1500	1.00
1500-3000	1.25
3000-4000	1.42
4000-5000	1.60
5000-6000	1.7
DESERT	1.25

TO OBTAIN CORRECT INTENSITY, MULTIPLY INTENSITY ON CHART BY FACTOR FOR DESIGN ELEVATION.

RAINFALL
INTENSITY - DURATION - FREQUENCY
CURVES
FOR
COUNTY OF SAN DIEGO

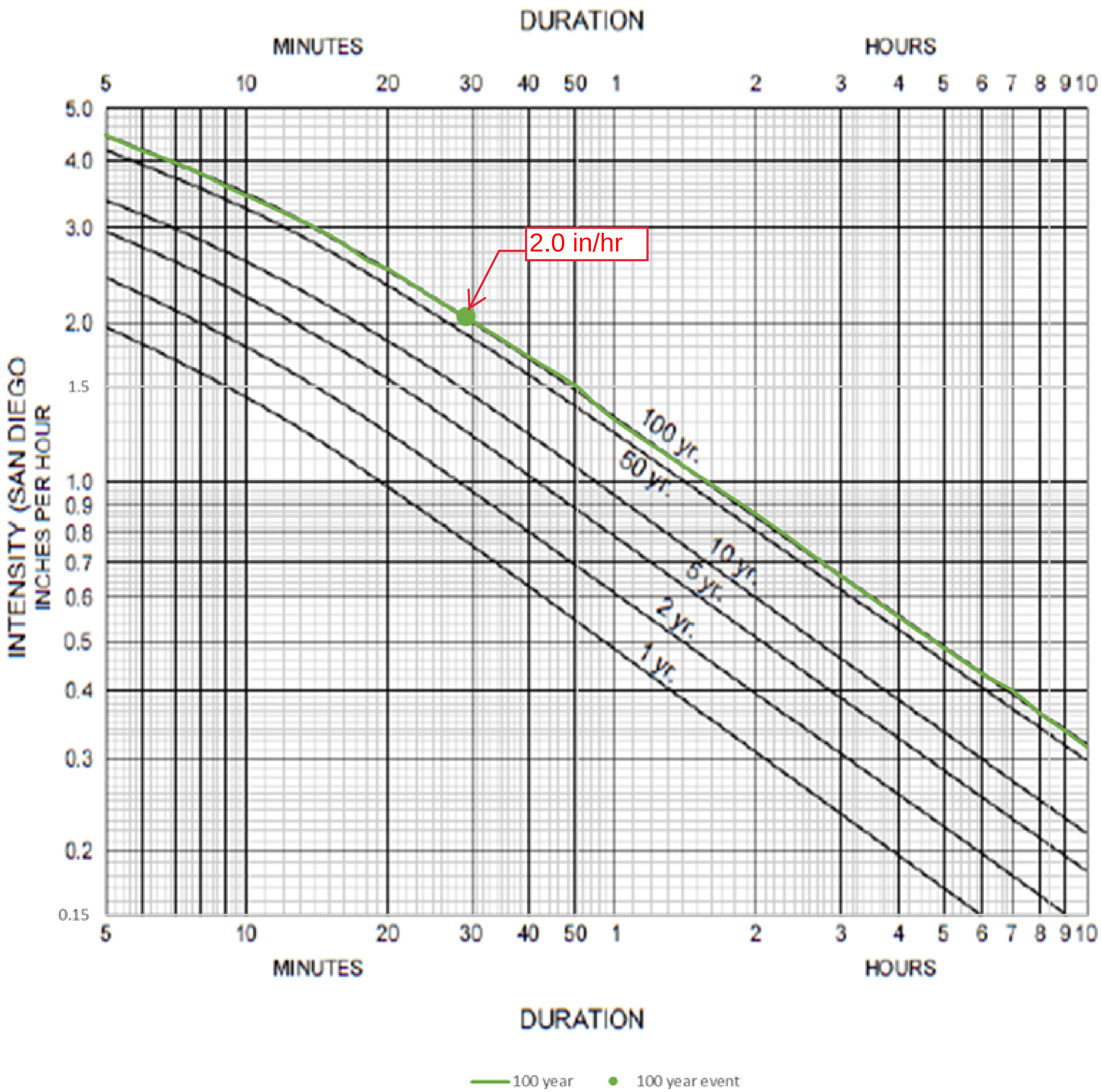


Figure A-1. Intensity-Duration-Frequency Design Chart

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points x 3
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Pond A-BUBBLER: A-BUBBLER Peak Elev=50.31' Storage=2,371 cf Inflow=116.21 cfs 4.802 af
Primary=69.84 cfs 3.568 af Secondary=46.11 cfs 1.236 af Outflow=115.95 cfs 4.804 af

Pond A-L01: A-L01 Peak Elev=77.48' Inflow=1.99 cfs 0.082 af
24.0" Round Culvert n=0.013 L=200.0' S=0.0098 '/' Outflow=1.99 cfs 0.082 af

Pond A-L02: A-L02 Peak Elev=75.54' Inflow=2.85 cfs 0.118 af
24.0" Round Culvert n=0.013 L=132.0' S=0.0100 '/' Outflow=2.85 cfs 0.118 af

Pond A-L03: A-L03 Peak Elev=74.12' Inflow=2.85 cfs 0.118 af
24.0" Round Culvert n=0.013 L=175.0' S=0.0100 '/' Outflow=2.85 cfs 0.118 af

Pond A-L04: A-L04 Peak Elev=72.40' Inflow=3.50 cfs 0.145 af
24.0" Round Culvert n=0.013 L=218.0' S=0.0100 '/' Outflow=3.50 cfs 0.145 af

Pond A-L05: A-L05 Peak Elev=70.91' Inflow=4.03 cfs 0.167 af
24.0" Round Culvert n=0.013 L=49.0' S=0.0100 '/' Outflow=4.03 cfs 0.167 af

Pond A-L06: A-L06 Peak Elev=70.97' Inflow=5.37 cfs 0.222 af
24.0" Round Culvert n=0.013 L=37.0' S=0.0100 '/' Outflow=5.37 cfs 0.222 af

Pond A-L07: A-L07 Peak Elev=70.78' Inflow=15.41 cfs 0.637 af
24.0" Round Culvert n=0.013 L=139.0' S=0.0100 '/' Outflow=15.41 cfs 0.637 af

Pond A-L08: A-L08 Peak Elev=69.29' Inflow=15.80 cfs 0.653 af
24.0" Round Culvert n=0.013 L=196.0' S=0.0100 '/' Outflow=15.80 cfs 0.653 af

Pond A-L09: A-L09 Peak Elev=66.82' Inflow=16.12 cfs 0.666 af
36.0" Round Culvert n=0.013 L=98.0' S=0.0100 '/' Outflow=16.12 cfs 0.666 af

Pond A-L10: A-L10 Peak Elev=65.64' Inflow=16.12 cfs 0.666 af
36.0" Round Culvert n=0.013 L=195.0' S=0.0170 '/' Outflow=16.12 cfs 0.666 af

Pond A-L11: A-L11 Peak Elev=62.22' Inflow=16.12 cfs 0.666 af
36.0" Round Culvert n=0.013 L=47.0' S=0.0887 '/' Outflow=16.12 cfs 0.666 af

Pond A-L12: A-L12 Peak Elev=58.64' Inflow=19.69 cfs 0.814 af
36.0" Round Culvert n=0.013 L=48.0' S=0.0050 '/' Outflow=19.69 cfs 0.814 af

Pond A-L13: A-L13 Peak Elev=58.01' Inflow=1.39 cfs 0.058 af
36.0" Round Culvert n=0.013 L=12.0' S=0.0050 '/' Outflow=1.39 cfs 0.058 af

Pond A-L14: A-L14 Peak Elev=80.83' Inflow=4.54 cfs 0.188 af
36.0" Round Culvert n=0.013 L=520.0' S=0.0460 '/' Outflow=4.54 cfs 0.188 af

Pond A-L15: A-L15 Peak Elev=81.06' Inflow=0.98 cfs 0.040 af
24.0" Round Culvert n=0.013 L=54.0' S=0.0050 '/' Outflow=0.98 cfs 0.040 af

Pond A-L16: A-L16 Peak Elev=81.28' Inflow=3.56 cfs 0.147 af
24.0" Round Culvert n=0.013 L=12.0' S=0.0050 '/' Outflow=3.56 cfs 0.147 af

Pond A-L17: A-L17 Peak Elev=58.00' Inflow=25.62 cfs 1.059 af
42.0" Round Culvert n=0.013 L=267.0' S=0.0070 '/' Outflow=25.62 cfs 1.059 af

Pond A-L18: A-L18 Peak Elev=56.06' Inflow=0.72 cfs 0.030 af
24.0" Round Culvert n=0.013 L=12.0' S=0.0450 '/' Outflow=0.72 cfs 0.030 af

Pond A-L19: A-L19 Peak Elev=56.06' Inflow=0.40 cfs 0.017 af
24.0" Round Culvert n=0.013 L=30.0' S=0.0213 '/' Outflow=0.40 cfs 0.017 af

Pond A-L20: A-L20 Peak Elev=56.06' Inflow=26.74 cfs 1.105 af
42.0" Round Culvert n=0.013 L=462.0' S=0.0050 '/' Outflow=26.74 cfs 1.105 af

Pond A-L21: A-L21 Peak Elev=53.14' Inflow=0.65 cfs 0.027 af
24.0" Round Culvert n=0.013 L=30.0' S=0.0017 '/' Outflow=0.65 cfs 0.027 af

Pond A-L22: A-L22 Peak Elev=53.14' Inflow=27.39 cfs 1.132 af
42.0" Round Culvert x 2.00 n=0.013 L=190.0' S=0.0050 '/' Outflow=27.39 cfs 1.132 af

Pond A-L23: A-L23 Peak Elev=52.04' Inflow=27.39 cfs 1.132 af
42.0" Round Culvert x 2.00 n=0.013 L=286.0' S=0.0160 '/' Outflow=27.39 cfs 1.132 af

Pond A-L25: A-L25 Peak Elev=50.81' Inflow=34.08 cfs 1.408 af
42.0" Round Culvert x 2.00 n=0.013 L=163.0' S=0.0040 '/' Outflow=34.08 cfs 1.408 af

Pond A-L27: A-L27 Peak Elev=50.67' Inflow=0.51 cfs 0.021 af
24.0" Round Culvert n=0.013 L=102.0' S=0.0050 '/' Outflow=0.51 cfs 0.021 af

Pond A-L28: A-L28 Peak Elev=50.67' Inflow=34.59 cfs 1.429 af
42.0" Round Culvert x 2.00 n=0.013 L=343.0' S=0.0025 '/' Outflow=34.59 cfs 1.429 af

Pond A-L29: A-L29 Peak Elev=50.70' Inflow=1.27 cfs 0.052 af
18.0" Round Culvert n=0.013 L=233.0' S=0.0045 '/' Outflow=1.27 cfs 0.052 af

Pond A-L30: A-L30 Peak Elev=50.65' Inflow=5.49 cfs 0.227 af
24.0" Round Culvert n=0.013 L=140.0' S=0.0050 '/' Outflow=5.49 cfs 0.227 af

Pond A-L31: A-L31 Peak Elev=50.50' Inflow=40.08 cfs 1.656 af
42.0" Round Culvert x 2.00 n=0.013 L=133.0' S=0.0040 '/' Outflow=40.08 cfs 1.656 af

Pond A-L32: A-L32 Peak Elev=55.11' Inflow=0.49 cfs 0.020 af
18.0" Round Culvert n=0.013 L=36.0' S=0.0050 '/' Outflow=0.49 cfs 0.020 af

Pond A-L33: A-L33 Peak Elev=55.12' Inflow=0.80 cfs 0.033 af
18.0" Round Culvert n=0.013 L=4.0' S=0.0050 '/' Outflow=0.80 cfs 0.033 af

Pond A-L34: A-L34 Peak Elev=55.11' Inflow=1.28 cfs 0.053 af
18.0" Round Culvert n=0.013 L=125.0' S=0.0040 '/' Outflow=1.28 cfs 0.053 af

Pond A-L35: A-L35 Peak Elev=55.27' Inflow=10.22 cfs 0.422 af
30.0" Round Culvert n=0.013 L=4.0' S=0.0050 '/' Outflow=10.22 cfs 0.422 af

Pond A-L36: A-L36 Peak Elev=55.08' Inflow=12.45 cfs 0.515 af
30.0" Round Culvert n=0.013 L=44.0' S=0.0050 '/' Outflow=12.45 cfs 0.515 af

Pond A-L37: A-L37 Peak Elev=54.80' Inflow=13.08 cfs 0.540 af
30.0" Round Culvert n=0.013 L=692.0' S=0.0050 '/' Outflow=13.08 cfs 0.540 af

Pond A-L38: A-L38 Peak Elev=53.93' Inflow=36.09 cfs 1.491 af
36.0" Round Culvert n=0.013 L=8.0' S=0.0050 '/' Outflow=36.09 cfs 1.491 af

Pond A-L39: A-L39 Peak Elev=52.81' Inflow=36.09 cfs 1.491 af
36.0" Round Culvert n=0.013 L=415.0' S=0.0040 '/' Outflow=36.09 cfs 1.491 af

Pond A-L40: A-L40 Peak Elev=50.98' Inflow=76.13 cfs 3.146 af
42.0" Round Culvert x 2.00 n=0.013 L=175.0' S=0.0040 '/' Outflow=76.13 cfs 3.146 af

Pond A-L41: A-L41 Peak Elev=54.60' Inflow=5.01 cfs 0.207 af
24.0" Round Culvert n=0.013 L=330.0' S=0.0050 '/' Outflow=5.01 cfs 0.207 af

Pond A-L42: A-L42 Peak Elev=54.38' Inflow=11.34 cfs 0.468 af
30.0" Round Culvert n=0.013 L=420.0' S=0.0050 '/' Outflow=11.34 cfs 0.468 af

Pond A-L43: A-L43 Peak Elev=54.55' Inflow=5.01 cfs 0.207 af
24.0" Round Culvert n=0.013 L=290.0' S=0.0050 '/' Outflow=5.01 cfs 0.207 af

Pond A-L44: A-L44 Peak Elev=54.34' Inflow=11.68 cfs 0.483 af
30.0" Round Culvert n=0.013 L=344.0' S=0.0050 '/' Outflow=11.68 cfs 0.483 af

Pond A-L45: A-L45 Peak Elev=51.24' Inflow=0.61 cfs 0.025 af
18.0" Round Culvert n=0.013 L=181.0' S=0.0080 '/' Outflow=0.61 cfs 0.025 af

Pond A-L46: A-L46 Peak Elev=51.23' Inflow=5.58 cfs 0.231 af
24.0" Round Culvert n=0.013 L=289.0' S=0.0090 '/' Outflow=5.58 cfs 0.231 af

Pond A-L47: A-L47 Peak Elev=51.24' Inflow=7.29 cfs 0.301 af
24.0" Round Culvert n=0.013 L=114.0' S=0.0070 '/' Outflow=7.29 cfs 0.301 af

Pond A-L48: A-L48 Peak Elev=78.25' Inflow=0.36 cfs 0.015 af
24.0" Round Culvert n=0.013 L=198.0' S=0.0050 '/' Outflow=0.36 cfs 0.015 af

Pond A-L49: A-L49 Peak Elev=77.45' Inflow=0.61 cfs 0.025 af
24.0" Round Culvert n=0.013 L=198.0' S=0.0050 '/' Outflow=0.61 cfs 0.025 af

Pond A-L50: A-L50 Peak Elev=77.30' Inflow=7.56 cfs 0.312 af
24.0" Round Culvert n=0.013 L=198.0' S=0.0050 '/' Outflow=7.56 cfs 0.312 af

Pond A-L51: A-L51 Peak Elev=76.35' Inflow=7.77 cfs 0.321 af
24.0" Round Culvert n=0.013 L=198.0' S=0.0050 '/' Outflow=7.77 cfs 0.321 af

Pond A-L52: A-L52 Peak Elev=77.24' Inflow=0.62 cfs 0.026 af
24.0" Round Culvert n=0.013 L=160.0' S=0.0099 '/' Outflow=0.62 cfs 0.026 af

Pond A-L53: A-L53 Peak Elev=76.02' Inflow=1.96 cfs 0.081 af
24.0" Round Culvert n=0.013 L=155.0' S=0.0099 '/' Outflow=1.96 cfs 0.081 af

Pond A-L54: A-L54 Peak Elev=75.57' Inflow=11.17 cfs 0.462 af
24.0" Round Culvert n=0.013 L=55.0' S=0.0095 '/' Outflow=11.17 cfs 0.462 af

Pond A-L55: A-L55 Peak Elev=74.93' Inflow=11.17 cfs 0.462 af
24.0" Round Culvert n=0.013 L=80.0' S=0.0050 '/' Outflow=11.17 cfs 0.462 af

Pond A-L56: A-L56 Peak Elev=74.21' Inflow=13.07 cfs 0.540 af
24.0" Round Culvert n=0.013 L=113.0' S=0.0289 '/' Outflow=13.07 cfs 0.540 af

Pond A-L57: A-L57 Peak Elev=71.12' Inflow=1.93 cfs 0.080 af
24.0" Round Culvert n=0.013 L=63.0' S=0.0100 '/' Outflow=1.93 cfs 0.080 af

Pond A-L58: A-L58 Peak Elev=70.85' Inflow=0.95 cfs 0.039 af
24.0" Round Culvert n=0.013 L=20.0' S=0.0100 '/' Outflow=0.95 cfs 0.039 af

Pond A-L59: A-L59 Peak Elev=70.82' Inflow=2.89 cfs 0.119 af
30.0" Round Culvert n=0.013 L=53.0' S=0.0100 '/' Outflow=2.89 cfs 0.119 af

Pond A-L60: A-L60 Peak Elev=70.71' Inflow=15.96 cfs 0.660 af
30.0" Round Culvert n=0.013 L=408.0' S=0.0100 '/' Outflow=15.96 cfs 0.660 af

Pond A-L61: A-L61 Peak Elev=66.83' Inflow=2.87 cfs 0.118 af
24.0" Round Culvert n=0.013 L=71.0' S=0.0100 '/' Outflow=2.87 cfs 0.118 af

Pond A-L62: A-L62 Peak Elev=66.63' Inflow=1.26 cfs 0.052 af
24.0" Round Culvert n=0.013 L=21.0' S=0.0100 '/' Outflow=1.26 cfs 0.052 af

Pond A-L63: A-L63 Peak Elev=66.61' Inflow=20.09 cfs 0.830 af
36.0" Round Culvert n=0.013 L=440.0' S=0.0100 '/' Outflow=20.09 cfs 0.830 af

Pond A-L64: A-L64 Peak Elev=62.88' Inflow=3.49 cfs 0.144 af
24.0" Round Culvert n=0.013 L=72.0' S=0.0050 '/' Outflow=3.49 cfs 0.144 af

Pond A-L65: A-L65 Peak Elev=62.83' Inflow=1.26 cfs 0.052 af
24.0" Round Culvert n=0.013 L=22.0' S=0.0050 '/' Outflow=1.26 cfs 0.052 af

Pond A-L66: A-L66 Peak Elev=62.82' Inflow=24.84 cfs 1.027 af
36.0" Round Culvert n=0.013 L=98.0' S=0.0060 '/' Outflow=24.84 cfs 1.027 af

Pond A-L67: A-L67 Peak Elev=61.88' Inflow=24.84 cfs 1.027 af
36.0" Round Culvert n=0.013 L=88.0' S=0.0090 '/' Outflow=24.84 cfs 1.027 af

Pond A-L68: A-L68 Peak Elev=60.70' Inflow=24.84 cfs 1.027 af
48.0" Round Culvert n=0.013 L=398.0' S=0.0050 '/' Outflow=24.84 cfs 1.027 af

Pond A-L69: A-L69 Peak Elev=58.44' Inflow=24.84 cfs 1.027 af
48.0" Round Culvert n=0.013 L=240.0' S=0.0129 '/' Outflow=24.84 cfs 1.027 af

Pond A-L70: A-L70 Peak Elev=55.69' Inflow=2.32 cfs 0.096 af
24.0" Round Culvert n=0.013 L=28.0' S=0.0050 '/' Outflow=2.32 cfs 0.096 af

Pond A-L71: A-L71 Peak Elev=55.66' Inflow=27.17 cfs 1.123 af
48.0" Round Culvert n=0.013 L=49.0' S=0.0090 '/' Outflow=27.17 cfs 1.123 af

Pond A-L72: A-L72 Peak Elev=54.80' Inflow=27.17 cfs 1.123 af
48.0" Round Culvert n=0.013 L=340.0' S=0.0159 '/' Outflow=27.17 cfs 1.123 af

Pond A-L73: A-L73 Peak Elev=51.27' Inflow=27.17 cfs 1.123 af
48.0" Round Culvert n=0.013 L=492.0' S=0.0018 '/' Outflow=27.17 cfs 1.123 af

Subcatchment A01: A01 Runoff Area=1.430 ac 0.00% Impervious Runoff Depth=0.69"
Tc=7.0 min C=0.69 Runoff=1.99 cfs 0.082 af

Subcatchment A02: A02 Runoff Area=0.590 ac 0.00% Impervious Runoff Depth=0.72"
Tc=7.0 min C=0.72 Runoff=0.86 cfs 0.035 af

Subcatchment A03: A03 Runoff Area=0.340 ac 100.00% Impervious Runoff Depth=0.95"
Tc=5.0 min C=0.95 Runoff=0.65 cfs 0.027 af

Subcatchment A04: A04 Runoff Area=0.280 ac 100.00% Impervious Runoff Depth=0.95"
Tc=5.0 min C=0.95 Runoff=0.54 cfs 0.022 af

Subcatchment A05: A05 Runoff Area=4.840 ac 0.00% Impervious Runoff Depth=0.55"
Tc=23.0 min C=0.55 Runoff=5.37 cfs 0.222 af

Subcatchment A06: A06 Runoff Area=0.260 ac 0.00% Impervious Runoff Depth=0.75"
Tc=6.0 min C=0.75 Runoff=0.39 cfs 0.016 af

Subcatchment A07: A07 Runoff Area=0.250 ac 0.00% Impervious Runoff Depth=0.64"
Tc=8.0 min C=0.64 Runoff=0.32 cfs 0.013 af

Subcatchment A08: A08 Runoff Area=3.050 ac 0.00% Impervious Runoff Depth=0.58"
Tc=20.0 min C=0.58 Runoff=3.57 cfs 0.147 af

Subcatchment A09: A09 Runoff Area=1.030 ac 0.00% Impervious Runoff Depth=0.67"
Tc=8.0 min C=0.67 Runoff=1.39 cfs 0.058 af

Subcatchment A10: A10 Runoff Area=0.550 ac 0.00% Impervious Runoff Depth=0.88"
Tc=5.0 min C=0.88 Runoff=0.98 cfs 0.040 af

Subcatchment A11: A11 Runoff Area=1.880 ac 0.00% Impervious Runoff Depth=0.94"
Tc=5.0 min C=0.94 Runoff=3.56 cfs 0.147 af

Subcatchment A12: A12 Runoff Area=0.540 ac 0.00% Impervious Runoff Depth=0.66"
Tc=5.0 min C=0.66 Runoff=0.72 cfs 0.030 af

Subcatchment A13: A13 Runoff Area=0.240 ac 0.00% Impervious Runoff Depth=0.83"
Tc=5.0 min C=0.83 Runoff=0.40 cfs 0.017 af

Subcatchment A14: A14 Runoff Area=0.420 ac 0.00% Impervious Runoff Depth=0.77"
Tc=6.0 min C=0.77 Runoff=0.65 cfs 0.027 af

Subcatchment A16/17: A16/17 Runoff Area=0.270 ac 0.00% Impervious Runoff Depth=0.93"
Tc=5.0 min C=0.93 Runoff=0.51 cfs 0.021 af

Subcatchment A18: A18 Runoff Area=3.950 ac 0.00% Impervious Runoff Depth=0.53"
Tc=18.0 min C=0.53 Runoff=4.22 cfs 0.174 af

Subcatchment A19: A19 Runoff Area=0.370 ac 0.00% Impervious Runoff Depth=0.65"
Tc=8.0 min C=0.65 Runoff=0.49 cfs 0.020 af

Subcatchment A20: A20 Runoff Area=0.650 ac 0.00% Impervious Runoff Depth=0.61"
Tc=9.0 min C=0.61 Runoff=0.80 cfs 0.033 af

Subcatchment A21: A21 Runoff Area=0.540 ac 0.00% Impervious Runoff Depth=0.87"
Tc=5.0 min C=0.87 Runoff=0.95 cfs 0.039 af

Subcatchment A22: A22 Runoff Area=0.440 ac 0.00% Impervious Runoff Depth=0.70"
Tc=7.0 min C=0.70 Runoff=0.62 cfs 0.026 af

Subcatchment A23: A23 Runoff Area=3.940 ac 0.00% Impervious Runoff Depth=0.63"
Tc=18.0 min C=0.63 Runoff=5.01 cfs 0.207 af

Subcatchment A24: A24 Runoff Area=5.320 ac 0.00% Impervious Runoff Depth=0.59"
Tc=23.0 min C=0.59 Runoff=6.33 cfs 0.262 af

Subcatchment A25: A25 Runoff Area=3.820 ac 0.00% Impervious Runoff Depth=0.65"
Tc=14.0 min C=0.65 Runoff=5.01 cfs 0.207 af

Subcatchment A26: A26 Runoff Area=5.610 ac 0.00% Impervious Runoff Depth=0.59"
Tc=19.0 min C=0.59 Runoff=6.67 cfs 0.276 af

Subcatchment A27: A27 Runoff Area=4.570 ac 0.00% Impervious Runoff Depth=0.54"
Tc=20.0 min C=0.54 Runoff=4.98 cfs 0.206 af

Subcatchment A28: A28 Runoff Area=6.820 ac 0.00% Impervious Runoff Depth=0.53"
Tc=30.0 min C=0.53 Runoff=7.29 cfs 0.301 af

Subcatchment A29: A29 Runoff Area=0.280 ac 0.00% Impervious Runoff Depth=0.64"
Tc=5.0 min C=0.64 Runoff=0.36 cfs 0.015 af

Subcatchment A30: A30 Runoff Area=0.190 ac 0.00% Impervious Runoff Depth=0.64"
Tc=5.0 min C=0.64 Runoff=0.25 cfs 0.010 af

Subcatchment A31: A31 Runoff Area=0.180 ac 0.00% Impervious Runoff Depth=0.64"
Tc=5.0 min C=0.64 Runoff=0.23 cfs 0.010 af

Subcatchment A32: A32 Runoff Area=0.160 ac 0.00% Impervious Runoff Depth=0.64"
Tc=5.0 min C=0.64 Runoff=0.21 cfs 0.009 af

Subcatchment A33: A33 Runoff Area=0.420 ac 0.00% Impervious Runoff Depth=0.73"
Tc=7.0 min C=0.73 Runoff=0.62 cfs 0.026 af

Subcatchment A34: A34 Runoff Area=0.980 ac 0.00% Impervious Runoff Depth=0.68"
Tc=8.0 min C=0.68 Runoff=1.34 cfs 0.056 af

Subcatchment A35: A35 Runoff Area=1.050 ac 0.00% Impervious Runoff Depth=0.68"
Tc=8.0 min C=0.68 Runoff=1.44 cfs 0.059 af

Subcatchment A36/37: A36/37 Runoff Area=1.410 ac 0.00% Impervious Runoff Depth=0.67"
Tc=8.0 min C=0.67 Runoff=1.91 cfs 0.079 af

Subcatchment A38: A38 Runoff Area=1.030 ac 0.00% Impervious Runoff Depth=0.93"
Tc=5.0 min C=0.93 Runoff=1.93 cfs 0.080 af

Subcatchment A39: A39 Runoff Area=0.520 ac 0.00% Impervious Runoff Depth=0.91"
Tc=5.0 min C=0.91 Runoff=0.95 cfs 0.039 af

Subcatchment A40: A40 Runoff Area=1.870 ac 0.00% Impervious Runoff Depth=0.76"
Tc=6.0 min C=0.76 Runoff=2.87 cfs 0.118 af

Subcatchment A41: A41 Runoff Area=0.720 ac 0.00% Impervious Runoff Depth=0.87"
Tc=5.0 min C=0.87 Runoff=1.26 cfs 0.052 af

Subcatchment A42: A42 Runoff Area=2.340 ac 0.00% Impervious Runoff Depth=0.74"
Tc=6.0 min C=0.74 Runoff=3.49 cfs 0.144 af

Subcatchment A43: A43 Runoff Area=0.720 ac 0.00% Impervious Runoff Depth=0.87"
Tc=5.0 min C=0.87 Runoff=1.26 cfs 0.052 af

Subcatchment A44: A44 Runoff Area=1.370 ac 0.00% Impervious Runoff Depth=0.84"
Tc=5.0 min C=0.84 Runoff=2.32 cfs 0.096 af

Subcatchment A45: A45 Runoff Area=4.580 ac 0.00% Impervious Runoff Depth=0.65"
Tc=5.0 min C=0.65 Runoff=6.00 cfs 0.248 af

Subcatchment A46: A46 Runoff Area=5.050 ac 0.00% Impervious Runoff Depth=0.66"
Tc=5.0 min C=0.66 Runoff=6.72 cfs 0.278 af

Subcatchment A47: A47 Runoff Area=5.510 ac 0.00% Impervious Runoff Depth=0.92"
Tc=5.0 min C=0.92 Runoff=10.22 cfs 0.422 af

Subcatchment Basin-A1: Basin A1 Runoff Area=5.620 ac 0.00% Impervious Runoff Depth=0.59"
Tc=23.0 min C=0.59 Runoff=6.69 cfs 0.276 af

Subcatchment Basin-A2: ABASIN2 Runoff Area=0.750 ac 0.00% Impervious Runoff Depth=0.84"
Tc=5.0 min C=0.84 Runoff=1.27 cfs 0.052 af

Subcatchment Basin-A3: Basin A3 Runoff Area=0.450 ac 0.00% Impervious Runoff Depth=0.67"
Tc=8.0 min C=0.67 Runoff=0.61 cfs 0.025 af

Pond D-L1: D-L1 Peak Elev=51.82' Inflow=3.05 cfs 0.126 af
18.0" Round Culvert n=0.013 L=50.0' S=0.0960 '/' Outflow=3.05 cfs 0.126 af

Subcatchment D1: D1 Runoff Area=2.910 ac 0.00% Impervious Runoff Depth=0.52"
Tc=20.0 min C=0.52 Runoff=3.05 cfs 0.126 af

Pond OUTFALL A: OUTFALL A Inflow=69.84 cfs 3.568 af
Primary=69.84 cfs 3.568 af

Pond Outlet: BasinOutlet Inflow=49.16 cfs 1.362 af
Primary=49.16 cfs 1.362 af

Total Runoff Area = 90.110 ac Runoff Volume = 4.928 af Average Runoff Depth = 0.66"
99.31% Pervious = 89.490 ac 0.69% Impervious = 0.620 ac

Summary for Pond A-BUBBLER: A-BUBBLER

Inflow Area = 87.200 ac, 0.71% Impervious, Inflow Depth = 0.66" for 100-Year event
Inflow = 116.21 cfs @ 0.50 hrs, Volume= 4.802 af
Outflow = 115.95 cfs @ 0.50 hrs, Volume= 4.804 af, Atten= 0%, Lag= 0.0 min
Primary = 69.84 cfs @ 0.50 hrs, Volume= 3.568 af
Secondary = 46.11 cfs @ 0.50 hrs, Volume= 1.236 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.31' @ 0.50 hrs Surf.Area= 15,270 sf Storage= 2,371 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.2 min (21.8 - 21.6)

Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	24,687 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	100	0	0
51.00	49,273	24,687	24,687

Device	Routing	Invert	Outlet Devices
#1	Primary	43.60'	**34.0" Round Outfall Pipe** L= 108.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 43.60' / 42.53' S= 0.0099 '/' Cc= 0.900 n= 0.013, Flow Area= 6.31 sf
#2	Secondary	50.00'	**100.0' long x 500.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=69.84 cfs @ 0.50 hrs HW=50.31' TW=0.00' (Dynamic Tailwater)
1=Outfall Pipe (Inlet Controls 69.84 cfs @ 11.08 fps)

Secondary OutFlow Max=46.11 cfs @ 0.50 hrs HW=50.31' TW=0.00' (Dynamic Tailwater)
2=Broad-Crested Rectangular Weir (Weir Controls 46.11 cfs @ 1.49 fps)

Summary for Pond A-L01: A-L01

Inflow Area = 1.430 ac, 0.00% Impervious, Inflow Depth = 0.69" for 100-Year event
Inflow = 1.99 cfs @ 0.12 hrs, Volume= 0.082 af
Outflow = 1.99 cfs @ 0.14 hrs, Volume= 0.082 af, Atten= 0%, Lag= 1.2 min
Primary = 1.99 cfs @ 0.14 hrs, Volume= 0.082 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 77.48' @ 0.12 hrs
Flood Elev= 82.95'

Device	Routing	Invert	Outlet Devices
#1	Primary	76.90'	**24.0" Round A-L1** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 76.90' / 74.93' S= 0.0098 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.99 cfs @ 0.14 hrs HW=77.48' TW=75.54' (Dynamic Tailwater)
└─**1=A-L1** (Inlet Controls 1.99 cfs @ 2.60 fps)

Summary for Pond A-L02: A-L02

Inflow Area = 2.020 ac, 0.00% Impervious, Inflow Depth = 0.70" for 100-Year event
Inflow = 2.85 cfs @ 0.14 hrs, Volume= 0.118 af
Outflow = 2.85 cfs @ 0.16 hrs, Volume= 0.118 af, Atten= 0%, Lag= 1.2 min
Primary = 2.85 cfs @ 0.16 hrs, Volume= 0.118 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 75.54' @ 0.12 hrs
Flood Elev= 82.95'

Device	Routing	Invert	Outlet Devices
#1	Primary	74.83'	**24.0" Round A-L2** L= 132.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 74.83' / 73.51' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=2.85 cfs @ 0.16 hrs HW=75.54' TW=74.12' (Dynamic Tailwater)
└─**1=A-L2** (Inlet Controls 2.85 cfs @ 2.86 fps)

Summary for Pond A-L03: A-L03

Inflow Area = 2.020 ac, 0.00% Impervious, Inflow Depth = 0.70" for 100-Year event
Inflow = 2.85 cfs @ 0.16 hrs, Volume= 0.118 af
Outflow = 2.85 cfs @ 0.16 hrs, Volume= 0.118 af, Atten= 0%, Lag= 0.0 min
Primary = 2.85 cfs @ 0.16 hrs, Volume= 0.118 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 74.12' @ 0.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	73.41'	**24.0" Round Pipe** L= 175.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 73.41' / 71.66' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=2.85 cfs @ 0.16 hrs HW=74.12' TW=72.37' (Dynamic Tailwater)
└─**1=Pipe** (Inlet Controls 2.85 cfs @ 2.86 fps)

Summary for Pond A-L04: A-L04

Inflow Area = 2.360 ac, 14.41% Impervious, Inflow Depth = 0.73" for 100-Year event
Inflow = 3.50 cfs @ 0.16 hrs, Volume= 0.145 af
Outflow = 3.50 cfs @ 0.16 hrs, Volume= 0.145 af, Atten= 0%, Lag= 0.0 min
Primary = 3.50 cfs @ 0.16 hrs, Volume= 0.145 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 72.40' @ 0.40 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	71.56'	**24.0" Round A-L4** L= 218.0' RCP, sq.cut end projecting, Ke= 0.500

Inlet / Outlet Invert= 71.56' / 69.38' S= 0.0100 '/' Cc= 0.900
n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=3.49 cfs @ 0.16 hrs HW=72.37' TW=70.62' (Dynamic Tailwater)
└─**1=A-L4** (Outlet Controls 3.49 cfs @ 4.35 fps)

Summary for Pond A-L05: A-L05

Inflow Area =	2.640 ac,	23.48% Impervious,	Inflow Depth = 0.76"	for 100-Year event	
Inflow =	4.03 cfs @	0.14 hrs,	Volume=	0.167 af	
Outflow =	4.03 cfs @	0.14 hrs,	Volume=	0.167 af,	Atten= 0%, Lag= 0.0 min
Primary =	4.03 cfs @	0.14 hrs,	Volume=	0.167 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 70.91' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.28'	**24.0" Round A-L5** L= 49.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 69.28' / 68.79' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=4.03 cfs @ 0.14 hrs HW=70.60' TW=70.38' (Dynamic Tailwater)
└─**1=A-L5** (Outlet Controls 4.03 cfs @ 2.60 fps)

Summary for Pond A-L06: A-L06

Inflow Area =	4.840 ac,	0.00% Impervious,	Inflow Depth = 0.55"	for 100-Year event	
Inflow =	5.37 cfs @	0.39 hrs,	Volume=	0.222 af	
Outflow =	5.37 cfs @	0.43 hrs,	Volume=	0.222 af,	Atten= 0%, Lag= 2.4 min
Primary =	5.37 cfs @	0.43 hrs,	Volume=	0.222 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 70.97' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.26'	**24.0" Round A-L6** L= 37.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 69.26' / 68.89' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=5.37 cfs @ 0.43 hrs HW=70.97' TW=70.78' (Dynamic Tailwater)
└─**1=A-L6** (Outlet Controls 5.37 cfs @ 2.52 fps)

Summary for Pond A-L07: A-L07

Inflow Area =	12.060 ac,	5.14% Impervious,	Inflow Depth = 0.63"	for 100-Year event	
Inflow =	15.41 cfs @	0.43 hrs,	Volume=	0.637 af	
Outflow =	15.41 cfs @	0.39 hrs,	Volume=	0.637 af,	Atten= 0%, Lag= 0.0 min
Primary =	15.41 cfs @	0.39 hrs,	Volume=	0.637 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 70.78' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	68.69'	**24.0" Round Pipe** L= 139.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 68.69' / 67.30' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=15.41 cfs @ 0.39 hrs HW=70.78' TW=69.29' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 15.41 cfs @ 5.82 fps)

Summary for Pond A-L08: A-L08

Inflow Area = 12.320 ac, 5.03% Impervious, Inflow Depth = 0.64" for 100-Year event
Inflow = 15.80 cfs @ 0.39 hrs, Volume= 0.653 af
Outflow = 15.80 cfs @ 0.43 hrs, Volume= 0.653 af, Atten= 0%, Lag= 2.4 min
Primary = 15.80 cfs @ 0.43 hrs, Volume= 0.653 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 69.29' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	67.20'	**24.0" Round A-L8** L= 196.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 67.20' / 65.24' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=15.80 cfs @ 0.43 hrs HW=69.29' TW=66.82' (Dynamic Tailwater)
└─**1=A-L8** (Inlet Controls 15.80 cfs @ 5.03 fps)

Summary for Pond A-L09: A-L09

Inflow Area = 12.570 ac, 4.93% Impervious, Inflow Depth = 0.64" for 100-Year event
Inflow = 16.12 cfs @ 0.43 hrs, Volume= 0.666 af
Outflow = 16.12 cfs @ 0.43 hrs, Volume= 0.666 af, Atten= 0%, Lag= 0.0 min
Primary = 16.12 cfs @ 0.43 hrs, Volume= 0.666 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 66.82' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	65.14'	**36.0" Round A-L9** L= 98.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 65.14' / 64.16' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=16.12 cfs @ 0.43 hrs HW=66.82' TW=65.64' (Dynamic Tailwater)
└─**1=A-L9** (Outlet Controls 16.12 cfs @ 5.72 fps)

Summary for Pond A-L10: A-L10

Inflow Area = 12.570 ac, 4.93% Impervious, Inflow Depth = 0.64" for 100-Year event
Inflow = 16.12 cfs @ 0.43 hrs, Volume= 0.666 af
Outflow = 16.12 cfs @ 0.43 hrs, Volume= 0.666 af, Atten= 0%, Lag= 0.0 min
Primary = 16.12 cfs @ 0.43 hrs, Volume= 0.666 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3

Peak Elev= 65.64' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	64.06'	**36.0" Round Pipe** L= 195.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 64.06' / 60.74' S= 0.0170 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=16.12 cfs @ 0.43 hrs HW=65.64' TW=62.22' (Dynamic Tailwater)
↑—**1=Pipe** (Inlet Controls 16.12 cfs @ 4.28 fps)

Summary for Pond A-L11: A-L11

Inflow Area = 12.570 ac, 4.93% Impervious, Inflow Depth = 0.64" for 100-Year event
Inflow = 16.12 cfs @ 0.43 hrs, Volume= 0.666 af
Outflow = 16.12 cfs @ 0.43 hrs, Volume= 0.666 af, Atten= 0%, Lag= 0.0 min
Primary = 16.12 cfs @ 0.43 hrs, Volume= 0.666 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 62.22' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.64'	**36.0" Round Pipe** L= 47.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 60.64' / 56.47' S= 0.0887 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=16.12 cfs @ 0.43 hrs HW=62.22' TW=58.64' (Dynamic Tailwater)
↑—**1=Pipe** (Inlet Controls 16.12 cfs @ 4.28 fps)

Summary for Pond A-L12: A-L12

Inflow Area = 15.620 ac, 3.97% Impervious, Inflow Depth = 0.63" for 100-Year event
Inflow = 19.69 cfs @ 0.43 hrs, Volume= 0.814 af
Outflow = 19.69 cfs @ 0.43 hrs, Volume= 0.814 af, Atten= 0%, Lag= 0.0 min
Primary = 19.69 cfs @ 0.43 hrs, Volume= 0.814 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 58.64' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.37'	**36.0" Round A-L12** L= 48.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 56.37' / 56.13' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=19.69 cfs @ 0.43 hrs HW=58.64' TW=58.00' (Dynamic Tailwater)
↑—**1=A-L12** (Outlet Controls 19.69 cfs @ 4.75 fps)

Summary for Pond A-L13: A-L13

Inflow Area = 1.030 ac, 0.00% Impervious, Inflow Depth = 0.67" for 100-Year event
Inflow = 1.39 cfs @ 0.14 hrs, Volume= 0.058 af
Outflow = 1.39 cfs @ 0.14 hrs, Volume= 0.058 af, Atten= 0%, Lag= 0.0 min
Primary = 1.39 cfs @ 0.14 hrs, Volume= 0.058 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 58.01' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.19'	**36.0" Round A-L13** L= 12.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 56.19' / 56.13' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=1.39 cfs @ 0.14 hrs HW=57.73' TW=57.72' (Dynamic Tailwater)
└─**1=A-L13** (Outlet Controls 1.39 cfs @ 0.56 fps)

Summary for Pond A-L14: A-L14

Inflow Area =	2.430 ac,	0.00% Impervious, Inflow Depth = 0.93"	for 100-Year event	
Inflow =	4.54 cfs @	0.09 hrs, Volume=	0.188 af	
Outflow =	4.54 cfs @	0.09 hrs, Volume=	0.188 af,	Atten= 0%, Lag= 0.0 min
Primary =	4.54 cfs @	0.09 hrs, Volume=	0.188 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 80.83' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	80.04'	**36.0" Round Pipe** L= 520.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 80.04' / 56.13' S= 0.0460 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=4.54 cfs @ 0.09 hrs HW=80.83' TW=57.59' (Dynamic Tailwater)
└─**1=Pipe** (Inlet Controls 4.54 cfs @ 3.03 fps)

Summary for Pond A-L15: A-L15

Inflow Area =	0.550 ac,	0.00% Impervious, Inflow Depth = 0.88"	for 100-Year event	
Inflow =	0.98 cfs @	0.09 hrs, Volume=	0.040 af	
Outflow =	0.98 cfs @	0.09 hrs, Volume=	0.040 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.98 cfs @	0.09 hrs, Volume=	0.040 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 81.06' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	80.51'	**24.0" Round A-L15** L= 54.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 80.51' / 80.24' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.98 cfs @ 0.09 hrs HW=81.06' TW=80.83' (Dynamic Tailwater)
└─**1=A-L15** (Outlet Controls 0.98 cfs @ 2.11 fps)

Summary for Pond A-L16: A-L16

Inflow Area = 1.880 ac, 0.00% Impervious, Inflow Depth = 0.94" for 100-Year event
Inflow = 3.56 cfs @ 0.09 hrs, Volume= 0.147 af
Outflow = 3.56 cfs @ 0.09 hrs, Volume= 0.147 af, Atten= 0%, Lag= 0.0 min
Primary = 3.56 cfs @ 0.09 hrs, Volume= 0.147 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 81.28' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	80.30'	**24.0" Round A-L16** L= 12.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 80.30' / 80.24' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=3.56 cfs @ 0.09 hrs HW=81.28' TW=80.83' (Dynamic Tailwater)
1=A-L16 (Barrel Controls 3.56 cfs @ 3.40 fps)

Summary for Pond A-L17: A-L17

Inflow Area = 19.080 ac, 3.25% Impervious, Inflow Depth = 0.67" for 100-Year event
Inflow = 25.62 cfs @ 0.43 hrs, Volume= 1.059 af
Outflow = 25.62 cfs @ 0.39 hrs, Volume= 1.059 af, Atten= 0%, Lag= 0.0 min
Primary = 25.62 cfs @ 0.39 hrs, Volume= 1.059 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 58.00' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	55.93'	**42.0" Round Pipe** L= 267.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 55.93' / 54.06' S= 0.0070 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=25.62 cfs @ 0.39 hrs HW=58.00' TW=56.06' (Dynamic Tailwater)
1=Pipe (Outlet Controls 25.62 cfs @ 6.20 fps)

Summary for Pond A-L18: A-L18

Inflow Area = 0.540 ac, 0.00% Impervious, Inflow Depth = 0.66" for 100-Year event
Inflow = 0.72 cfs @ 0.09 hrs, Volume= 0.030 af
Outflow = 0.72 cfs @ 0.40 hrs, Volume= 0.030 af, Atten= 0%, Lag= 18.6 min
Primary = 0.72 cfs @ 0.40 hrs, Volume= 0.030 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 56.06' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.70'	**24.0" Round A-L18** L= 12.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 54.70' / 54.16' S= 0.0450 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.72 cfs @ 0.40 hrs HW=56.06' TW=56.06' (Dynamic Tailwater)
1=A-L18 (Outlet Controls 0.72 cfs @ 0.44 fps)

Summary for Pond A-L19: A-L19

Inflow Area =	0.240 ac,	0.00% Impervious,	Inflow Depth = 0.83"	for 100-Year event	
Inflow =	0.40 cfs @	0.09 hrs,	Volume=	0.017 af	
Outflow =	0.40 cfs @	0.22 hrs,	Volume=	0.017 af,	Atten= 0%, Lag= 7.8 min
Primary =	0.40 cfs @	0.22 hrs,	Volume=	0.017 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 56.06' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.80'	**24.0" Round A-L19** L= 30.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 54.80' / 54.16' S= 0.0213 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.40 cfs @ 0.22 hrs HW=55.90' TW=55.90' (Dynamic Tailwater)
↑—**1=A-L19** (Outlet Controls 0.40 cfs @ 0.33 fps)

Summary for Pond A-L20: A-L20

Inflow Area =	19.860 ac,	3.12% Impervious,	Inflow Depth = 0.67"	for 100-Year event	
Inflow =	26.74 cfs @	0.39 hrs,	Volume=	1.105 af	
Outflow =	26.74 cfs @	0.39 hrs,	Volume=	1.105 af,	Atten= 0%, Lag= 0.0 min
Primary =	26.74 cfs @	0.39 hrs,	Volume=	1.105 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 56.06' @ 0.39 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.96'	**42.0" Round Pipe** L= 462.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 53.96' / 51.65' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=26.74 cfs @ 0.39 hrs HW=56.06' TW=53.14' (Dynamic Tailwater)
↑—**1=Pipe** (Barrel Controls 26.74 cfs @ 6.37 fps)

Summary for Pond A-L21: A-L21

Inflow Area =	0.420 ac,	0.00% Impervious,	Inflow Depth = 0.77"	for 100-Year event	
Inflow =	0.65 cfs @	0.10 hrs,	Volume=	0.027 af	
Outflow =	0.65 cfs @	0.43 hrs,	Volume=	0.027 af,	Atten= 0%, Lag= 19.8 min
Primary =	0.65 cfs @	0.43 hrs,	Volume=	0.027 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 53.14' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.80'	**24.0" Round A-L21** L= 30.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 51.80' / 51.75' S= 0.0017 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.65 cfs @ 0.43 hrs HW=53.14' TW=53.14' (Dynamic Tailwater)
↑—**1=A-L21** (Outlet Controls 0.65 cfs @ 0.41 fps)

Summary for Pond A-L22: A-L22

Inflow Area =	20.280 ac,	3.06% Impervious,	Inflow Depth = 0.67"	for 100-Year event
Inflow =	27.39 cfs @	0.39 hrs, Volume=	1.132 af	
Outflow =	27.39 cfs @	0.39 hrs, Volume=	1.132 af,	Atten= 0%, Lag= 0.0 min
Primary =	27.39 cfs @	0.39 hrs, Volume=	1.132 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 53.14' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.55'	**42.0" Round Pipe X 2.00** L= 190.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 51.55' / 50.60' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=27.39 cfs @ 0.39 hrs HW=53.14' TW=52.04' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 27.39 cfs @ 4.75 fps)

Summary for Pond A-L23: A-L23

Inflow Area =	20.280 ac,	3.06% Impervious,	Inflow Depth = 0.67"	for 100-Year event
Inflow =	27.39 cfs @	0.39 hrs, Volume=	1.132 af	
Outflow =	27.39 cfs @	0.39 hrs, Volume=	1.132 af,	Atten= 0%, Lag= 0.0 min
Primary =	27.39 cfs @	0.39 hrs, Volume=	1.132 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 52.04' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.40'	**42.0" Round Pipe X 2.00** L= 286.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 50.40' / 45.83' S= 0.0160 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=27.38 cfs @ 0.39 hrs HW=52.04' TW=50.80' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 27.38 cfs @ 4.55 fps)

