Appendix K. Simi Valley Double Track and Platform Project Preliminary Drainage Report

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Drainage Report (30% Design)

Metrolink SCORE – Simi Valley Double Track and Platform Project

City of Simi Valley
Venture County

April 17, 2020

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1.0 Introduction

A. Project Description

The Simi Valley Double Track and Platform Project (Project) is the first segment of Southern California Regional Rail Authority's (SCRRA's) Southern California Optimized Rail Expansion (SCORE) Program which implements rail infrastructure improvements necessary to support expanded Metrolink commuter rail passenger services. Approximately 2.16 miles of new track will be added between new Control Point (CP) Sequoia and new CP Arroyo. Improvements will be made to grade crossings such as adding new track panels and warning devices at Tapo Canyon Road, Tapo Street, E. Los Angeles Avenue and Hidden Ranch Drive. Also, a second platform at Simi Valley station with a pedestrian underpass will be constructed.

B. Purpose

The purpose of this report is to document the hydrology and hydraulic analysis conducted in order to provide adequate flood control protection for the proposed project improvements and any existing facilities that are potentially affected by the project. This report documents the drainage design methodology that will be used and the associated input parameters such as soil type, land use and rainfall information. This report provides an overview of all existing drainage facilities and proposed drainage improvements within the Project. The hydrology and hydraulic calculations will be summarized within this report and design recommendations will be provided in order to develop construction drawings.

Figure 1. Site Map and Vicinity Map

2.0 Methodology

A. Hydrology

Hydrologic calculations to determine the peak discharge for watersheds that cross the railroad right-of-way were computed using the Modified Rational Method (MRM). As outlined in the Ventura County Watershed Protection District Design Hydrology Manual, dated 2017, the MRM is appropriate for modeling partially- to fully-developed urbanized catchments of up to about 5,000 AC. The MRM requires intensive effort to digitize boundaries and calculate Tc's for the relatively numerous subareas. Calculations were performed using VCRat.

In the SCRRA Design Manual, Metrolink requires that a 10-year peak flow rate be used to design for surface drainage facilities, storm drain inlets, and underground storm drains in SCRRA stations, adjacent streets, rail yards, parking lots, ditches that do not cross the track and bridges and culverts that do not carry rail traffic.

SOIL TYPE/ LAND USE

The Ventura County GIS database was used to identify the project's soil types. A map of the soil types in the project vicinity has been provided in Appendix B. Based on this information, the soil types were found per the Ventura County Watershed Protection District Data maps. Table 2-1 below shows the soil types for each subarea.

Table 2-1. Soil Types

Subarea	Soil Type
A	4.0
B	7.0
C	7.0
D	5.0
E	4.0

RAINFALL/INTENSITY

Rainfall intensities for the each watershed were determined from the Ventura County Hydrology Maps from Appendix E of the 2017 Ventura County Watershed Protection District Design Hydrology Manual. These maps are included in Appendix B of this report. Table 2-2 below is a summary of the rainfall data used in the hydrology analysis.

Table 2-2. Rainfall Data

Storm Event Frequency	24-Hour Rainfall (Ventura County)
10-year	4.7
50-year	6.3
100-year	6.7

The Ventura County Watershed Protection District Design Hydrology Manual defines the Time of Concentration (Tc) as "the time required for runoff to travel from the hydraulically most distant point of a watershed to its outlet. It is the summation of the travel times associated with overland flow and concentrated flow in streets, pipes and stream channels." Tc values were calculated in accordance with the Ventura County Watershed Protection District Design Hydrology Manual.

B. Hydraulics

STORM DRAIN DESIGN CRITERIA

The Manning roughness coefficients (n) of the various pipe materials within the project limits are governed by the average Manning roughness coefficients for closed conduits. Table 2-3 below is a summary of the Manning roughness coefficients for the different pipe materials that will be used in the hydraulic analysis.

Table 2-3. Manning Roughness Coefficient for Closed Conduits

Pipe Material	Manning Roughness Coefficient (n)
HDPE and PVC (smooth interior)	0.012
HDPE and PVC (corrugated)	0.022
Reinforced Concrete Pipe	0.013
Concrete Lined Steel Pipe	0.013
No-joint Cast in place Cement Pipe	0.014
Corrugated Metal Pipe	0.016-0.031

The hydraulic analysis will be performed using Bentley FlowMaster V8i and WSPGW. The calculations were performed assuming a 0.50% minimum slope which is required by Metrolink and is a conservative approach. The analysis is included in the appendix of the report.

INLET DESIGN CRITERIA

Inlet design is governed by the guidelines set forth in Section **8.6.3** of the **SCRRA Design Criteria Manual, dated November 2014.**

1. Drop inlets on continuous grade, in track ditch, shoulder, or swale areas or in a depressed median between tracks where water is trapped, may be depressed in a drainage dike with side slopes of 8:1 to increase capacity.
2. If the capacity of the waterway portion exceeds the inlet capacities, the drop inlet capacities shall govern the spacing of drop inlets.
3. If the capacity of the allowable waterway portion is less than the drop inlet capacities, the capacity of this portion shall govern the spacing of the drop inlet.
4. On shoulder (without swale) sections, the maximum spacing of drop inlets shall not exceed 450 feet.
5. Inlet spacing in depressed median sections between tracks where water is trapped and in shoulder or swale areas shall not exceed 900 feet,
6. If analysis of drop inlet capacities results in a spacing of less than 100 feet, then considerations shall be given to re-space drop inlets by allowing channel flow to bypass inlets.
7. In general, a 10-year storm of 5-minute duration shall be used for spacing drop inlets.
8. When there is a change in pipe size in the inlet, the elevation of the top of the pipes shall be the same, or the smaller pipe shall be higher.
9. A minimum of 4 inches shall be provided in the inlet between the lowest inlet-pipe invert elevation and the outlet-pipe invert elevation.