Summary for Pond A-L25: A-L25

Inflow Area =	25.900 ac,	2.39% Impervious,	Inflow Depth = 0.65"	for 100-Year event
Inflow =	34.08 cfs @	0.39 hrs, Volume=	1.408 af	
Outflow =	34.08 cfs @	0.43 hrs, Volume=	1.408 af,	Atten= 0%, Lag= 2.4 min
Primary =	34.08 cfs @	0.43 hrs, Volume=	1.408 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.81' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	45.73'	**42.0" Round Pipe X 2.00** L= 163.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 45.73' / 45.08' S= 0.0040 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=33.97 cfs @ 0.43 hrs HW=50.80' TW=50.67' (Dynamic Tailwater)
└**1=Pipe** (Inlet Controls 33.97 cfs @ 1.77 fps)

Summary for Pond A-L27: A-L27

Inflow Area = 0.270 ac, 0.00% Impervious, Inflow Depth = 0.93" for 100-Year event
Inflow = 0.51 cfs @ 0.09 hrs, Volume= 0.021 af
Outflow = 0.51 cfs @ 0.10 hrs, Volume= 0.021 af, Atten= 0%, Lag= 0.6 min
Primary = 0.51 cfs @ 0.10 hrs, Volume= 0.021 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.67' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	45.59'	**24.0" Round A-L27** L= 102.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 45.59' / 45.08' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.00 cfs @ 0.10 hrs HW=50.18' TW=50.21' (Dynamic Tailwater)
└**1=A-L27** (Controls 0.00 cfs)

Summary for Pond A-L28: A-L28

Inflow Area = 26.170 ac, 2.37% Impervious, Inflow Depth = 0.66" for 100-Year event
Inflow = 34.59 cfs @ 0.43 hrs, Volume= 1.429 af
Outflow = 34.59 cfs @ 0.43 hrs, Volume= 1.429 af, Atten= 0%, Lag= 0.0 min
Primary = 34.59 cfs @ 0.43 hrs, Volume= 1.429 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.67' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.98'	**42.0" Round Pipe X 2.00** L= 343.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.98' / 44.13' S= 0.0025 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=34.59 cfs @ 0.43 hrs HW=50.67' TW=50.49' (Dynamic Tailwater)
└**1=Pipe** (Outlet Controls 34.59 cfs @ 1.80 fps)

Summary for Pond A-L29: A-L29

Inflow Area = 0.750 ac, 0.00% Impervious, Inflow Depth = 0.84" for 100-Year event
Inflow = 1.27 cfs @ 0.09 hrs, Volume= 0.052 af
Outflow = 1.27 cfs @ 0.12 hrs, Volume= 0.052 af, Atten= 0%, Lag= 1.8 min
Primary = 1.27 cfs @ 0.12 hrs, Volume= 0.052 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.70' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.25'	**18.0" Round A-L29** L= 233.0' RCP, sq.cut end projecting, Ke= 0.500

Inlet / Outlet Invert= 47.25' / 46.20' S= 0.0045 '/' Cc= 0.900
n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=0.99 cfs @ 0.12 hrs HW=50.26' TW=50.23' (Dynamic Tailwater)
└─**1=A-L29** (Outlet Controls 0.99 cfs @ 0.56 fps)

Summary for Pond A-L30: A-L30

Inflow Area =	4.700 ac,	0.00% Impervious,	Inflow Depth = 0.58"	for 100-Year event
Inflow =	5.49 cfs @	0.30 hrs, Volume=	0.227 af	
Outflow =	5.49 cfs @	0.31 hrs, Volume=	0.227 af,	Atten= 0%, Lag= 0.6 min
Primary =	5.49 cfs @	0.31 hrs, Volume=	0.227 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.65' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.10'	**24.0" Round A-L30** L= 140.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 46.10' / 45.40' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=5.49 cfs @ 0.31 hrs HW=50.59' TW=50.43' (Dynamic Tailwater)
└─**1=A-L30** (Outlet Controls 5.49 cfs @ 1.75 fps)

Summary for Pond A-L31: A-L31

Inflow Area =	30.870 ac,	2.01% Impervious,	Inflow Depth = 0.64"	for 100-Year event
Inflow =	40.08 cfs @	0.43 hrs, Volume=	1.656 af	
Outflow =	40.08 cfs @	0.43 hrs, Volume=	1.656 af,	Atten= 0%, Lag= 0.0 min
Primary =	40.08 cfs @	0.43 hrs, Volume=	1.656 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.50' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.13'	**42.0" Round Pipe X 2.00** L= 133.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 44.13' / 43.60' S= 0.0040 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=40.08 cfs @ 0.43 hrs HW=50.49' TW=50.30' (Dynamic Tailwater)
└─**1=Pipe** (Inlet Controls 40.08 cfs @ 2.08 fps)

Summary for Pond A-L32: A-L32

Inflow Area =	0.370 ac,	0.00% Impervious,	Inflow Depth = 0.65"	for 100-Year event
Inflow =	0.49 cfs @	0.14 hrs, Volume=	0.020 af	
Outflow =	0.49 cfs @	0.45 hrs, Volume=	0.020 af,	Atten= 0%, Lag= 18.6 min
Primary =	0.49 cfs @	0.45 hrs, Volume=	0.020 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3

Peak Elev= 55.11' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.46'	**18.0" Round A-L32** L= 36.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 51.46' / 51.28' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=0.22 cfs @ 0.45 hrs HW=55.10' TW=55.10' (Dynamic Tailwater)
└─**1=A-L32** (Inlet Controls 0.22 cfs @ 0.13 fps)

Summary for Pond A-L33: A-L33

Inflow Area = 0.650 ac, 0.00% Impervious, Inflow Depth = 0.61" for 100-Year event
Inflow = 0.80 cfs @ 0.15 hrs, Volume= 0.033 af
Outflow = 0.80 cfs @ 0.21 hrs, Volume= 0.033 af, Atten= 0%, Lag= 3.6 min
Primary = 0.80 cfs @ 0.21 hrs, Volume= 0.033 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 55.12' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.30'	**18.0" Round A-L33** L= 4.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 51.30' / 51.28' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=0.00 cfs @ 0.21 hrs HW=53.53' TW=53.54' (Dynamic Tailwater)
└─**1=A-L33** (Controls 0.00 cfs)

Summary for Pond A-L34: A-L34

Inflow Area = 1.020 ac, 0.00% Impervious, Inflow Depth = 0.62" for 100-Year event
Inflow = 1.28 cfs @ 0.21 hrs, Volume= 0.053 af
Outflow = 1.28 cfs @ 0.28 hrs, Volume= 0.053 af, Atten= 0%, Lag= 4.2 min
Primary = 1.28 cfs @ 0.28 hrs, Volume= 0.053 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 55.11' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.08'	**18.0" Round Pipe** L= 125.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 51.08' / 50.58' S= 0.0040 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=0.00 cfs @ 0.28 hrs HW=54.39' TW=54.40' (Dynamic Tailwater)
└─**1=Pipe** (Controls 0.00 cfs)

Summary for Pond A-L35: A-L35

Inflow Area = 5.510 ac, 0.00% Impervious, Inflow Depth = 0.92" for 100-Year event
Inflow = 10.22 cfs @ 0.09 hrs, Volume= 0.422 af
Outflow = 10.22 cfs @ 0.41 hrs, Volume= 0.422 af, Atten= 0%, Lag= 19.2 min
Primary = 10.22 cfs @ 0.41 hrs, Volume= 0.422 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 55.27' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.40'	**30.0" Round A-L35** L= 4.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 50.40' / 50.38' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=10.17 cfs @ 0.41 hrs HW=55.24' TW=55.05' (Dynamic Tailwater)
└─**1=A-L35** (Inlet Controls 10.17 cfs @ 2.07 fps)

Summary for Pond A-L36: A-L36

Inflow Area =	7.070 ac,	0.00% Impervious, Inflow Depth =	0.87"	for 100-Year event
Inflow =	12.45 cfs @	0.41 hrs, Volume=	0.515 af	
Outflow =	12.45 cfs @	0.50 hrs, Volume=	0.515 af,	Atten= 0%, Lag= 5.4 min
Primary =	12.45 cfs @	0.50 hrs, Volume=	0.515 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 55.08' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.28'	**30.0" Round Pipe** L= 44.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 50.28' / 50.06' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=12.45 cfs @ 0.50 hrs HW=55.08' TW=54.80' (Dynamic Tailwater)
└─**1=Pipe** (Inlet Controls 12.45 cfs @ 2.54 fps)

Summary for Pond A-L37: A-L37

Inflow Area =	7.510 ac,	0.00% Impervious, Inflow Depth =	0.86"	for 100-Year event
Inflow =	13.08 cfs @	0.50 hrs, Volume=	0.540 af	
Outflow =	13.08 cfs @	0.50 hrs, Volume=	0.540 af,	Atten= 0%, Lag= 0.0 min
Primary =	13.08 cfs @	0.50 hrs, Volume=	0.540 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 54.80' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	49.96'	**30.0" Round A-L37** L= 692.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 49.96' / 46.50' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=13.06 cfs @ 0.50 hrs HW=54.80' TW=53.93' (Dynamic Tailwater)
└─**1=A-L37** (Outlet Controls 13.06 cfs @ 2.66 fps)

Summary for Pond A-L38: A-L38

Inflow Area =	26.200 ac,	0.00% Impervious,	Inflow Depth = 0.68"	for 100-Year event
Inflow =	36.09 cfs @	0.40 hrs, Volume=	1.491 af	
Outflow =	36.09 cfs @	0.45 hrs, Volume=	1.491 af,	Atten= 0%, Lag= 3.0 min
Primary =	36.09 cfs @	0.45 hrs, Volume=	1.491 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 53.93' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.40'	**36.0" Round Pipe** L= 8.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.40' / 46.36' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=36.08 cfs @ 0.45 hrs HW=53.92' TW=52.79' (Dynamic Tailwater)
↑—**1=Pipe** (Inlet Controls 36.08 cfs @ 5.10 fps)

Summary for Pond A-L39: A-L39

Inflow Area =	26.200 ac,	0.00% Impervious,	Inflow Depth = 0.68"	for 100-Year event
Inflow =	36.09 cfs @	0.45 hrs, Volume=	1.491 af	
Outflow =	36.09 cfs @	0.45 hrs, Volume=	1.491 af,	Atten= 0%, Lag= 0.0 min
Primary =	36.09 cfs @	0.45 hrs, Volume=	1.491 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 52.81' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.06'	**36.0" Round Pipe** L= 415.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.06' / 44.40' S= 0.0040 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=36.09 cfs @ 0.45 hrs HW=52.79' TW=50.97' (Dynamic Tailwater)
↑—**1=Pipe** (Outlet Controls 36.09 cfs @ 5.11 fps)

Summary for Pond A-L40: A-L40

Inflow Area =	56.330 ac,	0.00% Impervious,	Inflow Depth = 0.67"	for 100-Year event
Inflow =	76.13 cfs @	0.50 hrs, Volume=	3.146 af	
Outflow =	76.13 cfs @	0.50 hrs, Volume=	3.146 af,	Atten= 0%, Lag= 0.0 min
Primary =	76.13 cfs @	0.50 hrs, Volume=	3.146 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.98' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.30'	**42.0" Round Pipe X 2.00** L= 175.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.30' / 43.60' S= 0.0040 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=76.13 cfs @ 0.50 hrs HW=50.98' TW=50.31' (Dynamic Tailwater)
└─**1=Pipe** (Inlet Controls 76.13 cfs @ 3.96 fps)

Summary for Pond A-L41: A-L41

Inflow Area = 3.940 ac, 0.00% Impervious, Inflow Depth = 0.63" for 100-Year event
Inflow = 5.01 cfs @ 0.30 hrs, Volume= 0.207 af
Outflow = 5.01 cfs @ 0.37 hrs, Volume= 0.207 af, Atten= 0%, Lag= 4.2 min
Primary = 5.01 cfs @ 0.37 hrs, Volume= 0.207 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 54.60' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.35'	**24.0" Round A-L41** L= 330.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 50.35' / 48.70' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=4.81 cfs @ 0.37 hrs HW=54.47' TW=54.27' (Dynamic Tailwater)
└─**1=A-L41** (Outlet Controls 4.81 cfs @ 1.53 fps)

Summary for Pond A-L42: A-L42

Inflow Area = 9.260 ac, 0.00% Impervious, Inflow Depth = 0.61" for 100-Year event
Inflow = 11.34 cfs @ 0.39 hrs, Volume= 0.468 af
Outflow = 11.34 cfs @ 0.39 hrs, Volume= 0.468 af, Atten= 0%, Lag= 0.0 min
Primary = 11.34 cfs @ 0.39 hrs, Volume= 0.468 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 54.38' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	48.60'	**30.0" Round A-L42** L= 420.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 48.60' / 46.50' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=11.29 cfs @ 0.39 hrs HW=54.34' TW=53.90' (Dynamic Tailwater)
└─**1=A-L42** (Outlet Controls 11.29 cfs @ 2.30 fps)

Summary for Pond A-L43: A-L43

Inflow Area = 3.820 ac, 0.00% Impervious, Inflow Depth = 0.65" for 100-Year event
Inflow = 5.01 cfs @ 0.24 hrs, Volume= 0.207 af
Outflow = 5.01 cfs @ 0.24 hrs, Volume= 0.207 af, Atten= 0%, Lag= 0.0 min
Primary = 5.01 cfs @ 0.24 hrs, Volume= 0.207 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 54.55' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	49.77'	**24.0" Round A-L43** L= 290.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 49.77' / 48.32' S= 0.0050 '/' Cc= 0.900

n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=4.30 cfs @ 0.24 hrs HW=53.35' TW=53.21' (Dynamic Tailwater)
└─**1=A-L43** (Outlet Controls 4.30 cfs @ 1.37 fps)

Summary for Pond A-L44: A-L44

Inflow Area =	9.430 ac,	0.00% Impervious,	Inflow Depth = 0.61"	for 100-Year event	
Inflow =	11.68 cfs @	0.32 hrs,	Volume=	0.483 af	
Outflow =	11.68 cfs @	0.32 hrs,	Volume=	0.483 af,	Atten= 0%, Lag= 0.0 min
Primary =	11.68 cfs @	0.32 hrs,	Volume=	0.483 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 54.34' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	48.22'	**30.0" Round A-L44** L= 344.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 48.22' / 46.50' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=11.54 cfs @ 0.32 hrs HW=54.06' TW=53.66' (Dynamic Tailwater)
└─**1=A-L44** (Outlet Controls 11.54 cfs @ 2.35 fps)

Summary for Pond A-L45: A-L45

Inflow Area =	0.450 ac,	0.00% Impervious,	Inflow Depth = 0.67"	for 100-Year event	
Inflow =	0.61 cfs @	0.14 hrs,	Volume=	0.025 af	
Outflow =	0.61 cfs @	0.44 hrs,	Volume=	0.025 af,	Atten= 0%, Lag= 18.0 min
Primary =	0.61 cfs @	0.44 hrs,	Volume=	0.025 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 51.24' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	48.55'	**18.0" Round A-L45** L= 181.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 48.55' / 47.10' S= 0.0080 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=0.58 cfs @ 0.44 hrs HW=51.22' TW=51.21' (Dynamic Tailwater)
└─**1=A-L45** (Outlet Controls 0.58 cfs @ 0.33 fps)

Summary for Pond A-L46: A-L46

Inflow Area =	5.020 ac,	0.00% Impervious,	Inflow Depth = 0.55"	for 100-Year event	
Inflow =	5.58 cfs @	0.34 hrs,	Volume=	0.231 af	
Outflow =	5.58 cfs @	0.44 hrs,	Volume=	0.231 af,	Atten= 0%, Lag= 6.0 min
Primary =	5.58 cfs @	0.44 hrs,	Volume=	0.231 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 51.23' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.00'	**24.0" Round A-L46** L= 289.0' RCP, sq.cut end projecting, Ke= 0.500

Inlet / Outlet Invert= 47.00' / 44.40' S= 0.0090 '/' Cc= 0.900
n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=5.58 cfs @ 0.44 hrs HW=51.21' TW=50.96' (Dynamic Tailwater)
1=A-L46 (Outlet Controls 5.58 cfs @ 1.78 fps)

Summary for Pond A-L47: A-L47

Inflow Area =	6.820 ac,	0.00% Impervious, Inflow Depth = 0.53"	for 100-Year event	
Inflow =	7.29 cfs @	0.50 hrs, Volume=	0.301 af	
Outflow =	7.29 cfs @	0.50 hrs, Volume=	0.301 af,	Atten= 0%, Lag= 0.0 min
Primary =	7.29 cfs @	0.50 hrs, Volume=	0.301 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 51.24' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	45.20'	**24.0" Round A-L47** L= 114.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 45.20' / 44.40' S= 0.0070 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=7.29 cfs @ 0.50 hrs HW=51.23' TW=50.98' (Dynamic Tailwater)
1=A-L47 (Outlet Controls 7.29 cfs @ 2.32 fps)

Summary for Pond A-L48: A-L48

Inflow Area =	0.280 ac,	0.00% Impervious, Inflow Depth = 0.64"	for 100-Year event	
Inflow =	0.36 cfs @	0.09 hrs, Volume=	0.015 af	
Outflow =	0.36 cfs @	0.15 hrs, Volume=	0.015 af,	Atten= 0%, Lag= 3.6 min
Primary =	0.36 cfs @	0.15 hrs, Volume=	0.015 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 78.25' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	77.95'	**24.0" Round A-L48** L= 198.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 77.95' / 76.96' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.36 cfs @ 0.15 hrs HW=78.25' TW=77.45' (Dynamic Tailwater)
1=A-L48 (Outlet Controls 0.36 cfs @ 1.87 fps)

Summary for Pond A-L49: A-L49

Inflow Area =	0.470 ac,	0.00% Impervious, Inflow Depth = 0.64"	for 100-Year event	
Inflow =	0.61 cfs @	0.15 hrs, Volume=	0.025 af	
Outflow =	0.61 cfs @	0.15 hrs, Volume=	0.025 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.61 cfs @	0.15 hrs, Volume=	0.025 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 77.45' @ 0.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	76.86'	**24.0" Round A-L49** L= 198.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 76.86' / 75.87' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.61 cfs @ 0.15 hrs HW=77.45' TW=77.30' (Dynamic Tailwater)
└─**1=A-L49** (Outlet Controls 0.61 cfs @ 1.17 fps)

Summary for Pond A-L50: A-L50

Inflow Area =	5.700 ac,	0.00% Impervious,	Inflow Depth = 0.66"	for 100-Year event	
Inflow =	7.56 cfs @	0.15 hrs,	Volume=	0.312 af	
Outflow =	7.56 cfs @	0.15 hrs,	Volume=	0.312 af,	Atten= 0%, Lag= 0.0 min
Primary =	7.56 cfs @	0.15 hrs,	Volume=	0.312 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 77.30' @ 0.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	75.77'	**24.0" Round A-L50** L= 198.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 75.77' / 74.78' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=7.56 cfs @ 0.15 hrs HW=77.30' TW=76.35' (Dynamic Tailwater)
└─**1=A-L50** (Outlet Controls 7.56 cfs @ 4.06 fps)

Summary for Pond A-L51: A-L51

Inflow Area =	5.860 ac,	0.00% Impervious,	Inflow Depth = 0.66"	for 100-Year event	
Inflow =	7.77 cfs @	0.15 hrs,	Volume=	0.321 af	
Outflow =	7.77 cfs @	0.12 hrs,	Volume=	0.321 af,	Atten= 0%, Lag= 0.0 min
Primary =	7.77 cfs @	0.12 hrs,	Volume=	0.321 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 76.35' @ 0.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	74.68'	**24.0" Round A-L51** L= 198.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 74.68' / 73.69' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=7.71 cfs @ 0.12 hrs HW=76.32' TW=75.51' (Dynamic Tailwater)
└─**1=A-L51** (Outlet Controls 7.71 cfs @ 3.80 fps)

Summary for Pond A-L52: A-L52

Inflow Area =	0.420 ac,	0.00% Impervious,	Inflow Depth = 0.73"	for 100-Year event	
Inflow =	0.62 cfs @	0.12 hrs,	Volume=	0.026 af	
Outflow =	0.62 cfs @	0.12 hrs,	Volume=	0.026 af,	Atten= 0%, Lag= 0.0 min
Primary =	0.62 cfs @	0.12 hrs,	Volume=	0.026 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3

Peak Elev= 77.24' @ 0.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	76.90'	**24.0" Round A-L52** L= 160.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 76.90' / 75.32' S= 0.0099 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.62 cfs @ 0.12 hrs HW=77.23' TW=75.98' (Dynamic Tailwater)
↑—**1=A-L52** (Outlet Controls 0.62 cfs @ 2.73 fps)

Summary for Pond A-L53: A-L53

Inflow Area =	1.400 ac,	0.00% Impervious,	Inflow Depth = 0.69"	for 100-Year event
Inflow =	1.96 cfs @	0.14 hrs, Volume=	0.081 af	
Outflow =	1.96 cfs @	0.16 hrs, Volume=	0.081 af,	Atten= 0%, Lag= 1.2 min
Primary =	1.96 cfs @	0.16 hrs, Volume=	0.081 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 76.02' @ 0.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	75.22'	**24.0" Round A-L53** L= 155.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 75.22' / 73.69' S= 0.0099 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.96 cfs @ 0.16 hrs HW=76.02' TW=75.57' (Dynamic Tailwater)
↑—**1=A-L53** (Outlet Controls 1.96 cfs @ 2.48 fps)

Summary for Pond A-L54: A-L54

Inflow Area =	8.310 ac,	0.00% Impervious,	Inflow Depth = 0.67"	for 100-Year event
Inflow =	11.17 cfs @	0.14 hrs, Volume=	0.462 af	
Outflow =	11.17 cfs @	0.14 hrs, Volume=	0.462 af,	Atten= 0%, Lag= 0.0 min
Primary =	11.17 cfs @	0.14 hrs, Volume=	0.462 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 75.57' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	73.59'	**24.0" Round A-L54** L= 55.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 73.59' / 73.07' S= 0.0095 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=11.17 cfs @ 0.14 hrs HW=75.57' TW=74.93' (Dynamic Tailwater)
↑—**1=A-L54** (Outlet Controls 11.17 cfs @ 4.47 fps)

Summary for Pond A-L55: A-L55

Inflow Area =	8.310 ac,	0.00% Impervious,	Inflow Depth = 0.67"	for 100-Year event
Inflow =	11.17 cfs @	0.14 hrs, Volume=	0.462 af	
Outflow =	11.17 cfs @	0.14 hrs, Volume=	0.462 af,	Atten= 0%, Lag= 0.0 min
Primary =	11.17 cfs @	0.14 hrs, Volume=	0.462 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 74.93' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	72.97'	**24.0" Round Pipe** L= 80.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 72.97' / 72.57' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=11.17 cfs @ 0.14 hrs HW=74.93' TW=74.21' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 11.17 cfs @ 4.51 fps)

Summary for Pond A-L56: A-L56

Inflow Area =	9.720 ac,	0.00% Impervious, Inflow Depth = 0.67"	for 100-Year event	
Inflow =	13.07 cfs @	0.14 hrs, Volume=	0.540 af	
Outflow =	13.07 cfs @	0.15 hrs, Volume=	0.540 af,	Atten= 0%, Lag= 0.6 min
Primary =	13.07 cfs @	0.15 hrs, Volume=	0.540 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 74.21' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	72.47'	**24.0" Round A-L56** L= 113.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 72.47' / 69.20' S= 0.0289 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=13.07 cfs @ 0.15 hrs HW=74.21' TW=70.71' (Dynamic Tailwater)
└─**1=A-L56** (Inlet Controls 13.07 cfs @ 4.50 fps)

Summary for Pond A-L57: A-L57

Inflow Area =	1.030 ac,	0.00% Impervious, Inflow Depth = 0.93"	for 100-Year event	
Inflow =	1.93 cfs @	0.09 hrs, Volume=	0.080 af	
Outflow =	1.93 cfs @	0.13 hrs, Volume=	0.080 af,	Atten= 0%, Lag= 2.4 min
Primary =	1.93 cfs @	0.13 hrs, Volume=	0.080 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 71.12' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	70.36'	**24.0" Round A-L57** L= 63.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 70.36' / 69.73' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.93 cfs @ 0.13 hrs HW=71.12' TW=70.82' (Dynamic Tailwater)
└─**1=A-L57** (Outlet Controls 1.93 cfs @ 2.61 fps)

Summary for Pond A-L58: A-L58

Inflow Area = 0.520 ac, 0.00% Impervious, Inflow Depth = 0.91" for 100-Year event
Inflow = 0.95 cfs @ 0.09 hrs, Volume= 0.039 af
Outflow = 0.95 cfs @ 0.12 hrs, Volume= 0.039 af, Atten= 0%, Lag= 1.8 min
Primary = 0.95 cfs @ 0.12 hrs, Volume= 0.039 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 70.85' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.93'	**24.0" Round A-L58** L= 20.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 69.93' / 69.73' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.95 cfs @ 0.12 hrs HW=70.83' TW=70.80' (Dynamic Tailwater)
↑—**1=A-L58** (Outlet Controls 0.95 cfs @ 1.02 fps)

Summary for Pond A-L59: A-L59

Inflow Area = 1.550 ac, 0.00% Impervious, Inflow Depth = 0.92" for 100-Year event
Inflow = 2.89 cfs @ 0.09 hrs, Volume= 0.119 af
Outflow = 2.89 cfs @ 0.11 hrs, Volume= 0.119 af, Atten= 0%, Lag= 1.2 min
Primary = 2.89 cfs @ 0.11 hrs, Volume= 0.119 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 70.82' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.63'	**30.0" Round Pipe** L= 53.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 69.63' / 69.10' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=2.89 cfs @ 0.11 hrs HW=70.78' TW=70.65' (Dynamic Tailwater)
↑—**1=Pipe** (Outlet Controls 2.89 cfs @ 1.92 fps)

Summary for Pond A-L60: A-L60

Inflow Area = 11.270 ac, 0.00% Impervious, Inflow Depth = 0.70" for 100-Year event
Inflow = 15.96 cfs @ 0.15 hrs, Volume= 0.660 af
Outflow = 15.96 cfs @ 0.15 hrs, Volume= 0.660 af, Atten= 0%, Lag= 0.0 min
Primary = 15.96 cfs @ 0.15 hrs, Volume= 0.660 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 70.71' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	69.00'	**30.0" Round Pipe** L= 408.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 69.00' / 64.92' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=15.96 cfs @ 0.15 hrs HW=70.71' TW=66.61' (Dynamic Tailwater)
↑—**1=Pipe** (Inlet Controls 15.96 cfs @ 4.45 fps)

Summary for Pond A-L61: A-L61

Inflow Area =	1.870 ac,	0.00% Impervious,	Inflow Depth = 0.76"	for 100-Year event
Inflow =	2.87 cfs @	0.10 hrs, Volume=	0.118 af	
Outflow =	2.87 cfs @	0.10 hrs, Volume=	0.118 af,	Atten= 0%, Lag= 0.0 min
Primary =	2.87 cfs @	0.10 hrs, Volume=	0.118 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 66.83' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	65.73'	**24.0" Round A-L61** L= 71.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 65.73' / 65.02' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=2.87 cfs @ 0.10 hrs HW=66.79' TW=66.55' (Dynamic Tailwater)
└─**1=A-L61** (Outlet Controls 2.87 cfs @ 2.46 fps)

Summary for Pond A-L62: A-L62

Inflow Area =	0.720 ac,	0.00% Impervious,	Inflow Depth = 0.87"	for 100-Year event
Inflow =	1.26 cfs @	0.09 hrs, Volume=	0.052 af	
Outflow =	1.26 cfs @	0.09 hrs, Volume=	0.052 af,	Atten= 0%, Lag= 0.0 min
Primary =	1.26 cfs @	0.09 hrs, Volume=	0.052 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 66.63' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	65.23'	**24.0" Round A-L62** L= 21.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 65.23' / 65.02' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.26 cfs @ 0.09 hrs HW=66.53' TW=66.51' (Dynamic Tailwater)
└─**1=A-L62** (Outlet Controls 1.26 cfs @ 0.83 fps)

Summary for Pond A-L63: A-L63

Inflow Area =	13.860 ac,	0.00% Impervious,	Inflow Depth = 0.72"	for 100-Year event
Inflow =	20.09 cfs @	0.15 hrs, Volume=	0.830 af	
Outflow =	20.09 cfs @	0.15 hrs, Volume=	0.830 af,	Atten= 0%, Lag= 0.0 min
Primary =	20.09 cfs @	0.15 hrs, Volume=	0.830 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 66.61' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	64.82'	**36.0" Round Pipe** L= 440.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 64.82' / 60.42' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=20.09 cfs @ 0.15 hrs HW=66.61' TW=62.82' (Dynamic Tailwater)
└─**1=Pipe** (Inlet Controls 20.09 cfs @ 4.56 fps)

Summary for Pond A-L64: A-L64

Inflow Area =	2.340 ac,	0.00% Impervious, Inflow Depth = 0.74"	for 100-Year event	
Inflow =	3.49 cfs @	0.10 hrs, Volume=	0.144 af	
Outflow =	3.49 cfs @	0.13 hrs, Volume=	0.144 af,	Atten= 0%, Lag= 1.8 min
Primary =	3.49 cfs @	0.13 hrs, Volume=	0.144 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 62.88' @ 0.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.88'	**24.0" Round A-L64** L= 72.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 60.88' / 60.52' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=3.42 cfs @ 0.13 hrs HW=62.87' TW=62.81' (Dynamic Tailwater)
↑—**1=A-L64** (Outlet Controls 3.42 cfs @ 1.36 fps)

Summary for Pond A-L65: A-L65

Inflow Area =	0.720 ac,	0.00% Impervious, Inflow Depth = 0.87"	for 100-Year event	
Inflow =	1.26 cfs @	0.09 hrs, Volume=	0.052 af	
Outflow =	1.26 cfs @	0.09 hrs, Volume=	0.052 af,	Atten= 0%, Lag= 0.0 min
Primary =	1.26 cfs @	0.09 hrs, Volume=	0.052 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 62.83' @ 0.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.63'	**24.0" Round A-L65** L= 22.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 60.63' / 60.52' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.00 cfs @ 0.09 hrs HW=62.65' TW=62.66' (Dynamic Tailwater)
↑—**1=A-L65** (Controls 0.00 cfs)

Summary for Pond A-L66: A-L66

Inflow Area =	16.920 ac,	0.00% Impervious, Inflow Depth = 0.73"	for 100-Year event	
Inflow =	24.84 cfs @	0.15 hrs, Volume=	1.027 af	
Outflow =	24.84 cfs @	0.15 hrs, Volume=	1.027 af,	Atten= 0%, Lag= 0.0 min
Primary =	24.84 cfs @	0.15 hrs, Volume=	1.027 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 62.82' @ 0.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.32'	**36.0" Round Pipe** L= 98.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 60.32' / 59.73' S= 0.0060 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=24.84 cfs @ 0.15 hrs HW=62.82' TW=61.88' (Dynamic Tailwater)
↑—**1=Pipe** (Outlet Controls 24.84 cfs @ 5.35 fps)

Summary for Pond A-L67: A-L67

Inflow Area =	16.920 ac,	0.00% Impervious,	Inflow Depth = 0.73"	for 100-Year event	
Inflow =	24.84 cfs @	0.15 hrs,	Volume=	1.027 af	
Outflow =	24.84 cfs @	0.15 hrs,	Volume=	1.027 af,	Atten= 0%, Lag= 0.0 min
Primary =	24.84 cfs @	0.15 hrs,	Volume=	1.027 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 61.88' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.63'	**36.0" Round Pipe** L= 88.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 59.63' / 58.84' S= 0.0090 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=24.84 cfs @ 0.15 hrs HW=61.88' TW=60.70' (Dynamic Tailwater)
└**1=Pipe** (Outlet Controls 24.84 cfs @ 6.05 fps)

Summary for Pond A-L68: A-L68

Inflow Area =	16.920 ac,	0.00% Impervious,	Inflow Depth = 0.73"	for 100-Year event	
Inflow =	24.84 cfs @	0.15 hrs,	Volume=	1.027 af	
Outflow =	24.84 cfs @	0.15 hrs,	Volume=	1.027 af,	Atten= 0%, Lag= 0.0 min
Primary =	24.84 cfs @	0.15 hrs,	Volume=	1.027 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.70' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.74'	**48.0" Round Pipe** L= 398.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 58.74' / 56.75' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf

Primary OutFlow Max=24.84 cfs @ 0.15 hrs HW=60.70' TW=58.44' (Dynamic Tailwater)
└**1=Pipe** (Outlet Controls 24.84 cfs @ 5.93 fps)

Summary for Pond A-L69: A-L69

Inflow Area =	16.920 ac,	0.00% Impervious,	Inflow Depth = 0.73"	for 100-Year event	
Inflow =	24.84 cfs @	0.15 hrs,	Volume=	1.027 af	
Outflow =	24.84 cfs @	0.15 hrs,	Volume=	1.027 af,	Atten= 0%, Lag= 0.0 min
Primary =	24.84 cfs @	0.15 hrs,	Volume=	1.027 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 58.44' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.65'	**48.0" Round Pipe** L= 240.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 56.65' / 53.56' S= 0.0129 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf

Primary OutFlow Max=24.84 cfs @ 0.15 hrs HW=58.44' TW=55.66' (Dynamic Tailwater)
└**1=Pipe** (Inlet Controls 24.84 cfs @ 4.56 fps)

Summary for Pond A-L70: A-L70

Inflow Area = 1.370 ac, 0.00% Impervious, Inflow Depth = 0.84" for 100-Year event
Inflow = 2.32 cfs @ 0.09 hrs, Volume= 0.096 af
Outflow = 2.32 cfs @ 0.12 hrs, Volume= 0.096 af, Atten= 0%, Lag= 1.8 min
Primary = 2.32 cfs @ 0.12 hrs, Volume= 0.096 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 55.69' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.80'	**24.0" Round A-L77** L= 28.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 53.80' / 53.66' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=2.32 cfs @ 0.12 hrs HW=55.66' TW=55.64' (Dynamic Tailwater)
↑—**1=A-L77** (Outlet Controls 2.32 cfs @ 0.99 fps)

Summary for Pond A-L71: A-L71

Inflow Area = 18.290 ac, 0.00% Impervious, Inflow Depth = 0.74" for 100-Year event
Inflow = 27.17 cfs @ 0.15 hrs, Volume= 1.123 af
Outflow = 27.17 cfs @ 0.15 hrs, Volume= 1.123 af, Atten= 0%, Lag= 0.0 min
Primary = 27.17 cfs @ 0.15 hrs, Volume= 1.123 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 55.66' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.46'	**48.0" Round Pipe** L= 49.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 53.46' / 53.02' S= 0.0090 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf

Primary OutFlow Max=27.17 cfs @ 0.15 hrs HW=55.66' TW=54.80' (Dynamic Tailwater)
↑—**1=Pipe** (Outlet Controls 27.17 cfs @ 5.55 fps)

Summary for Pond A-L72: A-L72

Inflow Area = 18.290 ac, 0.00% Impervious, Inflow Depth = 0.74" for 100-Year event
Inflow = 27.17 cfs @ 0.15 hrs, Volume= 1.123 af
Outflow = 27.17 cfs @ 0.15 hrs, Volume= 1.123 af, Atten= 0%, Lag= 0.0 min
Primary = 27.17 cfs @ 0.15 hrs, Volume= 1.123 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 54.80' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	52.92'	**48.0" Round Pipe** L= 340.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 52.92' / 47.50' S= 0.0159 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf

Primary OutFlow Max=27.17 cfs @ 0.15 hrs HW=54.80' TW=50.80' (Dynamic Tailwater)
↑—**1=Pipe** (Inlet Controls 27.17 cfs @ 4.67 fps)

Summary for Pond A-L73: A-L73

Inflow Area = 18.290 ac, 0.00% Impervious, Inflow Depth = 0.74" for 100-Year event
Inflow = 27.17 cfs @ 0.15 hrs, Volume= 1.123 af
Outflow = 27.17 cfs @ 0.15 hrs, Volume= 1.123 af, Atten= 0%, Lag= 0.0 min
Primary = 27.17 cfs @ 0.15 hrs, Volume= 1.123 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 51.27' @ 0.50 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	45.30'	**48.0" Round Pipe** L= 492.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 45.30' / 44.40' S= 0.0018 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf

Primary OutFlow Max=27.17 cfs @ 0.15 hrs HW=50.80' TW=50.52' (Dynamic Tailwater)
1=Pipe (Outlet Controls 27.17 cfs @ 2.16 fps)

Summary for Subcatchment A01: A01

Runoff = 1.99 cfs @ 0.12 hrs, Volume= 0.082 af, Depth= 0.69"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
1.430	0.69	Mixed Use, HSG D
1.430		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					**Direct Entry, PA01**

Summary for Subcatchment A02: A02

Runoff = 0.86 cfs @ 0.12 hrs, Volume= 0.035 af, Depth= 0.72"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.590	0.72	Mixed Use, HSG D
0.590		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					**Direct Entry, P-A02**

Summary for Subcatchment A03: A03

Runoff = 0.65 cfs @ 0.09 hrs, Volume= 0.027 af, Depth= 0.95"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.340	0.95	Mixed Use, HSG D
0.340		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment A04: A04

Runoff = 0.54 cfs @ 0.09 hrs, Volume= 0.022 af, Depth= 0.95"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.280	0.95	Mixed Use, HSG D
0.280		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment A05: A05

Runoff = 5.37 cfs @ 0.39 hrs, Volume= 0.222 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
4.840	0.55	Mixed Use, HSG D
4.840		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.0					**Direct Entry, P-A02**

Summary for Subcatchment A06: A06

Runoff = 0.39 cfs @ 0.10 hrs, Volume= 0.016 af, Depth= 0.75"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.260	0.75	Mixed Use, HSG D
0.260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, P-A02**

Summary for Subcatchment A07: A07

Runoff = 0.32 cfs @ 0.14 hrs, Volume= 0.013 af, Depth= 0.64"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.250	0.64	Mixed Use, HSG D
0.250		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0					**Direct Entry, P-A02**

Summary for Subcatchment A08: A08

Runoff = 3.57 cfs @ 0.34 hrs, Volume= 0.147 af, Depth= 0.58"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
3.050	0.58	Mixed Use, HSG D
3.050		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry, P-A02**

Summary for Subcatchment A09: A09

Runoff = 1.39 cfs @ 0.14 hrs, Volume= 0.058 af, Depth= 0.67"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
1.030	0.67	Mixed Use, HSG D
1.030		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0					**Direct Entry, P-A02**

Summary for Subcatchment A10: A10

Runoff = 0.98 cfs @ 0.09 hrs, Volume= 0.040 af, Depth= 0.88"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.550	0.88	Mixed Use, HSG D
0.550		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment A11: A11

Runoff = 3.56 cfs @ 0.09 hrs, Volume= 0.147 af, Depth= 0.94"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
1.880	0.94	Mixed Use, HSG D
1.880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment A12: A12

Runoff = 0.72 cfs @ 0.09 hrs, Volume= 0.030 af, Depth= 0.66"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.540	0.66	Mixed Use, HSG D
0.540		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment A13: A13

Runoff = 0.40 cfs @ 0.09 hrs, Volume= 0.017 af, Depth= 0.83"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.240	0.83	Mixed Use, HSG D
0.240		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment A14: A14

Runoff = 0.65 cfs @ 0.10 hrs, Volume= 0.027 af, Depth= 0.77"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.420	0.77	Mixed Use, HSG D
0.420		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, P-A02**

Summary for Subcatchment A16/17: A16/17

Runoff = 0.51 cfs @ 0.09 hrs, Volume= 0.021 af, Depth= 0.93"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.270	0.93	Mixed Use, HSG D
0.270		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment A18: A18

Runoff = 4.22 cfs @ 0.30 hrs, Volume= 0.174 af, Depth= 0.53"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
3.950	0.53	Mixed Use, HSG D
3.950		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.0					**Direct Entry, P-A02**

Summary for Subcatchment A19: A19

Runoff = 0.49 cfs @ 0.14 hrs, Volume= 0.020 af, Depth= 0.65"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.370	0.65	Mixed Use, HSG D
0.370		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0					**Direct Entry, P-A02**

Summary for Subcatchment A20: A20

Runoff = 0.80 cfs @ 0.15 hrs, Volume= 0.033 af, Depth= 0.61"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.650	0.61	Mixed Use, HSG D
0.650		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0					**Direct Entry, P-A02**

Summary for Subcatchment A21: A21

Runoff = 0.95 cfs @ 0.09 hrs, Volume= 0.039 af, Depth= 0.87"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.540	0.87	Mixed Use, HSG D
0.540		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment A22: A22

Runoff = 0.62 cfs @ 0.12 hrs, Volume= 0.026 af, Depth= 0.70"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.440	0.70	Mixed Use, HSG D
0.440		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					**Direct Entry, P-A02**

Summary for Subcatchment A23: A23

Runoff = 5.01 cfs @ 0.30 hrs, Volume= 0.207 af, Depth= 0.63"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
3.940	0.63	Mixed Use, HSG D
3.940		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
18.0					**Direct Entry, P-A02**

Summary for Subcatchment A24: A24

Runoff = 6.33 cfs @ 0.39 hrs, Volume= 0.262 af, Depth= 0.59"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
5.320	0.59	Mixed Use, HSG D
5.320		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.0					**Direct Entry, P-A02**

Summary for Subcatchment A25: A25

Runoff = 5.01 cfs @ 0.24 hrs, Volume= 0.207 af, Depth= 0.65"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
3.820	0.65	Mixed Use, HSG D
3.820		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.0					**Direct Entry, P-A02**

Summary for Subcatchment A26: A26

Runoff = 6.67 cfs @ 0.32 hrs, Volume= 0.276 af, Depth= 0.59"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
5.610	0.59	Mixed Use, HSG D
5.610		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
19.0					**Direct Entry, P-A02**

Summary for Subcatchment A27: A27

Runoff = 4.98 cfs @ 0.34 hrs, Volume= 0.206 af, Depth= 0.54"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
4.570	0.54	Mixed Use, HSG D
4.570		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry, P-A02**

Summary for Subcatchment A28: A28

Runoff = 7.29 cfs @ 0.50 hrs, Volume= 0.301 af, Depth= 0.53"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
6.820	0.53	Mixed Use, HSG D
6.820		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.0					**Direct Entry, P-A02**

Summary for Subcatchment A29: A29

Runoff = 0.36 cfs @ 0.09 hrs, Volume= 0.015 af, Depth= 0.64"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.280	0.64	Mixed Use, HSG D
0.280		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment A30: A30

Runoff = 0.25 cfs @ 0.09 hrs, Volume= 0.010 af, Depth= 0.64"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.190	0.64	Mixed Use, HSG D
0.190		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment A31: A31

Runoff = 0.23 cfs @ 0.09 hrs, Volume= 0.010 af, Depth= 0.64"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.180	0.64	Mixed Use, HSG D
0.180		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment A32: A32

Runoff = 0.21 cfs @ 0.09 hrs, Volume= 0.009 af, Depth= 0.64"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.160	0.64	Mixed Use, HSG D
0.160		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment A33: A33

Runoff = 0.62 cfs @ 0.12 hrs, Volume= 0.026 af, Depth= 0.73"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.420	0.73	Mixed Use, HSG D
0.420		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					**Direct Entry, PA01**

Summary for Subcatchment A34: A34

Runoff = 1.34 cfs @ 0.14 hrs, Volume= 0.056 af, Depth= 0.68"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.980	0.68	Mixed Use, HSG D
0.980		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0					**Direct Entry, PA01**

Summary for Subcatchment A35: A35

Runoff = 1.44 cfs @ 0.14 hrs, Volume= 0.059 af, Depth= 0.68"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
1.050	0.68	Mixed Use, HSG D
1.050		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0					**Direct Entry, PA01**

Summary for Subcatchment A36/37: A36/37

Runoff = 1.91 cfs @ 0.14 hrs, Volume= 0.079 af, Depth= 0.67"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
1.410	0.67	Mixed Use, HSG D
1.410		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0					**Direct Entry, PA01**

Summary for Subcatchment A38: A38

Runoff = 1.93 cfs @ 0.09 hrs, Volume= 0.080 af, Depth= 0.93"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
1.030	0.93	Mixed Use, HSG D
1.030		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment A39: A39

Runoff = 0.95 cfs @ 0.09 hrs, Volume= 0.039 af, Depth= 0.91"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.520	0.91	Mixed Use, HSG D
0.520		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment A40: A40

Runoff = 2.87 cfs @ 0.10 hrs, Volume= 0.118 af, Depth= 0.76"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
1.870	0.76	Mixed Use, HSG D
1.870		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PA01**

Summary for Subcatchment A41: A41

Runoff = 1.26 cfs @ 0.09 hrs, Volume= 0.052 af, Depth= 0.87"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.720	0.87	Mixed Use, HSG D
0.720		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment A42: A42

Runoff = 3.49 cfs @ 0.10 hrs, Volume= 0.144 af, Depth= 0.74"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
2.340	0.74	Mixed Use, HSG D
2.340		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PA01**

Summary for Subcatchment A43: A43

Runoff = 1.26 cfs @ 0.09 hrs, Volume= 0.052 af, Depth= 0.87"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.720	0.87	Mixed Use, HSG D
0.720		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment A44: A44

Runoff = 2.32 cfs @ 0.09 hrs, Volume= 0.096 af, Depth= 0.84"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
1.370	0.84	Mixed Use, HSG D
1.370		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment A45: A45

Runoff = 6.00 cfs @ 0.09 hrs, Volume= 0.248 af, Depth= 0.65"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
4.580	0.65	Mixed Use, HSG D
4.580		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment A46: A46

Runoff = 6.72 cfs @ 0.09 hrs, Volume= 0.278 af, Depth= 0.66"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
5.050	0.66	Mixed Use, HSG D
5.050		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment A47: A47

Runoff = 10.22 cfs @ 0.09 hrs, Volume= 0.422 af, Depth= 0.92"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
5.510	0.92	Mixed Use, HSG D
5.510		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment Basin-A1: Basin A1

Runoff = 6.69 cfs @ 0.39 hrs, Volume= 0.276 af, Depth= 0.59"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
5.620	0.59	Mixed Use, HSG D
5.620		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
23.0					**Direct Entry, P-A02**

Summary for Subcatchment Basin-A2: ABASIN2

Runoff = 1.27 cfs @ 0.09 hrs, Volume= 0.052 af, Depth= 0.84"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.750	0.84	Mixed Use, HSG D
0.750		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, P-A02**

Summary for Subcatchment Basin-A3: Basin A3

Runoff = 0.61 cfs @ 0.14 hrs, Volume= 0.025 af, Depth= 0.67"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
0.450	0.67	Mixed Use, HSG D
0.450		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0					**Direct Entry, P-A02**

Summary for Pond D-L1: D-L1

Inflow Area = 2.910 ac, 0.00% Impervious, Inflow Depth = 0.52" for 100-Year event
Inflow = 3.05 cfs @ 0.34 hrs, Volume= 0.126 af
Outflow = 3.05 cfs @ 0.34 hrs, Volume= 0.126 af, Atten= 0%, Lag= 0.0 min
Primary = 3.05 cfs @ 0.34 hrs, Volume= 0.126 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 51.82' @ 0.34 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	51.00'	**18.0" Round D-L1** L= 50.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 51.00' / 46.20' S= 0.0960 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=3.05 cfs @ 0.34 hrs HW=51.82' TW=0.00' (Dynamic Tailwater)
1=D-L1 (Inlet Controls 3.05 cfs @ 3.08 fps)

Summary for Subcatchment D1: D1

Runoff = 3.05 cfs @ 0.34 hrs, Volume= 0.126 af, Depth= 0.52"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=30 min, Inten=2.00 in/hr

Area (ac)	C	Description
2.910	0.52	Mixed Use, HSG D
2.910		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					**Direct Entry, P-A02**

Summary for Pond OUTFALL A: OUTFALL A

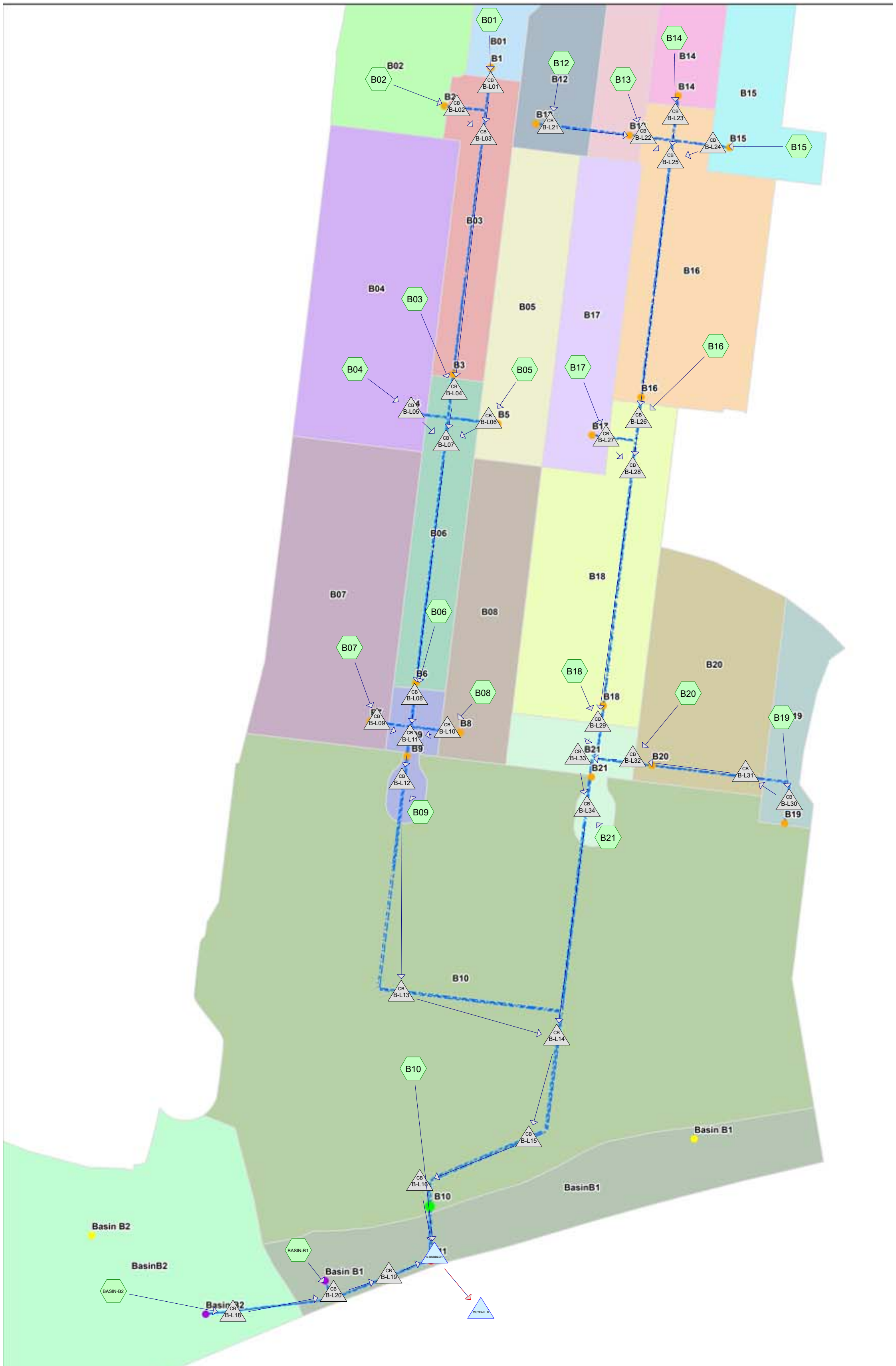
Inflow Area = 87.200 ac, 0.71% Impervious, Inflow Depth = 0.49" for 100-Year event
Inflow = 69.84 cfs @ 0.50 hrs, Volume= 3.568 af
Primary = 69.84 cfs @ 0.50 hrs, Volume= 3.568 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3

Summary for Pond Outlet: BasinOutlet

Inflow Area = 2.910 ac, 0.00% Impervious, Inflow Depth = 5.62" for 100-Year event
Inflow = 49.16 cfs @ 0.50 hrs, Volume= 1.362 af
Primary = 49.16 cfs @ 0.50 hrs, Volume= 1.362 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3



Subcat Reach Pond Link

Routing Diagram for Proposed System B
Prepared by Geosyntec Consultants, Printed 5/24/2019
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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	B-BUBBLER	44.31	43.59	100.0	0.0072	0.013	34.0	0.0	0.0
2	B-L01	63.87	63.64	62.0	0.0037	0.013	24.0	0.0	0.0
3	B-L02	63.93	63.64	60.0	0.0048	0.013	24.0	0.0	0.0
4	B-L03	63.54	61.36	399.0	0.0055	0.013	24.0	0.0	0.0
5	B-L04	61.26	60.94	63.0	0.0051	0.013	24.0	0.0	0.0
6	B-L05	61.33	61.04	57.0	0.0051	0.013	24.0	0.0	0.0
7	B-L06	61.41	61.04	73.0	0.0051	0.013	24.0	0.0	0.0
8	B-L07	60.84	58.72	424.0	0.0050	0.013	30.0	0.0	0.0
9	B-L08	58.62	58.33	64.0	0.0045	0.013	36.0	0.0	0.0
10	B-L09	58.62	58.33	58.0	0.0050	0.013	24.0	0.0	0.0
11	B-L10	58.83	58.33	72.0	0.0069	0.013	24.0	0.0	0.0
12	B-L11	58.23	57.99	48.0	0.0050	0.013	36.0	0.0	0.0
13	B-L12	57.89	56.03	372.0	0.0050	0.013	36.0	0.0	0.0
14	B-L13	55.93	54.54	278.0	0.0050	0.013	36.0	0.0	0.0
15	B-L14	54.44	47.90	180.0	0.0363	0.013	48.0	0.0	0.0
16	B-L15	47.80	44.60	188.0	0.0170	0.013	48.0	0.0	0.0
17	B-L16	44.50	44.41	38.0	0.0024	0.013	48.0	0.0	0.0
18	B-L18	45.90	44.70	200.0	0.0060	0.013	18.0	0.0	0.0
19	B-L19	44.70	43.73	162.0	0.0060	0.013	24.0	0.0	0.0
20	B-L20	46.80	44.70	26.0	0.0808	0.013	24.0	0.0	0.0
21	B-L21	64.68	63.88	160.0	0.0050	0.013	24.0	0.0	0.0
22	B-L22	63.78	63.41	74.0	0.0050	0.013	24.0	0.0	0.0
23	B-L23	63.80	63.41	78.0	0.0050	0.013	24.0	0.0	0.0
24	B-L24	64.25	63.41	84.0	0.0100	0.013	24.0	0.0	0.0
25	B-L25	63.31	60.51	401.0	0.0070	0.013	30.0	0.0	0.0
26	B-L26	60.40	60.08	64.0	0.0050	0.013	30.0	0.0	0.0
27	B-L27	60.50	60.18	46.0	0.0070	0.013	24.0	0.0	0.0
28	B-L28	59.98	57.15	404.0	0.0070	0.013	30.0	0.0	0.0
29	B-L29	57.05	56.66	78.0	0.0050	0.013	30.0	0.0	0.0
30	B-L30	60.15	59.46	69.0	0.0100	0.013	24.0	0.0	0.0
31	B-L31	59.36	57.38	198.0	0.0100	0.013	24.0	0.0	0.0
32	B-L32	57.28	56.66	89.0	0.0070	0.013	24.0	0.0	0.0
33	B-L33	56.56	56.43	26.0	0.0050	0.013	36.0	0.0	0.0
34	B-L34	56.33	54.54	358.0	0.0050	0.013	36.0	0.0	0.0

50-year Rainfall Intensity

ELEV.	FACTOR
0-1500	1.00
1500-3000	1.25
3000-4000	1.42
4000-5000	1.60
5000-6000	1.7
DESERT	1.25

TO OBTAIN CORRECT INTENSITY, MULTIPLY INTENSITY ON CHART BY FACTOR FOR DESIGN ELEVATION.

RAINFALL INTENSITY - DURATION - FREQUENCY CURVES FOR COUNTY OF SAN DIEGO

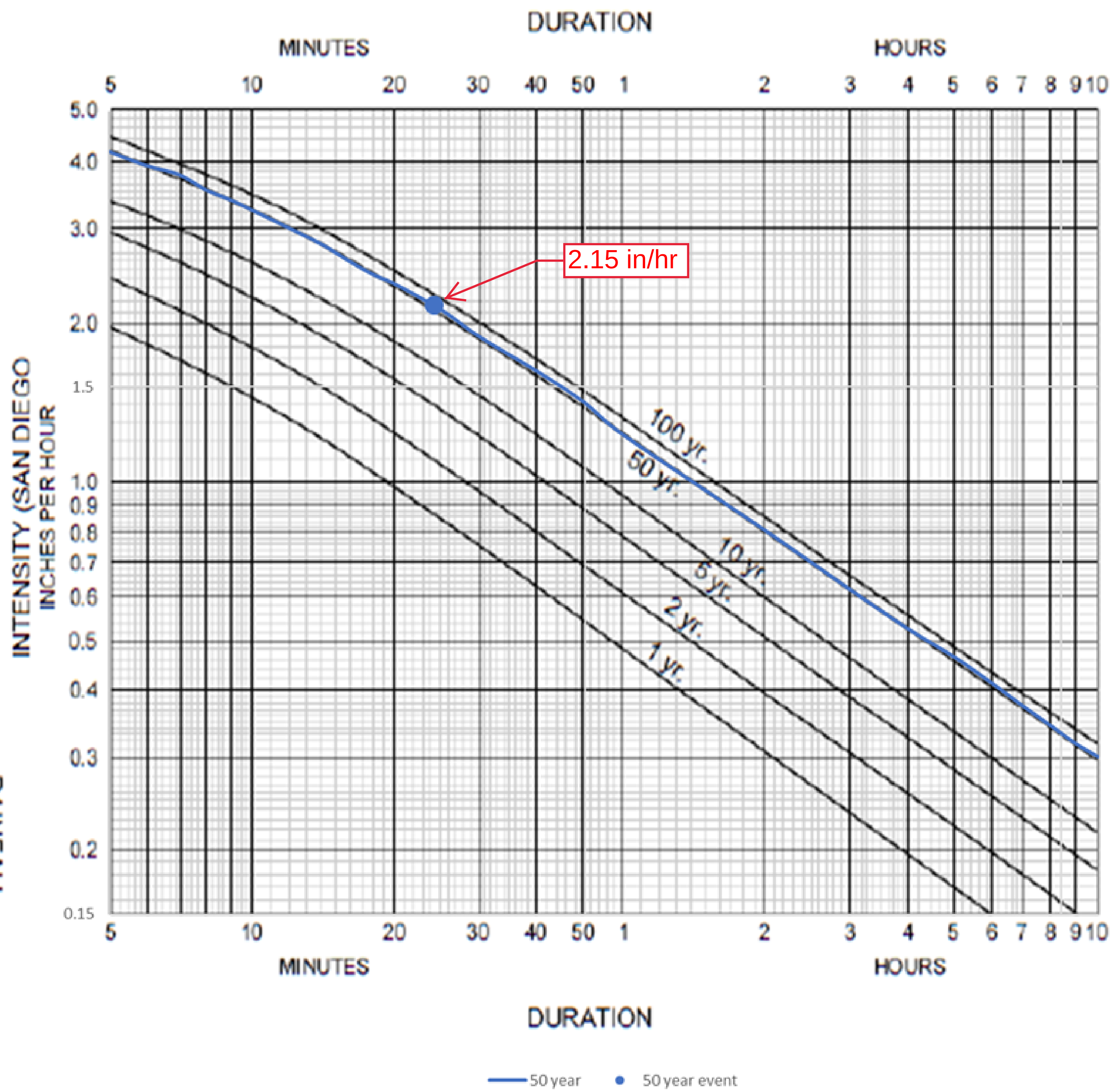


Figure A-1. Intensity-Duration-Frequency Design Chart

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 3
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Pond B-BUBBLER: B-BUBBLER Peak Elev=50.05' Storage=582 cf Inflow=65.67 cfs 2.171 af
Primary=63.11 cfs 2.174 af Secondary=0.00 cfs 0.000 af Outflow=63.11 cfs 2.174 af

Pond B-L01: B-L01 Peak Elev=64.86' Inflow=2.14 cfs 0.071 af
24.0" Round Culvert n=0.013 L=62.0' S=0.0037 '/' Outflow=2.14 cfs 0.071 af

Pond B-L02: B-L02 Peak Elev=64.96' Inflow=2.99 cfs 0.099 af
24.0" Round Culvert n=0.013 L=60.0' S=0.0048 '/' Outflow=2.99 cfs 0.099 af

Pond B-L03: B-L03 Peak Elev=64.70' Inflow=5.13 cfs 0.170 af
24.0" Round Culvert n=0.013 L=399.0' S=0.0055 '/' Outflow=5.13 cfs 0.170 af

Pond B-L04: B-L04 Peak Elev=62.98' Inflow=7.00 cfs 0.231 af
24.0" Round Culvert n=0.013 L=63.0' S=0.0051 '/' Outflow=7.00 cfs 0.231 af

Pond B-L05: B-L05 Peak Elev=62.77' Inflow=3.52 cfs 0.116 af
24.0" Round Culvert n=0.013 L=57.0' S=0.0051 '/' Outflow=3.52 cfs 0.116 af

Pond B-L06: B-L06 Peak Elev=62.69' Inflow=1.86 cfs 0.061 af
24.0" Round Culvert n=0.013 L=73.0' S=0.0051 '/' Outflow=1.86 cfs 0.061 af

Pond B-L07: B-L07 Peak Elev=62.63' Inflow=12.38 cfs 0.409 af
30.0" Round Culvert n=0.013 L=424.0' S=0.0050 '/' Outflow=12.38 cfs 0.409 af

Pond B-L08: B-L08 Peak Elev=60.90' Inflow=14.15 cfs 0.468 af
36.0" Round Culvert n=0.013 L=64.0' S=0.0045 '/' Outflow=14.15 cfs 0.468 af

Pond B-L09: B-L09 Peak Elev=60.61' Inflow=3.45 cfs 0.114 af
24.0" Round Culvert n=0.013 L=58.0' S=0.0050 '/' Outflow=3.45 cfs 0.114 af

Pond B-L10: B-L8 Peak Elev=60.58' Inflow=1.78 cfs 0.059 af
24.0" Round Culvert n=0.013 L=72.0' S=0.0069 '/' Outflow=1.78 cfs 0.059 af

Pond B-L11: B-L11 Peak Elev=60.55' Inflow=19.37 cfs 0.640 af
36.0" Round Culvert n=0.013 L=48.0' S=0.0050 '/' Outflow=19.37 cfs 0.640 af

Pond B-L12: B-L21 Peak Elev=59.97' Inflow=19.96 cfs 0.660 af
36.0" Round Culvert n=0.013 L=372.0' S=0.0050 '/' Outflow=19.96 cfs 0.660 af

Pond B-L13: B-L13 Peak Elev=58.14' Inflow=19.96 cfs 0.660 af
36.0" Round Culvert n=0.013 L=278.0' S=0.0050 '/' Outflow=19.96 cfs 0.660 af

Pond B-L14: B-L14 Peak Elev=56.83' Inflow=41.32 cfs 1.366 af
48.0" Round Culvert n=0.013 L=180.0' S=0.0363 '/' Outflow=41.32 cfs 1.366 af

Pond B-L15: B-L15 Peak Elev=51.30' Inflow=41.32 cfs 1.366 af
48.0" Round Culvert n=0.013 L=188.0' S=0.0170 '/' Outflow=41.32 cfs 1.366 af

Pond B-L16: B-L16 Peak Elev=50.52' Inflow=41.32 cfs 1.366 af
48.0" Round Culvert n=0.013 L=38.0' S=0.0024 '/' Outflow=41.32 cfs 1.366 af

Pond B-L18: B-L18 Peak Elev=51.45' Inflow=5.60 cfs 0.185 af
18.0" Round Culvert n=0.013 L=200.0' S=0.0060 '/' Outflow=5.60 cfs 0.185 af

Pond B-L19: B-L19 Peak Elev=50.38' Inflow=7.79 cfs 0.257 af
24.0" Round Culvert n=0.013 L=162.0' S=0.0060 '/' Outflow=7.79 cfs 0.257 af

Pond B-L20: B-L20 Peak Elev=50.65' Inflow=7.79 cfs 0.257 af
24.0" Round Culvert n=0.013 L=26.0' S=0.0808 '/' Outflow=7.79 cfs 0.257 af

Pond B-L21: B-L21 Peak Elev=65.54' Inflow=2.40 cfs 0.079 af
24.0" Round Culvert n=0.013 L=160.0' S=0.0050 '/' Outflow=2.40 cfs 0.079 af

Pond B-L22: B-L22 Peak Elev=65.00' Inflow=4.57 cfs 0.151 af
24.0" Round Culvert n=0.013 L=74.0' S=0.0050 '/' Outflow=4.57 cfs 0.151 af

Pond B-L23: B-L23 Peak Elev=64.74' Inflow=1.77 cfs 0.059 af
24.0" Round Culvert n=0.013 L=78.0' S=0.0050 '/' Outflow=1.77 cfs 0.059 af

Pond B-L24: B-L24 Peak Elev=65.02' Inflow=2.18 cfs 0.072 af
24.0" Round Culvert n=0.013 L=84.0' S=0.0100 '/' Outflow=2.18 cfs 0.072 af

Pond B-L25: B-L25 Peak Elev=64.60' Inflow=8.53 cfs 0.282 af
30.0" Round Culvert n=0.013 L=401.0' S=0.0070 '/' Outflow=8.53 cfs 0.282 af

Pond B-L26: B-L26 Peak Elev=62.29' Inflow=11.93 cfs 0.394 af
30.0" Round Culvert n=0.013 L=64.0' S=0.0050 '/' Outflow=11.93 cfs 0.394 af

Pond B-L27: B-L27 Peak Elev=61.78' Inflow=1.68 cfs 0.056 af
24.0" Round Culvert n=0.013 L=46.0' S=0.0070 '/' Outflow=1.68 cfs 0.056 af

Pond B-L28: B-L28 Peak Elev=61.74' Inflow=13.61 cfs 0.450 af
30.0" Round Culvert n=0.013 L=404.0' S=0.0070 '/' Outflow=13.61 cfs 0.450 af

Pond B-L29: B-L29 Peak Elev=59.61' Inflow=17.04 cfs 0.563 af
30.0" Round Culvert n=0.013 L=78.0' S=0.0050 '/' Outflow=17.04 cfs 0.563 af

Pond B-L30: B-L30 Peak Elev=60.54' Inflow=0.86 cfs 0.028 af
24.0" Round Culvert n=0.013 L=69.0' S=0.0100 '/' Outflow=0.86 cfs 0.028 af

Pond B-L31: B-L31 Peak Elev=59.84' Inflow=0.86 cfs 0.028 af
24.0" Round Culvert n=0.013 L=198.0' S=0.0100 '/' Outflow=0.86 cfs 0.028 af

Pond B-L32: B-L32 Peak Elev=59.13' Inflow=3.37 cfs 0.111 af
24.0" Round Culvert n=0.013 L=89.0' S=0.0070 '/' Outflow=3.37 cfs 0.111 af

Pond B-L33: B-L33 Peak Elev=59.05' Inflow=20.41 cfs 0.675 af
36.0" Round Culvert n=0.013 L=26.0' S=0.0050 '/' Outflow=20.41 cfs 0.675 af

Pond B-L34: B-L34 Peak Elev=58.54' Inflow=21.35 cfs 0.706 af
36.0" Round Culvert n=0.013 L=358.0' S=0.0050 '/' Outflow=21.35 cfs 0.706 af

Subcatchment B01: B01 Runoff Area=1.270 ac 0.00% Impervious Runoff Depth=0.67"
Tc=6.0 min C=0.78 Runoff=2.14 cfs 0.071 af

Subcatchment B02: B02 Runoff Area=1.950 ac 0.00% Impervious Runoff Depth=0.61"
Tc=7.0 min C=0.71 Runoff=2.99 cfs 0.099 af

Subcatchment B03: B03 Runoff Area=0.910 ac 100.00% Impervious Runoff Depth=0.81"
Tc=5.0 min C=0.95 Runoff=1.87 cfs 0.062 af

Subcatchment B04: B04 Runoff Area=2.200 ac 0.00% Impervious Runoff Depth=0.63"
Tc=6.0 min C=0.74 Runoff=3.52 cfs 0.116 af

Subcatchment B05: B05 Runoff Area=1.160 ac 0.00% Impervious Runoff Depth=0.63"
Tc=7.0 min C=0.74 Runoff=1.86 cfs 0.061 af

Subcatchment B06: B06 Runoff Area=0.880 ac 0.00% Impervious Runoff Depth=0.80"
Tc=5.0 min C=0.93 Runoff=1.77 cfs 0.058 af

Subcatchment B07: B07 Runoff Area=2.130 ac 0.00% Impervious Runoff Depth=0.64"
Tc=6.0 min C=0.75 Runoff=3.45 cfs 0.114 af

Subcatchment B08: B08 Runoff Area=1.110 ac 0.00% Impervious Runoff Depth=0.63"
Tc=6.0 min C=0.74 Runoff=1.78 cfs 0.059 af

Subcatchment B09: B09 Runoff Area=0.300 ac 0.00% Impervious Runoff Depth=0.78"
Tc=5.0 min C=0.91 Runoff=0.59 cfs 0.020 af

Subcatchment B10: B17 Runoff Area=12.560 ac 0.00% Impervious Runoff Depth=0.52"
Tc=22.0 min C=0.61 Runoff=16.56 cfs 0.547 af

Subcatchment B12: B12 Runoff Area=1.480 ac 0.00% Impervious Runoff Depth=0.64"
Tc=6.0 min C=0.75 Runoff=2.40 cfs 0.079 af

Subcatchment B13: B13 Runoff Area=1.360 ac 0.00% Impervious Runoff Depth=0.63"
Tc=7.0 min C=0.74 Runoff=2.18 cfs 0.072 af

Subcatchment B14: B14 Runoff Area=0.900 ac 0.00% Impervious Runoff Depth=0.78"
Tc=5.0 min C=0.91 Runoff=1.77 cfs 0.059 af

Subcatchment B15: B15 Runoff Area=1.330 ac 0.00% Impervious Runoff Depth=0.65"
Tc=6.0 min C=0.76 Runoff=2.18 cfs 0.072 af

Subcatchment B16: B16 Runoff Area=1.940 ac 0.00% Impervious Runoff Depth=0.69"
Tc=5.0 min C=0.81 Runoff=3.40 cfs 0.112 af

Subcatchment B17: B17 Runoff Area=1.050 ac 0.00% Impervious Runoff Depth=0.63"
Tc=6.0 min C=0.74 Runoff=1.68 cfs 0.056 af

Subcatchment B18: B18 Runoff Area=1.960 ac 0.00% Impervious Runoff Depth=0.69"
Tc=5.0 min C=0.81 Runoff=3.43 cfs 0.113 af

Subcatchment B19: B19 Runoff Area=0.510 ac 0.00% Impervious Runoff Depth=0.67"
Tc=6.0 min C=0.78 Runoff=0.86 cfs 0.028 af

Subcatchment B20: B20 Runoff Area=1.550 ac 0.00% Impervious Runoff Depth=0.64"
Tc=6.0 min C=0.75 Runoff=2.51 cfs 0.083 af

Subcatchment B21: B21 Runoff Area=0.470 ac 0.00% Impervious Runoff Depth=0.80"
Tc=5.0 min C=0.93 Runoff=0.94 cfs 0.031 af

Subcatchment BASIN-B1: BASIN-B1 Runoff Area=1.870 ac 0.00% Impervious Runoff Depth=0.46"
Tc=10.0 min C=0.54 Runoff=2.18 cfs 0.072 af

Subcatchment BASIN-B2: BASIN-B2 Runoff Area=4.800 ac 0.00% Impervious Runoff Depth=0.46"
Tc=24.0 min C=0.54 Runoff=5.60 cfs 0.185 af

Pond OUTFALL B: OUTFALL B Inflow=63.11 cfs 2.174 af
Primary=63.11 cfs 2.174 af

Total Runoff Area = 43.690 ac Runoff Volume = 2.171 af Average Runoff Depth = 0.60"
97.92% Pervious = 42.780 ac 2.08% Impervious = 0.910 ac

Summary for Pond B-BUBBLER: B-BUBBLER

Inflow Area = 43.690 ac, 2.08% Impervious, Inflow Depth = 0.60" for 50-Year event
Inflow = 65.67 cfs @ 0.40 hrs, Volume= 2.171 af
Outflow = 63.11 cfs @ 0.41 hrs, Volume= 2.174 af, Atten= 4%, Lag= 0.6 min
Primary = 63.11 cfs @ 0.41 hrs, Volume= 2.174 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.05' @ 0.41 hrs Surf.Area= 11,830 sf Storage= 582 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.1 min (17.9 - 17.8)

Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	212,572 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	11,326	0	0
52.00	31,363	42,689	42,689
54.00	43,124	74,487	117,176
56.00	52,272	95,396	212,572

Device	Routing	Invert	Outlet Devices
#1	Primary	44.31'	**34.0" Round Outlet** L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.31' / 43.59' S= 0.0072 '/' Cc= 0.900 n= 0.013, Flow Area= 6.31 sf
#2	Secondary	50.25'	**80.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=63.11 cfs @ 0.41 hrs HW=50.05' TW=0.00' (Dynamic Tailwater)
↑—**1=Outlet** (Inlet Controls 63.11 cfs @ 10.01 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=50.00' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond B-L01: B-L01

Inflow Area = 1.270 ac, 0.00% Impervious, Inflow Depth = 0.67" for 50-Year event
Inflow = 2.14 cfs @ 0.10 hrs, Volume= 0.071 af
Outflow = 2.14 cfs @ 0.14 hrs, Volume= 0.071 af, Atten= 0%, Lag= 2.4 min
Primary = 2.14 cfs @ 0.14 hrs, Volume= 0.071 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 64.86' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.87'	**24.0" Round B-L1** L= 62.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 63.87' / 63.64' S= 0.0037 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=2.14 cfs @ 0.14 hrs HW=64.86' TW=64.70' (Dynamic Tailwater)
└**1=B-L1** (Outlet Controls 2.14 cfs @ 2.02 fps)

Summary for Pond B-L02: B-L02

Inflow Area =	1.950 ac,	0.00% Impervious, Inflow Depth = 0.61"	for 50-Year event	
Inflow =	2.99 cfs @	0.12 hrs, Volume=	0.099 af	
Outflow =	2.99 cfs @	0.12 hrs, Volume=	0.099 af,	Atten= 0%, Lag= 0.0 min
Primary =	2.99 cfs @	0.12 hrs, Volume=	0.099 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 64.96' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.93'	**24.0" Round B-L2** L= 60.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 63.93' / 63.64' S= 0.0048 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=2.98 cfs @ 0.12 hrs HW=64.96' TW=64.70' (Dynamic Tailwater)
└**1=B-L2** (Outlet Controls 2.98 cfs @ 2.65 fps)

Summary for Pond B-L03: B-L03

Inflow Area =	3.220 ac,	0.00% Impervious, Inflow Depth = 0.63"	for 50-Year event	
Inflow =	5.13 cfs @	0.14 hrs, Volume=	0.170 af	
Outflow =	5.13 cfs @	0.18 hrs, Volume=	0.170 af,	Atten= 0%, Lag= 2.4 min
Primary =	5.13 cfs @	0.18 hrs, Volume=	0.170 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 64.70' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.54'	**24.0" Round Pipe** L= 399.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 63.54' / 61.36' S= 0.0055 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=5.13 cfs @ 0.18 hrs HW=64.70' TW=62.98' (Dynamic Tailwater)
└**1=Pipe** (Outlet Controls 5.13 cfs @ 3.93 fps)

Summary for Pond B-L04: B-L04

Inflow Area =	4.130 ac,	22.03% Impervious, Inflow Depth = 0.67"	for 50-Year event	
Inflow =	7.00 cfs @	0.18 hrs, Volume=	0.231 af	
Outflow =	7.00 cfs @	0.18 hrs, Volume=	0.231 af,	Atten= 0%, Lag= 0.0 min
Primary =	7.00 cfs @	0.18 hrs, Volume=	0.231 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 62.98' @ 0.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	61.26'	**24.0" Round B-L4** L= 63.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 61.26' / 60.94' S= 0.0051 '/' Cc= 0.900

n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=7.00 cfs @ 0.18 hrs HW=62.98' TW=62.63' (Dynamic Tailwater)
1=B-L4 (Outlet Controls 7.00 cfs @ 3.26 fps)

Summary for Pond B-L05: B-L05

Inflow Area = 2.200 ac, 0.00% Impervious, Inflow Depth = 0.63" for 50-Year event
Inflow = 3.52 cfs @ 0.10 hrs, Volume= 0.116 af
Outflow = 3.52 cfs @ 0.13 hrs, Volume= 0.116 af, Atten= 0%, Lag= 1.8 min
Primary = 3.52 cfs @ 0.13 hrs, Volume= 0.116 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 62.77' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	61.33'	**24.0" Round B-L5** L= 57.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 61.33' / 61.04' S= 0.0051 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=3.52 cfs @ 0.13 hrs HW=62.77' TW=62.63' (Dynamic Tailwater)
1=B-L5 (Outlet Controls 3.52 cfs @ 2.04 fps)

Summary for Pond B-L06: B-L06

Inflow Area = 1.160 ac, 0.00% Impervious, Inflow Depth = 0.63" for 50-Year event
Inflow = 1.86 cfs @ 0.12 hrs, Volume= 0.061 af
Outflow = 1.86 cfs @ 0.19 hrs, Volume= 0.061 af, Atten= 0%, Lag= 4.2 min
Primary = 1.86 cfs @ 0.19 hrs, Volume= 0.061 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 62.69' @ 0.15 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	61.41'	**24.0" Round B-L6** L= 73.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 61.41' / 61.04' S= 0.0051 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.86 cfs @ 0.19 hrs HW=62.69' TW=62.63' (Dynamic Tailwater)
1=B-L6 (Outlet Controls 1.86 cfs @ 1.25 fps)

Summary for Pond B-L07: B-L07

Inflow Area = 7.490 ac, 12.15% Impervious, Inflow Depth = 0.66" for 50-Year event
Inflow = 12.38 cfs @ 0.16 hrs, Volume= 0.409 af
Outflow = 12.38 cfs @ 0.16 hrs, Volume= 0.409 af, Atten= 0%, Lag= 0.0 min
Primary = 12.38 cfs @ 0.16 hrs, Volume= 0.409 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 62.63' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.84'	**30.0" Round Pipe** L= 424.0' RCP, sq.cut end projecting, Ke= 0.500

Inlet / Outlet Invert= 60.84' / 58.72' S= 0.0050 '/' Cc= 0.900
n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=12.38 cfs @ 0.16 hrs HW=62.63' TW=60.90' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 12.38 cfs @ 4.62 fps)

Summary for Pond B-L08: B-L08

Inflow Area =	8.370 ac,	10.87% Impervious,	Inflow Depth = 0.67"	for 50-Year event
Inflow =	14.15 cfs @	0.16 hrs, Volume=	0.468 af	
Outflow =	14.15 cfs @	0.16 hrs, Volume=	0.468 af,	Atten= 0%, Lag= 0.0 min
Primary =	14.15 cfs @	0.16 hrs, Volume=	0.468 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.90' @ 0.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.62'	**36.0" Round B-L8** L= 64.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 58.62' / 58.33' S= 0.0045 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=14.15 cfs @ 0.16 hrs HW=60.90' TW=60.55' (Dynamic Tailwater)
└─**1=B-L8** (Outlet Controls 14.15 cfs @ 3.40 fps)

Summary for Pond B-L09: B-L09

Inflow Area =	2.130 ac,	0.00% Impervious,	Inflow Depth = 0.64"	for 50-Year event
Inflow =	3.45 cfs @	0.10 hrs, Volume=	0.114 af	
Outflow =	3.45 cfs @	0.10 hrs, Volume=	0.114 af,	Atten= 0%, Lag= 0.0 min
Primary =	3.45 cfs @	0.10 hrs, Volume=	0.114 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.61' @ 0.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.62'	**24.0" Round B-L9** L= 58.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 58.62' / 58.33' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=3.13 cfs @ 0.10 hrs HW=60.55' TW=60.49' (Dynamic Tailwater)
└─**1=B-L9** (Outlet Controls 3.13 cfs @ 1.29 fps)

Summary for Pond B-L10: B-L8

Inflow Area =	1.110 ac,	0.00% Impervious,	Inflow Depth = 0.63"	for 50-Year event
Inflow =	1.78 cfs @	0.10 hrs, Volume=	0.059 af	
Outflow =	1.78 cfs @	0.13 hrs, Volume=	0.059 af,	Atten= 0%, Lag= 1.8 min
Primary =	1.78 cfs @	0.13 hrs, Volume=	0.059 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.58' @ 0.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.83'	**24.0" Round B-L10** L= 72.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 58.83' / 58.33' S= 0.0069 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.78 cfs @ 0.13 hrs HW=60.58' TW=60.55' (Dynamic Tailwater)
└─**1=B-L10** (Outlet Controls 1.78 cfs @ 0.81 fps)

Summary for Pond B-L11: B-L11

Inflow Area =	11.610 ac,	7.84% Impervious,	Inflow Depth = 0.66"	for 50-Year event
Inflow =	19.37 cfs @	0.16 hrs, Volume=	0.640 af	
Outflow =	19.37 cfs @	0.16 hrs, Volume=	0.640 af,	Atten= 0%, Lag= 0.0 min
Primary =	19.37 cfs @	0.16 hrs, Volume=	0.640 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.55' @ 0.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.23'	**36.0" Round Pipe** L= 48.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 58.23' / 57.99' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=19.37 cfs @ 0.16 hrs HW=60.55' TW=59.97' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 19.37 cfs @ 4.55 fps)

Summary for Pond B-L12: B-L21

Inflow Area =	11.910 ac,	7.64% Impervious,	Inflow Depth = 0.66"	for 50-Year event
Inflow =	19.96 cfs @	0.16 hrs, Volume=	0.660 af	
Outflow =	19.96 cfs @	0.13 hrs, Volume=	0.660 af,	Atten= 0%, Lag= 0.0 min
Primary =	19.96 cfs @	0.13 hrs, Volume=	0.660 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 59.97' @ 0.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	57.89'	**36.0" Round B-L12** L= 372.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 57.89' / 56.03' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=19.96 cfs @ 0.13 hrs HW=59.97' TW=58.14' (Dynamic Tailwater)
└─**1=B-L12** (Outlet Controls 19.96 cfs @ 5.36 fps)

Summary for Pond B-L13: B-L13

Inflow Area =	11.910 ac,	7.64% Impervious,	Inflow Depth = 0.66"	for 50-Year event
Inflow =	19.96 cfs @	0.13 hrs, Volume=	0.660 af	
Outflow =	19.96 cfs @	0.16 hrs, Volume=	0.660 af,	Atten= 0%, Lag= 1.8 min
Primary =	19.96 cfs @	0.16 hrs, Volume=	0.660 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3

Peak Elev= 58.14' @ 0.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	55.93'	**36.0" Round Pipe** L= 278.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 55.93' / 54.54' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=19.96 cfs @ 0.16 hrs HW=58.14' TW=56.83' (Dynamic Tailwater)
└**1=Pipe** (Outlet Controls 19.96 cfs @ 4.99 fps)

Summary for Pond B-L14: B-L14

Inflow Area = 24.460 ac, 3.72% Impervious, Inflow Depth = 0.67" for 50-Year event
Inflow = 41.32 cfs @ 0.16 hrs, Volume= 1.366 af
Outflow = 41.32 cfs @ 0.18 hrs, Volume= 1.366 af, Atten= 0%, Lag= 1.2 min
Primary = 41.32 cfs @ 0.18 hrs, Volume= 1.366 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 56.83' @ 0.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.44'	**48.0" Round Pipe** L= 180.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 54.44' / 47.90' S= 0.0363 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf

Primary OutFlow Max=41.32 cfs @ 0.18 hrs HW=56.83' TW=51.27' (Dynamic Tailwater)
└**1=Pipe** (Inlet Controls 41.32 cfs @ 5.27 fps)

Summary for Pond B-L15: B-L15

Inflow Area = 24.460 ac, 3.72% Impervious, Inflow Depth = 0.67" for 50-Year event
Inflow = 41.32 cfs @ 0.18 hrs, Volume= 1.366 af
Outflow = 41.32 cfs @ 0.18 hrs, Volume= 1.366 af, Atten= 0%, Lag= 0.0 min
Primary = 41.32 cfs @ 0.18 hrs, Volume= 1.366 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 51.30' @ 0.40 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.80'	**48.0" Round Pipe** L= 188.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 47.80' / 44.60' S= 0.0170 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf

Primary OutFlow Max=41.32 cfs @ 0.18 hrs HW=51.27' TW=50.47' (Dynamic Tailwater)
└**1=Pipe** (Outlet Controls 41.32 cfs @ 4.77 fps)

Summary for Pond B-L16: B-L16

Inflow Area = 24.460 ac, 3.72% Impervious, Inflow Depth = 0.67" for 50-Year event
Inflow = 41.32 cfs @ 0.18 hrs, Volume= 1.366 af
Outflow = 41.32 cfs @ 0.16 hrs, Volume= 1.366 af, Atten= 0%, Lag= 0.0 min
Primary = 41.32 cfs @ 0.16 hrs, Volume= 1.366 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.52' @ 0.40 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.50'	**48.0" Round Pipe** L= 38.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 44.50' / 44.41' S= 0.0024 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf

Primary OutFlow Max=41.32 cfs @ 0.16 hrs HW=50.47' TW=50.00' (Dynamic Tailwater)
└─**1=Pipe** (Inlet Controls 41.32 cfs @ 3.29 fps)

Summary for Pond B-L18: B-L18

Inflow Area = 4.800 ac, 0.00% Impervious, Inflow Depth = 0.46" for 50-Year event
Inflow = 5.60 cfs @ 0.40 hrs, Volume= 0.185 af
Outflow = 5.60 cfs @ 0.40 hrs, Volume= 0.185 af, Atten= 0%, Lag= 0.0 min
Primary = 5.60 cfs @ 0.40 hrs, Volume= 0.185 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 51.45' @ 0.40 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	45.90'	**18.0" Round B-L18** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 45.90' / 44.70' S= 0.0060 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=5.58 cfs @ 0.40 hrs HW=51.45' TW=50.65' (Dynamic Tailwater)
└─**1=B-L18** (Outlet Controls 5.58 cfs @ 3.16 fps)

Summary for Pond B-L19: B-L19

Inflow Area = 6.670 ac, 0.00% Impervious, Inflow Depth = 0.46" for 50-Year event
Inflow = 7.79 cfs @ 0.40 hrs, Volume= 0.257 af
Outflow = 7.79 cfs @ 0.40 hrs, Volume= 0.257 af, Atten= 0%, Lag= 0.0 min
Primary = 7.79 cfs @ 0.40 hrs, Volume= 0.257 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.38' @ 0.40 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.70'	**24.0" Round Pipe** L= 162.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 44.70' / 43.73' S= 0.0060 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=7.76 cfs @ 0.40 hrs HW=50.38' TW=50.05' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 7.76 cfs @ 2.47 fps)

Summary for Pond B-L20: B-L20

Inflow Area = 6.670 ac, 0.00% Impervious, Inflow Depth = 0.46" for 50-Year event
Inflow = 7.79 cfs @ 0.40 hrs, Volume= 0.257 af
Outflow = 7.79 cfs @ 0.40 hrs, Volume= 0.257 af, Atten= 0%, Lag= 0.0 min
Primary = 7.79 cfs @ 0.40 hrs, Volume= 0.257 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.65' @ 0.40 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.80'	**24.0" Round B-L20** L= 26.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 46.80' / 44.70' S= 0.0808 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=7.76 cfs @ 0.40 hrs HW=50.64' TW=50.38' (Dynamic Tailwater)
1=B-L20 (Inlet Controls 7.76 cfs @ 2.47 fps)

Summary for Pond B-L21: B-L21

Inflow Area = 1.480 ac, 0.00% Impervious, Inflow Depth = 0.64" for 50-Year event
Inflow = 2.40 cfs @ 0.10 hrs, Volume= 0.079 af
Outflow = 2.40 cfs @ 0.14 hrs, Volume= 0.079 af, Atten= 0%, Lag= 2.4 min
Primary = 2.40 cfs @ 0.14 hrs, Volume= 0.079 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 65.54' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	64.68'	**24.0" Round B-L21** L= 160.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 64.68' / 63.88' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=2.40 cfs @ 0.14 hrs HW=65.54' TW=65.00' (Dynamic Tailwater)
1=B-L21 (Outlet Controls 2.40 cfs @ 2.75 fps)

Summary for Pond B-L22: B-L22

Inflow Area = 2.840 ac, 0.00% Impervious, Inflow Depth = 0.64" for 50-Year event
Inflow = 4.57 cfs @ 0.12 hrs, Volume= 0.151 af
Outflow = 4.57 cfs @ 0.13 hrs, Volume= 0.151 af, Atten= 0%, Lag= 0.6 min
Primary = 4.57 cfs @ 0.13 hrs, Volume= 0.151 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 65.00' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.78'	**24.0" Round B-L22** L= 74.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 63.78' / 63.41' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=4.57 cfs @ 0.13 hrs HW=65.00' TW=64.60' (Dynamic Tailwater)
1=B-L22 (Outlet Controls 4.57 cfs @ 3.25 fps)

Summary for Pond B-L23: B-L23

Inflow Area = 0.900 ac, 0.00% Impervious, Inflow Depth = 0.78" for 50-Year event
Inflow = 1.77 cfs @ 0.09 hrs, Volume= 0.059 af
Outflow = 1.77 cfs @ 0.10 hrs, Volume= 0.059 af, Atten= 0%, Lag= 0.6 min
Primary = 1.77 cfs @ 0.10 hrs, Volume= 0.059 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 64.74' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.80'	**24.0" Round B-L23** L= 78.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 63.80' / 63.41' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.74 cfs @ 0.10 hrs HW=64.72' TW=64.57' (Dynamic Tailwater)
└─**1=B-L23** (Outlet Controls 1.74 cfs @ 1.83 fps)

Summary for Pond B-L24: B-L24

Inflow Area = 1.330 ac, 0.00% Impervious, Inflow Depth = 0.65" for 50-Year event
Inflow = 2.18 cfs @ 0.10 hrs, Volume= 0.072 af
Outflow = 2.18 cfs @ 0.10 hrs, Volume= 0.072 af, Atten= 0%, Lag= 0.0 min
Primary = 2.18 cfs @ 0.10 hrs, Volume= 0.072 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 65.02' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	64.25'	**24.0" Round B-L24** L= 84.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 64.25' / 63.41' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=2.17 cfs @ 0.10 hrs HW=65.01' TW=64.57' (Dynamic Tailwater)
└─**1=B-L24** (Outlet Controls 2.17 cfs @ 2.94 fps)

Summary for Pond B-L25: B-L25

Inflow Area = 5.070 ac, 0.00% Impervious, Inflow Depth = 0.67" for 50-Year event
Inflow = 8.53 cfs @ 0.13 hrs, Volume= 0.282 af
Outflow = 8.53 cfs @ 0.13 hrs, Volume= 0.282 af, Atten= 0%, Lag= 0.0 min
Primary = 8.53 cfs @ 0.13 hrs, Volume= 0.282 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 64.60' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.31'	**30.0" Round Pipe** L= 401.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 63.31' / 60.51' S= 0.0070 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=8.53 cfs @ 0.13 hrs HW=64.60' TW=62.29' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 8.53 cfs @ 4.89 fps)

Summary for Pond B-L26: B-L26

Inflow Area = 7.010 ac, 0.00% Impervious, Inflow Depth = 0.67" for 50-Year event
Inflow = 11.93 cfs @ 0.13 hrs, Volume= 0.394 af
Outflow = 11.93 cfs @ 0.16 hrs, Volume= 0.394 af, Atten= 0%, Lag= 1.9 min
Primary = 11.93 cfs @ 0.16 hrs, Volume= 0.394 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 62.29' @ 0.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.40'	**30.0" Round B-L26** L= 64.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 60.40' / 60.08' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=11.93 cfs @ 0.16 hrs HW=62.29' TW=61.74' (Dynamic Tailwater)
1=B-L26 (Outlet Controls 11.93 cfs @ 4.17 fps)

Summary for Pond B-L27: B-L27

Inflow Area = 1.050 ac, 0.00% Impervious, Inflow Depth = 0.63" for 50-Year event
Inflow = 1.68 cfs @ 0.10 hrs, Volume= 0.056 af
Outflow = 1.68 cfs @ 0.10 hrs, Volume= 0.056 af, Atten= 0%, Lag= 0.0 min
Primary = 1.68 cfs @ 0.10 hrs, Volume= 0.056 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 61.78' @ 0.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.50'	**24.0" Round B-L27** L= 46.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 60.50' / 60.18' S= 0.0070 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.58 cfs @ 0.10 hrs HW=61.74' TW=61.70' (Dynamic Tailwater)
1=B-L27 (Outlet Controls 1.58 cfs @ 1.10 fps)

Summary for Pond B-L28: B-L28

Inflow Area = 8.060 ac, 0.00% Impervious, Inflow Depth = 0.67" for 50-Year event
Inflow = 13.61 cfs @ 0.16 hrs, Volume= 0.450 af
Outflow = 13.61 cfs @ 0.16 hrs, Volume= 0.450 af, Atten= 0%, Lag= 0.0 min
Primary = 13.61 cfs @ 0.16 hrs, Volume= 0.450 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 61.74' @ 0.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.98'	**30.0" Round Pipe** L= 404.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 59.98' / 57.15' S= 0.0070 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=13.61 cfs @ 0.16 hrs HW=61.74' TW=59.61' (Dynamic Tailwater)
1=Pipe (Outlet Controls 13.61 cfs @ 5.19 fps)

Summary for Pond B-L29: B-L29

Inflow Area = 10.020 ac, 0.00% Impervious, Inflow Depth = 0.67" for 50-Year event
Inflow = 17.04 cfs @ 0.16 hrs, Volume= 0.563 af
Outflow = 17.04 cfs @ 0.16 hrs, Volume= 0.563 af, Atten= 0%, Lag= 0.0 min
Primary = 17.04 cfs @ 0.16 hrs, Volume= 0.563 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 59.61' @ 0.16 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	57.05'	**30.0" Round B-L29** L= 78.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 57.05' / 56.66' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=17.04 cfs @ 0.16 hrs HW=59.61' TW=59.05' (Dynamic Tailwater)
↑—**1=B-L29** (Outlet Controls 17.04 cfs @ 4.21 fps)

Summary for Pond B-L30: B-L30

Inflow Area = 0.510 ac, 0.00% Impervious, Inflow Depth = 0.67" for 50-Year event
Inflow = 0.86 cfs @ 0.10 hrs, Volume= 0.028 af
Outflow = 0.86 cfs @ 0.13 hrs, Volume= 0.028 af, Atten= 0%, Lag= 1.8 min
Primary = 0.86 cfs @ 0.13 hrs, Volume= 0.028 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.54' @ 0.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.15'	**24.0" Round B-L30** L= 69.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 60.15' / 59.46' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.86 cfs @ 0.13 hrs HW=60.54' TW=59.84' (Dynamic Tailwater)
↑—**1=B-L30** (Outlet Controls 0.86 cfs @ 3.05 fps)

Summary for Pond B-L31: B-L31

Inflow Area = 0.510 ac, 0.00% Impervious, Inflow Depth = 0.67" for 50-Year event
Inflow = 0.86 cfs @ 0.13 hrs, Volume= 0.028 af
Outflow = 0.86 cfs @ 0.13 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.0 min
Primary = 0.86 cfs @ 0.13 hrs, Volume= 0.028 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 59.84' @ 0.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.36'	**24.0" Round Pipe** L= 198.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 59.36' / 57.38' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.86 cfs @ 0.13 hrs HW=59.84' TW=59.13' (Dynamic Tailwater)
↑—**1=Pipe** (Outlet Controls 0.86 cfs @ 2.26 fps)

Summary for Pond B-L32: B-L32

Inflow Area = 2.060 ac, 0.00% Impervious, Inflow Depth = 0.65" for 50-Year event
Inflow = 3.37 cfs @ 0.11 hrs, Volume= 0.111 af
Outflow = 3.37 cfs @ 0.10 hrs, Volume= 0.111 af, Atten= 0%, Lag= 0.0 min
Primary = 3.37 cfs @ 0.10 hrs, Volume= 0.111 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 59.13' @ 0.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	57.28'	**24.0" Round B-L32** L= 89.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 57.28' / 56.66' S= 0.0070 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=2.98 cfs @ 0.10 hrs HW=59.08' TW=59.02' (Dynamic Tailwater)
└─**1=B-L32** (Outlet Controls 2.98 cfs @ 1.32 fps)

Summary for Pond B-L33: B-L33

Inflow Area = 12.080 ac, 0.00% Impervious, Inflow Depth = 0.67" for 50-Year event
Inflow = 20.41 cfs @ 0.16 hrs, Volume= 0.675 af
Outflow = 20.41 cfs @ 0.16 hrs, Volume= 0.675 af, Atten= 0%, Lag= 0.1 min
Primary = 20.41 cfs @ 0.16 hrs, Volume= 0.675 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 59.05' @ 0.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.56'	**36.0" Round Pipe** L= 26.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 56.56' / 56.43' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=20.41 cfs @ 0.16 hrs HW=59.05' TW=58.54' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 20.41 cfs @ 4.42 fps)

Summary for Pond B-L34: B-L34

Inflow Area = 12.550 ac, 0.00% Impervious, Inflow Depth = 0.68" for 50-Year event
Inflow = 21.35 cfs @ 0.16 hrs, Volume= 0.706 af
Outflow = 21.35 cfs @ 0.16 hrs, Volume= 0.706 af, Atten= 0%, Lag= 0.0 min
Primary = 21.35 cfs @ 0.16 hrs, Volume= 0.706 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 58.54' @ 0.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.33'	**36.0" Round B-L34** L= 358.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 56.33' / 54.54' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=21.35 cfs @ 0.16 hrs HW=58.54' TW=56.83' (Dynamic Tailwater)
└─**1=B-L34** (Outlet Controls 21.35 cfs @ 5.32 fps)

Summary for Subcatchment B01: B01

Runoff = 2.14 cfs @ 0.10 hrs, Volume= 0.071 af, Depth= 0.67"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=24 min, Inten=2.14 in/hr

Area (ac)	C	Description
1.270	0.78	Mixed Use, HSG D
1.270		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PA01**

Summary for Subcatchment B02: B02

Runoff = 2.99 cfs @ 0.12 hrs, Volume= 0.099 af, Depth= 0.61"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=24 min, Inten=2.14 in/hr

Area (ac)	C	Description
1.950	0.71	Mixed Use, HSG D
1.950		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					**Direct Entry, PA01**

Summary for Subcatchment B03: B03

Runoff = 1.87 cfs @ 0.09 hrs, Volume= 0.062 af, Depth= 0.81"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=24 min, Inten=2.14 in/hr

Area (ac)	C	Description
0.910	0.95	Mixed Use, HSG D
0.910		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment B04: B04

Runoff = 3.52 cfs @ 0.10 hrs, Volume= 0.116 af, Depth= 0.63"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=24 min, Inten=2.14 in/hr

Area (ac)	C	Description
2.200	0.74	Mixed Use, HSG D
2.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PA01**

Summary for Subcatchment B05: B05

Runoff = 1.86 cfs @ 0.12 hrs, Volume= 0.061 af, Depth= 0.63"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=24 min, Inten=2.14 in/hr

Area (ac)	C	Description
1.160	0.74	Mixed Use, HSG D
1.160		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					**Direct Entry, PA01**

Summary for Subcatchment B06: B06

Runoff = 1.77 cfs @ 0.09 hrs, Volume= 0.058 af, Depth= 0.80"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=24 min, Inten=2.14 in/hr

Area (ac)	C	Description
0.880	0.93	Mixed Use, HSG D
0.880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment B07: B07

Runoff = 3.45 cfs @ 0.10 hrs, Volume= 0.114 af, Depth= 0.64"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=24 min, Inten=2.14 in/hr

Area (ac)	C	Description
2.130	0.75	Mixed Use, HSG D
2.130		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PA01**

Summary for Subcatchment B08: B08

Runoff = 1.78 cfs @ 0.10 hrs, Volume= 0.059 af, Depth= 0.63"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=24 min, Inten=2.14 in/hr

Area (ac)	C	Description
1.110	0.74	Mixed Use, HSG D
1.110		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PA01**

Summary for Subcatchment B09: B09

Runoff = 0.59 cfs @ 0.09 hrs, Volume= 0.020 af, Depth= 0.78"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=24 min, Inten=2.14 in/hr

Area (ac)	C	Description
0.300	0.91	Mixed Use, HSG D
0.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment B10: B17

Runoff = 16.56 cfs @ 0.37 hrs, Volume= 0.547 af, Depth= 0.52"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=24 min, Inten=2.14 in/hr

Area (ac)	C	Description
12.560	0.61	Mixed Use, HSG D
12.560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.0					**Direct Entry, PA01**

Summary for Subcatchment B12: B12

Runoff = 2.40 cfs @ 0.10 hrs, Volume= 0.079 af, Depth= 0.64"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=24 min, Inten=2.14 in/hr

Area (ac)	C	Description
1.480	0.75	Mixed Use, HSG D
1.480		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PA01**

Summary for Subcatchment B13: B13

Runoff = 2.18 cfs @ 0.12 hrs, Volume= 0.072 af, Depth= 0.63"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=24 min, Inten=2.14 in/hr

Area (ac)	C	Description
1.360	0.74	Mixed Use, HSG D
1.360		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					**Direct Entry, PA01**

Summary for Subcatchment B14: B14

Runoff = 1.77 cfs @ 0.09 hrs, Volume= 0.059 af, Depth= 0.78"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=24 min, Inten=2.14 in/hr

Area (ac)	C	Description
0.900	0.91	Mixed Use, HSG D
0.900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment B15: B15

Runoff = 2.18 cfs @ 0.10 hrs, Volume= 0.072 af, Depth= 0.65"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=24 min, Inten=2.14 in/hr

Area (ac)	C	Description
1.330	0.76	Mixed Use, HSG D
1.330		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PA01**

Summary for Subcatchment B16: B16

Runoff = 3.40 cfs @ 0.09 hrs, Volume= 0.112 af, Depth= 0.69"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=24 min, Inten=2.14 in/hr

Area (ac)	C	Description
1.940	0.81	Mixed Use, HSG D
1.940		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment B17: B17

Runoff = 1.68 cfs @ 0.10 hrs, Volume= 0.056 af, Depth= 0.63"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=24 min, Inten=2.14 in/hr

Area (ac)	C	Description
1.050	0.74	Mixed Use, HSG D
1.050		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PA01**

Summary for Subcatchment B18: B18

Runoff = 3.43 cfs @ 0.09 hrs, Volume= 0.113 af, Depth= 0.69"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=24 min, Inten=2.14 in/hr

Area (ac)	C	Description
1.960	0.81	Mixed Use, HSG D
1.960		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment B19: B19

Runoff = 0.86 cfs @ 0.10 hrs, Volume= 0.028 af, Depth= 0.67"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=24 min, Inten=2.14 in/hr

Area (ac)	C	Description
0.510	0.78	Mixed Use, HSG D
0.510		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PA01**

Summary for Subcatchment B20: B20

Runoff = 2.51 cfs @ 0.10 hrs, Volume= 0.083 af, Depth= 0.64"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=24 min, Inten=2.14 in/hr

Area (ac)	C	Description
1.550	0.75	Mixed Use, HSG D
1.550		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PA01**

Summary for Subcatchment B21: B21

Runoff = 0.94 cfs @ 0.09 hrs, Volume= 0.031 af, Depth= 0.80"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=24 min, Inten=2.14 in/hr

Area (ac)	C	Description
0.470	0.93	Mixed Use, HSG D
0.470		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment BASIN-B1: BASIN-B1

Runoff = 2.18 cfs @ 0.17 hrs, Volume= 0.072 af, Depth= 0.46"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=24 min, Inten=2.14 in/hr

Area (ac)	C	Description
1.870	0.54	Mixed Use, HSG D
1.870		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, PA01**

Summary for Subcatchment BASIN-B2: BASIN-B2

Runoff = 5.60 cfs @ 0.40 hrs, Volume= 0.185 af, Depth= 0.46"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=24 min, Inten=2.14 in/hr

Area (ac)	C	Description
4.800	0.54	Mixed Use, HSG D
4.800		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.0					**Direct Entry, PA01**

Summary for Pond OUTFALL B: OUTFALL B

Inflow Area = 43.690 ac, 2.08% Impervious, Inflow Depth = 0.60" for 50-Year event
Inflow = 63.11 cfs @ 0.41 hrs, Volume= 2.174 af
Primary = 63.11 cfs @ 0.41 hrs, Volume= 2.174 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3

100-year Rainfall Intensity

ELEV.	FACTOR
0-1500	1.00
1500-3000	1.25
3000-4000	1.42
4000-5000	1.60
5000-6000	1.7
DESERT	1.25

TO OBTAIN CORRECT INTENSITY, MULTIPLY INTENSITY ON CHART BY FACTOR FOR DESIGN ELEVATION.