OPEN CHANNEL/ DITCH DESIGN CRITERIA

Ditch design is governed by the guidelines set forth in Section 8.5.3 of the SCRRA Design Criteria Manual, dated November 2014.

1. Ditches that do not cross the track shall be designed for the 10-year peak flow rate or other applicable jurisdiction's criteria, whichever is more significant.
2. Transverse ditches shall join parallel ditches at an angle of approximately 30 degrees or less as allowed by the site condition to minimize confluence bed and bank scour and sedimentation.

Table 2-4. Manning Roughness Coefficient for Open Channels

Channel Material	Manning Roughness Coefficient (n)
Poured Concrete	0.014
Asphalt	0.014
Medium Weight Levee Riprap	0.035
Sand, silk or loam	0.020
Coarse Gravels	0.030

UNDERDRAIN DESIGN CRITERIA

Underdrain design criteria guidelines are set forth according to the SCRRA Design Criteria Manual dated November 2014, Section 8.9.

1. The minimum size for an underdrain shall be 6 inches with the pipe designed to run no more than half full.
2. If the underdrain is within 20 feet of the track or under the track, the minimum size shall be 8 inches.
3. The top of underdrain shall be a minimum of 15 inches below the bottom of ballast.
4. Riser cleanouts shall be provided at the beginning of all underdrain runs and at 300-ft intervals.
5. Underdrains shall be wrapped in permeable geotextile fabric and bedded in aggregate filter material.
6. Underdrains located under tracks or within 20 feet of a track shall be aluminized Type II coated corrugated metal culverts with perforations. Underdrains farther than 20 feet can be HDPE or PVC perforated piping.

3.0 Hydrology

A. Existing Drainage

The existing drainage conditions consist of main areas A-V. These areas are further split by existing railroad tracks as well as cross culverts that intercept flow and move it across the tracks.

A summary of the existing tributary areas is shown in Table 3-1 on the next page.

Table 3-1. Summary of Existing Tributary Areas

Sub-Area	Area (AC)	Length (ft)	IMP (%)	Slope (%)	Q_{100} (cfs)	Tc_{100} (min)	Q_{50} (cfs)	Tc_{50} (min)	Q_{10} (cfs)	Tc_{10} (min)
A-1	0.1	67.79	10	1.0	0.20		0.20		0.10	
A-2	2.5	1543.37	10	1.0	5.62	17.74	4.80	15.64	3.20	17.66
B-1	0.2	89.47	10	5.0	0.60		0.50		0.30	
B-2	1.0	449.33	10	0.2	3.53	9.30	2.89	10.09	1.94	11.68
C-1	0.2	126.86	10	4.0	0.30		0.20		0.20	
C-2	3.8	1646.68	10	0.2	5.91	27.35	4.96	29.01	3.47	28.89
D-1	0.1	117.33	10	0.1	0.20		0.20		0.10	
D-2	3.6	2020.65	10	1.0	6.86	18.90	6.19	19.23	4.12	21.46
E-1	0.1	114.87	10	4.0	0.20		0.20		0.10	
E-2	3.1	2256.55	10	0.1	6.92	44.14	6.13	45.86	4.47	49.95
E-3	0.2	122.96	85	0.8	0.90		0.70		0.50	
E-4	5.0	728.70	85	1.0	22.27	5.71	18.22	6.73	12.83	8.71
E-5	0.3	118.20	85	0.8	1.3		1.1		0.70	
E-6	4.5	739.57	85	0.8	20.56	5.98	16.82	6.99	11.84	8.94
E-7	0.2	102.30	85	1.0	0.80		0.70		0.50	
E-8	3.9	754.76	85	0.8	16.16	7.24	13.39	8.21	9.50	10.09
E-9	0.2	93.68	85	1.1	0.70		0.60		0.40	
E-10	23.0	2240.10	85	1.0	76.89	10.13	64.76	11.15	46.69	13.19
G-1	0.1	111.44	90	1.0	0.30		0.30		0.20	
G-2	21.0	2013.79	90	1.0	67.05	10.55	57.19	11.66	41.53	13.92
I-1	0.1	71.27	10	2.0	0.10		0.10		0.0	
I-2	1.9	1964.60	10	1.0	1.64	19.52	1.17	20.56	0.30	25.73
J-1	0.1	88.32	10	1.0	0.10		0.10		0.0	
J-2	3.5	2009.12	10	1.0	3.40	17.86	2.51	18.79	0.55	24.83
K-1	0.1	94.83	10	0.4	0.10		0.10		0.0	
K-2	0.3	398.91	10	0.2	0.58	12.27	0.44	12.65	0.15	14.78
L-1	0.1	79.50	10	0.4	0.10		0.0		0.0	
L-2	1.3	2101.54	10	0.5	0.62	28.00	0.27	28.93	0.54	33.39
M-1	0.3	197.90	20	0.5	0.20		0.10		0.20	
M-2	2.0	2008.11	20	0.5	1.50	27.45	0.92	28.22	1.29	32.69
N-1	0.1	142.60	85	2.0	0.30		0.20		0.20	
N-2	5.2	1338.07	85	0.4	13.76	14.21	11.92	14.60	8.03	18.07
O-1	0.1	49.20	90	1.0	0.40		0.40		0.30	
O-2	2.2	768.85	90	1.0	9.63	5.88	8.57	6.01	6.39	7.17
P-1	0.1	35.50	10	19.0	0.10		0.10		0.10	
P-2	0.1	105.05	10	1.0	0.32	0.78	0.29	0.84	0.21	0.93
Q-1	0.1	82.65	10	8.0	0.30		0.30		0.20	