RAINFALL INTENSITY - DURATION - FREQUENCY CURVES FOR COUNTY OF SAN DIEGO

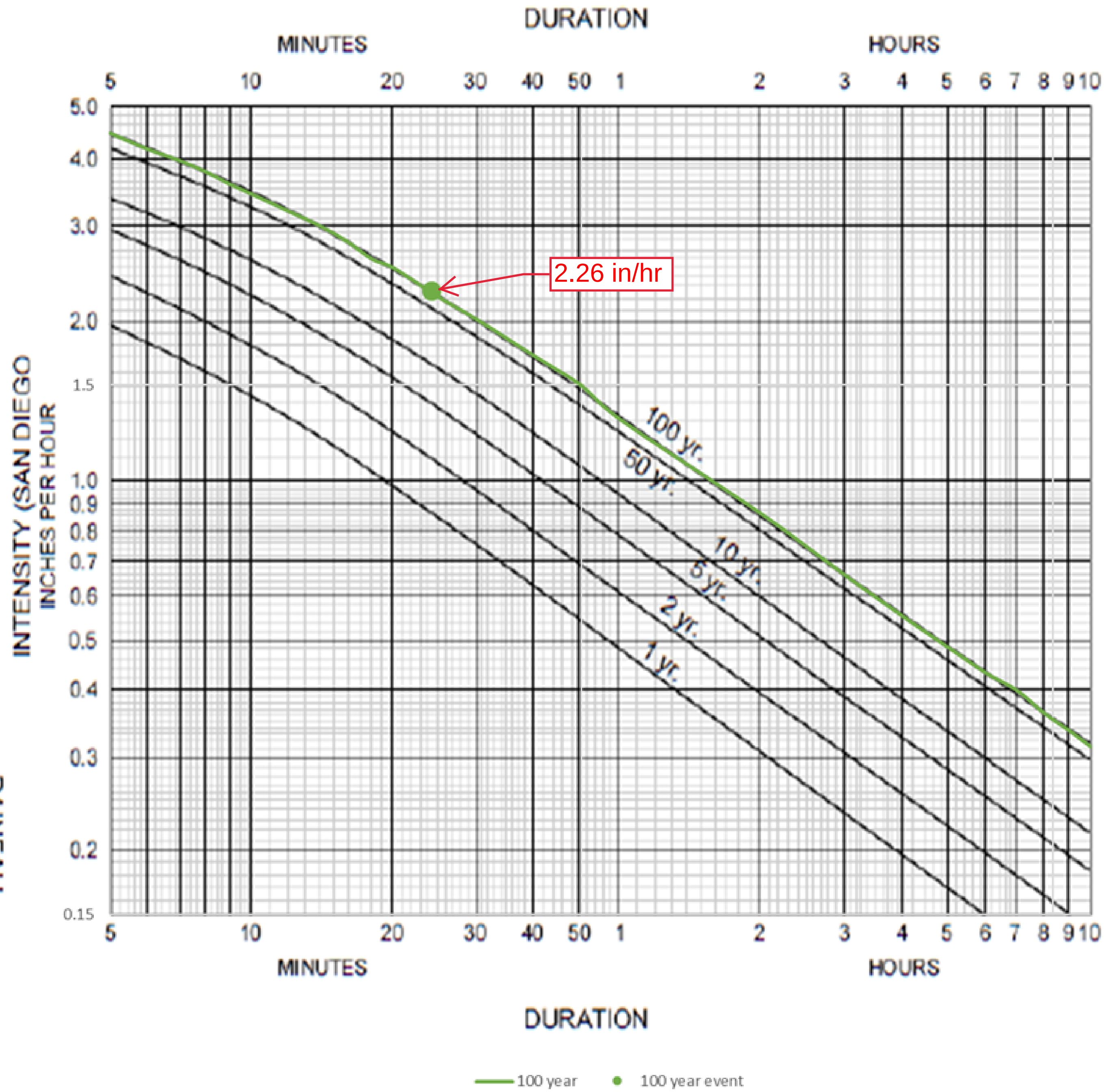


Figure A-1. Intensity-Duration-Frequency Design Chart

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 3
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Pond B-BUBBLER: B-BUBBLER Peak Elev=50.14' Storage=1,689 cf Inflow=68.99 cfs 2.281 af
Primary=63.78 cfs 2.284 af Secondary=0.00 cfs 0.000 af Outflow=63.78 cfs 2.284 af

Pond B-L01: B-L01 Peak Elev=64.89' Inflow=2.25 cfs 0.074 af
24.0" Round Culvert n=0.013 L=62.0' S=0.0037 '/' Outflow=2.25 cfs 0.074 af

Pond B-L02: B-L02 Peak Elev=65.00' Inflow=3.14 cfs 0.104 af
24.0" Round Culvert n=0.013 L=60.0' S=0.0048 '/' Outflow=3.14 cfs 0.104 af

Pond B-L03: B-L03 Peak Elev=64.74' Inflow=5.39 cfs 0.178 af
24.0" Round Culvert n=0.013 L=399.0' S=0.0055 '/' Outflow=5.39 cfs 0.178 af

Pond B-L04: B-L04 Peak Elev=63.05' Inflow=7.36 cfs 0.243 af
24.0" Round Culvert n=0.013 L=63.0' S=0.0051 '/' Outflow=7.36 cfs 0.243 af

Pond B-L05: B-L05 Peak Elev=62.83' Inflow=3.70 cfs 0.122 af
24.0" Round Culvert n=0.013 L=57.0' S=0.0051 '/' Outflow=3.70 cfs 0.122 af

Pond B-L06: B-L06 Peak Elev=62.75' Inflow=1.95 cfs 0.064 af
24.0" Round Culvert n=0.013 L=73.0' S=0.0051 '/' Outflow=1.95 cfs 0.064 af

Pond B-L07: B-L07 Peak Elev=62.69' Inflow=13.00 cfs 0.430 af
30.0" Round Culvert n=0.013 L=424.0' S=0.0050 '/' Outflow=13.00 cfs 0.430 af

Pond B-L08: B-L08 Peak Elev=60.98' Inflow=14.86 cfs 0.491 af
36.0" Round Culvert n=0.013 L=64.0' S=0.0045 '/' Outflow=14.86 cfs 0.491 af

Pond B-L09: B-L09 Peak Elev=60.69' Inflow=3.63 cfs 0.120 af
24.0" Round Culvert n=0.013 L=58.0' S=0.0050 '/' Outflow=3.63 cfs 0.120 af

Pond B-L10: B-L8 Peak Elev=60.66' Inflow=1.87 cfs 0.062 af
24.0" Round Culvert n=0.013 L=72.0' S=0.0069 '/' Outflow=1.87 cfs 0.062 af

Pond B-L11: B-L11 Peak Elev=60.63' Inflow=20.35 cfs 0.673 af
36.0" Round Culvert n=0.013 L=48.0' S=0.0050 '/' Outflow=20.35 cfs 0.673 af

Pond B-L12: B-L21 Peak Elev=60.04' Inflow=20.97 cfs 0.693 af
36.0" Round Culvert n=0.013 L=372.0' S=0.0050 '/' Outflow=20.97 cfs 0.693 af

Pond B-L13: B-L13 Peak Elev=58.21' Inflow=20.97 cfs 0.693 af
36.0" Round Culvert n=0.013 L=278.0' S=0.0050 '/' Outflow=20.97 cfs 0.693 af

Pond B-L14: B-L14 Peak Elev=56.90' Inflow=43.41 cfs 1.435 af
48.0" Round Culvert n=0.013 L=180.0' S=0.0363 '/' Outflow=43.41 cfs 1.435 af

Pond B-L15: B-L15 Peak Elev=51.46' Inflow=43.41 cfs 1.435 af
48.0" Round Culvert n=0.013 L=188.0' S=0.0170 '/' Outflow=43.41 cfs 1.435 af

Pond B-L16: B-L16 Peak Elev=50.65' Inflow=43.41 cfs 1.435 af
48.0" Round Culvert n=0.013 L=38.0' S=0.0024 '/' Outflow=43.41 cfs 1.435 af

Pond B-L18: B-L18 Peak Elev=51.67' Inflow=5.89 cfs 0.195 af
18.0" Round Culvert n=0.013 L=200.0' S=0.0060 '/' Outflow=5.89 cfs 0.195 af

Pond B-L19: B-L19 Peak Elev=50.50' Inflow=8.18 cfs 0.270 af
24.0" Round Culvert n=0.013 L=162.0' S=0.0060 '/' Outflow=8.18 cfs 0.270 af

Pond B-L20: B-L20 Peak Elev=50.80' Inflow=8.18 cfs 0.270 af
24.0" Round Culvert n=0.013 L=26.0' S=0.0808 '/' Outflow=8.18 cfs 0.270 af

Pond B-L21: B-L21 Peak Elev=65.57' Inflow=2.52 cfs 0.083 af
24.0" Round Culvert n=0.013 L=160.0' S=0.0050 '/' Outflow=2.52 cfs 0.083 af

Pond B-L22: B-L22 Peak Elev=65.05' Inflow=4.81 cfs 0.159 af
24.0" Round Culvert n=0.013 L=74.0' S=0.0050 '/' Outflow=4.81 cfs 0.159 af

Pond B-L23: B-L23 Peak Elev=64.78' Inflow=1.86 cfs 0.061 af
24.0" Round Culvert n=0.013 L=78.0' S=0.0050 '/' Outflow=1.86 cfs 0.061 af

Pond B-L24: B-L24 Peak Elev=65.05' Inflow=2.30 cfs 0.076 af
24.0" Round Culvert n=0.013 L=84.0' S=0.0100 '/' Outflow=2.30 cfs 0.076 af

Pond B-L25: B-L25 Peak Elev=64.64' Inflow=8.96 cfs 0.296 af
30.0" Round Culvert n=0.013 L=401.0' S=0.0070 '/' Outflow=8.96 cfs 0.296 af

Pond B-L26: B-L26 Peak Elev=62.35' Inflow=12.53 cfs 0.414 af
30.0" Round Culvert n=0.013 L=64.0' S=0.0050 '/' Outflow=12.53 cfs 0.414 af

Pond B-L27: B-L27 Peak Elev=61.84' Inflow=1.76 cfs 0.058 af
24.0" Round Culvert n=0.013 L=46.0' S=0.0070 '/' Outflow=1.76 cfs 0.058 af

Pond B-L28: B-L28 Peak Elev=61.80' Inflow=14.29 cfs 0.473 af
30.0" Round Culvert n=0.013 L=404.0' S=0.0070 '/' Outflow=14.29 cfs 0.473 af

Pond B-L29: B-L29 Peak Elev=59.71' Inflow=17.90 cfs 0.592 af
30.0" Round Culvert n=0.013 L=78.0' S=0.0050 '/' Outflow=17.90 cfs 0.592 af

Pond B-L30: B-L30 Peak Elev=60.55' Inflow=0.90 cfs 0.030 af
24.0" Round Culvert n=0.013 L=69.0' S=0.0100 '/' Outflow=0.90 cfs 0.030 af

Pond B-L31: B-L31 Peak Elev=59.86' Inflow=0.90 cfs 0.030 af
24.0" Round Culvert n=0.013 L=198.0' S=0.0100 '/' Outflow=0.90 cfs 0.030 af

Pond B-L32: B-L32 Peak Elev=59.21' Inflow=3.54 cfs 0.117 af
24.0" Round Culvert n=0.013 L=89.0' S=0.0070 '/' Outflow=3.54 cfs 0.117 af

Pond B-L33: B-L33 Peak Elev=59.13' Inflow=21.44 cfs 0.709 af
36.0" Round Culvert n=0.013 L=26.0' S=0.0050 '/' Outflow=21.44 cfs 0.709 af

Pond B-L34: B-L34 Peak Elev=58.62' Inflow=22.43 cfs 0.742 af
36.0" Round Culvert n=0.013 L=358.0' S=0.0050 '/' Outflow=22.43 cfs 0.742 af

Subcatchment B01: B01 Runoff Area=1.270 ac 0.00% Impervious Runoff Depth=0.70"
Tc=6.0 min C=0.78 Runoff=2.25 cfs 0.074 af

Subcatchment B02: B02 Runoff Area=1.950 ac 0.00% Impervious Runoff Depth=0.64"
Tc=7.0 min C=0.71 Runoff=3.14 cfs 0.104 af

Subcatchment B03: B03 Runoff Area=0.910 ac 100.00% Impervious Runoff Depth=0.86"
Tc=5.0 min C=0.95 Runoff=1.96 cfs 0.065 af

Subcatchment B04: B04 Runoff Area=2.200 ac 0.00% Impervious Runoff Depth=0.67"
Tc=6.0 min C=0.74 Runoff=3.70 cfs 0.122 af

Subcatchment B05: B05 Runoff Area=1.160 ac 0.00% Impervious Runoff Depth=0.67"
Tc=7.0 min C=0.74 Runoff=1.95 cfs 0.064 af

Subcatchment B06: B06 Runoff Area=0.880 ac 0.00% Impervious Runoff Depth=0.84"
Tc=5.0 min C=0.93 Runoff=1.86 cfs 0.061 af

Subcatchment B07: B07 Runoff Area=2.130 ac 0.00% Impervious Runoff Depth=0.68"
Tc=6.0 min C=0.75 Runoff=3.63 cfs 0.120 af

Subcatchment B08: B08 Runoff Area=1.110 ac 0.00% Impervious Runoff Depth=0.67"
Tc=6.0 min C=0.74 Runoff=1.87 cfs 0.062 af

Subcatchment B09: B09 Runoff Area=0.300 ac 0.00% Impervious Runoff Depth=0.82"
Tc=5.0 min C=0.91 Runoff=0.62 cfs 0.020 af

Subcatchment B10: B17 Runoff Area=12.560 ac 0.00% Impervious Runoff Depth=0.55"
Tc=22.0 min C=0.61 Runoff=17.40 cfs 0.575 af

Subcatchment B12: B12 Runoff Area=1.480 ac 0.00% Impervious Runoff Depth=0.68"
Tc=6.0 min C=0.75 Runoff=2.52 cfs 0.083 af

Subcatchment B13: B13 Runoff Area=1.360 ac 0.00% Impervious Runoff Depth=0.67"
Tc=7.0 min C=0.74 Runoff=2.29 cfs 0.076 af

Subcatchment B14: B14 Runoff Area=0.900 ac 0.00% Impervious Runoff Depth=0.82"
Tc=5.0 min C=0.91 Runoff=1.86 cfs 0.061 af

Subcatchment B15: B15 Runoff Area=1.330 ac 0.00% Impervious Runoff Depth=0.68"
Tc=6.0 min C=0.76 Runoff=2.30 cfs 0.076 af

Subcatchment B16: B16 Runoff Area=1.940 ac 0.00% Impervious Runoff Depth=0.73"
Tc=5.0 min C=0.81 Runoff=3.57 cfs 0.118 af

Subcatchment B17: B17 Runoff Area=1.050 ac 0.00% Impervious Runoff Depth=0.67"
Tc=6.0 min C=0.74 Runoff=1.76 cfs 0.058 af

Subcatchment B18: B18 Runoff Area=1.960 ac 0.00% Impervious Runoff Depth=0.73"
Tc=5.0 min C=0.81 Runoff=3.61 cfs 0.119 af

Subcatchment B19: B19 Runoff Area=0.510 ac 0.00% Impervious Runoff Depth=0.70"
Tc=6.0 min C=0.78 Runoff=0.90 cfs 0.030 af

Subcatchment B20: B20 Runoff Area=1.550 ac 0.00% Impervious Runoff Depth=0.68"
Tc=6.0 min C=0.75 Runoff=2.64 cfs 0.087 af

Subcatchment B21: B21 Runoff Area=0.470 ac 0.00% Impervious Runoff Depth=0.84"
Tc=5.0 min C=0.93 Runoff=0.99 cfs 0.033 af

Subcatchment BASIN-B1: BASIN-B1 Runoff Area=1.870 ac 0.00% Impervious Runoff Depth=0.49"
Tc=10.0 min C=0.54 Runoff=2.29 cfs 0.076 af

Subcatchment BASIN-B2: BASIN-B2 Runoff Area=4.800 ac 0.00% Impervious Runoff Depth=0.49"
Tc=24.0 min C=0.54 Runoff=5.89 cfs 0.195 af

Pond OUTFALL B: OUTFALL B Inflow=63.78 cfs 2.284 af
Primary=63.78 cfs 2.284 af

Total Runoff Area = 43.690 ac Runoff Volume = 2.281 af Average Runoff Depth = 0.63"
97.92% Pervious = 42.780 ac 2.08% Impervious = 0.910 ac

Summary for Pond B-BUBBLER: B-BUBBLER

Inflow Area = 43.690 ac, 2.08% Impervious, Inflow Depth = 0.63" for 100-Year event
Inflow = 68.99 cfs @ 0.40 hrs, Volume= 2.281 af
Outflow = 63.78 cfs @ 0.41 hrs, Volume= 2.284 af, Atten= 8%, Lag= 0.6 min
Primary = 63.78 cfs @ 0.41 hrs, Volume= 2.284 af
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.14' @ 0.41 hrs Surf.Area= 12,732 sf Storage= 1,689 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.1 min (17.9 - 17.8)

Volume	Invert	Avail.Storage	Storage Description
#1	50.00'	212,572 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
50.00	11,326	0	0
52.00	31,363	42,689	42,689
54.00	43,124	74,487	117,176
56.00	52,272	95,396	212,572

Device	Routing	Invert	Outlet Devices
#1	Primary	44.31'	**34.0" Round Outlet** L= 100.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 44.31' / 43.59' S= 0.0072 '/' Cc= 0.900 n= 0.013, Flow Area= 6.31 sf
#2	Secondary	50.25'	**80.0' long x 20.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.68 2.70 2.70 2.64 2.63 2.64 2.64 2.63

Primary OutFlow Max=63.78 cfs @ 0.41 hrs HW=50.14' TW=0.00' (Dynamic Tailwater)
↑—**1=Outlet** (Inlet Controls 63.78 cfs @ 10.12 fps)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=50.00' TW=0.00' (Dynamic Tailwater)
↑—**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Summary for Pond B-L01: B-L01

Inflow Area = 1.270 ac, 0.00% Impervious, Inflow Depth = 0.70" for 100-Year event
Inflow = 2.25 cfs @ 0.10 hrs, Volume= 0.074 af
Outflow = 2.25 cfs @ 0.10 hrs, Volume= 0.074 af, Atten= 0%, Lag= 0.0 min
Primary = 2.25 cfs @ 0.10 hrs, Volume= 0.074 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 64.89' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.87'	**24.0" Round B-L1** L= 62.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 63.87' / 63.64' S= 0.0037 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=2.20 cfs @ 0.10 hrs HW=64.85' TW=64.67' (Dynamic Tailwater)
↑—**1=B-L1** (Outlet Controls 2.20 cfs @ 2.11 fps)

Summary for Pond B-L02: B-L02

Inflow Area =	1.950 ac,	0.00% Impervious, Inflow Depth = 0.64"	for 100-Year event	
Inflow =	3.14 cfs @	0.12 hrs, Volume=	0.104 af	
Outflow =	3.14 cfs @	0.13 hrs, Volume=	0.104 af,	Atten= 0%, Lag= 0.6 min
Primary =	3.14 cfs @	0.13 hrs, Volume=	0.104 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 65.00' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.93'	**24.0" Round B-L2** L= 60.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 63.93' / 63.64' S= 0.0048 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=3.14 cfs @ 0.13 hrs HW=65.00' TW=64.74' (Dynamic Tailwater)
↑—**1=B-L2** (Outlet Controls 3.14 cfs @ 2.66 fps)

Summary for Pond B-L03: B-L03

Inflow Area =	3.220 ac,	0.00% Impervious, Inflow Depth = 0.66"	for 100-Year event	
Inflow =	5.39 cfs @	0.13 hrs, Volume=	0.178 af	
Outflow =	5.39 cfs @	0.13 hrs, Volume=	0.178 af,	Atten= 0%, Lag= 0.0 min
Primary =	5.39 cfs @	0.13 hrs, Volume=	0.178 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 64.74' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.54'	**24.0" Round Pipe** L= 399.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 63.54' / 61.36' S= 0.0055 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=5.39 cfs @ 0.13 hrs HW=64.74' TW=63.05' (Dynamic Tailwater)
↑—**1=Pipe** (Outlet Controls 5.39 cfs @ 3.95 fps)

Summary for Pond B-L04: B-L04

Inflow Area =	4.130 ac,	22.03% Impervious, Inflow Depth = 0.71"	for 100-Year event	
Inflow =	7.36 cfs @	0.13 hrs, Volume=	0.243 af	
Outflow =	7.36 cfs @	0.12 hrs, Volume=	0.243 af,	Atten= 0%, Lag= 0.0 min
Primary =	7.36 cfs @	0.12 hrs, Volume=	0.243 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 63.05' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	61.26'	**24.0" Round B-L4** L= 63.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 61.26' / 60.94' S= 0.0051 '/' Cc= 0.900

n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=7.33 cfs @ 0.12 hrs HW=63.05' TW=62.69' (Dynamic Tailwater)
└─**1=B-L4** (Outlet Controls 7.33 cfs @ 3.28 fps)

Summary for Pond B-L05: B-L05

Inflow Area = 2.200 ac, 0.00% Impervious, Inflow Depth = 0.67" for 100-Year event
Inflow = 3.70 cfs @ 0.10 hrs, Volume= 0.122 af
Outflow = 3.70 cfs @ 0.12 hrs, Volume= 0.122 af, Atten= 0%, Lag= 1.2 min
Primary = 3.70 cfs @ 0.12 hrs, Volume= 0.122 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 62.83' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	61.33'	**24.0" Round B-L5** L= 57.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 61.33' / 61.04' S= 0.0051 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=3.67 cfs @ 0.12 hrs HW=62.83' TW=62.69' (Dynamic Tailwater)
└─**1=B-L5** (Outlet Controls 3.67 cfs @ 2.02 fps)

Summary for Pond B-L06: B-L06

Inflow Area = 1.160 ac, 0.00% Impervious, Inflow Depth = 0.67" for 100-Year event
Inflow = 1.95 cfs @ 0.12 hrs, Volume= 0.064 af
Outflow = 1.95 cfs @ 0.12 hrs, Volume= 0.064 af, Atten= 0%, Lag= 0.0 min
Primary = 1.95 cfs @ 0.12 hrs, Volume= 0.064 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 62.75' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	61.41'	**24.0" Round B-L6** L= 73.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 61.41' / 61.04' S= 0.0051 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.91 cfs @ 0.12 hrs HW=62.74' TW=62.69' (Dynamic Tailwater)
└─**1=B-L6** (Outlet Controls 1.91 cfs @ 1.22 fps)

Summary for Pond B-L07: B-L07

Inflow Area = 7.490 ac, 12.15% Impervious, Inflow Depth = 0.69" for 100-Year event
Inflow = 13.00 cfs @ 0.12 hrs, Volume= 0.430 af
Outflow = 13.00 cfs @ 0.12 hrs, Volume= 0.430 af, Atten= 0%, Lag= 0.0 min
Primary = 13.00 cfs @ 0.12 hrs, Volume= 0.430 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 62.69' @ 0.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.84'	**30.0" Round Pipe** L= 424.0' RCP, sq.cut end projecting, Ke= 0.500

Inlet / Outlet Invert= 60.84' / 58.72' S= 0.0050 '/' Cc= 0.900
n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=12.98 cfs @ 0.12 hrs HW=62.69' TW=60.98' (Dynamic Tailwater)
↑—**1=Pipe** (Outlet Controls 12.98 cfs @ 4.64 fps)

Summary for Pond B-L08: B-L08

Inflow Area =	8.370 ac,	10.87% Impervious,	Inflow Depth = 0.70"	for 100-Year event
Inflow =	14.86 cfs @	0.12 hrs, Volume=	0.491 af	
Outflow =	14.86 cfs @	0.12 hrs, Volume=	0.491 af,	Atten= 0%, Lag= 0.0 min
Primary =	14.86 cfs @	0.12 hrs, Volume=	0.491 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.98' @ 0.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.62'	**36.0" Round B-L8** L= 64.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 58.62' / 58.33' S= 0.0045 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=14.81 cfs @ 0.12 hrs HW=60.98' TW=60.63' (Dynamic Tailwater)
↑—**1=B-L8** (Outlet Controls 14.81 cfs @ 3.42 fps)

Summary for Pond B-L09: B-L09

Inflow Area =	2.130 ac,	0.00% Impervious,	Inflow Depth = 0.68"	for 100-Year event
Inflow =	3.63 cfs @	0.10 hrs, Volume=	0.120 af	
Outflow =	3.63 cfs @	0.13 hrs, Volume=	0.120 af,	Atten= 0%, Lag= 1.8 min
Primary =	3.63 cfs @	0.13 hrs, Volume=	0.120 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.69' @ 0.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.62'	**24.0" Round B-L9** L= 58.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 58.62' / 58.33' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=3.63 cfs @ 0.13 hrs HW=60.69' TW=60.63' (Dynamic Tailwater)
↑—**1=B-L9** (Outlet Controls 3.63 cfs @ 1.38 fps)

Summary for Pond B-L10: B-L8

Inflow Area =	1.110 ac,	0.00% Impervious,	Inflow Depth = 0.67"	for 100-Year event
Inflow =	1.87 cfs @	0.10 hrs, Volume=	0.062 af	
Outflow =	1.87 cfs @	0.11 hrs, Volume=	0.062 af,	Atten= 0%, Lag= 0.6 min
Primary =	1.87 cfs @	0.11 hrs, Volume=	0.062 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.66' @ 0.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.83'	**24.0" Round B-L10** L= 72.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 58.83' / 58.33' S= 0.0069 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.72 cfs @ 0.11 hrs HW=60.63' TW=60.61' (Dynamic Tailwater)
└─**1=B-L10** (Outlet Controls 1.72 cfs @ 0.76 fps)

Summary for Pond B-L11: B-L11

Inflow Area =	11.610 ac,	7.84% Impervious, Inflow Depth = 0.70"	for 100-Year event
Inflow =	20.35 cfs @	0.13 hrs, Volume=	0.673 af
Outflow =	20.35 cfs @	0.12 hrs, Volume=	0.673 af, Atten= 0%, Lag= 0.0 min
Primary =	20.35 cfs @	0.12 hrs, Volume=	0.673 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.63' @ 0.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.23'	**36.0" Round Pipe** L= 48.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 58.23' / 57.99' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=20.33 cfs @ 0.12 hrs HW=60.63' TW=60.04' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 20.33 cfs @ 4.58 fps)

Summary for Pond B-L12: B-L21

Inflow Area =	11.910 ac,	7.64% Impervious, Inflow Depth = 0.70"	for 100-Year event
Inflow =	20.97 cfs @	0.12 hrs, Volume=	0.693 af
Outflow =	20.97 cfs @	0.13 hrs, Volume=	0.693 af, Atten= 0%, Lag= 0.6 min
Primary =	20.97 cfs @	0.13 hrs, Volume=	0.693 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.04' @ 0.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	57.89'	**36.0" Round B-L12** L= 372.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 57.89' / 56.03' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=20.97 cfs @ 0.13 hrs HW=60.04' TW=58.21' (Dynamic Tailwater)
└─**1=B-L12** (Outlet Controls 20.97 cfs @ 5.40 fps)

Summary for Pond B-L13: B-L13

Inflow Area =	11.910 ac,	7.64% Impervious, Inflow Depth = 0.70"	for 100-Year event
Inflow =	20.97 cfs @	0.13 hrs, Volume=	0.693 af
Outflow =	20.97 cfs @	0.13 hrs, Volume=	0.693 af, Atten= 0%, Lag= 0.0 min
Primary =	20.97 cfs @	0.13 hrs, Volume=	0.693 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3

Peak Elev= 58.21' @ 0.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	55.93'	**36.0" Round Pipe** L= 278.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 55.93' / 54.54' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=20.97 cfs @ 0.13 hrs HW=58.21' TW=56.90' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 20.97 cfs @ 5.04 fps)

Summary for Pond B-L14: B-L14

Inflow Area = 24.460 ac, 3.72% Impervious, Inflow Depth = 0.70" for 100-Year event
Inflow = 43.41 cfs @ 0.13 hrs, Volume= 1.435 af
Outflow = 43.41 cfs @ 0.13 hrs, Volume= 1.435 af, Atten= 0%, Lag= 0.0 min
Primary = 43.41 cfs @ 0.13 hrs, Volume= 1.435 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 56.90' @ 0.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	54.44'	**48.0" Round Pipe** L= 180.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 54.44' / 47.90' S= 0.0363 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf

Primary OutFlow Max=43.41 cfs @ 0.13 hrs HW=56.90' TW=51.35' (Dynamic Tailwater)
└─**1=Pipe** (Inlet Controls 43.41 cfs @ 5.34 fps)

Summary for Pond B-L15: B-L15

Inflow Area = 24.460 ac, 3.72% Impervious, Inflow Depth = 0.70" for 100-Year event
Inflow = 43.41 cfs @ 0.13 hrs, Volume= 1.435 af
Outflow = 43.41 cfs @ 0.13 hrs, Volume= 1.435 af, Atten= 0%, Lag= 0.0 min
Primary = 43.41 cfs @ 0.13 hrs, Volume= 1.435 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 51.46' @ 0.40 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.80'	**48.0" Round Pipe** L= 188.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 47.80' / 44.60' S= 0.0170 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf

Primary OutFlow Max=43.41 cfs @ 0.13 hrs HW=51.35' TW=50.51' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 43.41 cfs @ 4.88 fps)

Summary for Pond B-L16: B-L16

Inflow Area = 24.460 ac, 3.72% Impervious, Inflow Depth = 0.70" for 100-Year event
Inflow = 43.41 cfs @ 0.13 hrs, Volume= 1.435 af
Outflow = 43.41 cfs @ 0.13 hrs, Volume= 1.435 af, Atten= 0%, Lag= 0.0 min
Primary = 43.41 cfs @ 0.13 hrs, Volume= 1.435 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.65' @ 0.40 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.50'	**48.0" Round Pipe** L= 38.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 44.50' / 44.41' S= 0.0024 '/' Cc= 0.900 n= 0.013, Flow Area= 12.57 sf

Primary OutFlow Max=43.41 cfs @ 0.13 hrs HW=50.51' TW=50.00' (Dynamic Tailwater)
└**1=Pipe** (Inlet Controls 43.41 cfs @ 3.45 fps)

Summary for Pond B-L18: B-L18

Inflow Area =	4.800 ac,	0.00% Impervious, Inflow Depth = 0.49" for 100-Year event		
Inflow =	5.89 cfs @	0.40 hrs, Volume=	0.195 af	
Outflow =	5.89 cfs @	0.40 hrs, Volume=	0.195 af,	Atten= 0%, Lag= 0.0 min
Primary =	5.89 cfs @	0.40 hrs, Volume=	0.195 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 51.67' @ 0.40 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	45.90'	**18.0" Round B-L18** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 45.90' / 44.70' S= 0.0060 '/' Cc= 0.900 n= 0.013, Flow Area= 1.77 sf

Primary OutFlow Max=5.84 cfs @ 0.40 hrs HW=51.67' TW=50.80' (Dynamic Tailwater)
└**1=B-L18** (Outlet Controls 5.84 cfs @ 3.30 fps)

Summary for Pond B-L19: B-L19

Inflow Area =	6.670 ac,	0.00% Impervious, Inflow Depth = 0.49" for 100-Year event		
Inflow =	8.18 cfs @	0.40 hrs, Volume=	0.270 af	
Outflow =	8.18 cfs @	0.40 hrs, Volume=	0.270 af,	Atten= 0%, Lag= 0.0 min
Primary =	8.18 cfs @	0.40 hrs, Volume=	0.270 af	

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.50' @ 0.40 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	44.70'	**24.0" Round Pipe** L= 162.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 44.70' / 43.73' S= 0.0060 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=8.16 cfs @ 0.40 hrs HW=50.50' TW=50.13' (Dynamic Tailwater)
└**1=Pipe** (Outlet Controls 8.16 cfs @ 2.60 fps)

Summary for Pond B-L20: B-L20

Inflow Area = 6.670 ac, 0.00% Impervious, Inflow Depth = 0.49" for 100-Year event
Inflow = 8.18 cfs @ 0.40 hrs, Volume= 0.270 af
Outflow = 8.18 cfs @ 0.40 hrs, Volume= 0.270 af, Atten= 0%, Lag= 0.0 min
Primary = 8.18 cfs @ 0.40 hrs, Volume= 0.270 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 50.80' @ 0.40 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	46.80'	**24.0" Round B-L20** L= 26.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 46.80' / 44.70' S= 0.0808 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=8.16 cfs @ 0.40 hrs HW=50.79' TW=50.50' (Dynamic Tailwater)
└─**1=B-L20** (Inlet Controls 8.16 cfs @ 2.60 fps)

Summary for Pond B-L21: B-L21

Inflow Area = 1.480 ac, 0.00% Impervious, Inflow Depth = 0.68" for 100-Year event
Inflow = 2.52 cfs @ 0.10 hrs, Volume= 0.083 af
Outflow = 2.52 cfs @ 0.10 hrs, Volume= 0.083 af, Atten= 0%, Lag= 0.0 min
Primary = 2.52 cfs @ 0.10 hrs, Volume= 0.083 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 65.57' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	64.68'	**24.0" Round B-L21** L= 160.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 64.68' / 63.88' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=2.51 cfs @ 0.10 hrs HW=65.55' TW=65.00' (Dynamic Tailwater)
└─**1=B-L21** (Outlet Controls 2.51 cfs @ 2.81 fps)

Summary for Pond B-L22: B-L22

Inflow Area = 2.840 ac, 0.00% Impervious, Inflow Depth = 0.67" for 100-Year event
Inflow = 4.81 cfs @ 0.12 hrs, Volume= 0.159 af
Outflow = 4.81 cfs @ 0.12 hrs, Volume= 0.159 af, Atten= 0%, Lag= 0.0 min
Primary = 4.81 cfs @ 0.12 hrs, Volume= 0.159 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 65.05' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.78'	**24.0" Round B-L22** L= 74.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 63.78' / 63.41' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=4.80 cfs @ 0.12 hrs HW=65.05' TW=64.64' (Dynamic Tailwater)
└─**1=B-L22** (Outlet Controls 4.80 cfs @ 3.27 fps)

Summary for Pond B-L23: B-L23

Inflow Area =	0.900 ac,	0.00% Impervious, Inflow Depth = 0.82"	for 100-Year event
Inflow =	1.86 cfs @	0.09 hrs, Volume=	0.061 af
Outflow =	1.86 cfs @	0.13 hrs, Volume=	0.061 af, Atten= 0%, Lag= 2.4 min
Primary =	1.86 cfs @	0.13 hrs, Volume=	0.061 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 64.78' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.80'	**24.0" Round B-L23** L= 78.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 63.80' / 63.41' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.86 cfs @ 0.13 hrs HW=64.78' TW=64.64' (Dynamic Tailwater)
↑—**1=B-L23** (Outlet Controls 1.86 cfs @ 1.79 fps)

Summary for Pond B-L24: B-L24

Inflow Area =	1.330 ac,	0.00% Impervious, Inflow Depth = 0.68"	for 100-Year event
Inflow =	2.30 cfs @	0.10 hrs, Volume=	0.076 af
Outflow =	2.30 cfs @	0.10 hrs, Volume=	0.076 af, Atten= 0%, Lag= 0.0 min
Primary =	2.30 cfs @	0.10 hrs, Volume=	0.076 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 65.05' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	64.25'	**24.0" Round B-L24** L= 84.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 64.25' / 63.41' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=2.28 cfs @ 0.10 hrs HW=65.04' TW=64.61' (Dynamic Tailwater)
↑—**1=B-L24** (Outlet Controls 2.28 cfs @ 2.93 fps)

Summary for Pond B-L25: B-L25

Inflow Area =	5.070 ac,	0.00% Impervious, Inflow Depth = 0.70"	for 100-Year event
Inflow =	8.96 cfs @	0.12 hrs, Volume=	0.296 af
Outflow =	8.96 cfs @	0.13 hrs, Volume=	0.296 af, Atten= 0%, Lag= 0.6 min
Primary =	8.96 cfs @	0.13 hrs, Volume=	0.296 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 64.64' @ 0.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.31'	**30.0" Round Pipe** L= 401.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 63.31' / 60.51' S= 0.0070 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=8.96 cfs @ 0.13 hrs HW=64.64' TW=62.35' (Dynamic Tailwater)
↑—**1=Pipe** (Outlet Controls 8.96 cfs @ 4.92 fps)

Summary for Pond B-L26: B-L26

Inflow Area = 7.010 ac, 0.00% Impervious, Inflow Depth = 0.71" for 100-Year event
Inflow = 12.53 cfs @ 0.13 hrs, Volume= 0.414 af
Outflow = 12.53 cfs @ 0.13 hrs, Volume= 0.414 af, Atten= 0%, Lag= 0.0 min
Primary = 12.53 cfs @ 0.13 hrs, Volume= 0.414 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 62.35' @ 0.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.40'	**30.0" Round B-L26** L= 64.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 60.40' / 60.08' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=12.53 cfs @ 0.13 hrs HW=62.35' TW=61.80' (Dynamic Tailwater)
└─**1=B-L26** (Outlet Controls 12.53 cfs @ 4.19 fps)

Summary for Pond B-L27: B-L27

Inflow Area = 1.050 ac, 0.00% Impervious, Inflow Depth = 0.67" for 100-Year event
Inflow = 1.76 cfs @ 0.10 hrs, Volume= 0.058 af
Outflow = 1.76 cfs @ 0.10 hrs, Volume= 0.058 af, Atten= 0%, Lag= 0.0 min
Primary = 1.76 cfs @ 0.10 hrs, Volume= 0.058 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 61.84' @ 0.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.50'	**24.0" Round B-L27** L= 46.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 60.50' / 60.18' S= 0.0070 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.64 cfs @ 0.10 hrs HW=61.80' TW=61.77' (Dynamic Tailwater)
└─**1=B-L27** (Outlet Controls 1.64 cfs @ 1.08 fps)

Summary for Pond B-L28: B-L28

Inflow Area = 8.060 ac, 0.00% Impervious, Inflow Depth = 0.70" for 100-Year event
Inflow = 14.29 cfs @ 0.13 hrs, Volume= 0.473 af
Outflow = 14.29 cfs @ 0.13 hrs, Volume= 0.473 af, Atten= 0%, Lag= 0.0 min
Primary = 14.29 cfs @ 0.13 hrs, Volume= 0.473 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 61.80' @ 0.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.98'	**30.0" Round Pipe** L= 404.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 59.98' / 57.15' S= 0.0070 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=14.29 cfs @ 0.13 hrs HW=61.80' TW=59.71' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 14.29 cfs @ 5.20 fps)

Summary for Pond B-L29: B-L29

Inflow Area = 10.020 ac, 0.00% Impervious, Inflow Depth = 0.71" for 100-Year event
Inflow = 17.90 cfs @ 0.13 hrs, Volume= 0.592 af
Outflow = 17.90 cfs @ 0.13 hrs, Volume= 0.592 af, Atten= 0%, Lag= 0.0 min
Primary = 17.90 cfs @ 0.13 hrs, Volume= 0.592 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 59.71' @ 0.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	57.05'	**30.0" Round B-L29** L= 78.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 57.05' / 56.66' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=17.90 cfs @ 0.13 hrs HW=59.71' TW=59.13' (Dynamic Tailwater)
└─**1=B-L29** (Outlet Controls 17.90 cfs @ 4.26 fps)

Summary for Pond B-L30: B-L30

Inflow Area = 0.510 ac, 0.00% Impervious, Inflow Depth = 0.70" for 100-Year event
Inflow = 0.90 cfs @ 0.10 hrs, Volume= 0.030 af
Outflow = 0.90 cfs @ 0.13 hrs, Volume= 0.030 af, Atten= 0%, Lag= 1.8 min
Primary = 0.90 cfs @ 0.13 hrs, Volume= 0.030 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.55' @ 0.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	60.15'	**24.0" Round B-L30** L= 69.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 60.15' / 59.46' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.90 cfs @ 0.13 hrs HW=60.55' TW=59.86' (Dynamic Tailwater)
└─**1=B-L30** (Outlet Controls 0.90 cfs @ 3.06 fps)

Summary for Pond B-L31: B-L31

Inflow Area = 0.510 ac, 0.00% Impervious, Inflow Depth = 0.70" for 100-Year event
Inflow = 0.90 cfs @ 0.13 hrs, Volume= 0.030 af
Outflow = 0.90 cfs @ 0.11 hrs, Volume= 0.030 af, Atten= 0%, Lag= 0.0 min
Primary = 0.90 cfs @ 0.11 hrs, Volume= 0.030 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 59.86' @ 0.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.36'	**24.0" Round Pipe** L= 198.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 59.36' / 57.38' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.90 cfs @ 0.11 hrs HW=59.86' TW=59.19' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 0.90 cfs @ 2.23 fps)

Summary for Pond B-L32: B-L32

Inflow Area = 2.060 ac, 0.00% Impervious, Inflow Depth = 0.68" for 100-Year event
Inflow = 3.54 cfs @ 0.11 hrs, Volume= 0.117 af
Outflow = 3.54 cfs @ 0.11 hrs, Volume= 0.117 af, Atten= 0%, Lag= 0.0 min
Primary = 3.54 cfs @ 0.11 hrs, Volume= 0.117 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 59.21' @ 0.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	57.28'	**24.0" Round B-L32** L= 89.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 57.28' / 56.66' S= 0.0070 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=3.44 cfs @ 0.11 hrs HW=59.19' TW=59.12' (Dynamic Tailwater)
└─**1=B-L32** (Outlet Controls 3.44 cfs @ 1.42 fps)

Summary for Pond B-L33: B-L33

Inflow Area = 12.080 ac, 0.00% Impervious, Inflow Depth = 0.70" for 100-Year event
Inflow = 21.44 cfs @ 0.13 hrs, Volume= 0.709 af
Outflow = 21.44 cfs @ 0.13 hrs, Volume= 0.709 af, Atten= 0%, Lag= 0.0 min
Primary = 21.44 cfs @ 0.13 hrs, Volume= 0.709 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 59.13' @ 0.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.56'	**36.0" Round Pipe** L= 26.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 56.56' / 56.43' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=21.44 cfs @ 0.13 hrs HW=59.13' TW=58.62' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 21.44 cfs @ 4.46 fps)

Summary for Pond B-L34: B-L34

Inflow Area = 12.550 ac, 0.00% Impervious, Inflow Depth = 0.71" for 100-Year event
Inflow = 22.43 cfs @ 0.13 hrs, Volume= 0.742 af
Outflow = 22.43 cfs @ 0.13 hrs, Volume= 0.742 af, Atten= 0%, Lag= 0.0 min
Primary = 22.43 cfs @ 0.13 hrs, Volume= 0.742 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 58.62' @ 0.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.33'	**36.0" Round B-L34** L= 358.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 56.33' / 54.54' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=22.43 cfs @ 0.13 hrs HW=58.62' TW=56.90' (Dynamic Tailwater)
└─**1=B-L34** (Outlet Controls 22.43 cfs @ 5.37 fps)

Summary for Subcatchment B01: B01

Runoff = 2.25 cfs @ 0.10 hrs, Volume= 0.074 af, Depth= 0.70"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=24 min, Inten=2.25 in/hr

Area (ac)	C	Description
1.270	0.78	Mixed Use, HSG D
1.270		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PA01**

Summary for Subcatchment B02: B02

Runoff = 3.14 cfs @ 0.12 hrs, Volume= 0.104 af, Depth= 0.64"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=24 min, Inten=2.25 in/hr

Area (ac)	C	Description
1.950	0.71	Mixed Use, HSG D
1.950		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					**Direct Entry, PA01**

Summary for Subcatchment B03: B03

Runoff = 1.96 cfs @ 0.09 hrs, Volume= 0.065 af, Depth= 0.86"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=24 min, Inten=2.25 in/hr

Area (ac)	C	Description
0.910	0.95	Mixed Use, HSG D
0.910		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment B04: B04

Runoff = 3.70 cfs @ 0.10 hrs, Volume= 0.122 af, Depth= 0.67"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=24 min, Inten=2.25 in/hr

Area (ac)	C	Description
2.200	0.74	Mixed Use, HSG D
2.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PA01**

Summary for Subcatchment B05: B05

Runoff = 1.95 cfs @ 0.12 hrs, Volume= 0.064 af, Depth= 0.67"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=24 min, Inten=2.25 in/hr

Area (ac)	C	Description
1.160	0.74	Mixed Use, HSG D
1.160		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					**Direct Entry, PA01**

Summary for Subcatchment B06: B06

Runoff = 1.86 cfs @ 0.09 hrs, Volume= 0.061 af, Depth= 0.84"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=24 min, Inten=2.25 in/hr

Area (ac)	C	Description
0.880	0.93	Mixed Use, HSG D
0.880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment B07: B07

Runoff = 3.63 cfs @ 0.10 hrs, Volume= 0.120 af, Depth= 0.68"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=24 min, Inten=2.25 in/hr

Area (ac)	C	Description
2.130	0.75	Mixed Use, HSG D
2.130		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PA01**

Summary for Subcatchment B08: B08

Runoff = 1.87 cfs @ 0.10 hrs, Volume= 0.062 af, Depth= 0.67"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=24 min, Inten=2.25 in/hr

Area (ac)	C	Description
1.110	0.74	Mixed Use, HSG D
1.110		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PA01**

Summary for Subcatchment B09: B09

Runoff = 0.62 cfs @ 0.09 hrs, Volume= 0.020 af, Depth= 0.82"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=24 min, Inten=2.25 in/hr

Area (ac)	C	Description
0.300	0.91	Mixed Use, HSG D
0.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment B10: B17

Runoff = 17.40 cfs @ 0.37 hrs, Volume= 0.575 af, Depth= 0.55"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=24 min, Inten=2.25 in/hr

Area (ac)	C	Description
12.560	0.61	Mixed Use, HSG D
12.560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.0					**Direct Entry, PA01**

Summary for Subcatchment B12: B12

Runoff = 2.52 cfs @ 0.10 hrs, Volume= 0.083 af, Depth= 0.68"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=24 min, Inten=2.25 in/hr

Area (ac)	C	Description
1.480	0.75	Mixed Use, HSG D
1.480		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PA01**

Summary for Subcatchment B13: B13

Runoff = 2.29 cfs @ 0.12 hrs, Volume= 0.076 af, Depth= 0.67"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=24 min, Inten=2.25 in/hr

Area (ac)	C	Description
1.360	0.74	Mixed Use, HSG D
1.360		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0					**Direct Entry, PA01**

Summary for Subcatchment B14: B14

Runoff = 1.86 cfs @ 0.09 hrs, Volume= 0.061 af, Depth= 0.82"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=24 min, Inten=2.25 in/hr

Area (ac)	C	Description
0.900	0.91	Mixed Use, HSG D
0.900		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment B15: B15

Runoff = 2.30 cfs @ 0.10 hrs, Volume= 0.076 af, Depth= 0.68"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=24 min, Inten=2.25 in/hr

Area (ac)	C	Description
1.330	0.76	Mixed Use, HSG D
1.330		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PA01**

Summary for Subcatchment B16: B16

Runoff = 3.57 cfs @ 0.09 hrs, Volume= 0.118 af, Depth= 0.73"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=24 min, Inten=2.25 in/hr

Area (ac)	C	Description
1.940	0.81	Mixed Use, HSG D
1.940		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment B17: B17

Runoff = 1.76 cfs @ 0.10 hrs, Volume= 0.058 af, Depth= 0.67"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=24 min, Inten=2.25 in/hr

Area (ac)	C	Description
1.050	0.74	Mixed Use, HSG D
1.050		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PA01**

Summary for Subcatchment B18: B18

Runoff = 3.61 cfs @ 0.09 hrs, Volume= 0.119 af, Depth= 0.73"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=24 min, Inten=2.25 in/hr

Area (ac)	C	Description
1.960	0.81	Mixed Use, HSG D
1.960		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment B19: B19

Runoff = 0.90 cfs @ 0.10 hrs, Volume= 0.030 af, Depth= 0.70"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=24 min, Inten=2.25 in/hr

Area (ac)	C	Description
0.510	0.78	Mixed Use, HSG D
0.510		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PA01**

Summary for Subcatchment B20: B20

Runoff = 2.64 cfs @ 0.10 hrs, Volume= 0.087 af, Depth= 0.68"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=24 min, Inten=2.25 in/hr

Area (ac)	C	Description
1.550	0.75	Mixed Use, HSG D
1.550		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, PA01**

Summary for Subcatchment B21: B21

Runoff = 0.99 cfs @ 0.09 hrs, Volume= 0.033 af, Depth= 0.84"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=24 min, Inten=2.25 in/hr

Area (ac)	C	Description
0.470	0.93	Mixed Use, HSG D
0.470		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment BASIN-B1: BASIN-B1

Runoff = 2.29 cfs @ 0.17 hrs, Volume= 0.076 af, Depth= 0.49"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=24 min, Inten=2.25 in/hr

Area (ac)	C	Description
1.870	0.54	Mixed Use, HSG D
1.870		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, PA01**

Summary for Subcatchment BASIN-B2: BASIN-B2

Runoff = 5.89 cfs @ 0.40 hrs, Volume= 0.195 af, Depth= 0.49"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=24 min, Inten=2.25 in/hr

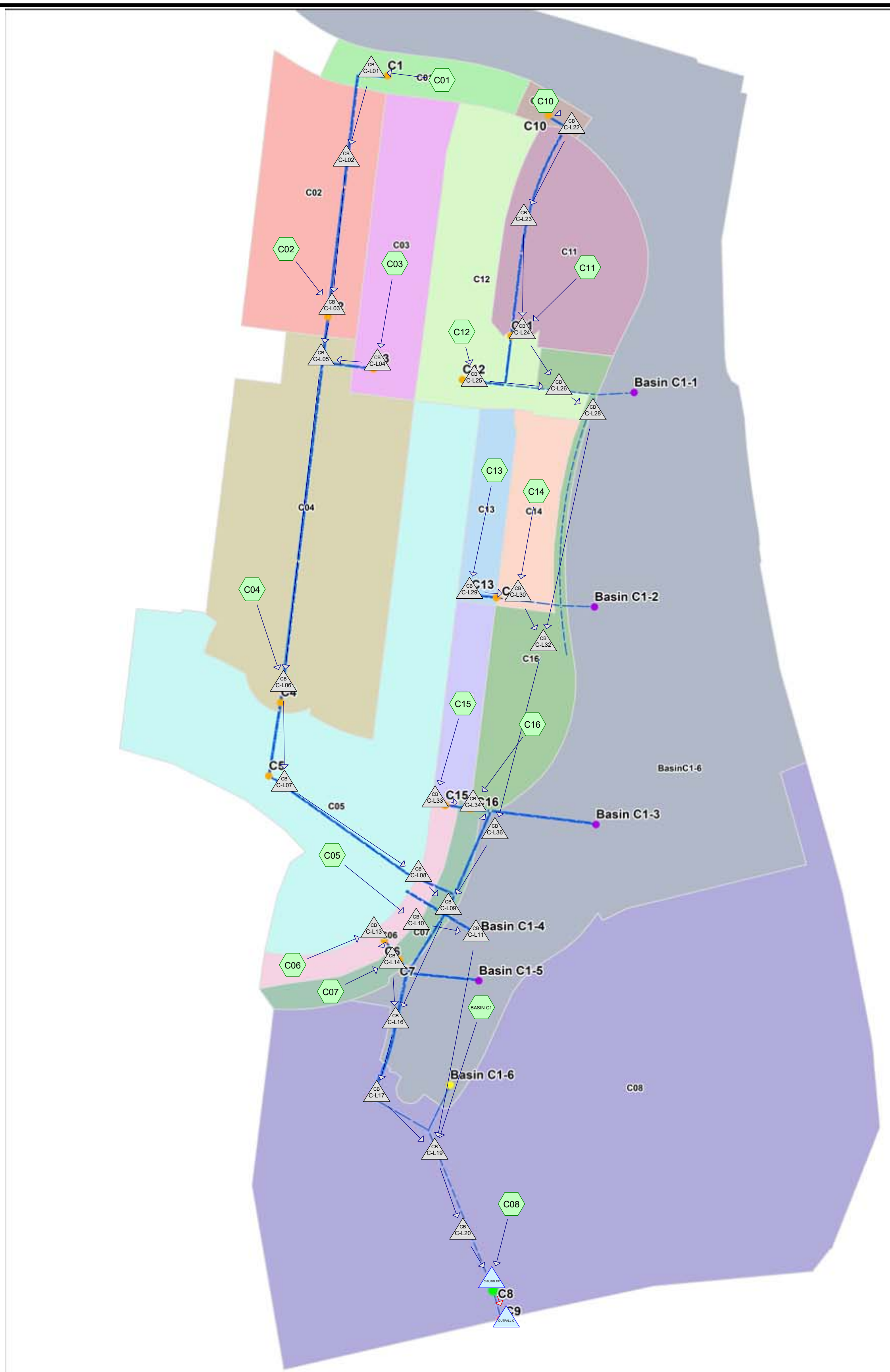
Area (ac)	C	Description
4.800	0.54	Mixed Use, HSG D
4.800		100.00% Pervious Area

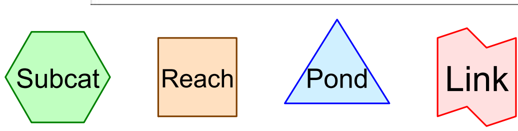
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
24.0					**Direct Entry, PA01**

Summary for Pond OUTFALL B: OUTFALL B

Inflow Area = 43.690 ac, 2.08% Impervious, Inflow Depth = 0.63" for 100-Year event
Inflow = 63.78 cfs @ 0.41 hrs, Volume= 2.284 af
Primary = 63.78 cfs @ 0.41 hrs, Volume= 2.284 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3





Routing Diagram for Proposed System C
Prepared by Geosyntec Consultants, Printed 5/24/2019
HydroCAD® 10.00 s/n 03895 © 2012 HydroCAD Software Solutions LLC

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	C-BUBBLER	46.50	46.20	110.0	0.0027	0.013	34.0	0.0	0.0
2	C-L01	67.78	66.19	41.0	0.0388	0.013	24.0	0.0	0.0
3	C-L02	65.99	63.35	377.0	0.0070	0.013	30.0	0.0	0.0
4	C-L03	63.25	62.78	66.0	0.0071	0.013	30.0	0.0	0.0
5	C-L04	62.94	62.88	74.0	0.0008	0.013	24.0	0.0	0.0
6	C-L05	62.68	59.50	514.0	0.0062	0.013	30.0	0.0	0.0
7	C-L06	59.40	58.64	109.0	0.0070	0.013	30.0	0.0	0.0
8	C-L07	58.54	56.58	261.0	0.0075	0.013	30.0	0.0	0.0
9	C-L08	56.48	56.10	76.0	0.0050	0.013	30.0	0.0	0.0
10	C-L09	55.80	53.23	273.0	0.0094	0.013	36.0	0.0	0.0
11	C-L10	59.62	59.26	80.0	0.0045	0.013	30.0	0.0	0.0
12	C-L11	59.06	47.80	102.8	0.1095	0.013	36.0	0.0	0.0
13	C-L13	53.55	53.31	38.0	0.0063	0.013	24.0	0.0	0.0
14	C-L14	53.21	53.11	16.0	0.0063	0.013	24.0	0.0	0.0
15	C-L16	53.03	50.40	98.0	0.0268	0.013	42.0	0.0	0.0
16	C-L17	50.30	47.80	102.0	0.0245	0.013	42.0	0.0	0.0
17	C-L19	47.70	47.20	200.0	0.0025	0.013	42.0	0.0	0.0
18	C-L20	47.10	46.60	50.0	0.0100	0.013	42.0	0.0	0.0
19	C-L22	67.03	66.89	45.0	0.0031	0.013	24.0	0.0	0.0
20	C-L23	66.69	64.98	311.0	0.0055	0.013	24.0	0.0	0.0
21	C-L24	64.88	64.52	71.0	0.0051	0.013	24.0	0.0	0.0
22	C-L25	64.83	64.52	61.0	0.0051	0.013	24.0	0.0	0.0
23	C-L26	64.32	63.65	135.0	0.0050	0.013	24.0	0.0	0.0
24	C-L28	63.55	59.99	324.0	0.0110	0.013	24.0	0.0	0.0
25	C-L29	61.50	61.10	36.0	0.0111	0.013	24.0	0.0	0.0
26	C-L30	61.00	59.99	92.0	0.0110	0.013	24.0	0.0	0.0
27	C-L32	59.89	56.73	74.0	0.0427	0.013	30.0	0.0	0.0
28	C-L33	57.14	56.95	38.0	0.0050	0.013	24.0	0.0	0.0
29	C-L34	56.85	56.73	24.0	0.0050	0.013	24.0	0.0	0.0
30	C-L36	56.63	56.00	126.0	0.0050	0.013	36.0	0.0	0.0

50-year Rainfall Intensity

ELEV.	FACTOR
0-1500	1.00
1500-3000	1.25
3000-4000	1.42
4000-5000	1.60
5000-6000	1.7
DESERT	1.25

TO OBTAIN CORRECT INTENSITY, MULTIPLY INTENSITY ON CHART BY FACTOR FOR DESIGN ELEVATION.

RAINFALL INTENSITY - DURATION - FREQUENCY CURVES FOR COUNTY OF SAN DIEGO

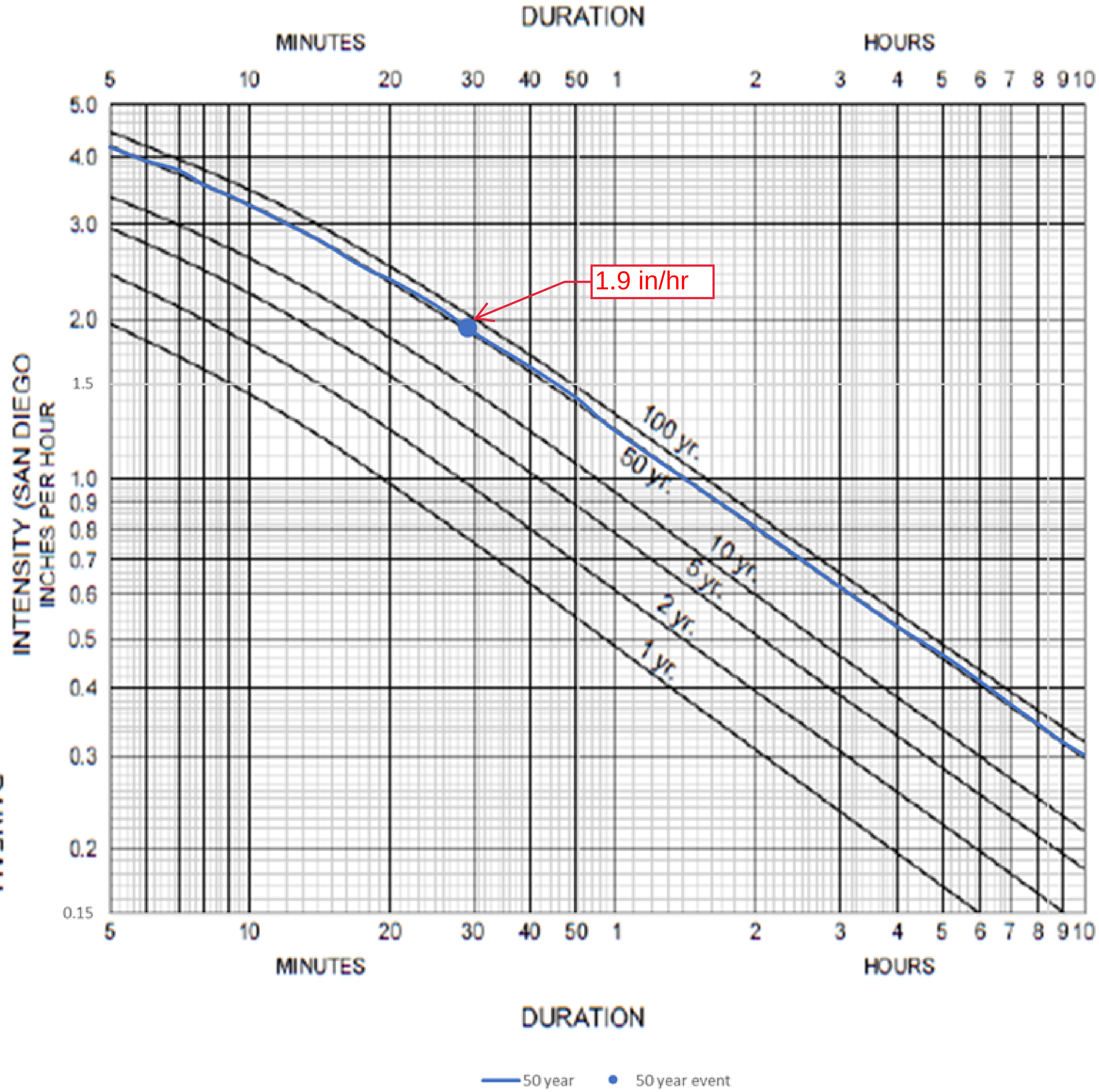


Figure A-1. Intensity-Duration-Frequency Design Chart

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 3
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment BASIN C1: BASIN C1 Runoff Area=10.380 ac 0.00% Impervious Runoff Depth=0.50"
Tc=26.0 min C=0.54 Runoff=10.80 cfs 0.431 af

Pond C-BUBBLER: C-BUBBLER Peak Elev=51.01' Storage=216 cf Inflow=46.29 cfs 1.848 af
34.0" Round Culvert n=0.013 L=110.0' S=0.0027 '/' Outflow=46.29 cfs 1.848 af

Pond C-L01: C-L01 Peak Elev=68.14' Inflow=0.77 cfs 0.031 af
24.0" Round Culvert n=0.013 L=41.0' S=0.0388 '/' Outflow=0.77 cfs 0.031 af

Pond C-L02: C-L02 Peak Elev=66.35' Inflow=0.77 cfs 0.031 af
30.0" Round Culvert n=0.013 L=377.0' S=0.0070 '/' Outflow=0.77 cfs 0.031 af

Pond C-L03: C-L03 Peak Elev=64.09' Inflow=3.24 cfs 0.129 af
30.0" Round Culvert n=0.013 L=66.0' S=0.0071 '/' Outflow=3.24 cfs 0.129 af

Pond C-L04: C-L04 Peak Elev=63.77' Inflow=1.53 cfs 0.061 af
24.0" Round Culvert n=0.013 L=74.0' S=0.0008 '/' Outflow=1.53 cfs 0.061 af

Pond C-L05: C-L05 Peak Elev=63.61' Inflow=4.76 cfs 0.190 af
30.0" Round Culvert n=0.013 L=514.0' S=0.0062 '/' Outflow=4.76 cfs 0.190 af

Pond C-L06: C-L06 Peak Elev=60.83' Inflow=9.57 cfs 0.382 af
30.0" Round Culvert n=0.013 L=109.0' S=0.0070 '/' Outflow=9.57 cfs 0.382 af

Pond C-L07: C-L07 Peak Elev=59.89' Inflow=9.57 cfs 0.382 af
30.0" Round Culvert n=0.013 L=261.0' S=0.0075 '/' Outflow=9.57 cfs 0.382 af

Pond C-L08: C-L08 Peak Elev=58.07' Inflow=9.57 cfs 0.382 af
30.0" Round Culvert n=0.013 L=76.0' S=0.0050 '/' Outflow=9.57 cfs 0.382 af

Pond C-L09: C-L09 Peak Elev=57.47' Inflow=17.72 cfs 0.708 af
36.0" Round Culvert n=0.013 L=273.0' S=0.0094 '/' Outflow=17.72 cfs 0.708 af

Pond C-L10: C-L10 Peak Elev=60.60' Inflow=4.56 cfs 0.182 af
30.0" Round Culvert n=0.013 L=80.0' S=0.0045 '/' Outflow=4.56 cfs 0.182 af

Pond C-L11: C-L11 Peak Elev=59.86' Inflow=4.56 cfs 0.182 af
36.0" Round Culvert n=0.013 L=102.8' S=0.1095 '/' Outflow=4.56 cfs 0.182 af

Pond C-L13: C-L13 Peak Elev=54.69' Inflow=0.67 cfs 0.027 af
24.0" Round Culvert n=0.013 L=38.0' S=0.0063 '/' Outflow=0.67 cfs 0.027 af

Pond C-L14: C-L14 Peak Elev=54.68' Inflow=1.43 cfs 0.057 af
24.0" Round Culvert n=0.013 L=16.0' S=0.0063 '/' Outflow=1.43 cfs 0.057 af

Pond C-L16: B-L16 Peak Elev=54.66' Inflow=19.15 cfs 0.765 af
42.0" Round Culvert n=0.013 L=98.0' S=0.0268 '/' Outflow=19.15 cfs 0.765 af

Pond C-L17: C-L17 Peak Elev=52.64' Inflow=19.15 cfs 0.765 af
42.0" Round Culvert n=0.013 L=102.0' S=0.0245 '/' Outflow=19.15 cfs 0.765 af

Pond C-L19: C-L19 Peak Elev=52.12' Inflow=34.51 cfs 1.378 af
42.0" Round Culvert n=0.013 L=200.0' S=0.0025 '/' Outflow=34.51 cfs 1.378 af

Pond C-L20: C-L20 Peak Elev=51.56' Inflow=34.51 cfs 1.378 af
42.0" Round Culvert n=0.013 L=50.0' S=0.0100 '/' Outflow=34.51 cfs 1.378 af

Pond C-L22: C-L22 Peak Elev=67.26' Inflow=0.20 cfs 0.008 af
24.0" Round Culvert n=0.013 L=45.0' S=0.0031 '/' Outflow=0.20 cfs 0.008 af

Pond C-L23: C-L23 Peak Elev=66.92' Inflow=0.20 cfs 0.008 af
24.0" Round Culvert n=0.013 L=311.0' S=0.0055 '/' Outflow=0.20 cfs 0.008 af

Pond C-L24: C-L24 Peak Elev=65.70' Inflow=2.33 cfs 0.093 af
24.0" Round Culvert n=0.013 L=71.0' S=0.0051 '/' Outflow=2.33 cfs 0.093 af

Pond C-L25: C-L25 Peak Elev=65.62' Inflow=2.02 cfs 0.081 af
24.0" Round Culvert n=0.013 L=61.0' S=0.0051 '/' Outflow=2.02 cfs 0.081 af

Pond C-L26: C-L26 Peak Elev=65.34' Inflow=4.35 cfs 0.174 af
24.0" Round Culvert n=0.013 L=135.0' S=0.0050 '/' Outflow=4.35 cfs 0.174 af

Pond C-L28: C-L28 Peak Elev=64.44' Inflow=4.35 cfs 0.174 af
24.0" Round Culvert n=0.013 L=324.0' S=0.0110 '/' Outflow=4.35 cfs 0.174 af

Pond C-L29: C-L29 Peak Elev=61.89' Inflow=0.73 cfs 0.029 af
24.0" Round Culvert n=0.013 L=36.0' S=0.0111 '/' Outflow=0.73 cfs 0.029 af

Pond C-L30: C-L30 Peak Elev=61.56' Inflow=1.56 cfs 0.062 af
24.0" Round Culvert n=0.013 L=92.0' S=0.0110 '/' Outflow=1.56 cfs 0.062 af

Pond C-L32: C-L32 Peak Elev=60.86' Inflow=5.91 cfs 0.236 af
30.0" Round Culvert n=0.013 L=74.0' S=0.0427 '/' Outflow=5.91 cfs 0.236 af

Pond C-L33: C-L33 Peak Elev=58.13' Inflow=0.75 cfs 0.030 af
24.0" Round Culvert n=0.013 L=38.0' S=0.0050 '/' Outflow=0.75 cfs 0.030 af

Pond C-L34: C-L34 Peak Elev=58.11' Inflow=2.24 cfs 0.090 af
24.0" Round Culvert n=0.013 L=24.0' S=0.0050 '/' Outflow=2.24 cfs 0.090 af

Pond C-L36: C-L36 Peak Elev=58.04' Inflow=8.15 cfs 0.326 af
36.0" Round Culvert n=0.013 L=126.0' S=0.0050 '/' Outflow=8.15 cfs 0.326 af

Subcatchment C01: C01 Runoff Area=0.430 ac 0.00% Impervious Runoff Depth=0.86"
Tc=5.0 min C=0.93 Runoff=0.77 cfs 0.031 af

Subcatchment C02: C02 Runoff Area=1.580 ac 0.00% Impervious Runoff Depth=0.75"
Tc=5.0 min C=0.81 Runoff=2.47 cfs 0.098 af

Subcatchment C03: C03 Runoff Area=1.070 ac 0.00% Impervious Runoff Depth=0.68"
Tc=5.0 min C=0.74 Runoff=1.53 cfs 0.061 af

Subcatchment C04: C04 Runoff Area=3.200 ac 0.00% Impervious Runoff Depth=0.72"
Tc=5.0 min C=0.78 Runoff=4.81 cfs 0.192 af

Subcatchment C05: C05 Runoff Area=3.880 ac 0.00% Impervious Runoff Depth=0.56"
Tc=5.0 min C=0.61 Runoff=4.56 cfs 0.182 af

Subcatchment C06: C06 Runoff Area=0.380 ac 0.00% Impervious Runoff Depth=0.84"
Tc=5.0 min C=0.91 Runoff=0.67 cfs 0.027 af

Subcatchment C07: C07 Runoff Area=0.430 ac 0.00% Impervious Runoff Depth=0.85"
Tc=5.0 min C=0.92 Runoff=0.76 cfs 0.030 af

Subcatchment C08: C08 Runoff Area=11.110 ac 0.00% Impervious Runoff Depth=0.51"
Tc=5.0 min C=0.55 Runoff=11.77 cfs 0.470 af

Subcatchment C10: C10 Runoff Area=0.110 ac 100.00% Impervious Runoff Depth=0.88"
Tc=5.0 min C=0.95 Runoff=0.20 cfs 0.008 af

Subcatchment C11: C11 Runoff Area=1.380 ac 0.00% Impervious Runoff Depth=0.74"
Tc=5.0 min C=0.80 Runoff=2.13 cfs 0.085 af

Subcatchment C12: C12 Runoff Area=1.380 ac 0.00% Impervious Runoff Depth=0.70"
Tc=5.0 min C=0.76 Runoff=2.02 cfs 0.081 af

Subcatchment C13: C13 Runoff Area=0.400 ac 100.00% Impervious Runoff Depth=0.88"
Tc=5.0 min C=0.95 Runoff=0.73 cfs 0.029 af

Subcatchment C14: C14 Runoff Area=0.560 ac 0.00% Impervious Runoff Depth=0.71"
Tc=5.0 min C=0.77 Runoff=0.83 cfs 0.033 af

Subcatchment C15: C15 Runoff Area=0.410 ac 100.00% Impervious Runoff Depth=0.88"
Tc=5.0 min C=0.95 Runoff=0.75 cfs 0.030 af

Subcatchment C16: C16 Runoff Area=1.090 ac 0.00% Impervious Runoff Depth=0.66"
Tc=5.0 min C=0.71 Runoff=1.49 cfs 0.060 af

Pond OUTFALL C: OUTFALL C Inflow=46.29 cfs 1.848 af
Primary=46.29 cfs 1.848 af

Total Runoff Area = 37.790 ac Runoff Volume = 1.848 af Average Runoff Depth = 0.59"
97.57% Pervious = 36.870 ac 2.43% Impervious = 0.920 ac

Summary for Subcatchment BASIN C1: BASIN C1

Runoff = 10.80 cfs @ 0.44 hrs, Volume= 0.431 af, Depth= 0.50"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=29 min, Inten=1.91 in/hr

Area (ac)	C	Description
10.380	0.54	Mixed Use, HSG D
10.380		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.0					**Direct Entry, BASIN C1**

Summary for Pond C-BUBBLER: C-BUBBLER

Inflow Area = 37.790 ac, 2.43% Impervious, Inflow Depth = 0.59" for 50-Year event
Inflow = 46.29 cfs @ 0.44 hrs, Volume= 1.848 af
Outflow = 46.29 cfs @ 0.45 hrs, Volume= 1.848 af, Atten= 0%, Lag= 0.6 min
Primary = 46.29 cfs @ 0.45 hrs, Volume= 1.848 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 51.01' @ 0.45 hrs Surf.Area= 86 sf Storage= 216 cf

Plug-Flow detention time= 0.3 min calculated for 1.848 af (100% of inflow)
Center-of-Mass det. time= 0.1 min (19.5 - 19.5)

Volume	Invert	Avail.Storage	Storage Description
#1	46.00'	113,562 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
46.00	0	0	0
51.80	100	290	290
53.00	45,302	27,241	27,531
54.00	126,760	86,031	113,562

Device	Routing	Invert	Outlet Devices
#1	Primary	46.50'	**34.0" Round Bubbler** L= 110.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.50' / 46.20' S= 0.0027 '/' Cc= 0.900 n= 0.013, Flow Area= 6.31 sf

Primary OutFlow Max=46.29 cfs @ 0.45 hrs HW=51.01' TW=0.00' (Dynamic Tailwater)
↑—**1=Bubbler** (Barrel Controls 46.29 cfs @ 7.34 fps)

Summary for Pond C-L01: C-L01

Inflow Area = 0.430 ac, 0.00% Impervious, Inflow Depth = 0.86" for 50-Year event
Inflow = 0.77 cfs @ 0.09 hrs, Volume= 0.031 af
Outflow = 0.77 cfs @ 0.10 hrs, Volume= 0.031 af, Atten= 0%, Lag= 0.6 min
Primary = 0.77 cfs @ 0.10 hrs, Volume= 0.031 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 68.14' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	67.78'	**24.0" Round C-L1** L= 41.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 67.78' / 66.19' S= 0.0388 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.77 cfs @ 0.10 hrs HW=68.14' TW=66.35' (Dynamic Tailwater)
└─**1=C-L1** (Inlet Controls 0.77 cfs @ 2.03 fps)

Summary for Pond C-L02: C-L02

Inflow Area = 0.430 ac, 0.00% Impervious, Inflow Depth = 0.86" for 50-Year event
Inflow = 0.77 cfs @ 0.10 hrs, Volume= 0.031 af
Outflow = 0.77 cfs @ 0.10 hrs, Volume= 0.031 af, Atten= 0%, Lag= 0.0 min
Primary = 0.77 cfs @ 0.10 hrs, Volume= 0.031 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 66.35' @ 0.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	65.99'	**30.0" Round Pipe** L= 377.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 65.99' / 63.35' S= 0.0070 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=0.77 cfs @ 0.10 hrs HW=66.35' TW=64.09' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 0.77 cfs @ 2.65 fps)

Summary for Pond C-L03: C-L03

Inflow Area = 2.010 ac, 0.00% Impervious, Inflow Depth = 0.77" for 50-Year event
Inflow = 3.24 cfs @ 0.10 hrs, Volume= 0.129 af
Outflow = 3.24 cfs @ 0.14 hrs, Volume= 0.129 af, Atten= 0%, Lag= 2.4 min
Primary = 3.24 cfs @ 0.14 hrs, Volume= 0.129 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 64.09' @ 0.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.25'	**30.0" Round C-L3** L= 66.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 63.25' / 62.78' S= 0.0071 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=3.24 cfs @ 0.14 hrs HW=64.09' TW=63.61' (Dynamic Tailwater)
└─**1=C-L3** (Outlet Controls 3.24 cfs @ 3.34 fps)

Summary for Pond C-L04: C-L04

Inflow Area = 1.070 ac, 0.00% Impervious, Inflow Depth = 0.68" for 50-Year event
Inflow = 1.53 cfs @ 0.09 hrs, Volume= 0.061 af
Outflow = 1.53 cfs @ 0.09 hrs, Volume= 0.061 af, Atten= 0%, Lag= 0.0 min
Primary = 1.53 cfs @ 0.09 hrs, Volume= 0.061 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 63.77' @ 0.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	62.94'	**24.0" Round C-L4** L= 74.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 62.94' / 62.88' S= 0.0008 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.52 cfs @ 0.09 hrs HW=63.77' TW=63.61' (Dynamic Tailwater)
└─**1=C-L4** (Outlet Controls 1.52 cfs @ 1.83 fps)

Summary for Pond C-L05: C-L05

Inflow Area = 3.080 ac, 0.00% Impervious, Inflow Depth = 0.74" for 50-Year event
Inflow = 4.76 cfs @ 0.10 hrs, Volume= 0.190 af
Outflow = 4.76 cfs @ 0.10 hrs, Volume= 0.190 af, Atten= 0%, Lag= 0.0 min
Primary = 4.76 cfs @ 0.10 hrs, Volume= 0.190 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 63.61' @ 0.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	62.68'	**30.0" Round Pipe** L= 514.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 62.68' / 59.50' S= 0.0062 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=4.76 cfs @ 0.10 hrs HW=63.61' TW=60.83' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 4.76 cfs @ 4.23 fps)

Summary for Pond C-L06: C-L06

Inflow Area = 6.280 ac, 0.00% Impervious, Inflow Depth = 0.73" for 50-Year event
Inflow = 9.57 cfs @ 0.09 hrs, Volume= 0.382 af
Outflow = 9.57 cfs @ 0.09 hrs, Volume= 0.382 af, Atten= 0%, Lag= 0.0 min
Primary = 9.57 cfs @ 0.09 hrs, Volume= 0.382 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.83' @ 0.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.40'	**30.0" Round C-L6** L= 109.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 59.40' / 58.64' S= 0.0070 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=9.55 cfs @ 0.09 hrs HW=60.83' TW=59.89' (Dynamic Tailwater)
└─**1=C-L6** (Outlet Controls 9.55 cfs @ 4.76 fps)

Summary for Pond C-L07: C-L07

Inflow Area = 6.280 ac, 0.00% Impervious, Inflow Depth = 0.73" for 50-Year event
Inflow = 9.57 cfs @ 0.09 hrs, Volume= 0.382 af
Outflow = 9.57 cfs @ 0.11 hrs, Volume= 0.382 af, Atten= 0%, Lag= 1.2 min
Primary = 9.57 cfs @ 0.11 hrs, Volume= 0.382 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 59.89' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.54'	**30.0" Round C-L7** L= 261.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 58.54' / 56.58' S= 0.0075 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=9.57 cfs @ 0.11 hrs HW=59.89' TW=58.07' (Dynamic Tailwater)
↑—**1=C-L7** (Outlet Controls 9.57 cfs @ 5.14 fps)

Summary for Pond C-L08: C-L08

Inflow Area = 6.280 ac, 0.00% Impervious, Inflow Depth = 0.73" for 50-Year event
Inflow = 9.57 cfs @ 0.11 hrs, Volume= 0.382 af
Outflow = 9.57 cfs @ 0.13 hrs, Volume= 0.382 af, Atten= 0%, Lag= 1.2 min
Primary = 9.57 cfs @ 0.13 hrs, Volume= 0.382 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 58.07' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.48'	**30.0" Round Pipe** L= 76.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 56.48' / 56.10' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=9.57 cfs @ 0.13 hrs HW=58.07' TW=57.47' (Dynamic Tailwater)
↑—**1=Pipe** (Outlet Controls 9.57 cfs @ 4.16 fps)

Summary for Pond C-L09: C-L09

Inflow Area = 11.610 ac, 7.92% Impervious, Inflow Depth = 0.73" for 50-Year event
Inflow = 17.72 cfs @ 0.11 hrs, Volume= 0.708 af
Outflow = 17.72 cfs @ 0.11 hrs, Volume= 0.708 af, Atten= 0%, Lag= 0.0 min
Primary = 17.72 cfs @ 0.11 hrs, Volume= 0.708 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 57.47' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	55.80'	**36.0" Round Pipe** L= 273.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 55.80' / 53.23' S= 0.0094 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=17.72 cfs @ 0.11 hrs HW=57.47' TW=54.66' (Dynamic Tailwater)
↑—**1=Pipe** (Inlet Controls 17.72 cfs @ 4.40 fps)

Summary for Pond C-L10: C-L10

Inflow Area = 3.880 ac, 0.00% Impervious, Inflow Depth = 0.56" for 50-Year event
Inflow = 4.56 cfs @ 0.09 hrs, Volume= 0.182 af
Outflow = 4.56 cfs @ 0.10 hrs, Volume= 0.182 af, Atten= 0%, Lag= 0.6 min
Primary = 4.56 cfs @ 0.10 hrs, Volume= 0.182 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.60' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.62'	**30.0" Round Pipe** L= 80.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 59.62' / 59.26' S= 0.0045 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=4.56 cfs @ 0.10 hrs HW=60.60' TW=59.86' (Dynamic Tailwater)
1=Pipe (Barrel Controls 4.56 cfs @ 3.77 fps)

Summary for Pond C-L11: C-L11

Inflow Area = 3.880 ac, 0.00% Impervious, Inflow Depth = 0.56" for 50-Year event
Inflow = 4.56 cfs @ 0.10 hrs, Volume= 0.182 af
Outflow = 4.56 cfs @ 0.10 hrs, Volume= 0.182 af, Atten= 0%, Lag= 0.0 min
Primary = 4.56 cfs @ 0.10 hrs, Volume= 0.182 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 59.86' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.06'	**36.0" Round Pipe** L= 102.8' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 59.06' / 47.80' S= 0.1095 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=4.56 cfs @ 0.10 hrs HW=59.86' TW=51.15' (Dynamic Tailwater)
1=Pipe (Inlet Controls 4.56 cfs @ 3.04 fps)

Summary for Pond C-L13: C-L13

Inflow Area = 0.380 ac, 0.00% Impervious, Inflow Depth = 0.84" for 50-Year event
Inflow = 0.67 cfs @ 0.09 hrs, Volume= 0.027 af
Outflow = 0.67 cfs @ 0.10 hrs, Volume= 0.027 af, Atten= 0%, Lag= 0.6 min
Primary = 0.67 cfs @ 0.10 hrs, Volume= 0.027 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 54.69' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.55'	**24.0" Round C-L13** L= 38.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 53.55' / 53.31' S= 0.0063 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.67 cfs @ 0.10 hrs HW=54.69' TW=54.68' (Dynamic Tailwater)
1=C-L13 (Outlet Controls 0.67 cfs @ 0.52 fps)

Summary for Pond C-L14: C-L14

Inflow Area = 0.810 ac, 0.00% Impervious, Inflow Depth = 0.85" for 50-Year event
Inflow = 1.43 cfs @ 0.09 hrs, Volume= 0.057 af
Outflow = 1.43 cfs @ 0.09 hrs, Volume= 0.057 af, Atten= 0%, Lag= 0.0 min
Primary = 1.43 cfs @ 0.09 hrs, Volume= 0.057 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 54.68' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.21'	**24.0" Round C-L14** L= 16.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 53.21' / 53.11' S= 0.0063 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.43 cfs @ 0.09 hrs HW=54.68' TW=54.66' (Dynamic Tailwater)
└─**1=C-L14** (Outlet Controls 1.43 cfs @ 0.80 fps)

Summary for Pond C-L16: B-L16

Inflow Area = 12.420 ac, 7.41% Impervious, Inflow Depth = 0.74" for 50-Year event
Inflow = 19.15 cfs @ 0.11 hrs, Volume= 0.765 af
Outflow = 19.15 cfs @ 0.12 hrs, Volume= 0.765 af, Atten= 0%, Lag= 0.6 min
Primary = 19.15 cfs @ 0.12 hrs, Volume= 0.765 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 54.66' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.03'	**42.0" Round Pipe** L= 98.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 53.03' / 50.40' S= 0.0268 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=19.15 cfs @ 0.12 hrs HW=54.66' TW=52.16' (Dynamic Tailwater)
└─**1=Pipe** (Inlet Controls 19.15 cfs @ 4.35 fps)

Summary for Pond C-L17: C-L17

Inflow Area = 12.420 ac, 7.41% Impervious, Inflow Depth = 0.74" for 50-Year event
Inflow = 19.15 cfs @ 0.12 hrs, Volume= 0.765 af
Outflow = 19.15 cfs @ 0.26 hrs, Volume= 0.765 af, Atten= 0%, Lag= 8.4 min
Primary = 19.15 cfs @ 0.26 hrs, Volume= 0.765 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 52.64' @ 0.46 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.30'	**42.0" Round Pipe** L= 102.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 50.30' / 47.80' S= 0.0245 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=18.96 cfs @ 0.26 hrs HW=52.32' TW=51.55' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 18.96 cfs @ 4.75 fps)

Summary for Pond C-L19: C-L19

Inflow Area = 26.680 ac, 3.45% Impervious, Inflow Depth = 0.62" for 50-Year event
Inflow = 34.51 cfs @ 0.44 hrs, Volume= 1.378 af
Outflow = 34.51 cfs @ 0.44 hrs, Volume= 1.378 af, Atten= 0%, Lag= 0.0 min
Primary = 34.51 cfs @ 0.44 hrs, Volume= 1.378 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 52.12' @ 0.45 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.70'	**42.0" Round Pipe** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 47.70' / 47.20' S= 0.0025 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=34.51 cfs @ 0.44 hrs HW=52.12' TW=51.56' (Dynamic Tailwater)
└**1=Pipe** (Inlet Controls 34.51 cfs @ 3.59 fps)

Summary for Pond C-L20: C-L20

Inflow Area = 26.680 ac, 3.45% Impervious, Inflow Depth = 0.62" for 50-Year event
Inflow = 34.51 cfs @ 0.44 hrs, Volume= 1.378 af
Outflow = 34.51 cfs @ 0.44 hrs, Volume= 1.378 af, Atten= 0%, Lag= 0.0 min
Primary = 34.51 cfs @ 0.44 hrs, Volume= 1.378 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 51.56' @ 0.45 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.10'	**42.0" Round Pipe** L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 47.10' / 46.60' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=34.51 cfs @ 0.44 hrs HW=51.56' TW=51.01' (Dynamic Tailwater)
└**1=Pipe** (Inlet Controls 34.51 cfs @ 3.59 fps)

Summary for Pond C-L22: C-L22

Inflow Area = 0.110 ac,100.00% Impervious, Inflow Depth = 0.88" for 50-Year event
Inflow = 0.20 cfs @ 0.09 hrs, Volume= 0.008 af
Outflow = 0.20 cfs @ 0.10 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.6 min
Primary = 0.20 cfs @ 0.10 hrs, Volume= 0.008 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 67.26' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	67.03'	**24.0" Round C-L22** L= 45.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 67.03' / 66.89' S= 0.0031 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.20 cfs @ 0.10 hrs HW=67.26' TW=66.92' (Dynamic Tailwater)
└**1=C-L22** (Barrel Controls 0.20 cfs @ 1.50 fps)

Summary for Pond C-L23: C-L23

Inflow Area = 0.110 ac,100.00% Impervious, Inflow Depth = 0.88" for 50-Year event
Inflow = 0.20 cfs @ 0.10 hrs, Volume= 0.008 af
Outflow = 0.20 cfs @ 0.10 hrs, Volume= 0.008 af, Atten= 0%, Lag= 0.0 min
Primary = 0.20 cfs @ 0.10 hrs, Volume= 0.008 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 66.92' @ 0.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	66.69'	**24.0" Round Pipe** L= 311.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 66.69' / 64.98' S= 0.0055 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.20 cfs @ 0.10 hrs HW=66.92' TW=65.70' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 0.20 cfs @ 1.58 fps)

Summary for Pond C-L24: C-L24

Inflow Area = 1.490 ac, 7.38% Impervious, Inflow Depth = 0.75" for 50-Year event
Inflow = 2.33 cfs @ 0.10 hrs, Volume= 0.093 af
Outflow = 2.33 cfs @ 0.15 hrs, Volume= 0.093 af, Atten= 0%, Lag= 3.0 min
Primary = 2.33 cfs @ 0.15 hrs, Volume= 0.093 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 65.70' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	64.88'	**24.0" Round CB A01** L= 71.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 64.88' / 64.52' S= 0.0051 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=2.33 cfs @ 0.15 hrs HW=65.70' TW=65.34' (Dynamic Tailwater)
└─**1=CB A01** (Outlet Controls 2.33 cfs @ 2.84 fps)

Summary for Pond C-L25: C-L25

Inflow Area = 1.380 ac, 0.00% Impervious, Inflow Depth = 0.70" for 50-Year event
Inflow = 2.02 cfs @ 0.09 hrs, Volume= 0.081 af
Outflow = 2.02 cfs @ 0.09 hrs, Volume= 0.081 af, Atten= 0%, Lag= 0.0 min
Primary = 2.02 cfs @ 0.09 hrs, Volume= 0.081 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 65.62' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	64.83'	**24.0" Round C-L25** L= 61.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 64.83' / 64.52' S= 0.0051 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=2.02 cfs @ 0.09 hrs HW=65.62' TW=65.34' (Dynamic Tailwater)
└─**1=C-L25** (Outlet Controls 2.02 cfs @ 2.58 fps)

Summary for Pond C-L26: C-L26

Inflow Area = 2.870 ac, 3.83% Impervious, Inflow Depth = 0.73" for 50-Year event
Inflow = 4.35 cfs @ 0.09 hrs, Volume= 0.174 af
Outflow = 4.35 cfs @ 0.09 hrs, Volume= 0.174 af, Atten= 0%, Lag= 0.0 min
Primary = 4.35 cfs @ 0.09 hrs, Volume= 0.174 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 65.34' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	64.32'	**24.0" Round Pipe** L= 135.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 64.32' / 63.65' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=4.35 cfs @ 0.09 hrs HW=65.34' TW=64.44' (Dynamic Tailwater)
↑—**1=Pipe** (Outlet Controls 4.35 cfs @ 3.96 fps)

Summary for Pond C-L28: C-L28

Inflow Area = 2.870 ac, 3.83% Impervious, Inflow Depth = 0.73" for 50-Year event
Inflow = 4.35 cfs @ 0.09 hrs, Volume= 0.174 af
Outflow = 4.35 cfs @ 0.10 hrs, Volume= 0.174 af, Atten= 0%, Lag= 0.6 min
Primary = 4.35 cfs @ 0.10 hrs, Volume= 0.174 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 64.44' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.55'	**24.0" Round Pipe** L= 324.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 63.55' / 59.99' S= 0.0110 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=4.35 cfs @ 0.10 hrs HW=64.44' TW=60.86' (Dynamic Tailwater)
↑—**1=Pipe** (Inlet Controls 4.35 cfs @ 3.21 fps)

Summary for Pond C-L29: C-L29

Inflow Area = 0.400 ac,100.00% Impervious, Inflow Depth = 0.88" for 50-Year event
Inflow = 0.73 cfs @ 0.09 hrs, Volume= 0.029 af
Outflow = 0.73 cfs @ 0.13 hrs, Volume= 0.029 af, Atten= 0%, Lag= 2.4 min
Primary = 0.73 cfs @ 0.13 hrs, Volume= 0.029 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 61.89' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	61.50'	**24.0" Round C-L29** L= 36.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 61.50' / 61.10' S= 0.0111 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.73 cfs @ 0.13 hrs HW=61.89' TW=61.56' (Dynamic Tailwater)
↑—**1=C-L29** (Outlet Controls 0.73 cfs @ 2.56 fps)

Summary for Pond C-L30: C-L30

Inflow Area = 0.960 ac, 41.67% Impervious, Inflow Depth = 0.78" for 50-Year event
Inflow = 1.56 cfs @ 0.09 hrs, Volume= 0.062 af
Outflow = 1.56 cfs @ 0.09 hrs, Volume= 0.062 af, Atten= 0%, Lag= 0.0 min
Primary = 1.56 cfs @ 0.09 hrs, Volume= 0.062 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 61.56' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	61.00'	**24.0" Round C-L30** L= 92.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 61.00' / 59.99' S= 0.0110 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.56 cfs @ 0.09 hrs HW=61.56' TW=60.86' (Dynamic Tailwater)
1=C-L30 (Outlet Controls 1.56 cfs @ 3.23 fps)

Summary for Pond C-L32: C-L32

Inflow Area = 3.830 ac, 13.32% Impervious, Inflow Depth = 0.74" for 50-Year event
Inflow = 5.91 cfs @ 0.10 hrs, Volume= 0.236 af
Outflow = 5.91 cfs @ 0.10 hrs, Volume= 0.236 af, Atten= 0%, Lag= 0.0 min
Primary = 5.91 cfs @ 0.10 hrs, Volume= 0.236 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.86' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.89'	**30.0" Round Pipe** L= 74.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 59.89' / 56.73' S= 0.0427 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=5.91 cfs @ 0.10 hrs HW=60.86' TW=58.04' (Dynamic Tailwater)
1=Pipe (Inlet Controls 5.91 cfs @ 3.35 fps)

Summary for Pond C-L33: C-L33

Inflow Area = 0.410 ac,100.00% Impervious, Inflow Depth = 0.88" for 50-Year event
Inflow = 0.75 cfs @ 0.09 hrs, Volume= 0.030 af
Outflow = 0.75 cfs @ 0.11 hrs, Volume= 0.030 af, Atten= 0%, Lag= 1.2 min
Primary = 0.75 cfs @ 0.11 hrs, Volume= 0.030 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 58.13' @ 0.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	57.14'	**24.0" Round C-L33** L= 38.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 57.14' / 56.95' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.75 cfs @ 0.11 hrs HW=58.13' TW=58.11' (Dynamic Tailwater)
1=C-L33 (Outlet Controls 0.75 cfs @ 0.71 fps)

Summary for Pond C-L34: C-L34

Inflow Area = 1.500 ac, 27.33% Impervious, Inflow Depth = 0.72" for 50-Year event
Inflow = 2.24 cfs @ 0.09 hrs, Volume= 0.090 af
Outflow = 2.24 cfs @ 0.09 hrs, Volume= 0.090 af, Atten= 0%, Lag= 0.0 min
Primary = 2.24 cfs @ 0.09 hrs, Volume= 0.090 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 58.11' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.85'	**24.0" Round C-L34** L= 24.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 56.85' / 56.73' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=2.24 cfs @ 0.09 hrs HW=58.11' TW=58.04' (Dynamic Tailwater)
↑—**1=C-L34** (Outlet Controls 2.24 cfs @ 1.54 fps)

Summary for Pond C-L36: C-L36

Inflow Area = 5.330 ac, 17.26% Impervious, Inflow Depth = 0.73" for 50-Year event
Inflow = 8.15 cfs @ 0.10 hrs, Volume= 0.326 af
Outflow = 8.15 cfs @ 0.14 hrs, Volume= 0.326 af, Atten= 0%, Lag= 2.4 min
Primary = 8.15 cfs @ 0.14 hrs, Volume= 0.326 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 58.04' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.63'	**36.0" Round Pipe** L= 126.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 56.63' / 56.00' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=8.15 cfs @ 0.14 hrs HW=58.04' TW=57.47' (Dynamic Tailwater)
↑—**1=Pipe** (Outlet Controls 8.15 cfs @ 3.65 fps)

Summary for Subcatchment C01: C01

Runoff = 0.77 cfs @ 0.09 hrs, Volume= 0.031 af, Depth= 0.86"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=29 min, Inten=1.91 in/hr

Area (ac)	C	Description
0.430	0.93	Mixed Use, HSG D
0.430		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C02: C02

Runoff = 2.47 cfs @ 0.09 hrs, Volume= 0.098 af, Depth= 0.75"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=29 min, Inten=1.91 in/hr

Area (ac)	C	Description
1.580	0.81	Mixed Use, HSG D
1.580		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C03: C03

Runoff = 1.53 cfs @ 0.09 hrs, Volume= 0.061 af, Depth= 0.68"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=29 min, Inten=1.91 in/hr

Area (ac)	C	Description
1.070	0.74	Mixed Use, HSG D
1.070		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C04: C04

Runoff = 4.81 cfs @ 0.09 hrs, Volume= 0.192 af, Depth= 0.72"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=29 min, Inten=1.91 in/hr

Area (ac)	C	Description
3.200	0.78	Mixed Use, HSG D
3.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C05: C05

Runoff = 4.56 cfs @ 0.09 hrs, Volume= 0.182 af, Depth= 0.56"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=29 min, Inten=1.91 in/hr

Area (ac)	C	Description
3.880	0.61	Mixed Use, HSG D
3.880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C06: C06

Runoff = 0.67 cfs @ 0.09 hrs, Volume= 0.027 af, Depth= 0.84"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=29 min, Inten=1.91 in/hr

Area (ac)	C	Description
0.380	0.91	Mixed Use, HSG D
0.380		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C07: C07

Runoff = 0.76 cfs @ 0.09 hrs, Volume= 0.030 af, Depth= 0.85"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=29 min, Inten=1.91 in/hr

Area (ac)	C	Description
0.430	0.92	Mixed Use, HSG D
0.430		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C08: C08

Runoff = 11.77 cfs @ 0.09 hrs, Volume= 0.470 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=29 min, Inten=1.91 in/hr

Area (ac)	C	Description
11.110	0.55	Mixed Use, HSG D
11.110		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C10: C10

Runoff = 0.20 cfs @ 0.09 hrs, Volume= 0.008 af, Depth= 0.88"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=29 min, Inten=1.91 in/hr

Area (ac)	C	Description
0.110	0.95	Mixed Use, HSG D
0.110		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C11: C11

Runoff = 2.13 cfs @ 0.09 hrs, Volume= 0.085 af, Depth= 0.74"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=29 min, Inten=1.91 in/hr

Area (ac)	C	Description
1.380	0.80	Mixed Use, HSG D
1.380		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C12: C12

Runoff = 2.02 cfs @ 0.09 hrs, Volume= 0.081 af, Depth= 0.70"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=29 min, Inten=1.91 in/hr

Area (ac)	C	Description
1.380	0.76	Mixed Use, HSG D
1.380		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C13: C13

Runoff = 0.73 cfs @ 0.09 hrs, Volume= 0.029 af, Depth= 0.88"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=29 min, Inten=1.91 in/hr

Area (ac)	C	Description
0.400	0.95	Mixed Use, HSG D
0.400		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C14: C14

Runoff = 0.83 cfs @ 0.09 hrs, Volume= 0.033 af, Depth= 0.71"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=29 min, Inten=1.91 in/hr

Area (ac)	C	Description
0.560	0.77	Mixed Use, HSG D
0.560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C15: C15

Runoff = 0.75 cfs @ 0.09 hrs, Volume= 0.030 af, Depth= 0.88"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=29 min, Inten=1.91 in/hr

Area (ac)	C	Description
0.410	0.95	Mixed Use, HSG D
0.410		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C16: C16

Runoff = 1.49 cfs @ 0.09 hrs, Volume= 0.060 af, Depth= 0.66"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=29 min, Inten=1.91 in/hr

Area (ac)	C	Description
1.090	0.71	Mixed Use, HSG D
1.090		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Pond OUTFALL C: OUTFALL C

Inflow Area = 37.790 ac, 2.43% Impervious, Inflow Depth = 0.59" for 50-Year event
Inflow = 46.29 cfs @ 0.45 hrs, Volume= 1.848 af
Primary = 46.29 cfs @ 0.45 hrs, Volume= 1.848 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3

100-year Rainfall Intensity

RAINFALL

INTENSITY - DURATION - FREQUENCY CURVES

FOR

COUNTY OF SAN DIEGO

ELEV.	FACTOR
0-1500	1.00
1500-3000	1.25
3000-4000	1.42
4000-5000	1.60
5000-6000	1.7
DESERT	1.25

TO OBTAIN CORRECT INTENSITY, MULTIPLY INTENSITY ON CHART BY FACTOR FOR DESIGN ELEVATION.