Q-2	0.6	559.00	10	0.5	2.37	7.07	2.08	7.26	1.38	8.61
R-1	0.1	53.35	10	13.0	0.20		0.20		0.10	
R-2	0.7	424.26	10	1.0	1.73	3.82	1.53	4.02	1.12	4.42
S-1	0.1	78.00	10	2.0	0.20		0.20		0.10	
S-2	2.1	486.31	70	1.0	5.40		4.70		3.1	
S-3	2.0	1274.30	10	1.0	10.27	10.53	8.96	10.82	6.0	13.01
T-1	0.1	94.22	15	3.0	0.20		0.20		0.20	
T-2	0.3	287.13	15	1.0	0.82	4.32	0.73	4.37	1.00	5.80
U-1	0.1	102.12	10	0.1	0.10		0.10		0.10	
U-2	2.2	2094.75	10	0.4	3.16	27.27	2.71	27.96	1.92	28.34
V-1	0.1	51.76	10	7.0	0.30		0.30		0.20	
V-2	3.6	994.18	10	1.0	10.81	7.97	9.46	8.18	6.75	9.37

B. Proposed Drainage

Due to the addition and modification of track as well as platform improvements and the construction of a pedestrian underpass, the drainage areas slightly change in the proposed condition.

A summary of the proposed tributary areas is shown in Table 3-2 on the next page.

Table 3-2. Summary of Proposed Tributary Areas

Sub-Area	Area (AC)	Length (ft)	IMP (%)	Slope (%)	Q_{100} (cfs)	Tc_{100} (min)	Q_{50} (cfs)	Tc_{50} (min)	Q_{10} (cfs)	Tc_{10} (min)
A-1	0.1	67.79	10	1.0	0.2		0.2		0.1	
A-2	2.8	1543.37	10	1.0	6.27	14.73	5.35	15.63	3.57	17.66
B-1	0.2	89.47	10	5.0	0.6		0.5		0.3	
B-2	1.1	449.33	10	0.2	3.82	9.22	3.13	10.01	2.1	11.6
C-1	0.2	126.86	10	4.0	0.3		0.2		0.3	
C-2	3.9	1646.68	10	0.2	6.06	27.17	5.09	28.83	5.73	32.21
D-1	0.1	117.33	10	0.1	0.2		0.2		0.1	
D-2	3.4	1496.30	10	1.0	7.90	13.80	7.02	14.04	4.70	15.85
E-1	0.1	73.40	10	0.1	0.1		0.2		0.1	
E-2	2.8	2149.52	10	0.3	4.01	29.62	5.56	27.92	4.05	30.15
E-3	0.2	122.96	85	0.1	0.7		0.7		0.5	
E-4	5.0	728.70	85	1.0	19.11	7.93	17.00	8.06	12.83	9.36
E-5	0.3	118.20	85	0.1	1.0		0.9		0.7	
E-6	4.5	739.57	85	0.4	16.68	8.63	14.81	8.78	11.12	10.12
E-7	0.2	102.30	85	1.0	0.6		0.5		0.4	
E-8	3.9	754.76	85	0.1	12.89	11.27	10.98	12.37	7.63	14.72
E-9	0.2	93.68	85	0.1	0.6		0.5		0.4	
E-10	23	2240.10	85	1.0	69.38	12.00	62.11	12.27	44.94	13.85
G-1	0.1	111.44	90	1.0	0.3		0.3		0.2	
G-2	21	2013.79	90	1.0	67.05	10.55	57.19	11.66	41.53	13.92
I-1	0.1	71.27	10	2.0	0.1		0.1		0	
I-2	2.4	1964.60	10	1.0	2.19	18.78	1.61	19.73	0.38	25.21
J-1	0.1	87.38	10	2.0	0.1		0.1		0	
J-2	3.4	1952.80	10	1.0	3.55	17.22	2.62	18.12	0.55	24.15
L-1	0.1	66.81	10	1.0	0.1		0.1		0.1	
L-2	1.1	2002.70	10	0.2	1.41	37.71	1.13	39.02	1.13	39.02

M-1	0.1	144.00	85	0.1	0.2		0.2		0.1	
M-2	9.7	2253.98	85	0.4	19.15	22.57	17.35	23.0	12.61	25.43
P-1	0.1	78.54	90	0.1	0.3		0.2		0.20	
P-2	2.0	486.31	40	1.0	5.9		5.2		3.80	
P-3	0.7	587.45	10	1.0	7.92	10.61	6.96	10.86	5.07	12.13
Q-1	0.1	70.00	10	1.0	0.3		0.3		0.2	
Q-2	0.9	709.90	10	1.0	3.39	7.13	2.97	7.29	1.97	8.94
S-1	0.1	55.00	70	0.1	0.3		0.2		0.2	
S-2	1.0	1342.00	10	0.5	2.98	13.28	2.60	13.60	1.91	14.71
T-1	0.1	133.60	15	0.1	0.2		0.2		0.1	
T-2	0.8	1010.66	15	0.5	1.77	16.15	1.57	16.39	1.06	18.29
Z-1	0.1	30.72	100	0.1	0.3		0.3		0.2	
Z-2	0.4	561.10	100	0.1	1.62	11.37	1.39	11.80	1.05	12.88
U-1	0.1	121.00	10	2.0	0.1		0.1		0.1	
U-2	2.4	1552.00	10	0.3	3.69	23.71	3.32	24.15	2.09	28.11
V-1	0.1	48.72	10	0.1	0.2		0.2		0.1	
V-2	3.4	539.71	10	1.0	7.05	4.60	6.20	4.68	4.55	4.8

The Existing and Proposed Hydrology Exhibits in Appendix A show the existing and proposed tributary areas and the calculated modified rational method flow discharges.

4.0 Existing Drainage Systems

This section describes the existing drainage facilities identified from as-built plan information obtained from the City of Ventura, field visits to the project site, and the field survey shots.

A. Track Ditches

There are currently no existing trackside ditches along the project. The existing grades results in the ground sloping away from the tracks and flowing into the surrounding areas. Generally, water flows in a westward direction adjacent to the tracks. There is one small concrete ditch at the west limits of the project, but this ditch doesn't appear to contain a significant amount of water from the tracks.

B. Underdrains

There are no existing underdrains along the tracks currently.

Table 4-1 below summarizes the existing drainage systems.

Table 4-1. Summary of Existing Drainage Systems

Alignment	Station		Tributary Drainage Area	Facility
	Begin	End		
Exist MT-1	1906+25 to 1923+50		C-2	Concrete Ditch
	1923+50 to 1927+75		B-2	
	1928+70 to 1944+00		A-2	
	1916+00		E-10	Storm Drain
	1923+00		E-8	
	1925+50		E-6	
	1927+15 to 1927+75		E-4	
	1928+60		D-2 ,B-1	
	1941+50 to 1945+85		D-2	
	1945+85 to 1947+25		J-2	
	1949+25 to 1951+50		J-2	
	1951+40 to 1951+50		J-2	
	1994+10		V-2	
	1994+25 to 1994+75		V-2	
	1997+00 to 1998+50		U-2,V-2	
	2002+40		U-2	
	2004+60		U-2,S-2	
	2005+55		U-2,S-2	
	2005+65 to 2006+60		U-1	

5.0 Proposed Drainage Systems

The following provides a description of each of the drainage system improvements. Hydraulic calculations were provided for a typical track ditch, underdrain, and storm drain assuming minimum slopes and flows. The hydraulic results demonstrate the maximum flow rate allowed in the structure as to provide adequate drainage protection from flooding. The typical results are used to verify the actual flows shown in Table 5-1 and are below the maximum allowable flow rates.

A. Track Ditches

Trackside ditches are proposed along the majority of the project to capture and control the flow coming from the east side of the project.

B. Underdrains

Underdrains are proposed along the tracks where a graded ditch is not practical. Underdrains will be installed at grade crossings to provide drainage for the crossing panels.

C. Storm Drain Pipes

Storm Drain Pipes are proposed at grade crossings to provide a joined outlet for underdrains that run along both sides of track.

D. Pump Station

A pump station is proposed at the low point of the proposed pedestrian underpass. This pump station will take the flows tributary to the low point in the walkway to prevent flooding and sump conditions. The flow coming into the pump station has been calculated as 1.05 cfs.

Table 5-1 on the next page summarizes the proposed drainage improvements.

Table 5-1. Summary of Proposed Drainage Systems

Alignment	Station		Size	Design Storm		Facility
	Begin	End		Frequency	Q (cfs)	
Prop MT-1	1914+00	to 1928+35	9”x2’	10	4.15	Earthen Ditch
	1928+70	to 1943+65	9”x2’	10	4.70	
	1949+75	to 1969+10	9”x2’	10	0.38	
	1994+75	to 2005+60	9”x2’	10	2.10	
	1994+75	to 2000+00	9”x2’	10	4.65	
	2019+50	to 2024+75	9”x2’	10	1.97	
	1943+65	to 1945+45	8”	10	N/A	Underdrain
	1969+10	to 1970+75	8”	10	0	
	1973+75	to 1993+00	8”	10	12.61	
	1973+75	to 1990+00	8”	10	1.13	
	1990+30	to 1994+75	8”	10	N/A	
	1990+30	to 1994+75	8”	10	N/A	
	2000+00	to 2004+75	8”	10	N/A	
	2005+60	to 2017+30	8”	10	1.06	
	2005+60	to 2017+30	8”	10	1.91	
	2017+30	to 2019+50	8”	10	N/A	
	2017+30	to 2019+45	8”	10	N/A	
	2019+50	to 2019+50		10	N/A	
	2005+50	to 2018+50	8”	10	N/A	
	1969+10	to 1973+75	18”	10	N/A	Storm Drain
	1994+00	to 1994+75	18”	10	6.64	
	2013+25	to 2017+20	6”	10	1.05	Trench Drain
	2009+45	to 2013+10	6”	10	1.91	

6.0 Conclusions

The proposed drainage elements described within this drainage report are conservative in size and will provide for flood control protection of the SCRRA tracks and the new track improvements. Detailed hydraulic calculations will be prepared for each proposed drainage feature as part of the next phase of the project.

The proposed project would not result in substantial increases in the rate or amount of surface runoff between existing and proposed conditions as there will not be a significant increase in the impervious surface. Flooding is not anticipated to happen due to the proposed improvements, nor would it cause flooding to shift elsewhere.