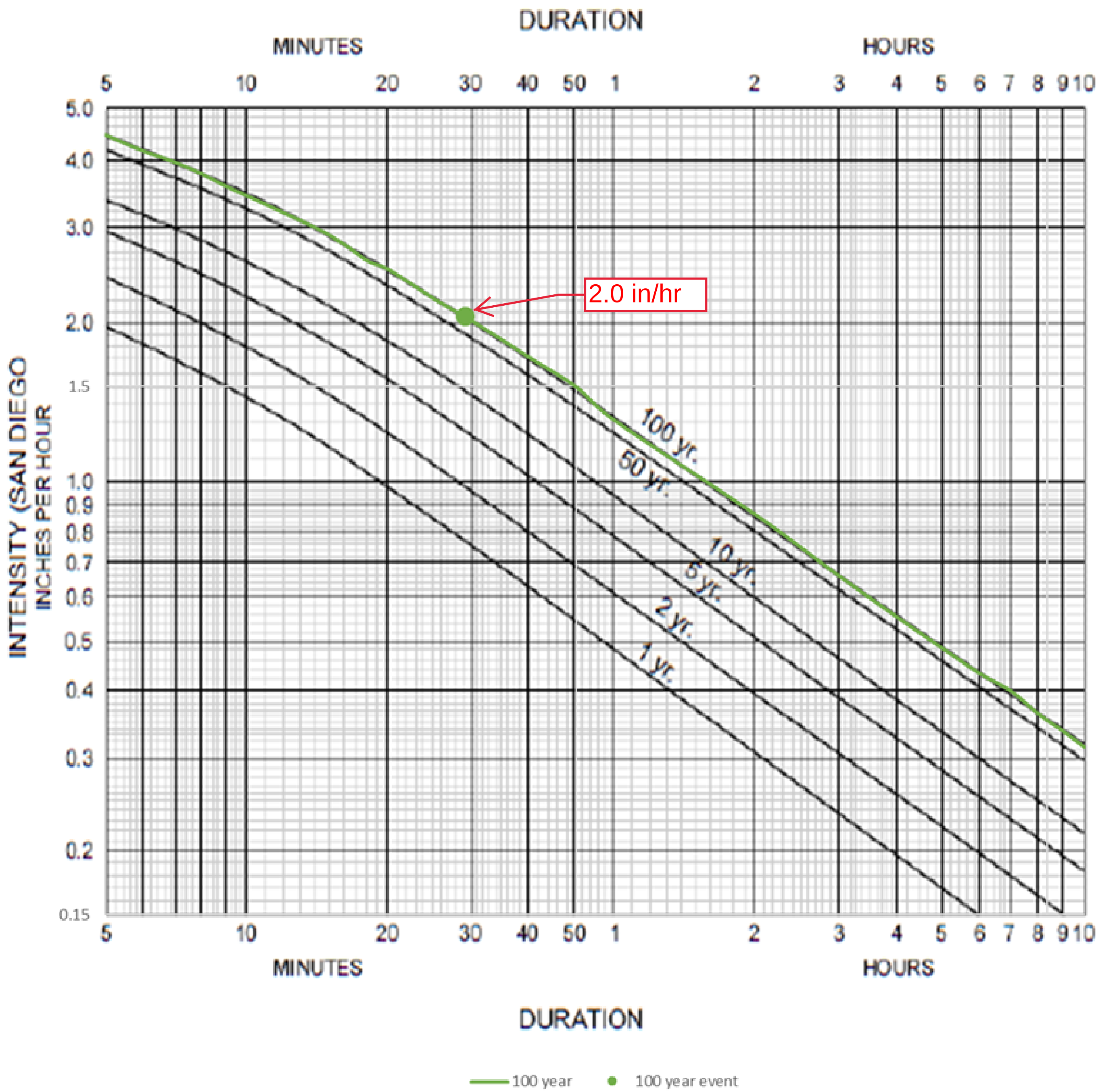


Figure A-1. Intensity-Duration-Frequency Design Chart

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points x 3
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment BASIN C1: BASIN C1 Runoff Area=10.380 ac 0.00% Impervious Runoff Depth=0.53"
Tc=26.0 min C=0.54 Runoff=11.51 cfs 0.460 af

Pond C-BUBBLER: C-BUBBLER Peak Elev=51.28' Storage=240 cf Inflow=49.31 cfs 1.969 af
34.0" Round Culvert n=0.013 L=110.0' S=0.0027 '/' Outflow=49.32 cfs 1.969 af

Pond C-L01: C-L01 Peak Elev=68.15' Inflow=0.82 cfs 0.033 af
24.0" Round Culvert n=0.013 L=41.0' S=0.0388 '/' Outflow=0.82 cfs 0.033 af

Pond C-L02: C-L02 Peak Elev=66.37' Inflow=0.82 cfs 0.033 af
30.0" Round Culvert n=0.013 L=377.0' S=0.0070 '/' Outflow=0.82 cfs 0.033 af

Pond C-L03: C-L03 Peak Elev=64.12' Inflow=3.45 cfs 0.138 af
30.0" Round Culvert n=0.013 L=66.0' S=0.0071 '/' Outflow=3.45 cfs 0.138 af

Pond C-L04: C-L04 Peak Elev=63.80' Inflow=1.63 cfs 0.065 af
24.0" Round Culvert n=0.013 L=74.0' S=0.0008 '/' Outflow=1.63 cfs 0.065 af

Pond C-L05: C-L05 Peak Elev=63.65' Inflow=5.07 cfs 0.203 af
30.0" Round Culvert n=0.013 L=514.0' S=0.0062 '/' Outflow=5.07 cfs 0.203 af

Pond C-L06: C-L06 Peak Elev=60.89' Inflow=10.20 cfs 0.407 af
30.0" Round Culvert n=0.013 L=109.0' S=0.0070 '/' Outflow=10.20 cfs 0.407 af

Pond C-L07: C-L07 Peak Elev=59.94' Inflow=10.20 cfs 0.407 af
30.0" Round Culvert n=0.013 L=261.0' S=0.0075 '/' Outflow=10.20 cfs 0.407 af

Pond C-L08: C-L08 Peak Elev=58.13' Inflow=10.20 cfs 0.407 af
30.0" Round Culvert n=0.013 L=76.0' S=0.0050 '/' Outflow=10.20 cfs 0.407 af

Pond C-L09: C-L09 Peak Elev=57.53' Inflow=18.88 cfs 0.754 af
36.0" Round Culvert n=0.013 L=273.0' S=0.0094 '/' Outflow=18.88 cfs 0.754 af

Pond C-L10: C-L10 Peak Elev=60.64' Inflow=4.86 cfs 0.194 af
30.0" Round Culvert n=0.013 L=80.0' S=0.0045 '/' Outflow=4.86 cfs 0.194 af

Pond C-L11: C-L11 Peak Elev=59.88' Inflow=4.86 cfs 0.194 af
36.0" Round Culvert n=0.013 L=102.8' S=0.1095 '/' Outflow=4.86 cfs 0.194 af

Pond C-L13: C-L13 Peak Elev=54.75' Inflow=0.71 cfs 0.028 af
24.0" Round Culvert n=0.013 L=38.0' S=0.0063 '/' Outflow=0.71 cfs 0.028 af

Pond C-L14: C-L14 Peak Elev=54.74' Inflow=1.52 cfs 0.061 af
24.0" Round Culvert n=0.013 L=16.0' S=0.0063 '/' Outflow=1.52 cfs 0.061 af

Pond C-L16: B-L16 Peak Elev=54.72' Inflow=20.41 cfs 0.815 af
42.0" Round Culvert n=0.013 L=98.0' S=0.0268 '/' Outflow=20.41 cfs 0.815 af

Pond C-L17: C-L17 Peak Elev=52.95' Inflow=20.41 cfs 0.815 af
42.0" Round Culvert n=0.013 L=102.0' S=0.0245 '/' Outflow=20.41 cfs 0.815 af

Pond C-L19: C-L19 Peak Elev=52.54' Inflow=36.77 cfs 1.468 af
42.0" Round Culvert n=0.013 L=200.0' S=0.0025 '/' Outflow=36.77 cfs 1.468 af

Pond C-L20: C-L20 Peak Elev=51.91' Inflow=36.77 cfs 1.468 af
42.0" Round Culvert n=0.013 L=50.0' S=0.0100 '/' Outflow=36.77 cfs 1.468 af

Pond C-L22: C-L22 Peak Elev=67.27' Inflow=0.21 cfs 0.009 af
24.0" Round Culvert n=0.013 L=45.0' S=0.0031 '/' Outflow=0.21 cfs 0.009 af

Pond C-L23: C-L23 Peak Elev=66.92' Inflow=0.21 cfs 0.009 af
24.0" Round Culvert n=0.013 L=311.0' S=0.0055 '/' Outflow=0.21 cfs 0.009 af

Pond C-L24: C-L24 Peak Elev=65.74' Inflow=2.48 cfs 0.099 af
24.0" Round Culvert n=0.013 L=71.0' S=0.0051 '/' Outflow=2.48 cfs 0.099 af

Pond C-L25: C-L25 Peak Elev=65.66' Inflow=2.15 cfs 0.086 af
24.0" Round Culvert n=0.013 L=61.0' S=0.0051 '/' Outflow=2.15 cfs 0.086 af

Pond C-L26: C-L26 Peak Elev=65.37' Inflow=4.63 cfs 0.185 af
24.0" Round Culvert n=0.013 L=135.0' S=0.0050 '/' Outflow=4.63 cfs 0.185 af

Pond C-L28: C-L28 Peak Elev=64.47' Inflow=4.63 cfs 0.185 af
24.0" Round Culvert n=0.013 L=324.0' S=0.0110 '/' Outflow=4.63 cfs 0.185 af

Pond C-L29: C-L29 Peak Elev=61.91' Inflow=0.78 cfs 0.031 af
24.0" Round Culvert n=0.013 L=36.0' S=0.0111 '/' Outflow=0.78 cfs 0.031 af

Pond C-L30: C-L30 Peak Elev=61.59' Inflow=1.67 cfs 0.066 af
24.0" Round Culvert n=0.013 L=92.0' S=0.0110 '/' Outflow=1.67 cfs 0.066 af

Pond C-L32: C-L32 Peak Elev=60.89' Inflow=6.30 cfs 0.252 af
30.0" Round Culvert n=0.013 L=74.0' S=0.0427 '/' Outflow=6.30 cfs 0.252 af

Pond C-L33: C-L33 Peak Elev=58.18' Inflow=0.80 cfs 0.032 af
24.0" Round Culvert n=0.013 L=38.0' S=0.0050 '/' Outflow=0.80 cfs 0.032 af

Pond C-L34: C-L34 Peak Elev=58.17' Inflow=2.39 cfs 0.095 af
24.0" Round Culvert n=0.013 L=24.0' S=0.0050 '/' Outflow=2.39 cfs 0.095 af

Pond C-L36: C-L36 Peak Elev=58.10' Inflow=8.69 cfs 0.347 af
36.0" Round Culvert n=0.013 L=126.0' S=0.0050 '/' Outflow=8.69 cfs 0.347 af

Subcatchment C01: C01 Runoff Area=0.430 ac 0.00% Impervious Runoff Depth=0.91"
Tc=5.0 min C=0.93 Runoff=0.82 cfs 0.033 af

Subcatchment C02: C02 Runoff Area=1.580 ac 0.00% Impervious Runoff Depth=0.80"
Tc=5.0 min C=0.81 Runoff=2.63 cfs 0.105 af

Subcatchment C03: C03 Runoff Area=1.070 ac 0.00% Impervious Runoff Depth=0.73"
Tc=5.0 min C=0.74 Runoff=1.63 cfs 0.065 af

Subcatchment C04: C04 Runoff Area=3.200 ac 0.00% Impervious Runoff Depth=0.77"
Tc=5.0 min C=0.78 Runoff=5.12 cfs 0.205 af

Subcatchment C05: C05 Runoff Area=3.880 ac 0.00% Impervious Runoff Depth=0.60"
Tc=5.0 min C=0.61 Runoff=4.86 cfs 0.194 af

Subcatchment C06: C06 Runoff Area=0.380 ac 0.00% Impervious Runoff Depth=0.90"
Tc=5.0 min C=0.91 Runoff=0.71 cfs 0.028 af

Subcatchment C07: C07 Runoff Area=0.430 ac 0.00% Impervious Runoff Depth=0.90"
Tc=5.0 min C=0.92 Runoff=0.81 cfs 0.032 af

Subcatchment C08: C08 Runoff Area=11.110 ac 0.00% Impervious Runoff Depth=0.54"
Tc=5.0 min C=0.55 Runoff=12.54 cfs 0.501 af

Subcatchment C10: C10 Runoff Area=0.110 ac 100.00% Impervious Runoff Depth=0.93"
Tc=5.0 min C=0.95 Runoff=0.21 cfs 0.009 af

Subcatchment C11: C11 Runoff Area=1.380 ac 0.00% Impervious Runoff Depth=0.79"
Tc=5.0 min C=0.80 Runoff=2.27 cfs 0.090 af

Subcatchment C12: C12 Runoff Area=1.380 ac 0.00% Impervious Runoff Depth=0.75"
Tc=5.0 min C=0.76 Runoff=2.15 cfs 0.086 af

Subcatchment C13: C13 Runoff Area=0.400 ac 100.00% Impervious Runoff Depth=0.93"
Tc=5.0 min C=0.95 Runoff=0.78 cfs 0.031 af

Subcatchment C14: C14 Runoff Area=0.560 ac 0.00% Impervious Runoff Depth=0.76"
Tc=5.0 min C=0.77 Runoff=0.89 cfs 0.035 af

Subcatchment C15: C15 Runoff Area=0.410 ac 100.00% Impervious Runoff Depth=0.93"
Tc=5.0 min C=0.95 Runoff=0.80 cfs 0.032 af

Subcatchment C16: C16 Runoff Area=1.090 ac 0.00% Impervious Runoff Depth=0.70"
Tc=5.0 min C=0.71 Runoff=1.59 cfs 0.063 af

Pond OUTFALL C: OUTFALL C Inflow=49.32 cfs 1.969 af
Primary=49.32 cfs 1.969 af

Total Runoff Area = 37.790 ac Runoff Volume = 1.969 af Average Runoff Depth = 0.63"
97.57% Pervious = 36.870 ac 2.43% Impervious = 0.920 ac

Summary for Subcatchment BASIN C1: BASIN C1

Runoff = 11.51 cfs @ 0.44 hrs, Volume= 0.460 af, Depth= 0.53"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=29 min, Inten=2.04 in/hr

Area (ac)	C	Description
10.380	0.54	Mixed Use, HSG D
10.380		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
26.0					**Direct Entry, BASIN C1**

Summary for Pond C-BUBBLER: C-BUBBLER

Inflow Area = 37.790 ac, 2.43% Impervious, Inflow Depth = 0.63" for 100-Year event
Inflow = 49.31 cfs @ 0.44 hrs, Volume= 1.969 af
Outflow = 49.32 cfs @ 0.45 hrs, Volume= 1.969 af, Atten= 0%, Lag= 0.6 min
Primary = 49.32 cfs @ 0.45 hrs, Volume= 1.969 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 51.28' @ 0.45 hrs Surf.Area= 91 sf Storage= 240 cf

Plug-Flow detention time= 0.1 min calculated for 1.969 af (100% of inflow)
Center-of-Mass det. time= 0.1 min (19.5 - 19.5)

Volume	Invert	Avail.Storage	Storage Description
#1	46.00'	113,562 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
46.00	0	0	0
51.80	100	290	290
53.00	45,302	27,241	27,531
54.00	126,760	86,031	113,562

Device	Routing	Invert	Outlet Devices
#1	Primary	46.50'	**34.0" Round Bubbler** L= 110.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 46.50' / 46.20' S= 0.0027 '/' Cc= 0.900 n= 0.013, Flow Area= 6.31 sf

Primary OutFlow Max=49.32 cfs @ 0.45 hrs HW=51.28' TW=0.00' (Dynamic Tailwater)
└─**1=Bubbler** (Barrel Controls 49.32 cfs @ 7.82 fps)

Summary for Pond C-L01: C-L01

Inflow Area = 0.430 ac, 0.00% Impervious, Inflow Depth = 0.91" for 100-Year event
Inflow = 0.82 cfs @ 0.09 hrs, Volume= 0.033 af
Outflow = 0.82 cfs @ 0.09 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.0 min
Primary = 0.82 cfs @ 0.09 hrs, Volume= 0.033 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 68.15' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	67.78'	**24.0" Round C-L1** L= 41.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 67.78' / 66.19' S= 0.0388 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.82 cfs @ 0.09 hrs HW=68.15' TW=66.37' (Dynamic Tailwater)
└─**1=C-L1** (Inlet Controls 0.82 cfs @ 2.07 fps)

Summary for Pond C-L02: C-L02

Inflow Area = 0.430 ac, 0.00% Impervious, Inflow Depth = 0.91" for 100-Year event
Inflow = 0.82 cfs @ 0.09 hrs, Volume= 0.033 af
Outflow = 0.82 cfs @ 0.09 hrs, Volume= 0.033 af, Atten= 0%, Lag= 0.0 min
Primary = 0.82 cfs @ 0.09 hrs, Volume= 0.033 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 66.37' @ 0.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	65.99'	**30.0" Round Pipe** L= 377.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 65.99' / 63.35' S= 0.0070 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=0.82 cfs @ 0.09 hrs HW=66.37' TW=64.12' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 0.82 cfs @ 2.68 fps)

Summary for Pond C-L03: C-L03

Inflow Area = 2.010 ac, 0.00% Impervious, Inflow Depth = 0.82" for 100-Year event
Inflow = 3.45 cfs @ 0.09 hrs, Volume= 0.138 af
Outflow = 3.45 cfs @ 0.09 hrs, Volume= 0.138 af, Atten= 0%, Lag= 0.0 min
Primary = 3.45 cfs @ 0.09 hrs, Volume= 0.138 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 64.12' @ 0.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.25'	**30.0" Round C-L3** L= 66.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 63.25' / 62.78' S= 0.0071 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=3.45 cfs @ 0.09 hrs HW=64.12' TW=63.65' (Dynamic Tailwater)
└─**1=C-L3** (Outlet Controls 3.45 cfs @ 3.37 fps)

Summary for Pond C-L04: C-L04

Inflow Area = 1.070 ac, 0.00% Impervious, Inflow Depth = 0.73" for 100-Year event
Inflow = 1.63 cfs @ 0.09 hrs, Volume= 0.065 af
Outflow = 1.63 cfs @ 0.09 hrs, Volume= 0.065 af, Atten= 0%, Lag= 0.0 min
Primary = 1.63 cfs @ 0.09 hrs, Volume= 0.065 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 63.80' @ 0.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	62.94'	**24.0" Round C-L4** L= 74.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 62.94' / 62.88' S= 0.0008 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.62 cfs @ 0.09 hrs HW=63.80' TW=63.65' (Dynamic Tailwater)
1=C-L4 (Outlet Controls 1.62 cfs @ 1.85 fps)

Summary for Pond C-L05: C-L05

Inflow Area = 3.080 ac, 0.00% Impervious, Inflow Depth = 0.79" for 100-Year event
Inflow = 5.07 cfs @ 0.09 hrs, Volume= 0.203 af
Outflow = 5.07 cfs @ 0.09 hrs, Volume= 0.203 af, Atten= 0%, Lag= 0.0 min
Primary = 5.07 cfs @ 0.09 hrs, Volume= 0.203 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 63.65' @ 0.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	62.68'	**30.0" Round Pipe** L= 514.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 62.68' / 59.50' S= 0.0062 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=5.07 cfs @ 0.09 hrs HW=63.65' TW=60.89' (Dynamic Tailwater)
1=Pipe (Outlet Controls 5.07 cfs @ 4.29 fps)

Summary for Pond C-L06: C-L06

Inflow Area = 6.280 ac, 0.00% Impervious, Inflow Depth = 0.78" for 100-Year event
Inflow = 10.20 cfs @ 0.09 hrs, Volume= 0.407 af
Outflow = 10.20 cfs @ 0.13 hrs, Volume= 0.407 af, Atten= 0%, Lag= 2.4 min
Primary = 10.20 cfs @ 0.13 hrs, Volume= 0.407 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.89' @ 0.11 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.40'	**30.0" Round C-L6** L= 109.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 59.40' / 58.64' S= 0.0070 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=10.20 cfs @ 0.13 hrs HW=60.89' TW=59.94' (Dynamic Tailwater)
1=C-L6 (Outlet Controls 10.20 cfs @ 4.82 fps)

Summary for Pond C-L07: C-L07

Inflow Area = 6.280 ac, 0.00% Impervious, Inflow Depth = 0.78" for 100-Year event
Inflow = 10.20 cfs @ 0.13 hrs, Volume= 0.407 af
Outflow = 10.20 cfs @ 0.13 hrs, Volume= 0.407 af, Atten= 0%, Lag= 0.0 min
Primary = 10.20 cfs @ 0.13 hrs, Volume= 0.407 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 59.94' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	58.54'	**30.0" Round C-L7** L= 261.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 58.54' / 56.58' S= 0.0075 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=10.20 cfs @ 0.13 hrs HW=59.94' TW=58.13' (Dynamic Tailwater)
└─**1=C-L7** (Outlet Controls 10.20 cfs @ 5.19 fps)

Summary for Pond C-L08: C-L08

Inflow Area = 6.280 ac, 0.00% Impervious, Inflow Depth = 0.78" for 100-Year event
Inflow = 10.20 cfs @ 0.13 hrs, Volume= 0.407 af
Outflow = 10.20 cfs @ 0.13 hrs, Volume= 0.407 af, Atten= 0%, Lag= 0.0 min
Primary = 10.20 cfs @ 0.13 hrs, Volume= 0.407 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 58.13' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.48'	**30.0" Round Pipe** L= 76.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 56.48' / 56.10' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=10.20 cfs @ 0.13 hrs HW=58.13' TW=57.53' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 10.20 cfs @ 4.20 fps)

Summary for Pond C-L09: C-L09

Inflow Area = 11.610 ac, 7.92% Impervious, Inflow Depth = 0.78" for 100-Year event
Inflow = 18.88 cfs @ 0.13 hrs, Volume= 0.754 af
Outflow = 18.88 cfs @ 0.13 hrs, Volume= 0.754 af, Atten= 0%, Lag= 0.0 min
Primary = 18.88 cfs @ 0.13 hrs, Volume= 0.754 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 57.53' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	55.80'	**36.0" Round Pipe** L= 273.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 55.80' / 53.23' S= 0.0094 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=18.88 cfs @ 0.13 hrs HW=57.53' TW=54.72' (Dynamic Tailwater)
└─**1=Pipe** (Inlet Controls 18.88 cfs @ 4.48 fps)

Summary for Pond C-L10: C-L10

Inflow Area = 3.880 ac, 0.00% Impervious, Inflow Depth = 0.60" for 100-Year event
Inflow = 4.86 cfs @ 0.09 hrs, Volume= 0.194 af
Outflow = 4.86 cfs @ 0.09 hrs, Volume= 0.194 af, Atten= 0%, Lag= 0.0 min
Primary = 4.86 cfs @ 0.09 hrs, Volume= 0.194 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.64' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.62'	**30.0" Round Pipe** L= 80.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 59.62' / 59.26' S= 0.0045 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=4.86 cfs @ 0.09 hrs HW=60.64' TW=59.88' (Dynamic Tailwater)
└─**1=Pipe** (Barrel Controls 4.86 cfs @ 3.83 fps)

Summary for Pond C-L11: C-L11

Inflow Area = 3.880 ac, 0.00% Impervious, Inflow Depth = 0.60" for 100-Year event
Inflow = 4.86 cfs @ 0.09 hrs, Volume= 0.194 af
Outflow = 4.86 cfs @ 0.09 hrs, Volume= 0.194 af, Atten= 0%, Lag= 0.0 min
Primary = 4.86 cfs @ 0.09 hrs, Volume= 0.194 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 59.88' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.06'	**36.0" Round Pipe** L= 102.8' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 59.06' / 47.80' S= 0.1095 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=4.86 cfs @ 0.09 hrs HW=59.88' TW=51.35' (Dynamic Tailwater)
└─**1=Pipe** (Inlet Controls 4.86 cfs @ 3.09 fps)

Summary for Pond C-L13: C-L13

Inflow Area = 0.380 ac, 0.00% Impervious, Inflow Depth = 0.90" for 100-Year event
Inflow = 0.71 cfs @ 0.09 hrs, Volume= 0.028 af
Outflow = 0.71 cfs @ 0.09 hrs, Volume= 0.028 af, Atten= 0%, Lag= 0.0 min
Primary = 0.71 cfs @ 0.09 hrs, Volume= 0.028 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 54.75' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.55'	**24.0" Round C-L13** L= 38.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 53.55' / 53.31' S= 0.0063 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.71 cfs @ 0.09 hrs HW=54.75' TW=54.74' (Dynamic Tailwater)
└─**1=C-L13** (Outlet Controls 0.71 cfs @ 0.52 fps)

Summary for Pond C-L14: C-L14

Inflow Area = 0.810 ac, 0.00% Impervious, Inflow Depth = 0.90" for 100-Year event
Inflow = 1.52 cfs @ 0.09 hrs, Volume= 0.061 af
Outflow = 1.52 cfs @ 0.09 hrs, Volume= 0.061 af, Atten= 0%, Lag= 0.0 min
Primary = 1.52 cfs @ 0.09 hrs, Volume= 0.061 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 54.74' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.21'	**24.0" Round C-L14** L= 16.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 53.21' / 53.11' S= 0.0063 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.52 cfs @ 0.09 hrs HW=54.74' TW=54.72' (Dynamic Tailwater)
└─**1=C-L14** (Outlet Controls 1.52 cfs @ 0.82 fps)

Summary for Pond C-L16: B-L16

Inflow Area = 12.420 ac, 7.41% Impervious, Inflow Depth = 0.79" for 100-Year event
Inflow = 20.41 cfs @ 0.13 hrs, Volume= 0.815 af
Outflow = 20.41 cfs @ 0.13 hrs, Volume= 0.815 af, Atten= 0%, Lag= 0.0 min
Primary = 20.41 cfs @ 0.13 hrs, Volume= 0.815 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 54.72' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	53.03'	**42.0" Round Pipe** L= 98.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 53.03' / 50.40' S= 0.0268 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=20.41 cfs @ 0.13 hrs HW=54.72' TW=52.31' (Dynamic Tailwater)
└─**1=Pipe** (Inlet Controls 20.41 cfs @ 4.43 fps)

Summary for Pond C-L17: C-L17

Inflow Area = 12.420 ac, 7.41% Impervious, Inflow Depth = 0.79" for 100-Year event
Inflow = 20.41 cfs @ 0.13 hrs, Volume= 0.815 af
Outflow = 20.41 cfs @ 0.13 hrs, Volume= 0.815 af, Atten= 0%, Lag= 0.0 min
Primary = 20.41 cfs @ 0.13 hrs, Volume= 0.815 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 52.95' @ 0.46 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	50.30'	**42.0" Round Pipe** L= 102.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 50.30' / 47.80' S= 0.0245 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=20.16 cfs @ 0.13 hrs HW=52.31' TW=51.44' (Dynamic Tailwater)
└─**1=Pipe** (Outlet Controls 20.16 cfs @ 5.07 fps)

Summary for Pond C-L19: C-L19

Inflow Area = 26.680 ac, 3.45% Impervious, Inflow Depth = 0.66" for 100-Year event
Inflow = 36.77 cfs @ 0.45 hrs, Volume= 1.468 af
Outflow = 36.77 cfs @ 0.45 hrs, Volume= 1.468 af, Atten= 0%, Lag= 0.0 min
Primary = 36.77 cfs @ 0.45 hrs, Volume= 1.468 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 52.54' @ 0.45 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.70'	**42.0" Round Pipe** L= 200.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 47.70' / 47.20' S= 0.0025 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=36.77 cfs @ 0.45 hrs HW=52.54' TW=51.91' (Dynamic Tailwater)
└**1=Pipe** (Inlet Controls 36.77 cfs @ 3.82 fps)

Summary for Pond C-L20: C-L20

Inflow Area = 26.680 ac, 3.45% Impervious, Inflow Depth = 0.66" for 100-Year event
Inflow = 36.77 cfs @ 0.45 hrs, Volume= 1.468 af
Outflow = 36.77 cfs @ 0.46 hrs, Volume= 1.468 af, Atten= 0%, Lag= 0.6 min
Primary = 36.77 cfs @ 0.46 hrs, Volume= 1.468 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 51.91' @ 0.45 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	47.10'	**42.0" Round Pipe** L= 50.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 47.10' / 46.60' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 9.62 sf

Primary OutFlow Max=36.77 cfs @ 0.46 hrs HW=51.91' TW=51.28' (Dynamic Tailwater)
└**1=Pipe** (Inlet Controls 36.77 cfs @ 3.82 fps)

Summary for Pond C-L22: C-L22

Inflow Area = 0.110 ac,100.00% Impervious, Inflow Depth = 0.93" for 100-Year event
Inflow = 0.21 cfs @ 0.09 hrs, Volume= 0.009 af
Outflow = 0.21 cfs @ 0.09 hrs, Volume= 0.009 af, Atten= 0%, Lag= 0.0 min
Primary = 0.21 cfs @ 0.09 hrs, Volume= 0.009 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 67.27' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	67.03'	**24.0" Round C-L22** L= 45.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 67.03' / 66.89' S= 0.0031 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.21 cfs @ 0.09 hrs HW=67.27' TW=66.92' (Dynamic Tailwater)
└**1=C-L22** (Barrel Controls 0.21 cfs @ 1.53 fps)

Summary for Pond C-L23: C-L23

Inflow Area = 0.110 ac,100.00% Impervious, Inflow Depth = 0.93" for 100-Year event
Inflow = 0.21 cfs @ 0.09 hrs, Volume= 0.009 af
Outflow = 0.21 cfs @ 0.09 hrs, Volume= 0.009 af, Atten= 0%, Lag= 0.0 min
Primary = 0.21 cfs @ 0.09 hrs, Volume= 0.009 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 66.92' @ 0.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	66.69'	**24.0" Round Pipe** L= 311.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 66.69' / 64.98' S= 0.0055 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.21 cfs @ 0.09 hrs HW=66.92' TW=65.74' (Dynamic Tailwater)
↑—**1=Pipe** (Outlet Controls 0.21 cfs @ 1.60 fps)

Summary for Pond C-L24: C-L24

Inflow Area = 1.490 ac, 7.38% Impervious, Inflow Depth = 0.80" for 100-Year event
Inflow = 2.48 cfs @ 0.09 hrs, Volume= 0.099 af
Outflow = 2.48 cfs @ 0.09 hrs, Volume= 0.099 af, Atten= 0%, Lag= 0.0 min
Primary = 2.48 cfs @ 0.09 hrs, Volume= 0.099 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 65.74' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	64.88'	**24.0" Round CB A01** L= 71.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 64.88' / 64.52' S= 0.0051 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=2.48 cfs @ 0.09 hrs HW=65.74' TW=65.37' (Dynamic Tailwater)
↑—**1=CB A01** (Outlet Controls 2.48 cfs @ 2.85 fps)

Summary for Pond C-L25: C-L25

Inflow Area = 1.380 ac, 0.00% Impervious, Inflow Depth = 0.75" for 100-Year event
Inflow = 2.15 cfs @ 0.09 hrs, Volume= 0.086 af
Outflow = 2.15 cfs @ 0.10 hrs, Volume= 0.086 af, Atten= 0%, Lag= 0.6 min
Primary = 2.15 cfs @ 0.10 hrs, Volume= 0.086 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 65.66' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	64.83'	**24.0" Round C-L25** L= 61.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 64.83' / 64.52' S= 0.0051 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=2.15 cfs @ 0.10 hrs HW=65.66' TW=65.37' (Dynamic Tailwater)
↑—**1=C-L25** (Outlet Controls 2.15 cfs @ 2.59 fps)

Summary for Pond C-L26: C-L26

Inflow Area = 2.870 ac, 3.83% Impervious, Inflow Depth = 0.77" for 100-Year event
Inflow = 4.63 cfs @ 0.10 hrs, Volume= 0.185 af
Outflow = 4.63 cfs @ 0.09 hrs, Volume= 0.185 af, Atten= 0%, Lag= 0.0 min
Primary = 4.63 cfs @ 0.09 hrs, Volume= 0.185 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 65.37' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	64.32'	**24.0" Round Pipe** L= 135.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 64.32' / 63.65' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=4.63 cfs @ 0.09 hrs HW=65.37' TW=64.47' (Dynamic Tailwater)
↑—**1=Pipe** (Outlet Controls 4.63 cfs @ 4.02 fps)

Summary for Pond C-L28: C-L28

Inflow Area = 2.870 ac, 3.83% Impervious, Inflow Depth = 0.77" for 100-Year event
Inflow = 4.63 cfs @ 0.09 hrs, Volume= 0.185 af
Outflow = 4.63 cfs @ 0.09 hrs, Volume= 0.185 af, Atten= 0%, Lag= 0.0 min
Primary = 4.63 cfs @ 0.09 hrs, Volume= 0.185 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 64.47' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	63.55'	**24.0" Round Pipe** L= 324.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 63.55' / 59.99' S= 0.0110 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=4.63 cfs @ 0.09 hrs HW=64.47' TW=60.89' (Dynamic Tailwater)
↑—**1=Pipe** (Inlet Controls 4.63 cfs @ 3.27 fps)

Summary for Pond C-L29: C-L29

Inflow Area = 0.400 ac,100.00% Impervious, Inflow Depth = 0.93" for 100-Year event
Inflow = 0.78 cfs @ 0.09 hrs, Volume= 0.031 af
Outflow = 0.78 cfs @ 0.09 hrs, Volume= 0.031 af, Atten= 0%, Lag= 0.0 min
Primary = 0.78 cfs @ 0.09 hrs, Volume= 0.031 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 61.91' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	61.50'	**24.0" Round C-L29** L= 36.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 61.50' / 61.10' S= 0.0111 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.78 cfs @ 0.09 hrs HW=61.91' TW=61.59' (Dynamic Tailwater)
↑—**1=C-L29** (Outlet Controls 0.78 cfs @ 2.57 fps)

Summary for Pond C-L30: C-L30

Inflow Area = 0.960 ac, 41.67% Impervious, Inflow Depth = 0.83" for 100-Year event
Inflow = 1.67 cfs @ 0.09 hrs, Volume= 0.066 af
Outflow = 1.67 cfs @ 0.09 hrs, Volume= 0.066 af, Atten= 0%, Lag= 0.0 min
Primary = 1.67 cfs @ 0.09 hrs, Volume= 0.066 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 61.59' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	61.00'	**24.0" Round C-L30** L= 92.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 61.00' / 59.99' S= 0.0110 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=1.67 cfs @ 0.09 hrs HW=61.59' TW=60.89' (Dynamic Tailwater)
└─**1=C-L30** (Outlet Controls 1.67 cfs @ 3.25 fps)

Summary for Pond C-L32: C-L32

Inflow Area = 3.830 ac, 13.32% Impervious, Inflow Depth = 0.79" for 100-Year event
Inflow = 6.30 cfs @ 0.09 hrs, Volume= 0.252 af
Outflow = 6.30 cfs @ 0.10 hrs, Volume= 0.252 af, Atten= 0%, Lag= 0.6 min
Primary = 6.30 cfs @ 0.10 hrs, Volume= 0.252 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 60.89' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	59.89'	**30.0" Round Pipe** L= 74.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 59.89' / 56.73' S= 0.0427 '/' Cc= 0.900 n= 0.013, Flow Area= 4.91 sf

Primary OutFlow Max=6.30 cfs @ 0.10 hrs HW=60.89' TW=58.10' (Dynamic Tailwater)
└─**1=Pipe** (Inlet Controls 6.30 cfs @ 3.41 fps)

Summary for Pond C-L33: C-L33

Inflow Area = 0.410 ac,100.00% Impervious, Inflow Depth = 0.93" for 100-Year event
Inflow = 0.80 cfs @ 0.09 hrs, Volume= 0.032 af
Outflow = 0.80 cfs @ 0.09 hrs, Volume= 0.032 af, Atten= 0%, Lag= 0.0 min
Primary = 0.80 cfs @ 0.09 hrs, Volume= 0.032 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 58.18' @ 0.10 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	57.14'	**24.0" Round C-L33** L= 38.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 57.14' / 56.95' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=0.19 cfs @ 0.09 hrs HW=58.17' TW=58.17' (Dynamic Tailwater)
└─**1=C-L33** (Outlet Controls 0.19 cfs @ 0.17 fps)

Summary for Pond C-L34: C-L34

Inflow Area = 1.500 ac, 27.33% Impervious, Inflow Depth = 0.76" for 100-Year event
Inflow = 2.39 cfs @ 0.09 hrs, Volume= 0.095 af
Outflow = 2.39 cfs @ 0.09 hrs, Volume= 0.095 af, Atten= 0%, Lag= 0.0 min
Primary = 2.39 cfs @ 0.09 hrs, Volume= 0.095 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 58.17' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.85'	**24.0" Round C-L34** L= 24.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 56.85' / 56.73' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 3.14 sf

Primary OutFlow Max=2.39 cfs @ 0.09 hrs HW=58.17' TW=58.10' (Dynamic Tailwater)
↑—**1=C-L34** (Outlet Controls 2.39 cfs @ 1.54 fps)

Summary for Pond C-L36: C-L36

Inflow Area = 5.330 ac, 17.26% Impervious, Inflow Depth = 0.78" for 100-Year event
Inflow = 8.69 cfs @ 0.09 hrs, Volume= 0.347 af
Outflow = 8.69 cfs @ 0.10 hrs, Volume= 0.347 af, Atten= 0%, Lag= 0.6 min
Primary = 8.69 cfs @ 0.10 hrs, Volume= 0.347 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3
Peak Elev= 58.10' @ 0.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	56.63'	**36.0" Round Pipe** L= 126.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 56.63' / 56.00' S= 0.0050 '/' Cc= 0.900 n= 0.013, Flow Area= 7.07 sf

Primary OutFlow Max=8.69 cfs @ 0.10 hrs HW=58.10' TW=57.53' (Dynamic Tailwater)
↑—**1=Pipe** (Outlet Controls 8.69 cfs @ 3.68 fps)

Summary for Subcatchment C01: C01

Runoff = 0.82 cfs @ 0.09 hrs, Volume= 0.033 af, Depth= 0.91"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=29 min, Inten=2.04 in/hr

Area (ac)	C	Description
0.430	0.93	Mixed Use, HSG D
0.430		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C02: C02

Runoff = 2.63 cfs @ 0.09 hrs, Volume= 0.105 af, Depth= 0.80"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=29 min, Inten=2.04 in/hr

Area (ac)	C	Description
1.580	0.81	Mixed Use, HSG D
1.580		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C03: C03

Runoff = 1.63 cfs @ 0.09 hrs, Volume= 0.065 af, Depth= 0.73"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=29 min, Inten=2.04 in/hr

Area (ac)	C	Description
1.070	0.74	Mixed Use, HSG D
1.070		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C04: C04

Runoff = 5.12 cfs @ 0.09 hrs, Volume= 0.205 af, Depth= 0.77"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=29 min, Inten=2.04 in/hr

Area (ac)	C	Description
3.200	0.78	Mixed Use, HSG D
3.200		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C05: C05

Runoff = 4.86 cfs @ 0.09 hrs, Volume= 0.194 af, Depth= 0.60"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=29 min, Inten=2.04 in/hr

Area (ac)	C	Description
3.880	0.61	Mixed Use, HSG D
3.880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C06: C06

Runoff = 0.71 cfs @ 0.09 hrs, Volume= 0.028 af, Depth= 0.90"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=29 min, Inten=2.04 in/hr

Area (ac)	C	Description
0.380	0.91	Mixed Use, HSG D
0.380		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C07: C07

Runoff = 0.81 cfs @ 0.09 hrs, Volume= 0.032 af, Depth= 0.90"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=29 min, Inten=2.04 in/hr

Area (ac)	C	Description
0.430	0.92	Mixed Use, HSG D
0.430		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C08: C08

Runoff = 12.54 cfs @ 0.09 hrs, Volume= 0.501 af, Depth= 0.54"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=29 min, Inten=2.04 in/hr

Area (ac)	C	Description
11.110	0.55	Mixed Use, HSG D
11.110		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C10: C10

Runoff = 0.21 cfs @ 0.09 hrs, Volume= 0.009 af, Depth= 0.93"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=29 min, Inten=2.04 in/hr

Area (ac)	C	Description
0.110	0.95	Mixed Use, HSG D
0.110		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C11: C11

Runoff = 2.27 cfs @ 0.09 hrs, Volume= 0.090 af, Depth= 0.79"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=29 min, Inten=2.04 in/hr

Area (ac)	C	Description
1.380	0.80	Mixed Use, HSG D
1.380		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C12: C12

Runoff = 2.15 cfs @ 0.09 hrs, Volume= 0.086 af, Depth= 0.75"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=29 min, Inten=2.04 in/hr

Area (ac)	C	Description
1.380	0.76	Mixed Use, HSG D
1.380		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C13: C13

Runoff = 0.78 cfs @ 0.09 hrs, Volume= 0.031 af, Depth= 0.93"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=29 min, Inten=2.04 in/hr

Area (ac)	C	Description
0.400	0.95	Mixed Use, HSG D
0.400		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C14: C14

Runoff = 0.89 cfs @ 0.09 hrs, Volume= 0.035 af, Depth= 0.76"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=29 min, Inten=2.04 in/hr

Area (ac)	C	Description
0.560	0.77	Mixed Use, HSG D
0.560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C15: C15

Runoff = 0.80 cfs @ 0.09 hrs, Volume= 0.032 af, Depth= 0.93"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=29 min, Inten=2.04 in/hr

Area (ac)	C	Description
0.410	0.95	Mixed Use, HSG D
0.410		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment C16: C16

Runoff = 1.59 cfs @ 0.09 hrs, Volume= 0.063 af, Depth= 0.70"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=29 min, Inten=2.04 in/hr

Area (ac)	C	Description
1.090	0.71	Mixed Use, HSG D
1.090		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

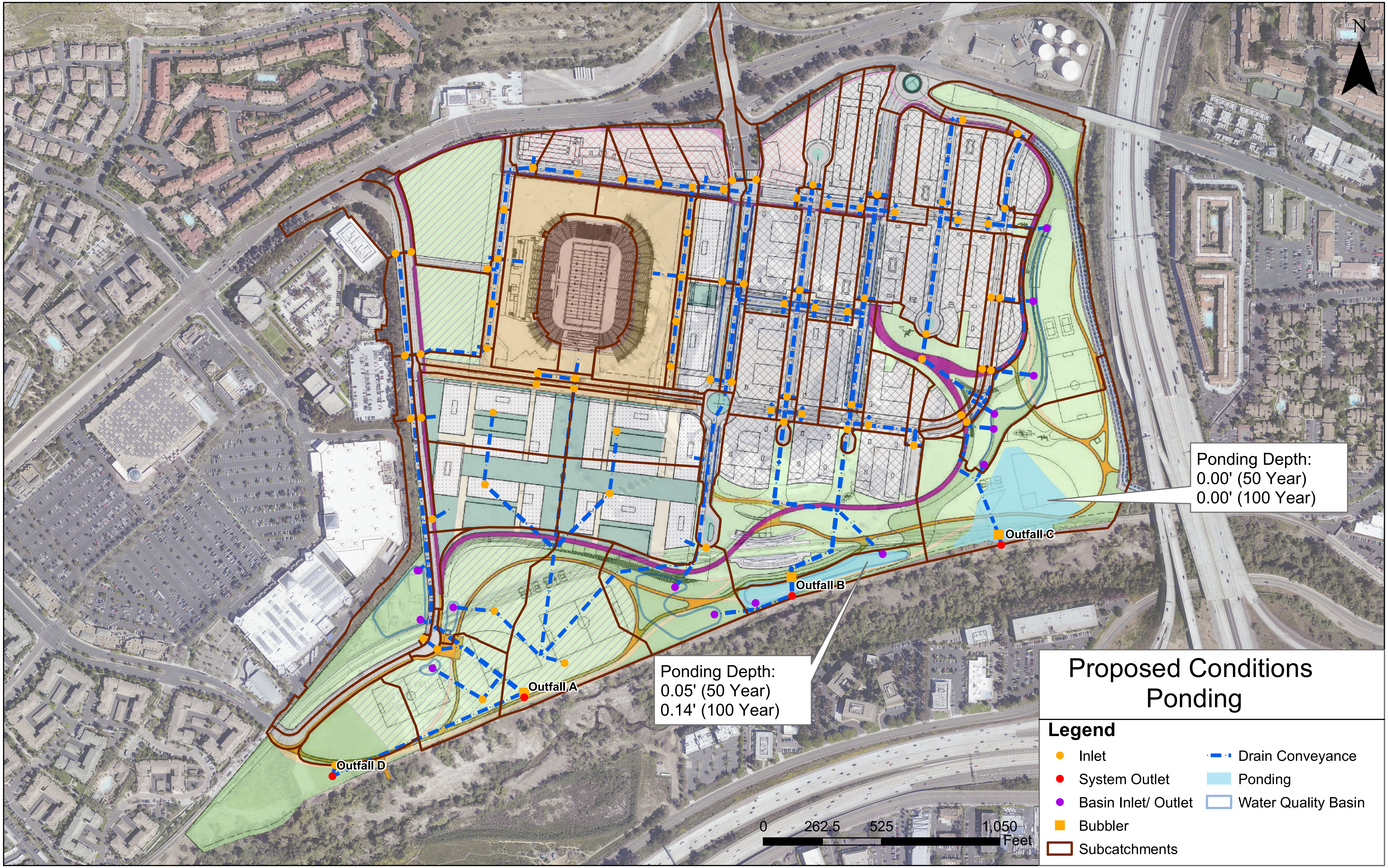
Summary for Pond OUTFALL C: OUTFALL C

Inflow Area = 37.790 ac, 2.43% Impervious, Inflow Depth = 0.63" for 100-Year event
Inflow = 49.32 cfs @ 0.45 hrs, Volume= 1.969 af
Primary = 49.32 cfs @ 0.45 hrs, Volume= 1.969 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs / 3

APPENDIX B.6

Proposed Conditions: Estimated Extent Of Ponding Exhibit



N
Ponding Depth:
0.00' (50 Year)
0.00' (100 Year)
Outfall C
Outfall B
Outfall A
Outfall D
Ponding Depth:
0.05' (50 Year)
0.14' (100 Year)
Proposed Conditions
Ponding
Legend
Inlet
System Outlet
Basin Inlet/ Outlet
Bubbler
Subcatchments
Drain Conveyance
Ponding
Water Quality Basin
0
262.5
525
1,050
Feet

APPENDIX C

Offsite Conditions Supporting Material

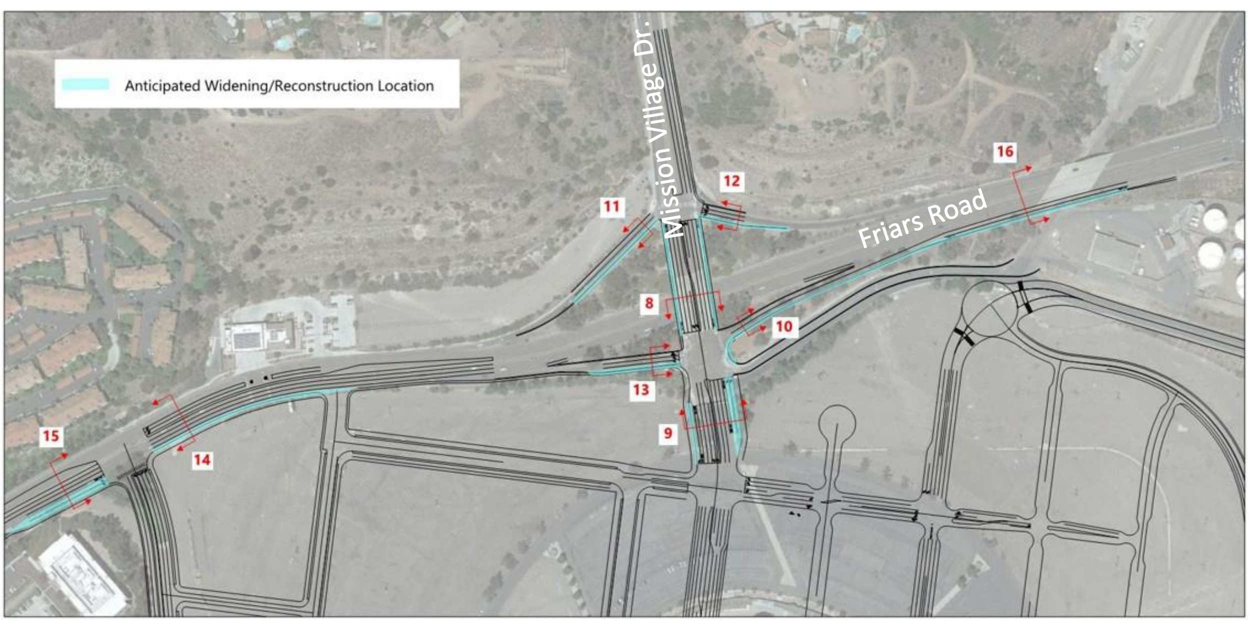
APPENDIX C.1

Existing and Proposed Conditions: Offsite Area Exhibit

Existing offsite conditions:

*Google earth V 6.2.2.6613. (August 13, 2018). San Diego, California. 32° 47’ 09.64”S, 117° 07’ 12.47”W, Eye alt 5292 feet. Landsat/ Copernicus 2018. http://www.earth.google.com [April 18, 2019].