References

1. Ventura County Watershed Protection District Design Hydrology Manual, 2017.
2. SCRRA Design Criteria Manual, November 2014.
3. SCRRA Highway-Rail Grade Crossings, Recommended Design Practices and Standards Manual, June 30, 2009.

This Drainage Study Report has been prepared by or under the direction of the following registered civil engineer. The undersigned civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based:

Lawrence Valdivia, PE

May 1, 2020
Date

Appendix A

Existing and Proposed Hydrology Exhibits

NOTE:

1. EXISTING MT PROFILE FROM SCRRA TRACK CHARTS REPRESENT APPROXIMATE PVI'S AND AVERAGE GRADES
2. TIES, CLIPS, PLATES AND OTM SHALL BE REPLACED WITHIN PROJECT FOOTPRINTS WHERE PROPOSED ALIGNMENT MATCHES EXISTING

LEGEND

NEW TRACK	EXIST TRACK	EXIST GRADE XING PANEL
SHIFTED TRACK	SCRRA ROW	NEW GRADE XING PANEL
NEW CURVE TRACK	UP ROW	NEW RETAINING WALL
SHIFTED CURVE TRACK	EXIST BRIDGE	NEW FENCE
	NEW BRIDGE	NEW PLATFORM
	EXIST CULVERT	NEW SIGNAL
	NEW CULVERT	

REV.	DATE	BY	SUB.	APP.

INFORMATION CONFIDENTIAL: All plans, drawings, specifications, and or information furnished herewith shall remain the property of the Southern California Regional Rail Authority and shall be held confidential and shall not be used for any purpose not provided for in agreements with the Southern California Regional Rail Authority.

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DRAWN BY: K. GARRETT
CHECKED BY: M. HARROLD
APPROVED BY: A. SHAH
DATE: 04.01.2020

METROLINK

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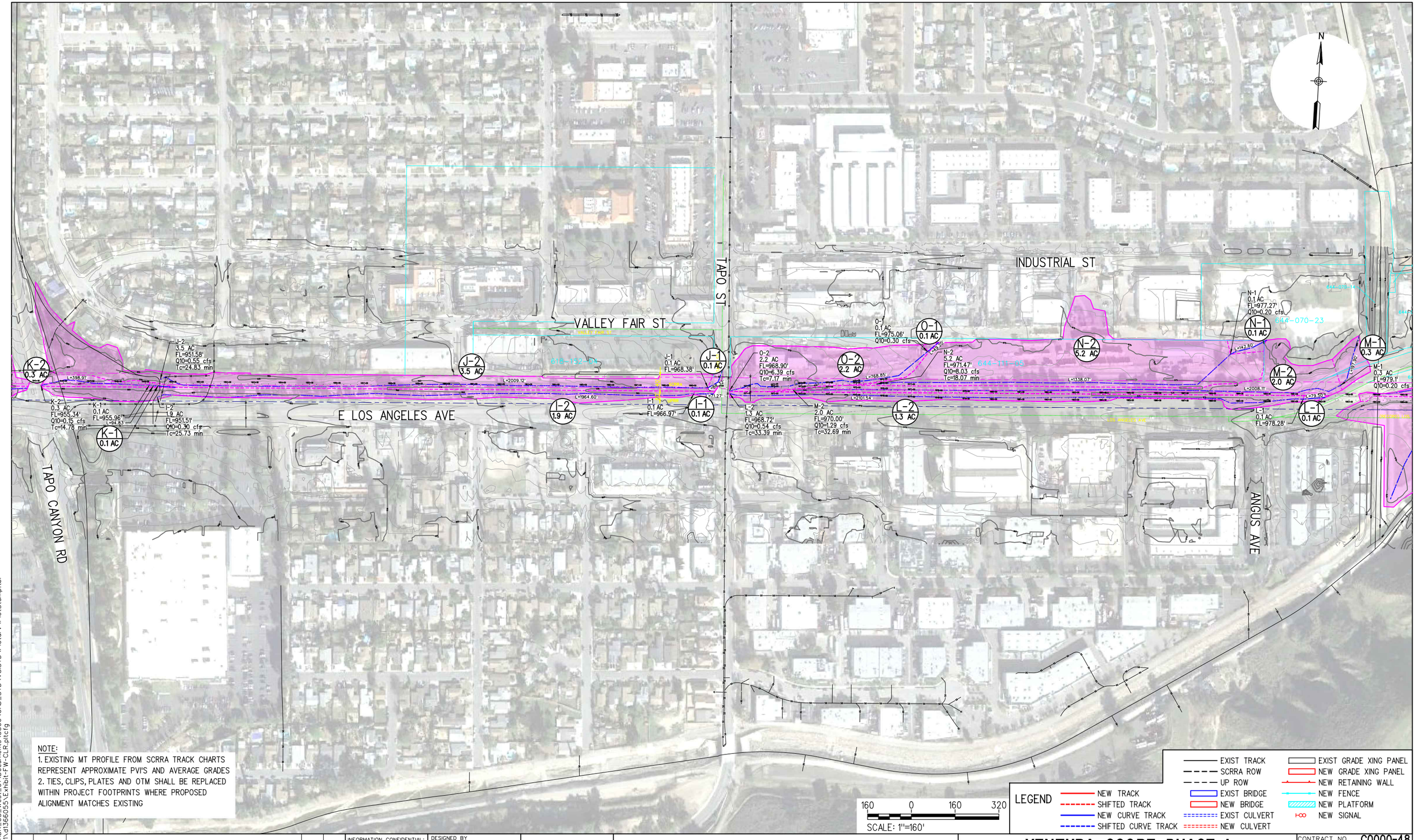
SUBMITTED: ______ PROJECT MANAGER
APPROVED: ______

VENTURA SCORE PHASE I
SIMI VALLEY HYDROLOGY EXHIBIT

EXISTING HYDROLOGY

CONTRACT NO. C0000-48
DRAWING NO.
REVISION
SHEET NO. 01 OF 03
SCALE: AS NOTED

USER = AALSHISHAN
4/6/2020



NOTE:
1. EXISTING MT PROFILE FROM SCRRA TRACK CHARTS REPRESENT APPROXIMATE PVI'S AND AVERAGE GRADES
2. TIES, CLIPS, PLATES AND OTM SHALL BE REPLACED WITHIN PROJECT FOOTPRINTS WHERE PROPOSED ALIGNMENT MATCHES EXISTING

LEGEND

EXIST TRACK	EXIST GRADE XING PANEL
SCRRA ROW	NEW GRADE XING PANEL
UP ROW	NEW RETAINING WALL
EXIST BRIDGE	NEW FENCE
NEW BRIDGE	NEW PLATFORM
NEW TRACK	NEW SIGNAL
SHIFTED TRACK	
NEW CURVE TRACK	EXIST CULVERT
SHIFTED CURVE TRACK	NEW CULVERT

REV.	DATE		BY	SUB.	APP.

DESIGNED BY	K. GARRETT
DRAWN BY	K. GARRETT
CHECKED BY	M. HARROLD
APPROVED BY	A. SHAH
DATE	04.01.2020

METROLINK®

HDR, Inc.
2280 Market Street, Suite 100
Riverside, CA 92501-2110
(951) 320-7300

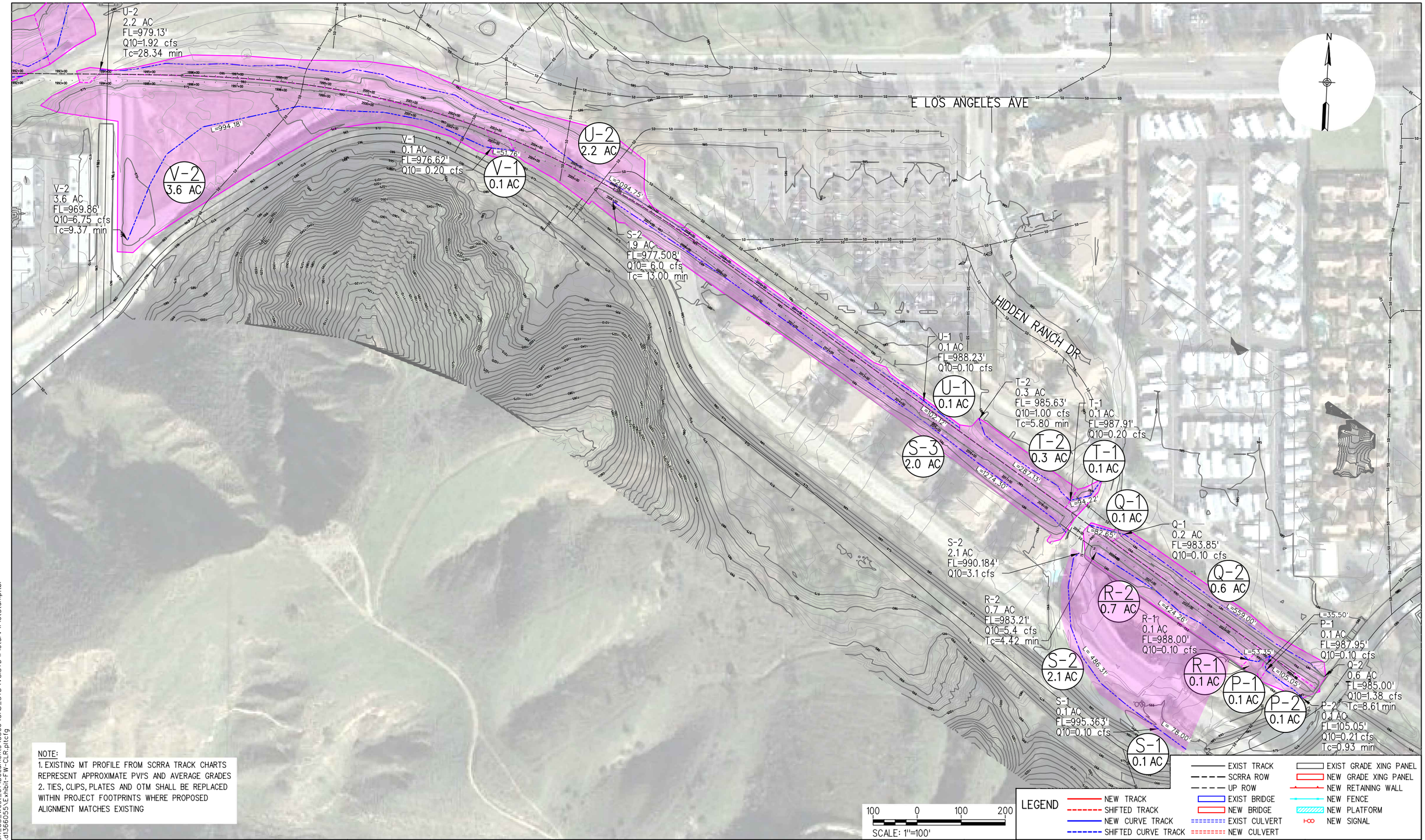
SUBMITTED: _____ PROJECT MANAGER

APPROVED: _____

VENTURA SCORE PHASE I
SIMI VALLEY HYDROLOGY EXHIBIT

EXISTING HYDROLOGY

CONTRACT NO. C0000-48
DRAWING NO.
REVISION
SHEET NO. 02 OF 03
SCALE AS NOTED



NOTE:
1. EXISTING MT PROFILE FROM SCRRA TRACK CHARTS REPRESENT APPROXIMATE PVI'S AND AVERAGE GRADES
2. TIES, CLIPS, PLATES AND OTM SHALL BE REPLACED WITHIN PROJECT FOOTPRINTS WHERE PROPOSED ALIGNMENT MATCHES EXISTING