Proposed offsite road widening:



*Carrier Johnson CulturE, Rick Engineering, and Fehr Peers. (n.d.). *SDSU Mission Valley Development Package*. *SDSU Mission Valley Development Package*, tech., 1–84..

APPENDIX C.2
Runoff Coefficient

Combining the units for the expression CIA yields:

$$\left(\frac{1\,\text{acre}\times\text{inch}}{\text{hour}}\right)\left(\frac{43{,}560\,\text{ft}^2}{\text{acre}}\right)\left(\frac{1\,\text{foot}}{12\,\text{inches}}\right)\left(\frac{1\,\text{hour}}{3{,}600\,\text{seconds}}\right)\Rightarrow 1.008\,\text{cfs}$$

For practical purposes, the unit conversion coefficient difference of 0.8% can be ignored.

The RM formula is based on the assumption that for constant rainfall intensity, the peak discharge rate at a point will occur when the raindrop that falls at the most upstream point in the tributary drainage basin arrives at the point of interest.

Unlike the MRM (discussed in Appendix A.2) or the NRCS hydrologic method (discussed in Appendix B), the RM does not create hydrographs and therefore does not add separate subarea hydrographs at collection points. Instead, the RM develops peak discharges in the main line by increasing the T_c as flow travels downstream.

Characteristics of, or assumptions inherent to, the RM are listed below:

1. The discharge resulting from any I is maximum when the I lasts as long as or longer than the T_c.
2. The storm frequency of peak discharges is the same as that of I for the given T_c.
3. The fraction of rainfall that becomes runoff (or the runoff coefficient, C) is independent of I or precipitation zone number (PZN) condition (PZN Condition is discussed in the NRCS method).
4. The peak rate of runoff is the only information produced by using the RM.

A.1.2. Runoff Coefficient

The runoff coefficients are based on land use (see Table A–1). Soil type "D" is used throughout the City of San Diego for storm drain conveyance design. An appropriate runoff coefficient (C) for each type of land use in the subarea should be selected from this table and multiplied by the percentage of the total area (A) included in that class. The sum of the products for all land uses is the weighted runoff coefficient (Σ[CA]). Good engineering judgment should be used when applying the values presented in Table A–1, as adjustments to these values may be appropriate based on site-specific characteristics.

Table A-1. Runoff Coefficients for Rational Method

Land Use	Runoff Coefficient (C)
	Soil Type [1]
Residential:	
Single Family	0.55
Multi-Units	0.70
Mobile Homes	0.65
Rural (lots greater than ½ acre)	0.45
Commercial [2]	
80% Impervious	0.85
Industrial [2]	
90% Impervious	0.95

Note:
[1] Type D soil to be used for all areas.
[2] Where actual conditions deviate significantly from the tabulated imperviousness values of 80% or 90%, the values given for coefficient C, may be revised by multiplying 80% or 90% by the ratio of actual imperviousness to the tabulated imperviousness. However, in case shall the final coefficient be less than 0.50. For example: Consider commercial property on D soil.

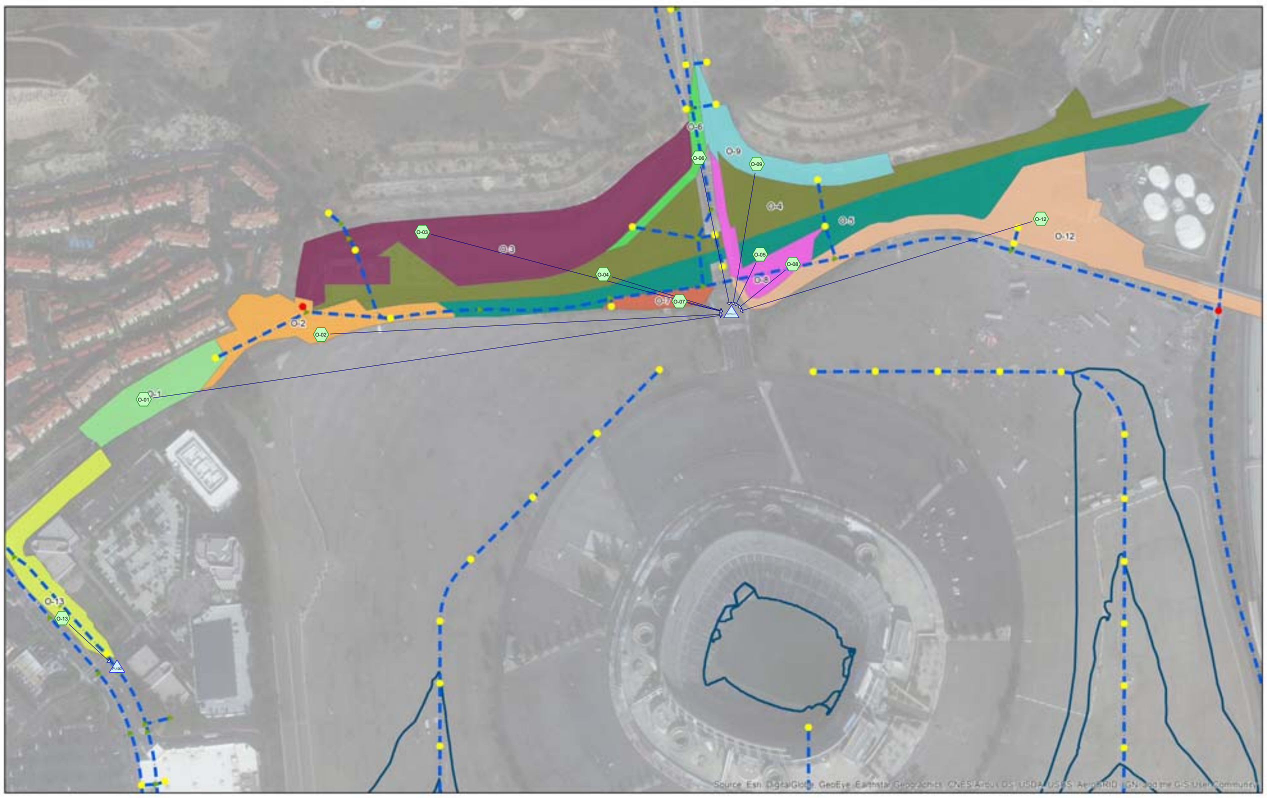
Actual imperviousness = 50%
Tabulated imperviousness = 80%
Revised C = (50/80) x 0.85 = 0.53

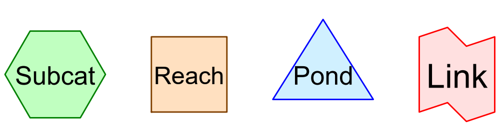
The values in Table A–1 are typical for urban areas. However, if the basin contains rural or agricultural land use, parks, golf courses, or other types of nonurban land use that are expected to be permanent, the appropriate value should be selected based upon the soil and cover and approved by the City.

A.1.3. Rainfall Intensity

The rainfall intensity (I) is the rainfall in inches per hour (in/hr.) for a duration equal to the T_C for a selected storm frequency. Once a particular storm frequency has been selected for design and a T_C calculated for the drainage area, the rainfall intensity can be determined from the Intensity-Duration-Frequency Design Chart (Figure A-1).

APPENDIX C.3
HydroCAD Reports





Routing Diagram for Existing Offsite Runoff
Prepared by SCCM, Printed 5/24/2019
HydroCAD® 10.00 s/n 03895 © 2012 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	C	Description (subcatchment-numbers)
15.340	0.95	Mixed Use, HSG D (O-01, O-02, O-03, O-09, O-12, O-13)
5.710	0.78	Mixed Use, HSG D (O-04)
4.350	0.76	Mixed Use, HSG D (O-05)
0.880	0.94	Mixed Use, HSG D (O-06, O-07)
0.880	0.69	Mixed Use, HSG D (O-08)
27.160	**0.88**	**TOTAL AREA**

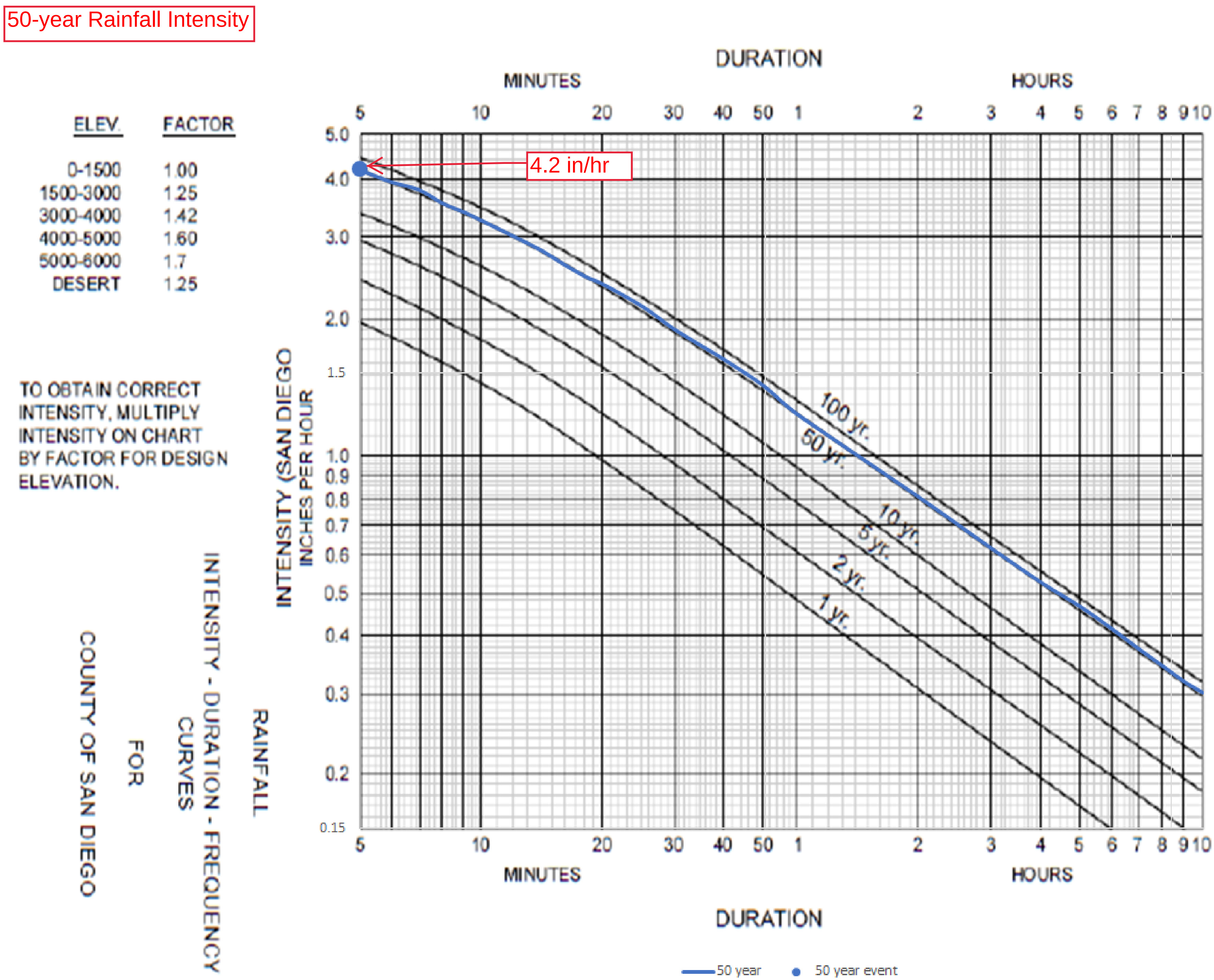


Figure A-1. Intensity-Duration-Frequency Design Chart

Time span=0.00-4.00 hrs, dt=0.01 hrs, 401 points x 2
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment O-01: O-01 Runoff Area=1.320 ac 100.00% Impervious Runoff Depth=0.48"
Tc=5.0 min C=0.95 Runoff=4.30 cfs 0.053 af

Subcatchment O-02: O-02 Runoff Area=1.740 ac 100.00% Impervious Runoff Depth=0.48"
Tc=5.0 min C=0.95 Runoff=5.67 cfs 0.070 af

Subcatchment O-03: O-03 Runoff Area=5.380 ac 100.00% Impervious Runoff Depth=0.48"
Tc=5.0 min C=0.95 Runoff=17.52 cfs 0.217 af

Subcatchment O-04: O-04 Runoff Area=5.710 ac 0.00% Impervious Runoff Depth=0.40"
Tc=5.0 min C=0.78 Runoff=15.27 cfs 0.189 af

Subcatchment O-05: O-05 Runoff Area=4.350 ac 0.00% Impervious Runoff Depth=0.39"
Tc=5.0 min C=0.76 Runoff=11.33 cfs 0.141 af

Subcatchment O-06: O-06 Runoff Area=0.490 ac 0.00% Impervious Runoff Depth=0.48"
Tc=5.0 min C=0.94 Runoff=1.58 cfs 0.020 af

Subcatchment O-07: C07 Runoff Area=0.390 ac 0.00% Impervious Runoff Depth=0.48"
Tc=5.0 min C=0.94 Runoff=1.26 cfs 0.016 af

Subcatchment O-08: O-08 Runoff Area=0.880 ac 0.00% Impervious Runoff Depth=0.35"
Tc=5.0 min C=0.69 Runoff=2.08 cfs 0.026 af

Subcatchment O-09: C07 Runoff Area=1.370 ac 100.00% Impervious Runoff Depth=0.48"
Tc=5.0 min C=0.95 Runoff=4.46 cfs 0.055 af

Subcatchment O-12: O-12 Runoff Area=4.100 ac 100.00% Impervious Runoff Depth=0.48"
Tc=5.0 min C=0.95 Runoff=13.35 cfs 0.166 af

Subcatchment O-13: O-13 Runoff Area=1.430 ac 100.00% Impervious Runoff Depth=0.48"
Tc=5.0 min C=0.95 Runoff=4.66 cfs 0.058 af

Pond OUTFALL O: OUTFALL O Inflow=76.82 cfs 0.952 af
Primary=76.82 cfs 0.952 af

Pond P-100: P-100 Inflow=4.66 cfs 0.058 af
Primary=4.66 cfs 0.058 af

Total Runoff Area = 27.160 ac Runoff Volume = 1.010 af Average Runoff Depth = 0.45"
43.52% Pervious = 11.820 ac 56.48% Impervious = 15.340 ac

Summary for Subcatchment O-01: O-01

Runoff = 4.30 cfs @ 0.09 hrs, Volume= 0.053 af, Depth= 0.48"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=9 min, Inten=3.40 in/hr

Area (ac)	C	Description
1.320	0.95	Mixed Use, HSG D
1.320		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-02: O-02

Runoff = 5.67 cfs @ 0.09 hrs, Volume= 0.070 af, Depth= 0.48"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=9 min, Inten=3.40 in/hr

Area (ac)	C	Description
1.740	0.95	Mixed Use, HSG D
1.740		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-03: O-03

Runoff = 17.52 cfs @ 0.09 hrs, Volume= 0.217 af, Depth= 0.48"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=9 min, Inten=3.40 in/hr

Area (ac)	C	Description
5.380	0.95	Mixed Use, HSG D
5.380		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-04: O-04

Runoff = 15.27 cfs @ 0.09 hrs, Volume= 0.189 af, Depth= 0.40"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=9 min, Inten=3.40 in/hr

Area (ac)	C	Description
5.710	0.78	Mixed Use, HSG D
5.710		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-05: O-05

Runoff = 11.33 cfs @ 0.09 hrs, Volume= 0.141 af, Depth= 0.39"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=9 min, Inten=3.40 in/hr

Area (ac)	C	Description
4.350	0.76	Mixed Use, HSG D
4.350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-06: O-06

Runoff = 1.58 cfs @ 0.09 hrs, Volume= 0.020 af, Depth= 0.48"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=9 min, Inten=3.40 in/hr

Area (ac)	C	Description
0.490	0.94	Mixed Use, HSG D
0.490		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-07: C07

Runoff = 1.26 cfs @ 0.09 hrs, Volume= 0.016 af, Depth= 0.48"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=9 min, Inten=3.40 in/hr

Area (ac)	C	Description
0.390	0.94	Mixed Use, HSG D
0.390		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-08: O-08

Runoff = 2.08 cfs @ 0.09 hrs, Volume= 0.026 af, Depth= 0.35"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=9 min, Inten=3.40 in/hr

Area (ac)	C	Description
0.880	0.69	Mixed Use, HSG D
0.880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-09: C07

Runoff = 4.46 cfs @ 0.09 hrs, Volume= 0.055 af, Depth= 0.48"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=9 min, Inten=3.40 in/hr

Area (ac)	C	Description
1.370	0.95	Mixed Use, HSG D
1.370		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-12: O-12

Runoff = 13.35 cfs @ 0.09 hrs, Volume= 0.166 af, Depth= 0.48"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=9 min, Inten=3.40 in/hr

Area (ac)	C	Description
4.100	0.95	Mixed Use, HSG D
4.100		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-13: O-13

Runoff = 4.66 cfs @ 0.09 hrs, Volume= 0.058 af, Depth= 0.48"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=9 min, Inten=3.40 in/hr

Area (ac)	C	Description
1.430	0.95	Mixed Use, HSG D
1.430		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Pond OUTFALL O: OUTFALL O

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 25.730 ac, 54.06% Impervious, Inflow Depth = 0.44" for 50-Year event
Inflow = 76.82 cfs @ 0.09 hrs, Volume= 0.952 af
Primary = 76.82 cfs @ 0.09 hrs, Volume= 0.952 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs / 2

Summary for Pond P-100: P-100

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.430 ac,100.00% Impervious, Inflow Depth = 0.48" for 50-Year event
Inflow = 4.66 cfs @ 0.09 hrs, Volume= 0.058 af
Primary = 4.66 cfs @ 0.09 hrs, Volume= 0.058 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs / 2

100-year Rainfall Intensity

ELEV.	FACTOR
0-1500	1.00
1500-3000	1.25
3000-4000	1.42
4000-5000	1.60
5000-6000	1.7
DESERT	1.25

TO OBTAIN CORRECT INTENSITY, MULTIPLY INTENSITY ON CHART BY FACTOR FOR DESIGN ELEVATION.

RAINFALL INTENSITY - DURATION - FREQUENCY CURVES FOR COUNTY OF SAN DIEGO

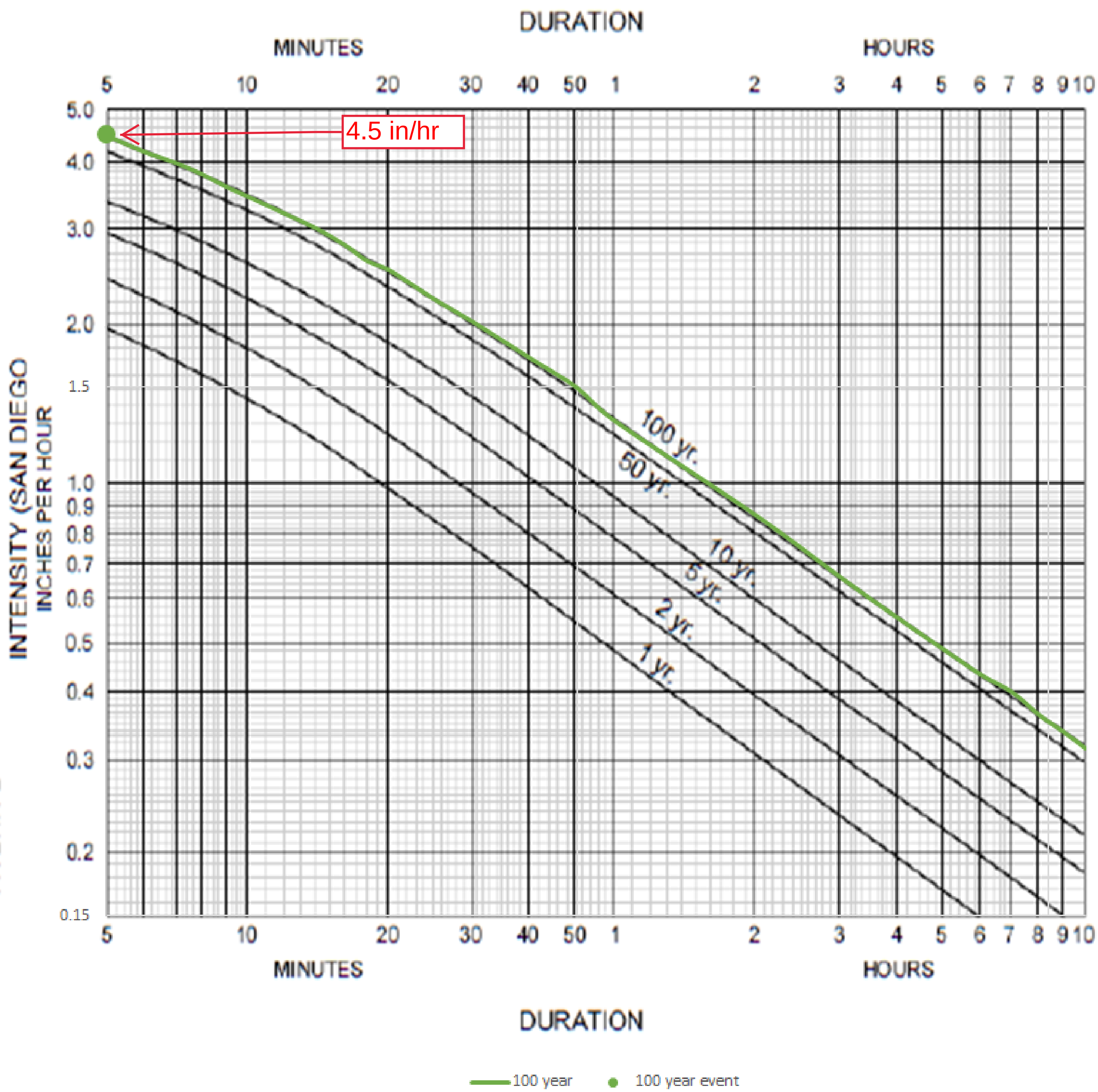


Figure A-1. Intensity-Duration-Frequency Design Chart

Time span=0.00-4.00 hrs, dt=0.01 hrs, 401 points x 2
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment O-01: O-01	Runoff Area=1.320 ac 100.00% Impervious Runoff Depth=0.51" Tc=5.0 min C=0.95 Runoff=4.55 cfs 0.056 af
Subcatchment O-02: O-02	Runoff Area=1.740 ac 100.00% Impervious Runoff Depth=0.51" Tc=5.0 min C=0.95 Runoff=6.00 cfs 0.074 af
Subcatchment O-03: O-03	Runoff Area=5.380 ac 100.00% Impervious Runoff Depth=0.51" Tc=5.0 min C=0.95 Runoff=18.55 cfs 0.230 af
Subcatchment O-04: O-04	Runoff Area=5.710 ac 0.00% Impervious Runoff Depth=0.42" Tc=5.0 min C=0.78 Runoff=16.17 cfs 0.200 af
Subcatchment O-05: O-05	Runoff Area=4.350 ac 0.00% Impervious Runoff Depth=0.41" Tc=5.0 min C=0.76 Runoff=12.00 cfs 0.149 af
Subcatchment O-06: O-06	Runoff Area=0.490 ac 0.00% Impervious Runoff Depth=0.51" Tc=5.0 min C=0.94 Runoff=1.67 cfs 0.021 af
Subcatchment O-07: C07	Runoff Area=0.390 ac 0.00% Impervious Runoff Depth=0.51" Tc=5.0 min C=0.94 Runoff=1.33 cfs 0.016 af
Subcatchment O-08: O-08	Runoff Area=0.880 ac 0.00% Impervious Runoff Depth=0.37" Tc=5.0 min C=0.69 Runoff=2.20 cfs 0.027 af
Subcatchment O-09: C07	Runoff Area=1.370 ac 100.00% Impervious Runoff Depth=0.51" Tc=5.0 min C=0.95 Runoff=4.72 cfs 0.059 af
Subcatchment O-12: O-12	Runoff Area=4.100 ac 100.00% Impervious Runoff Depth=0.51" Tc=5.0 min C=0.95 Runoff=14.14 cfs 0.175 af
Subcatchment O-13: O-13	Runoff Area=1.430 ac 100.00% Impervious Runoff Depth=0.51" Tc=5.0 min C=0.95 Runoff=4.93 cfs 0.061 af
Pond OUTFALL O: OUTFALL O	Inflow=81.34 cfs 1.008 af Primary=81.34 cfs 1.008 af
Pond P-100: P-100	Inflow=4.93 cfs 0.061 af Primary=4.93 cfs 0.061 af

Total Runoff Area = 27.160 ac Runoff Volume = 1.070 af Average Runoff Depth = 0.47"
43.52% Pervious = 11.820 ac 56.48% Impervious = 15.340 ac

Summary for Subcatchment O-01: O-01

Runoff = 4.55 cfs @ 0.09 hrs, Volume= 0.056 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=9 min, Inten=3.60 in/hr

Area (ac)	C	Description
1.320	0.95	Mixed Use, HSG D
1.320		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-02: O-02

Runoff = 6.00 cfs @ 0.09 hrs, Volume= 0.074 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=9 min, Inten=3.60 in/hr

Area (ac)	C	Description
1.740	0.95	Mixed Use, HSG D
1.740		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-03: O-03

Runoff = 18.55 cfs @ 0.09 hrs, Volume= 0.230 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=9 min, Inten=3.60 in/hr

Area (ac)	C	Description
5.380	0.95	Mixed Use, HSG D
5.380		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-04: O-04

Runoff = 16.17 cfs @ 0.09 hrs, Volume= 0.200 af, Depth= 0.42"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=9 min, Inten=3.60 in/hr

Area (ac)	C	Description
5.710	0.78	Mixed Use, HSG D
5.710		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-05: O-05

Runoff = 12.00 cfs @ 0.09 hrs, Volume= 0.149 af, Depth= 0.41"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=9 min, Inten=3.60 in/hr

Area (ac)	C	Description
4.350	0.76	Mixed Use, HSG D
4.350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-06: O-06

Runoff = 1.67 cfs @ 0.09 hrs, Volume= 0.021 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=9 min, Inten=3.60 in/hr

Area (ac)	C	Description
0.490	0.94	Mixed Use, HSG D
0.490		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-07: C07

Runoff = 1.33 cfs @ 0.09 hrs, Volume= 0.016 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=9 min, Inten=3.60 in/hr

Area (ac)	C	Description
0.390	0.94	Mixed Use, HSG D
0.390		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-08: O-08

Runoff = 2.20 cfs @ 0.09 hrs, Volume= 0.027 af, Depth= 0.37"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=9 min, Inten=3.60 in/hr

Area (ac)	C	Description
0.880	0.69	Mixed Use, HSG D
0.880		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-09: C07

Runoff = 4.72 cfs @ 0.09 hrs, Volume= 0.059 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=9 min, Inten=3.60 in/hr

Area (ac)	C	Description
1.370	0.95	Mixed Use, HSG D
1.370		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-12: O-12

Runoff = 14.14 cfs @ 0.09 hrs, Volume= 0.175 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=9 min, Inten=3.60 in/hr

Area (ac)	C	Description
4.100	0.95	Mixed Use, HSG D
4.100		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-13: O-13

Runoff = 4.93 cfs @ 0.09 hrs, Volume= 0.061 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=9 min, Inten=3.60 in/hr

Area (ac)	C	Description
1.430	0.95	Mixed Use, HSG D
1.430		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Pond OUTFALL O: OUTFALL O

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 25.730 ac, 54.06% Impervious, Inflow Depth = 0.47" for 100-Year event
Inflow = 81.34 cfs @ 0.09 hrs, Volume= 1.008 af
Primary = 81.34 cfs @ 0.09 hrs, Volume= 1.008 af, Atten= 0%, Lag= 0.0 min

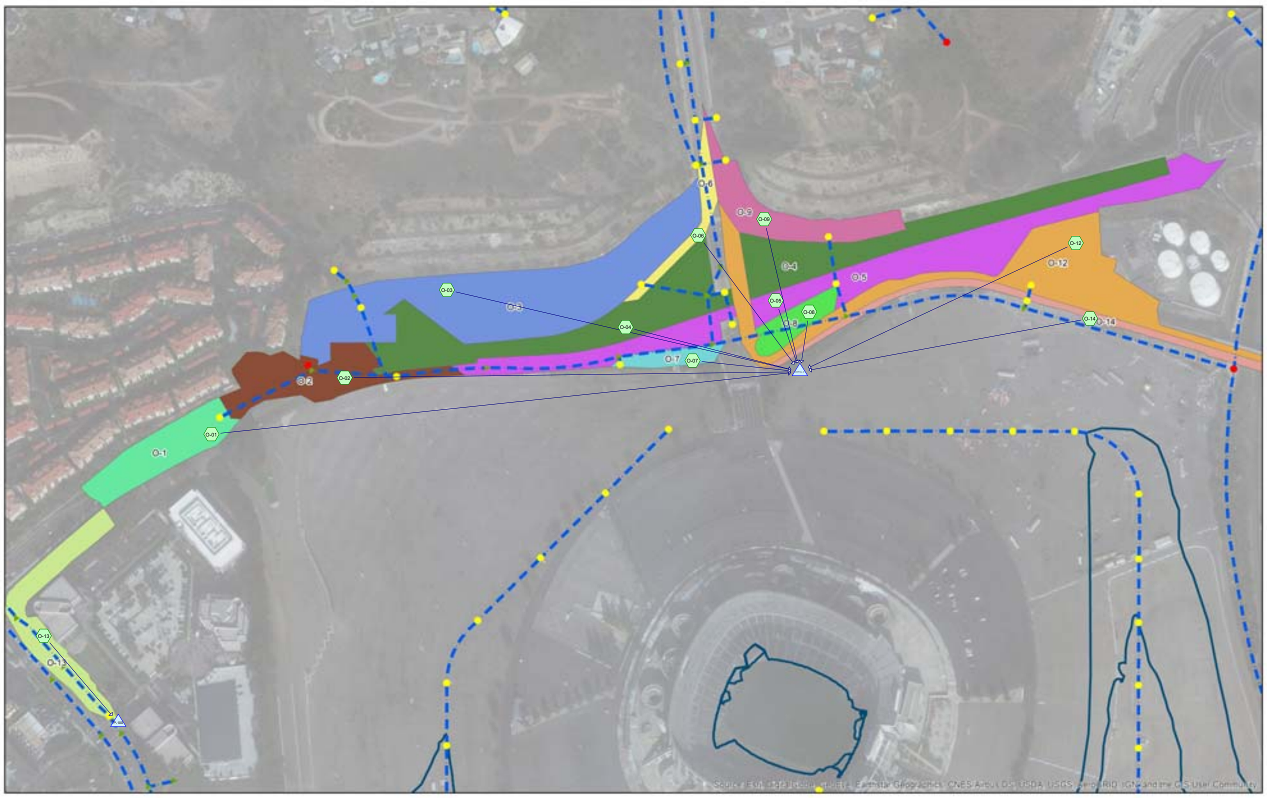
Routing by Dyn-Stor-Ind method, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs / 2

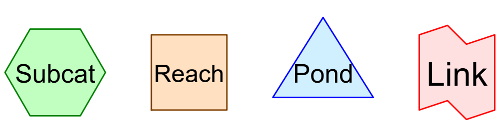
Summary for Pond P-100: P-100

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.430 ac,100.00% Impervious, Inflow Depth = 0.51" for 100-Year event
Inflow = 4.93 cfs @ 0.09 hrs, Volume= 0.061 af
Primary = 4.93 cfs @ 0.09 hrs, Volume= 0.061 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs / 2





Routing Diagram for Proposed Offsite Runoff
Prepared by SCCM, Printed 5/24/2019
HydroCAD® 10.00 s/n 03895 © 2012 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	C	Description (subcatchment-numbers)
11.420	0.95	Mixed Use, HSG D (O-01, O-02, O-03, O-06, O-13, O-14)
5.680	0.80	Mixed Use, HSG D (O-04)
4.180	0.82	Mixed Use, HSG D (O-05)
0.390	0.94	Mixed Use, HSG D (O-07)
0.560	0.72	Mixed Use, HSG D (O-08)
1.430	0.91	Mixed Use, HSG D (O-09)
3.580	0.93	Mixed Use, HSG D (O-12)
27.240	**0.89**	**TOTAL AREA**

50-year Rainfall Intensity

ELEV.	FACTOR
0-1500	1.00
1500-3000	1.25
3000-4000	1.42
4000-5000	1.60
5000-6000	1.7
DESERT	1.25

TO OBTAIN CORRECT INTENSITY, MULTIPLY INTENSITY ON CHART BY FACTOR FOR DESIGN ELEVATION.

RAINFALL
INTENSITY - DURATION - FREQUENCY
CURVES
FOR
COUNTY OF SAN DIEGO

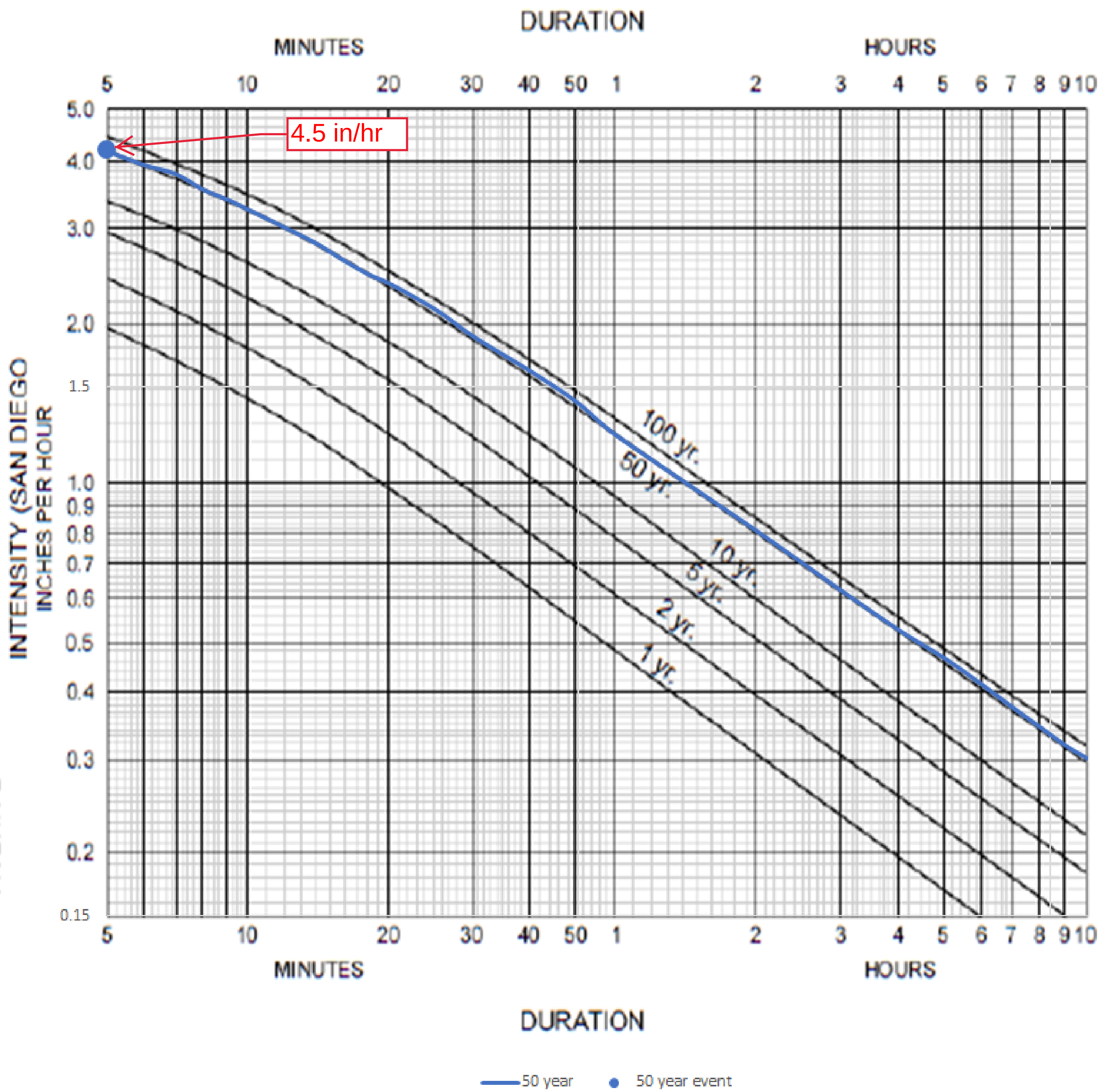


Figure A-1. Intensity-Duration-Frequency Design Chart

Time span=0.00-4.00 hrs, dt=0.01 hrs, 401 points x 2
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment O-01: O-01 Runoff Area=1.390 ac 100.00% Impervious Runoff Depth=0.48"
Tc=5.0 min C=0.95 Runoff=4.53 cfs 0.056 af

Subcatchment O-02: O-02 Runoff Area=1.780 ac 100.00% Impervious Runoff Depth=0.48"
Tc=5.0 min C=0.95 Runoff=5.80 cfs 0.072 af

Subcatchment O-03: O-03 Runoff Area=5.380 ac 100.00% Impervious Runoff Depth=0.48"
Tc=5.0 min C=0.95 Runoff=17.52 cfs 0.217 af

Subcatchment O-04: O-04 Runoff Area=5.680 ac 0.00% Impervious Runoff Depth=0.41"
Tc=5.0 min C=0.80 Runoff=15.58 cfs 0.193 af

Subcatchment O-05: O-05 Runoff Area=4.180 ac 0.00% Impervious Runoff Depth=0.42"
Tc=5.0 min C=0.82 Runoff=11.75 cfs 0.146 af

Subcatchment O-06: O-06 Runoff Area=0.500 ac 100.00% Impervious Runoff Depth=0.48"
Tc=5.0 min C=0.95 Runoff=1.63 cfs 0.020 af

Subcatchment O-07: C07 Runoff Area=0.390 ac 0.00% Impervious Runoff Depth=0.48"
Tc=5.0 min C=0.94 Runoff=1.26 cfs 0.016 af

Subcatchment O-08: O-08 Runoff Area=0.560 ac 0.00% Impervious Runoff Depth=0.37"
Tc=5.0 min C=0.72 Runoff=1.38 cfs 0.017 af

Subcatchment O-09: C07 Runoff Area=1.430 ac 0.00% Impervious Runoff Depth=0.46"
Tc=5.0 min C=0.91 Runoff=4.46 cfs 0.055 af

Subcatchment O-12: O-12 Runoff Area=3.580 ac 0.00% Impervious Runoff Depth=0.47"
Tc=5.0 min C=0.93 Runoff=11.41 cfs 0.141 af

Subcatchment O-13: O-13 Runoff Area=1.430 ac 100.00% Impervious Runoff Depth=0.48"
Tc=5.0 min C=0.95 Runoff=4.66 cfs 0.058 af

Subcatchment O-14: O-14 Runoff Area=0.940 ac 100.00% Impervious Runoff Depth=0.48"
Tc=5.0 min C=0.95 Runoff=3.06 cfs 0.038 af

Pond OUTFALL O: OUTFALL O Inflow=78.38 cfs 0.972 af
Primary=78.38 cfs 0.972 af

Pond P-100: P-100 Inflow=4.66 cfs 0.058 af
Primary=4.66 cfs 0.058 af

Total Runoff Area = 27.240 ac Runoff Volume = 1.029 af Average Runoff Depth = 0.45"
58.08% Pervious = 15.820 ac 41.92% Impervious = 11.420 ac

Summary for Subcatchment O-01: O-01

Runoff = 4.53 cfs @ 0.09 hrs, Volume= 0.056 af, Depth= 0.48"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=9 min, Inten=3.40 in/hr

Area (ac)	C	Description
1.390	0.95	Mixed Use, HSG D
1.390		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-02: O-02

Runoff = 5.80 cfs @ 0.09 hrs, Volume= 0.072 af, Depth= 0.48"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=9 min, Inten=3.40 in/hr

Area (ac)	C	Description
1.780	0.95	Mixed Use, HSG D
1.780		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-03: O-03

Runoff = 17.52 cfs @ 0.09 hrs, Volume= 0.217 af, Depth= 0.48"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=9 min, Inten=3.40 in/hr

Area (ac)	C	Description
5.380	0.95	Mixed Use, HSG D
5.380		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-04: O-04

Runoff = 15.58 cfs @ 0.09 hrs, Volume= 0.193 af, Depth= 0.41"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=9 min, Inten=3.40 in/hr

Area (ac)	C	Description
5.680	0.80	Mixed Use, HSG D
5.680		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-05: O-05

Runoff = 11.75 cfs @ 0.09 hrs, Volume= 0.146 af, Depth= 0.42"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=9 min, Inten=3.40 in/hr

Area (ac)	C	Description
4.180	0.82	Mixed Use, HSG D
4.180		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-06: O-06

Runoff = 1.63 cfs @ 0.09 hrs, Volume= 0.020 af, Depth= 0.48"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=9 min, Inten=3.40 in/hr

Area (ac)	C	Description
0.500	0.95	Mixed Use, HSG D
0.500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-07: C07

Runoff = 1.26 cfs @ 0.09 hrs, Volume= 0.016 af, Depth= 0.48"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=9 min, Inten=3.40 in/hr

Area (ac)	C	Description
0.390	0.94	Mixed Use, HSG D
0.390		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-08: O-08

Runoff = 1.38 cfs @ 0.09 hrs, Volume= 0.017 af, Depth= 0.37"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=9 min, Inten=3.40 in/hr

Area (ac)	C	Description
0.560	0.72	Mixed Use, HSG D
0.560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-09: C07

Runoff = 4.46 cfs @ 0.09 hrs, Volume= 0.055 af, Depth= 0.46"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=9 min, Inten=3.40 in/hr

Area (ac)	C	Description
1.430	0.91	Mixed Use, HSG D
1.430		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-12: O-12

Runoff = 11.41 cfs @ 0.09 hrs, Volume= 0.141 af, Depth= 0.47"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=9 min, Inten=3.40 in/hr

Area (ac)	C	Description
3.580	0.93	Mixed Use, HSG D
3.580		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-13: O-13

Runoff = 4.66 cfs @ 0.09 hrs, Volume= 0.058 af, Depth= 0.48"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=9 min, Inten=3.40 in/hr

Area (ac)	C	Description
1.430	0.95	Mixed Use, HSG D
1.430		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-14: O-14

Runoff = 3.06 cfs @ 0.09 hrs, Volume= 0.038 af, Depth= 0.48"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 50-Year Duration=9 min, Inten=3.40 in/hr

Area (ac)	C	Description
0.940	0.95	Mixed Use, HSG D
0.940		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Pond OUTFALL O: OUTFALL O

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area =	25.810 ac, 38.71% Impervious,	Inflow Depth = 0.45"	for 50-Year event	
Inflow =	78.38 cfs @	0.09 hrs, Volume=	0.972 af	
Primary =	78.38 cfs @	0.09 hrs, Volume=	0.972 af,	Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs / 2

Summary for Pond P-100: P-100

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area =	1.430 ac,100.00% Impervious,	Inflow Depth = 0.48"	for 50-Year event	
Inflow =	4.66 cfs @	0.09 hrs, Volume=	0.058 af	
Primary =	4.66 cfs @	0.09 hrs, Volume=	0.058 af,	Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs / 2

100-year Rainfall Intensity

ELEV.	FACTOR
0-1500	1.00
1500-3000	1.25
3000-4000	1.42
4000-5000	1.60
5000-6000	1.7
DESERT	1.25

TO OBTAIN CORRECT INTENSITY, MULTIPLY INTENSITY ON CHART BY FACTOR FOR DESIGN ELEVATION.

RAINFALL INTENSITY - DURATION - FREQUENCY CURVES FOR COUNTY OF SAN DIEGO

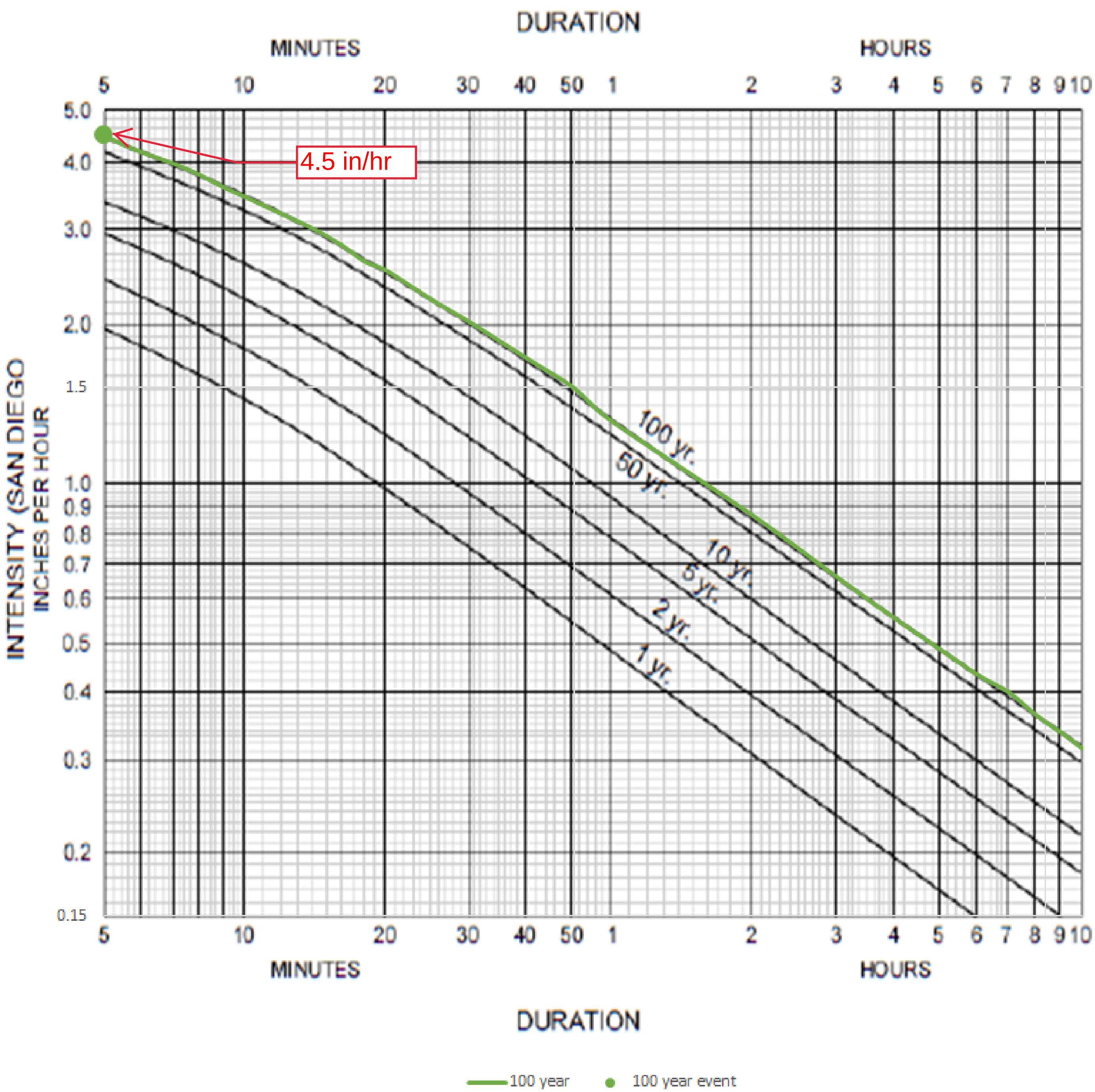


Figure A-1. Intensity-Duration-Frequency Design Chart

Time span=0.00-4.00 hrs, dt=0.01 hrs, 401 points x 2
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment O-01: O-01 Runoff Area=1.390 ac 100.00% Impervious Runoff Depth=0.51"
Tc=5.0 min C=0.95 Runoff=4.79 cfs 0.059 af

Subcatchment O-02: O-02 Runoff Area=1.780 ac 100.00% Impervious Runoff Depth=0.51"
Tc=5.0 min C=0.95 Runoff=6.14 cfs 0.076 af

Subcatchment O-03: O-03 Runoff Area=5.380 ac 100.00% Impervious Runoff Depth=0.51"
Tc=5.0 min C=0.95 Runoff=18.55 cfs 0.230 af

Subcatchment O-04: O-04 Runoff Area=5.680 ac 0.00% Impervious Runoff Depth=0.43"
Tc=5.0 min C=0.80 Runoff=16.49 cfs 0.204 af

Subcatchment O-05: O-05 Runoff Area=4.180 ac 0.00% Impervious Runoff Depth=0.44"
Tc=5.0 min C=0.82 Runoff=12.44 cfs 0.154 af

Subcatchment O-06: O-06 Runoff Area=0.500 ac 100.00% Impervious Runoff Depth=0.51"
Tc=5.0 min C=0.95 Runoff=1.72 cfs 0.021 af

Subcatchment O-07: C07 Runoff Area=0.390 ac 0.00% Impervious Runoff Depth=0.51"
Tc=5.0 min C=0.94 Runoff=1.33 cfs 0.016 af

Subcatchment O-08: O-08 Runoff Area=0.560 ac 0.00% Impervious Runoff Depth=0.39"
Tc=5.0 min C=0.72 Runoff=1.46 cfs 0.018 af

Subcatchment O-09: C07 Runoff Area=1.430 ac 0.00% Impervious Runoff Depth=0.49"
Tc=5.0 min C=0.91 Runoff=4.72 cfs 0.059 af

Subcatchment O-12: O-12 Runoff Area=3.580 ac 0.00% Impervious Runoff Depth=0.50"
Tc=5.0 min C=0.93 Runoff=12.09 cfs 0.150 af

Subcatchment O-13: O-13 Runoff Area=1.430 ac 100.00% Impervious Runoff Depth=0.51"
Tc=5.0 min C=0.95 Runoff=4.93 cfs 0.061 af

Subcatchment O-14: O-14 Runoff Area=0.940 ac 100.00% Impervious Runoff Depth=0.51"
Tc=5.0 min C=0.95 Runoff=3.24 cfs 0.040 af

Pond OUTFALL O: OUTFALL O Inflow=82.99 cfs 1.029 af
Primary=82.99 cfs 1.029 af

Pond P-100: P-100 Inflow=4.93 cfs 0.061 af
Primary=4.93 cfs 0.061 af

Total Runoff Area = 27.240 ac Runoff Volume = 1.090 af Average Runoff Depth = 0.48"
58.08% Pervious = 15.820 ac 41.92% Impervious = 11.420 ac

Summary for Subcatchment O-01: O-01

Runoff = 4.79 cfs @ 0.09 hrs, Volume= 0.059 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=9 min, Inten=3.60 in/hr

Area (ac)	C	Description
1.390	0.95	Mixed Use, HSG D
1.390		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-02: O-02

Runoff = 6.14 cfs @ 0.09 hrs, Volume= 0.076 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=9 min, Inten=3.60 in/hr

Area (ac)	C	Description
1.780	0.95	Mixed Use, HSG D
1.780		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-03: O-03

Runoff = 18.55 cfs @ 0.09 hrs, Volume= 0.230 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=9 min, Inten=3.60 in/hr

Area (ac)	C	Description
5.380	0.95	Mixed Use, HSG D
5.380		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-04: O-04

Runoff = 16.49 cfs @ 0.09 hrs, Volume= 0.204 af, Depth= 0.43"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=9 min, Inten=3.60 in/hr

Area (ac)	C	Description
5.680	0.80	Mixed Use, HSG D
5.680		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-05: O-05

Runoff = 12.44 cfs @ 0.09 hrs, Volume= 0.154 af, Depth= 0.44"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=9 min, Inten=3.60 in/hr

Area (ac)	C	Description
4.180	0.82	Mixed Use, HSG D
4.180		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-06: O-06

Runoff = 1.72 cfs @ 0.09 hrs, Volume= 0.021 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=9 min, Inten=3.60 in/hr

Area (ac)	C	Description
0.500	0.95	Mixed Use, HSG D
0.500		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-07: C07

Runoff = 1.33 cfs @ 0.09 hrs, Volume= 0.016 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=9 min, Inten=3.60 in/hr

Area (ac)	C	Description
0.390	0.94	Mixed Use, HSG D
0.390		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-08: O-08

Runoff = 1.46 cfs @ 0.09 hrs, Volume= 0.018 af, Depth= 0.39"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=9 min, Inten=3.60 in/hr

Area (ac)	C	Description
0.560	0.72	Mixed Use, HSG D
0.560		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-09: C07

Runoff = 4.72 cfs @ 0.09 hrs, Volume= 0.059 af, Depth= 0.49"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=9 min, Inten=3.60 in/hr

Area (ac)	C	Description
1.430	0.91	Mixed Use, HSG D
1.430		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-12: O-12

Runoff = 12.09 cfs @ 0.09 hrs, Volume= 0.150 af, Depth= 0.50"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=9 min, Inten=3.60 in/hr

Area (ac)	C	Description
3.580	0.93	Mixed Use, HSG D
3.580		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-13: O-13

Runoff = 4.93 cfs @ 0.09 hrs, Volume= 0.061 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=9 min, Inten=3.60 in/hr

Area (ac)	C	Description
1.430	0.95	Mixed Use, HSG D
1.430		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Subcatchment O-14: O-14

Runoff = 3.24 cfs @ 0.09 hrs, Volume= 0.040 af, Depth= 0.51"

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs
City of San Diego 100-Year Duration=9 min, Inten=3.60 in/hr

Area (ac)	C	Description
0.940	0.95	Mixed Use, HSG D
0.940		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry, PA01**

Summary for Pond OUTFALL O: OUTFALL O

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 25.810 ac, 38.71% Impervious, Inflow Depth = 0.48" for 100-Year event
Inflow = 82.99 cfs @ 0.09 hrs, Volume= 1.029 af
Primary = 82.99 cfs @ 0.09 hrs, Volume= 1.029 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs / 2

Summary for Pond P-100: P-100

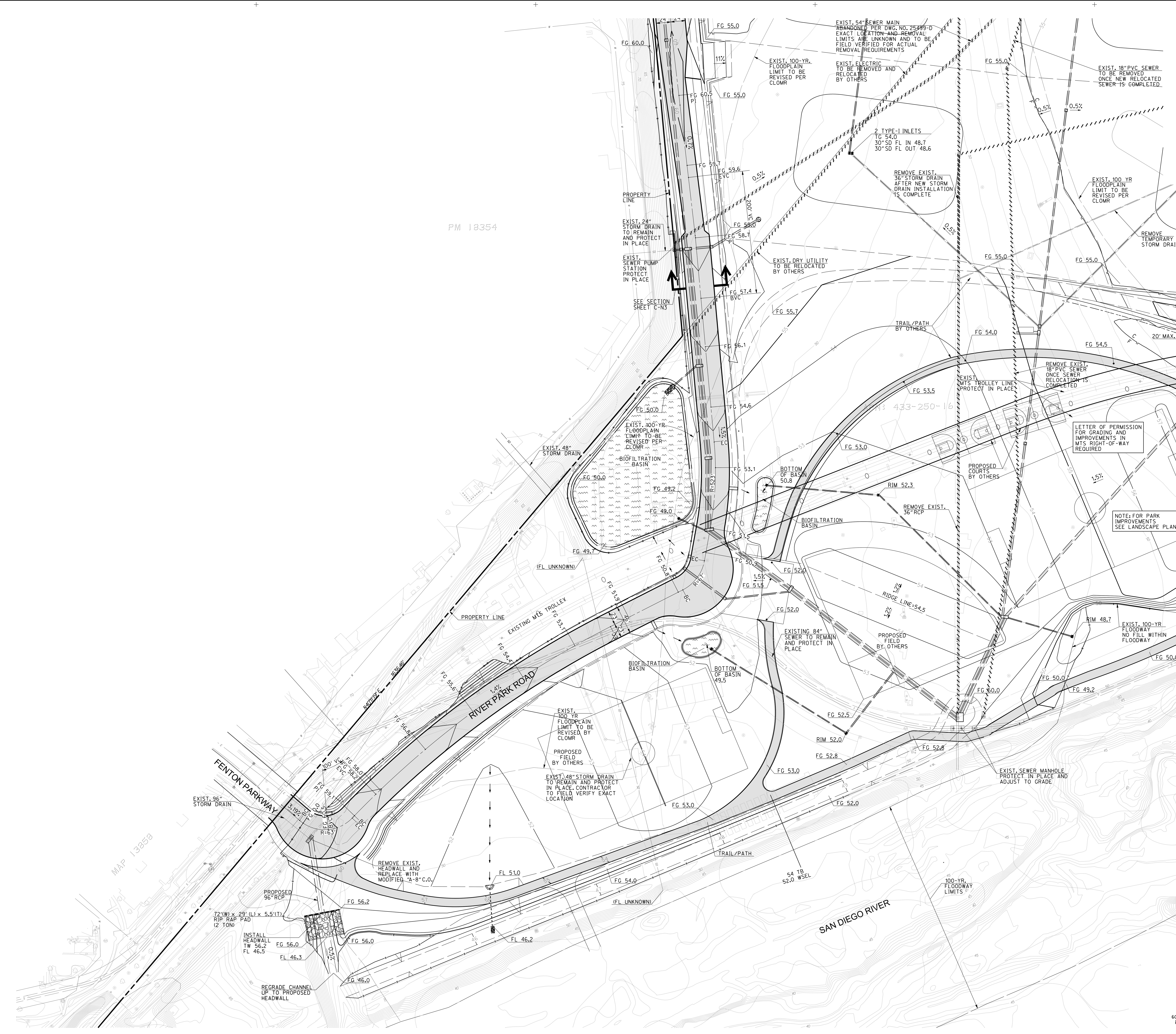
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.430 ac,100.00% Impervious, Inflow Depth = 0.51" for 100-Year event
Inflow = 4.93 cfs @ 0.09 hrs, Volume= 0.061 af
Primary = 4.93 cfs @ 0.09 hrs, Volume= 0.061 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-4.00 hrs, dt= 0.01 hrs / 2

APPENDIX C.4

96" Storm Drain Extension Drawing



NOTE:

1. CONTRACTOR TO REMOVE ALL EXISTING PAVING WITHIN GRADING AND IMPROVEMENT AREAS AND RECYCLE ON-SITE.

2. ALL EXISTING UTILITIES SHOWN ARE APPROXIMATE AND PLOTTED PER AS-BUILT DRAWINGS. POTHOLING AND FIELD SURVEY REQUIRED TO LOCATE ALL FACILITIES HORIZONTALLY AND VERTICALLY.

3. ALL STADIUM RELATED ON-SITE DRY UTILITIES, LIGHTING AND IRRIGATION WITHIN PARKING LOTS ARE NOT SHOWN AND TO BE IDENTIFIED REMOVED OR RELOCATED AS NEEDED BY CONTRACTOR.

4. ALL UTILITIES AND LATERALS SERVICING THE STADIUM TO BE INCLUDED INTO THE STADIUM DEMOLITION.

5. ALL GRADING IS PRELIMINARY AND SHALL BE VERIFIED IN FINAL ENGINEERING.

6. EXISTING 100 YEAR FEMA FLOODPLAIN REVISIONS PER CLOMR IS TO BE DONE BY OTHERS.

7. ALL EXISTING MANHOLES, CLEANOUTS, DRY UTILITY BOXES THAT ARE TO REMAIN WILL NEED TO BE ADJUSTED TO GRADE WHERE APPLICABLE.

8. EXISTING TOPO FOR THIS PHASE INCLUDES AERIAL PHOTOGRAPHY AND PHASE 1a GRADING.

9. STADIUM DEMOLITION BY OTHERS.

10. FOR STORM DRAIN INFORMATION SEE PHASE 1b UTILITY SHEETS.

11. ALL TEMPORARY PARK AREAS TO HAVE GRAVEL OR AC INSTALLED PER LANDSCAPE PLANS.

12. SEE SHEET C-2.9 FOR UTILITIES IN THIS AREA.

RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165

SAN DIEGO STATE UNIVERSITY

SAN DIEGO STATE UNIVERSITY MISSION VALLEY

75% DD SITE DEVELOPMENT PACKAGE

ISSUED: 01/18/19-RFP
REV. 2/12/19

PROJECT NO:

FILENAME:

DRAWN BY: CHECKED BY:

PLOT DATE:

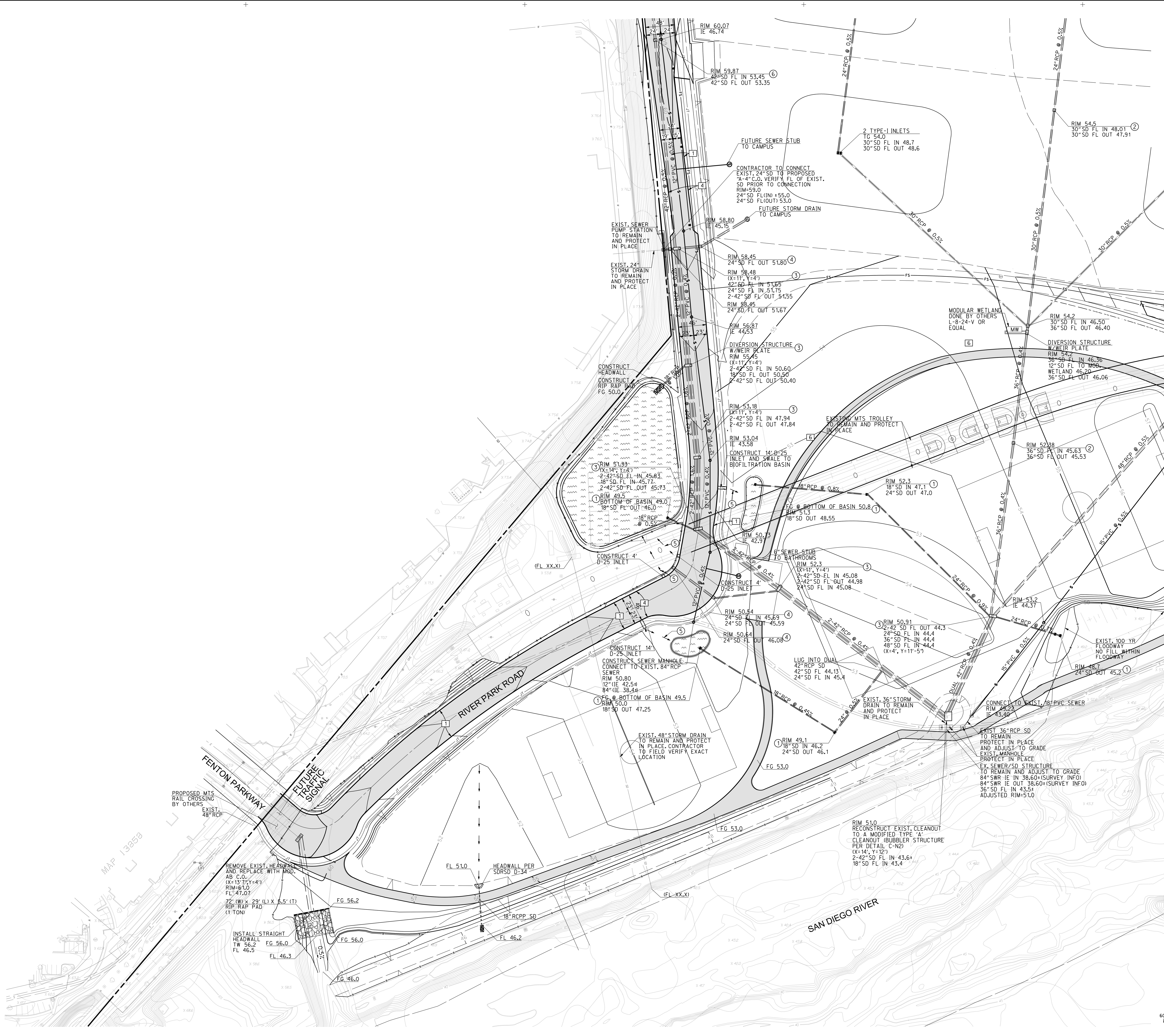
TITLE:

PHASE 1B GRADING

11 OF 23

DRAWING NO:

C-2.3



UTILITY CONSTRUCTION NOTES

1. CONSTRUCT TYPE - I INLET
2. CONSTRUCT A-4 CLEANOUT
3. CONSTRUCT MOD. A-5 CLEANOUT
4. CONSTRUCT TYPE - B CURB INLET
5. CONSTRUCT SWALE PER DETAIL SHEET 3
6. CONSTRUCT A-5 CLEANOUT
7. CONSTRUCT MOD. A-8 CLEANOUT (Y=7)
8. CONSTRUCT A-6 CLEANOUT
9. CONSTRUCT A-8 CLEANOUT WITH GRATED TOP
10. CONSTRUCT A-7 CLEANOUT
11. INSTALL FIRE HYDRANT
12. STEEL CASING PER SEWER MAIN
13. JOINT TRENCH IN TUNNEL WILL ONLY CONTAIN ELECTRICAL, TELEPHONE AND TV. NO GAS.
14. PROPOSED WATER MAIN/FIRE SERVICE WILL NEED TO DIP UNDER PROPOSED UTILITY AT THIS LOCATION

IMPROVEMENT CONSTRUCTION NOTES

1. INSTALL 6" CURB AND GUTTER
2. INSTALL 0" CURB
3. INSTALL STREET LIGHTS
4. INSTALL SCHEDULE PAVEMENT
5. INSTALL CONCRETE ASPHALT
6. LANDSCAPE PATH PER LANDSCAPE PLANS
7. PLAY AREA BY OTHERS
8. RAISED MEDIAN W/MEDIAN CURB

IMPROVEMENT/UTILITY NOTES:

- ALL UTILITIES ARE PRELIMINARY AND SHALL BE VERIFIED IN FINAL ENGINEERING
- ALL STORM DRAIN IS 24" RCP UNLESS OTHERWISE NOTED
- ALL STORM DRAIN IS AT 0.5% UNLESS OTHERWISE NOTED
- ALL STORM DRAIN SHALL BE WATERTIGHT JOINTS
- ALL SEWER IS 12" PVC UNLESS OTHERWISE NOTED
- ALL SEWER IS AT 0.5% UNLESS OTHERWISE NOTED
- ALL SEWER HAVE A MINIMUM VELOCITY 2.0 fps AND CAPACITY FOR 12"-15" PVC PIPE IS LESS THAN 50% FULL
- ALL FIRE HYDRANTS TO BE LOCATED PER APPLICABLE FIRE STANDARDS
- ALL WATER AND FIRE FACILITIES TO INCORPORATE A.V., B.O., TEES AND THRUST BLOCKS AT FINAL DESIGN
- INSTALL ALL TRAFFIC SIGNAL CONDUITS FOR FUTURE TRAFFIC SIGNAL IN THAT PHASE
- ALL FIRE SERVICE LINES ARE 12" UNLESS SHOWN OTHERWISE
- ALL WATER LINES ARE 12" UNLESS SHOWN OTHERWISE

GRAPHIC SCALE 1" = 60'

RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
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(FAX) 619-291-4165

SAN DIEGO STATE UNIVERSITY

SAN DIEGO STATE UNIVERSITY MISSION VALLEY

75% DD SITE DEVELOPMENT PACKAGE

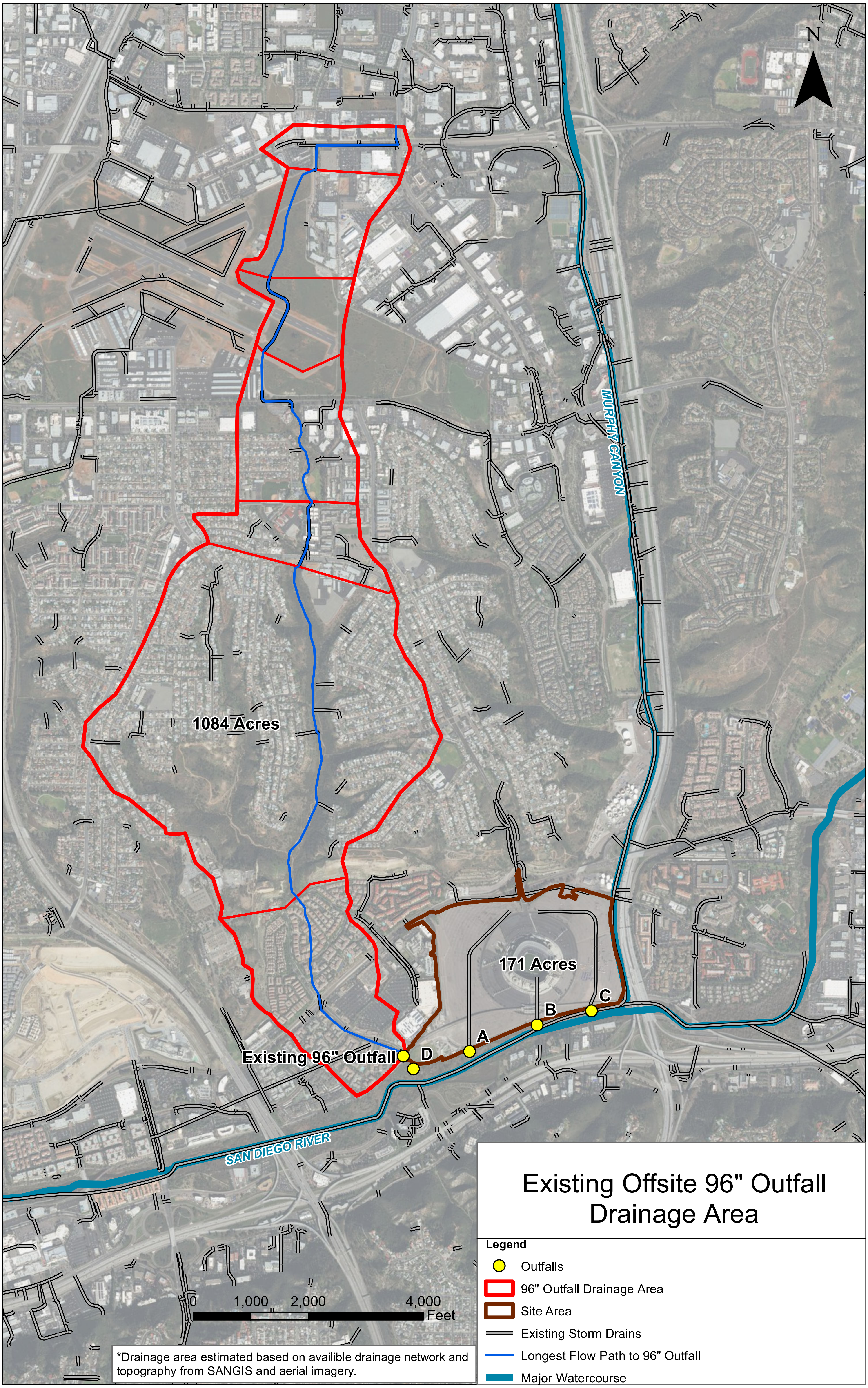
ISSUED: 01/18/19-RFP
REV. 2/12/19

PROJECT NO:
FILENAME:
DRAWN BY: CHECKED BY:
PLOT DATE:
TITLE:

PHASE 1B UTILITIES

DRAWING NO:
C-2.8

APPENDIX C.5
96" Storm Drain Delineation Figure



Existing Offsite 96" Outfall Drainage Area

Legend

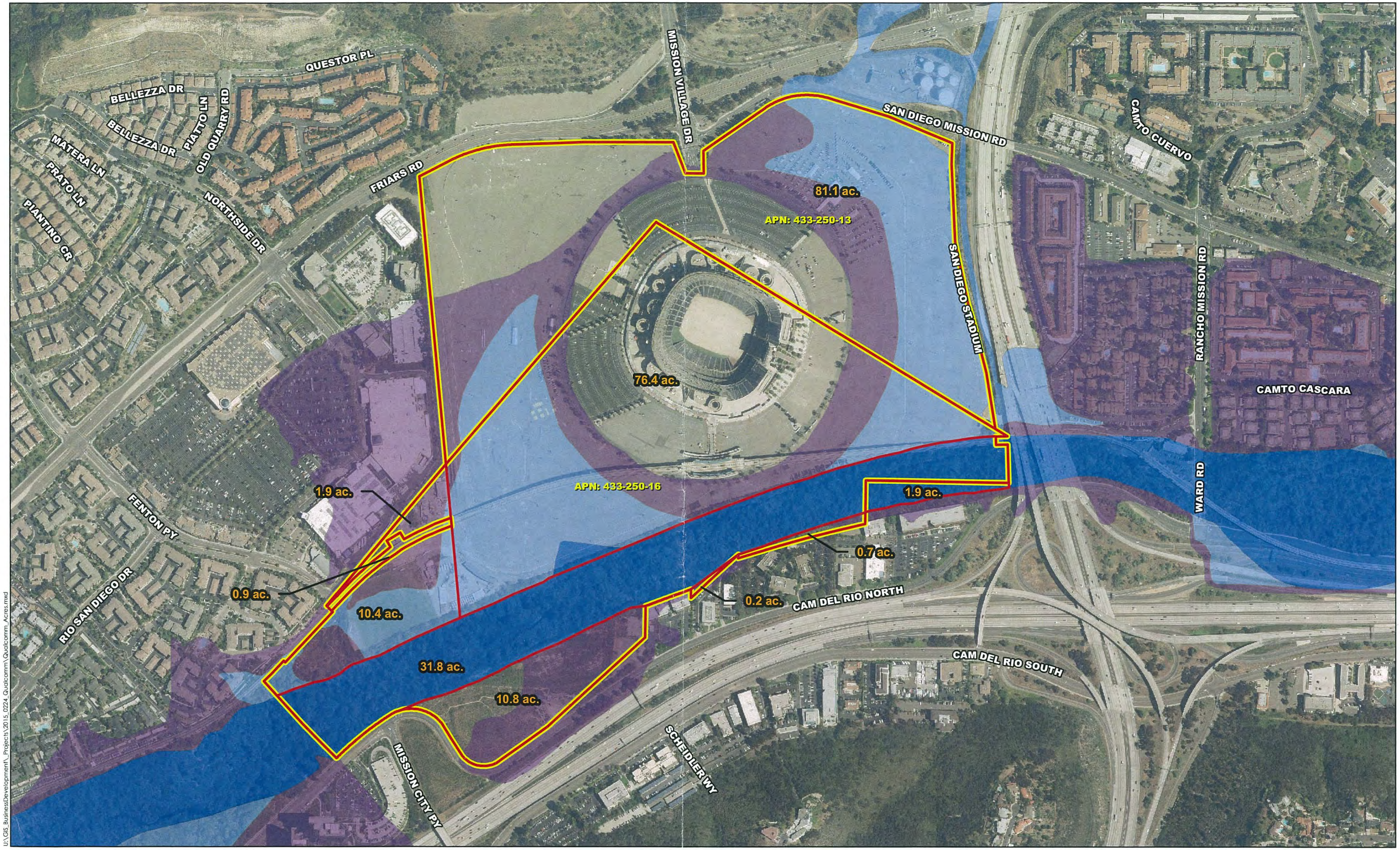
- Outfalls
- 96" Outfall Drainage Area
- Site Area
- Existing Storm Drains
- Longest Flow Path to 96" Outfall
- Major Watercourse

APPENDIX C.6
96" Storm Drain Tine of Concentration

System West				
	Storm Drain 1			
Pipe Length	2218	feet		
Pipe Diameter	4.0	feet	Assumes 42" dia	
Pipe Slope	0.005		Averaged over full length of pipe	
manning's n	0.013		concrete	
depth (iterative for 2 year depth)	2.77	feet		
h	1.2			
Theta	2.4			
K	3.3			
Area	9.3		C	0.85
Wetted Perimeter	7.9		A	41
Hydraulic Radius	1.18		Q=CIA	83.64
Culvert velocity	9.0	feet/sec	Q=A*V	83.64
Time through culvert	4.1	minutes		
Tc	5	minutes		
	Open Channel 2			
Length	2046	feet		
side slopes	2.0	feet	Assumes 42" dia	
Bottom Width	5.0			
Channel Slope	0.003		Averaged over full length of channel	
manning's n	0.030		Clean, no rifts or deep pools	
depth (iterative for 2 year depth)	4.81	feet		
Area	33.7		C	0.6
Wetted Perimeter	26.5		A	118
Hydraulic Radius	1.27		Q=CIA	106.20
Channel velocity	3.2	feet/sec	Q=A*V	106.22
Time through culvert	10.8	minutes		
Tc	16	minutes		
	Storm Drain 3			
Pipe Length	1645	feet		
Pipe Diameter	6.0	feet		
Pipe Slope	0.001			
manning's n	0.013		concrete	
depth (iterative for 2 year depth)	4.19	feet		
h	1.8			
Theta	2.3			
K	7.2			
Area	21.1		C	0.6
Wetted Perimeter	11.9		A	169
Hydraulic Radius	1.78		Q=CIA	123.71
Culvert velocity	5.9	feet/sec	Q=A*V	123.71
Time through culvert	4.7	minutes		
Tc	20	minutes		
	Open Channel 4			
Length	3242	feet		
side slopes	2.0	feet		
Bottom Width	30.0			
Channel Slope	0.015			
manning's n	0.040		clean winding some pools	
depth (iterative for 2 year depth)	1.08	feet		
Area	34.6		C	0.6
Wetted Perimeter	34.8		A	276
Hydraulic Radius	0.99		Q=CIA	158.98
Channel velocity	4.6	feet/sec	Q=A*V	158.98
Time through culvert	11.7	minutes		
Tc	32	minutes		
Storm Drain 5				
Pipe Length	1191	feet		
Pipe Diameter	6.0	feet		
Pipe Slope	0.047			
manning's n	0.013		Concrete	
depth (iterative for 2 year depth)	1.98	feet		
h	2.0			
Theta	2.4			
K	8.1			
Area	8.1		C	0.65
Wetted Perimeter	7.3		A	346
Hydraulic Radius	1.11		Q=CIA	215.90
Culvert velocity	26.6	feet/sec	Q=A*V	215.90
Time through culvert	0.7	minutes		
Tc	33	minutes		

Open Channel 6							
Length	5989	feet					
side slopes	2.0	feet					
Bottom Width	30.0						
Channel Slope	0.029						
manning's n	0.048		more ineffective slopes and sections				
depth (iterative for 2 year depth)	1.11	feet					
Area	35.6		C	0.6			
Wetted Perimeter	35.0		A	453			
Hydraulic Radius	1.02		Q=CIA	190.26			
Channel velocity	5.4	feet/sec	Q=A*V	190.26			
Time through culvert	18.7	minutes					
Tc	52	minutes					
Storm Drain 7							
Pipe Length	3814	feet					
Pipe Diameter	8.0	feet					
Pipe Slope	0.023		Averaged over full length of pipe				
manning's n	0.013		concrete				
depth (iterative for 2 year depth)	1.59	feet					
h	1.6						
Theta	1.8						
K	7.1						
Area	7.1		C	0.5			
Wetted Perimeter	7.4		A	338.264288			
Hydraulic Radius	0.96		Q=CIA	118.39			
Culvert velocity	16.7	feet/sec	Q=A*V	118.44			
Time through culvert	3.8	minutes					
Tc	55	minutes					
Tc	55	minutes					

APPENDIX D
FEMA Flood Plain



RICK ENGINEERING COMPANY

Scale in Feet
0 500 1,000
North

Date of Exhibit: 4/8/2015
DigitalGlobe Aerial Image: 04.2013
Utilities: SANGIS
FEMA NFHL: 06.2014

Legend
- Segment
- Parcels

FEMA
- 100-YR Floodway
- 100-YR Floodplain
- 500-YR Floodplain

Qualcomm Stadium
Parcel Acres

NOTES TO USERS

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Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

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National Geodetic Survey
SSMC-3, #9202
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Silver Spring, Maryland 20910-3282
(301) 713-3242

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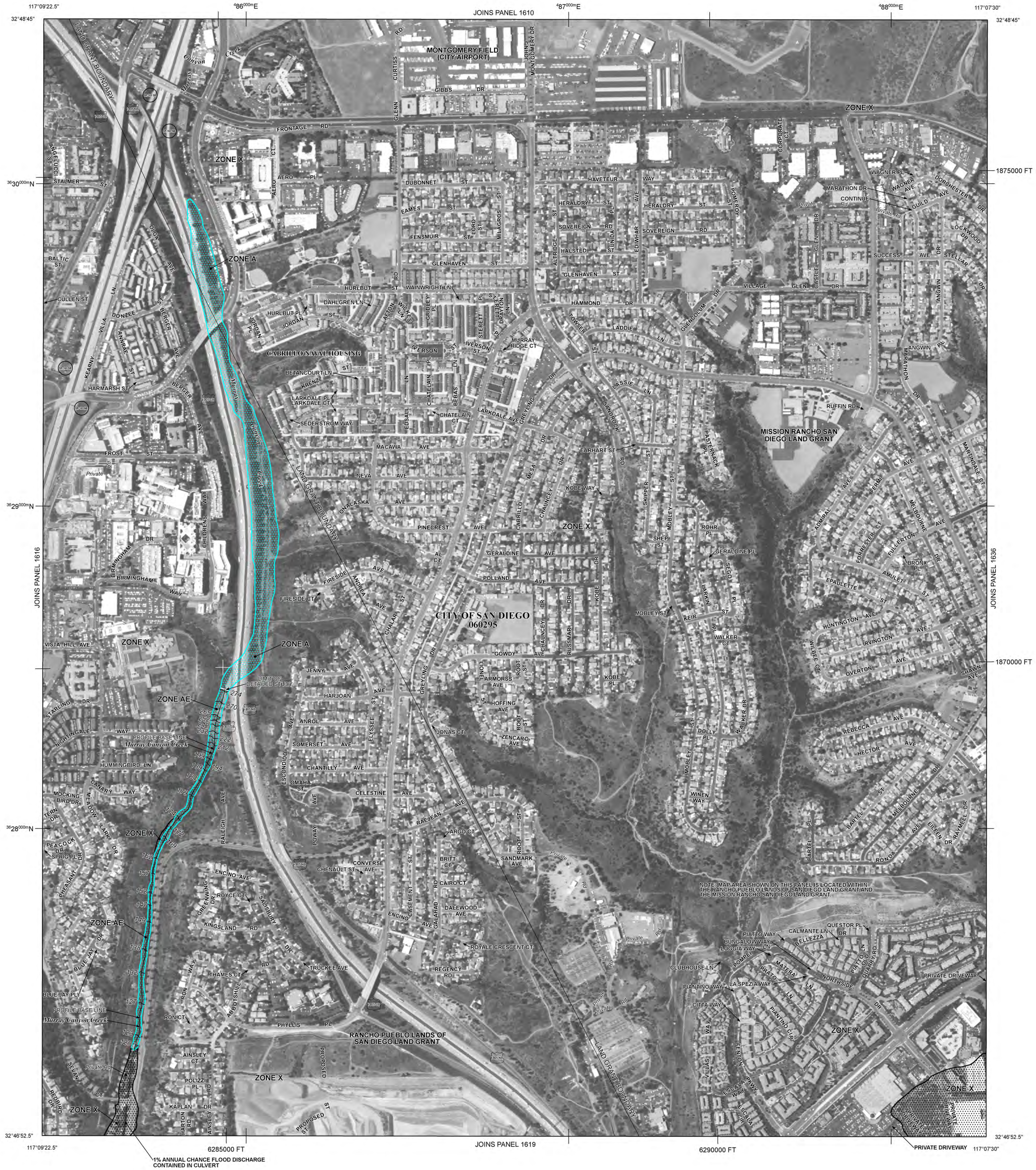

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary
0.2% annual chance floodplain boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities

513	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

A — A	Cross section line
23 - - - 23	Transect line
97°07'30", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
$^{42}75^{000m}$E	1000-meter Universal Transverse Mercator grid ticks, zone 11
6000000 FT	5000-foot grid values: California State Plane coordinate system, Zone VI (FIPSZONE = 406), Lambert projection
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
• M1.5	River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
June 19, 1997

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
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MAP SCALE 1" = 500'

250 0 250 500 750 1,000 FEET
150 0 150 300 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1617G

FIRM
FLOOD INSURANCE RATE MAP
SAN DIEGO COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 1617 OF 2375

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SAN DIEGO, CITY OF	060295	1617	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER 06073C1617G

MAP REVISED MAY 16, 2012

Federal Emergency Management Agency

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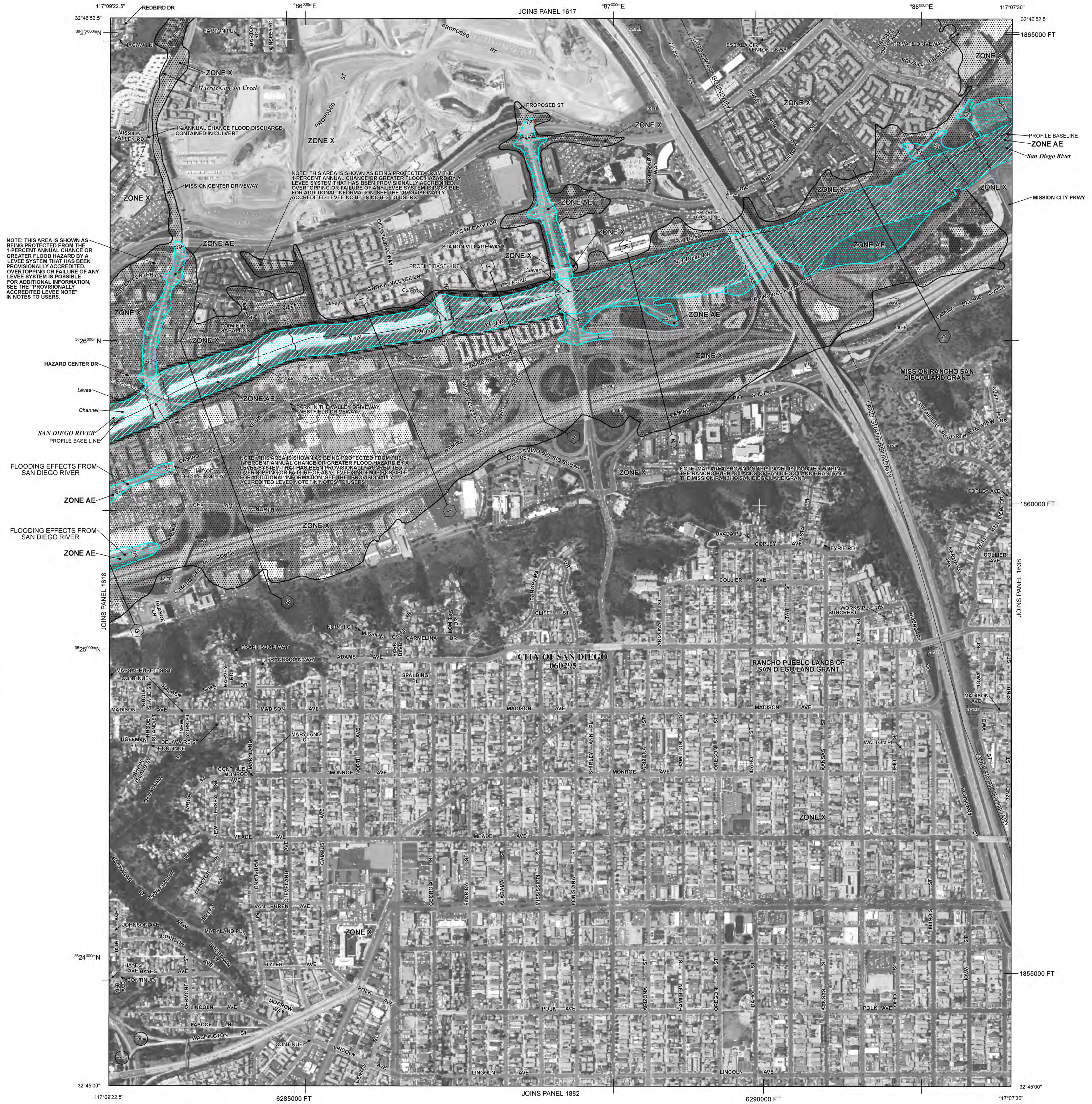
Provionally Accredited Levee Notes to Users: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, on the levee systems(s) shown as providing protection for areas on this panel. To maintain accreditation, the levee owner or community is required to submit the data and documentation necessary to comply with Section 65.10 of the NFIP regulations by May 16, 2012. If the community or owner does not provide the necessary data and documentation or if the data and documentation provided indicate the levee system does not comply with Section 65.10 requirements, FEMA will revise the flood hazard and risk information for this area to reflect de-accreditation of the levee system. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at http://www.fema.gov/business/nfip/indes/shtm.



LEGEND

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ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

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ZONE A99 Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

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EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
June 19, 1997

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
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250 0 250 500 750 1,000 FEET

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NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1619G

FIRM

FLOOD INSURANCE RATE MAP

SAN DIEGO COUNTY, CALIFORNIA

AND INCORPORATED AREAS

PANEL 1619 OF 2375

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SAN DIEGO, CITY OF	060295	1619	G

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MAP NUMBER
06073C1619G

MAP REVISED
MAY 16, 2012

Federal Emergency Management Agency

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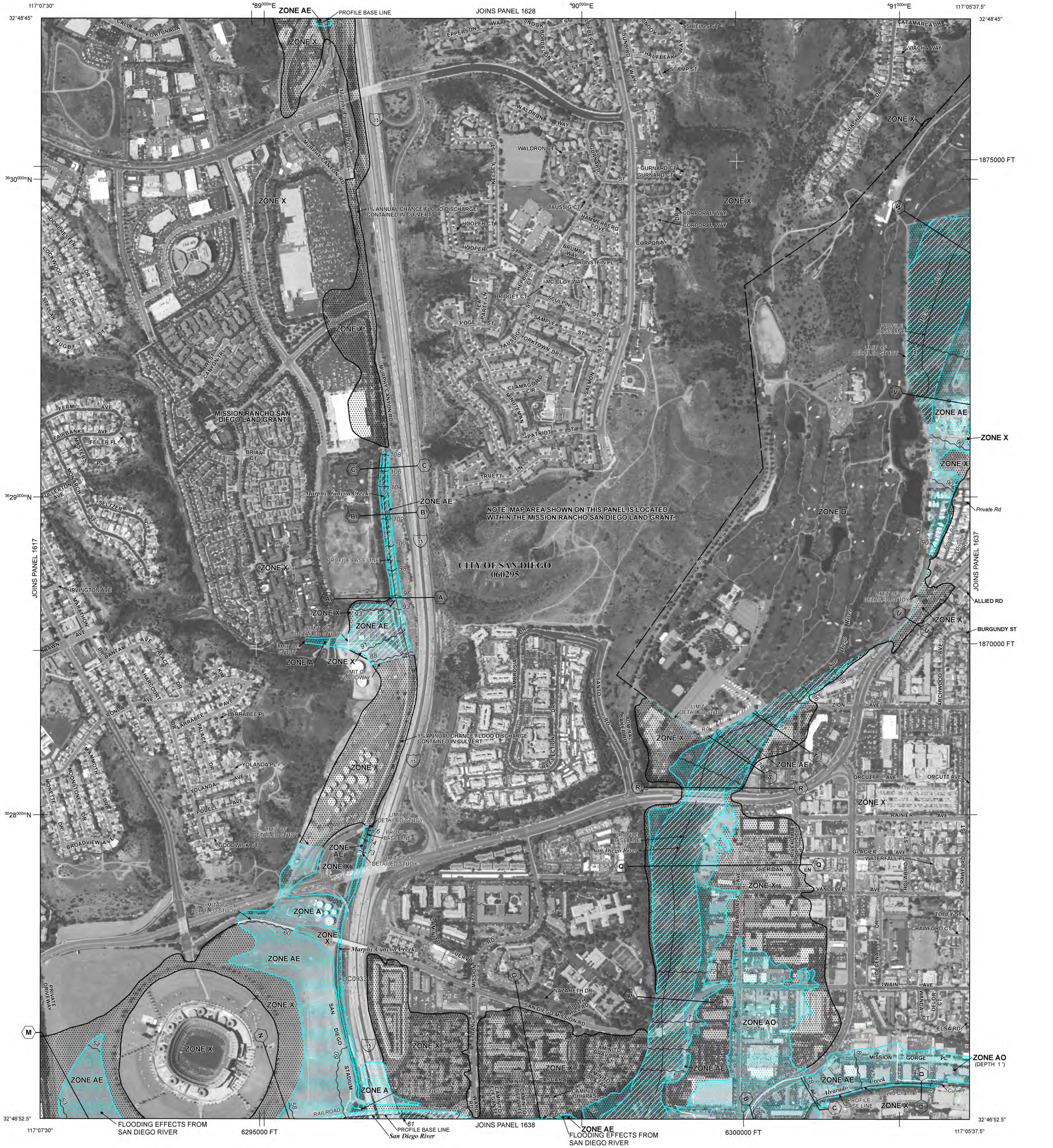
The **"profile base lines"** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line", in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary
0.2% annual chance floodplain boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities

~~ 513 ~~~	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

A —— A	Cross section line
23 - - - - 23	Transect line
97°07'30", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
$^{42}75^{000m}$E	1000-meter Universal Transverse Mercator grid ticks, zone 11
6000000 FT	5000-foot grid values: California State Plane coordinate system, Zone VI (FIPSZONE = 406), Lambert projection
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
● M1.5	River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
June 19, 1997

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
June 16, 1999

May 16, 2012 – to update corporate limits, to add roads and road names, to incorporate previously issued Letters of Map Revision, and to update map elevations to North American Vertical Datum of 1988.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 250 500 750 1,000 FEET
150 0 150 300 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1636H

FIRM
FLOOD INSURANCE RATE MAP
SAN DIEGO COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 1636 OF 2375

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
SAN DIEGO, CITY OF	060295	1636	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06073C1636H

MAP REVISED
MAY 16, 2012

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) Zone 11. The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

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NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1638H

FIRM

FLOOD INSURANCE RATE MAP

SAN DIEGO COUNTY, CALIFORNIA

AND INCORPORATED AREAS

PANEL 1638 OF 2375

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
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06073C1638H

MAP REVISED
MAY 16, 2012

Federal Emergency Management Agency