REV.	DATE		BY	SUB.	APP.

INFORMATION CONFIDENTIAL:
All plans, drawings, specifications, and or information furnished herewith shall remain the property of the the Southern California Regional Rail Authority and shall be held confidential and shall not be used for any purpose not provided for in agreements with the Southern California Regional Rail Authority.

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DRAWN BY: K. GARRETT
CHECKED BY: M. HARROLD
APPROVED BY: A. SHAH
DATE: 04.01.2020

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APPROVED: _____

VENTURA SCORE PHASE I
SIMI VALLEY HYDROLOGY EXHIBIT

EXISTING HYDROLOGY

CONTRACT NO. C0000-48
DRAWING NO.
REVISION
SHEET NO. 01 OF 03
SCALE AS NOTED

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4/6/2020

REV.	DATE	BY	SUB.	APP.

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APPROVED BY: A. SHAH
DATE: 04.01.2020

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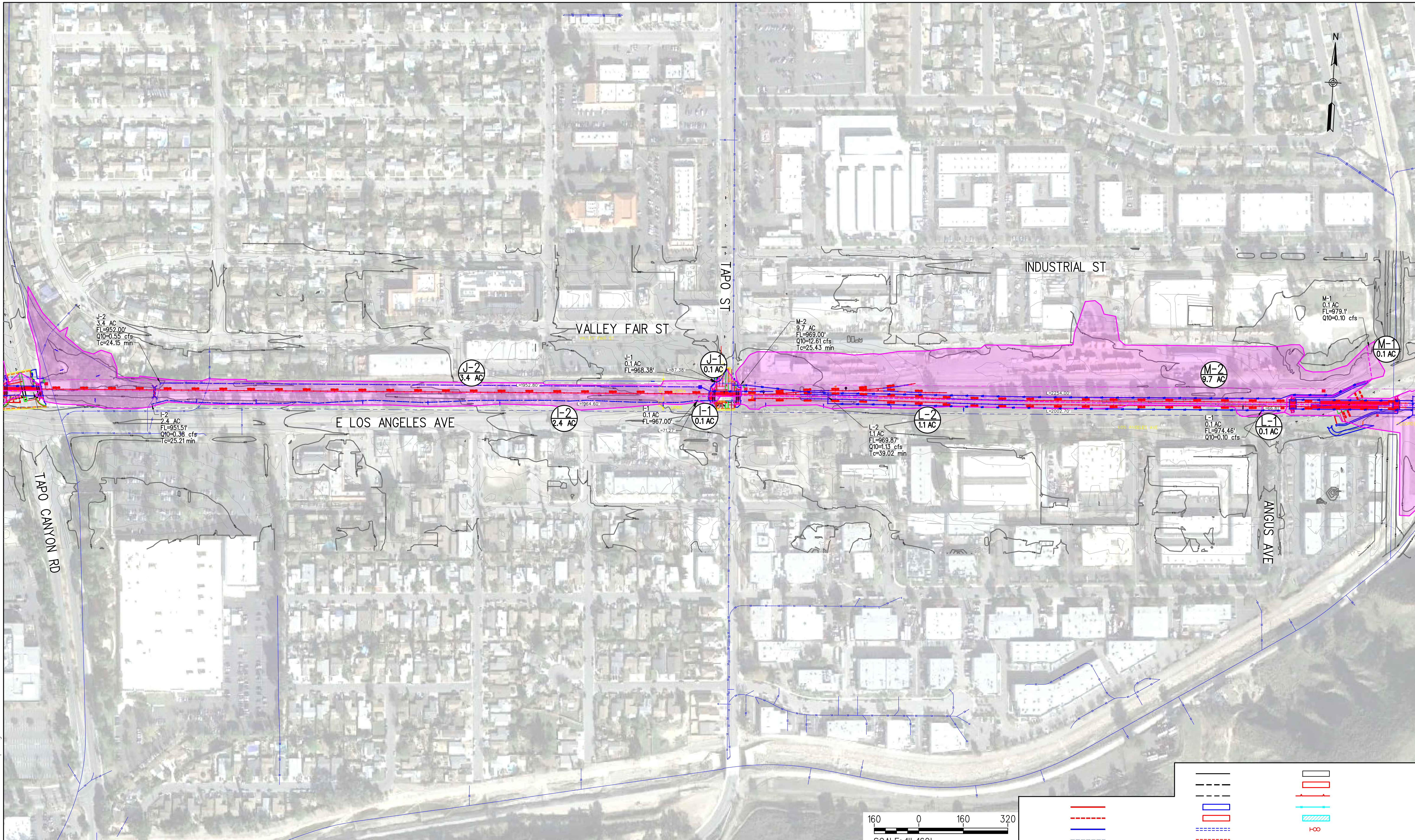
SUBMITTED: PROJECT MANAGER
APPROVED:

VENTURA SCORE PHASE I
SIMI VALLEY HYDROLOGY EXHIBIT

PROPOSED HYDROLOGY

CONTRACT NO. C0000-48
DRAWING NO.
REVISION
SHEET NO. 01 OF 03
SCALE AS NOTED



4/6/2020
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REV.	DATE		BY / SUB.	APP.

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DRAWN BY K. GARRETT
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APPROVED BY A. SHAH
DATE 04.01.2020

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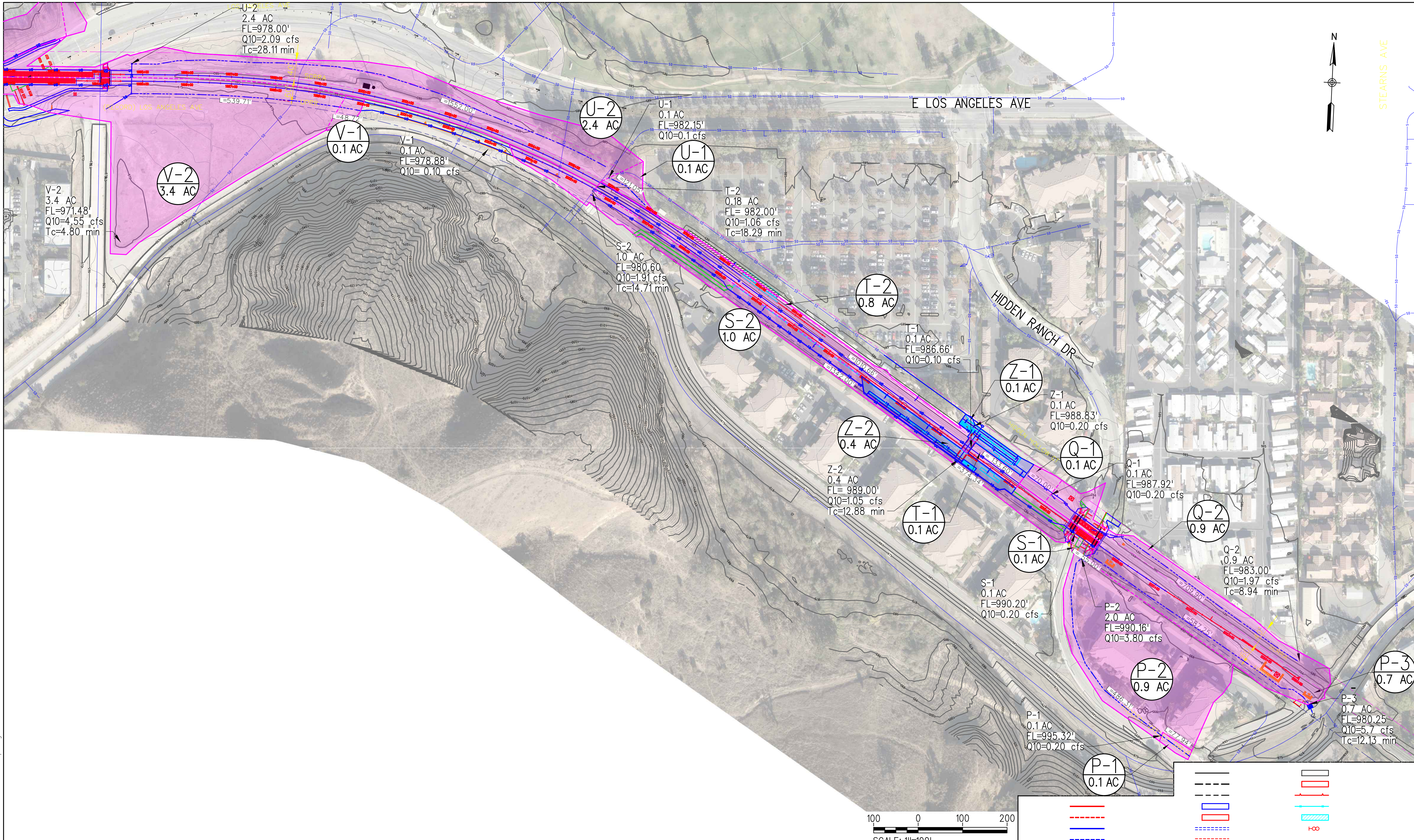
SUBMITTED: ______________ PROJECT MANAGER
APPROVED: ______________

VENTURA SCORE PHASE I
SIMI VALLEY HYDROLOGY EXHIBIT

PROPSOED HYDROLOGY

CONTRACT NO. C0000-48
DRAWING NO.
REVISION
SHEET NO. 02 OF 03
SCALE AS NOTED



USER = AALSHISHAN
4/6/2020

REV.	DATE		BY	SUB.	APP.

INFORMATION CONFIDENTIAL: All plans, drawings, specifications, and or information furnished herewith shall remain the property of the the Southern California Regional Rail Authority and shall be held confidential and shall not be used for any purpose not provided for in agreements with the Southern California Regional Rail Authority.

DESIGNED BY K. GARRETT
DRAWN BY K. GARRETT
CHECKED BY M. HARROLD
APPROVED BY A. SHAH
DATE 04.01.2020

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SUBMITTED: ______ PROJECT MANAGER
APPROVED: ______

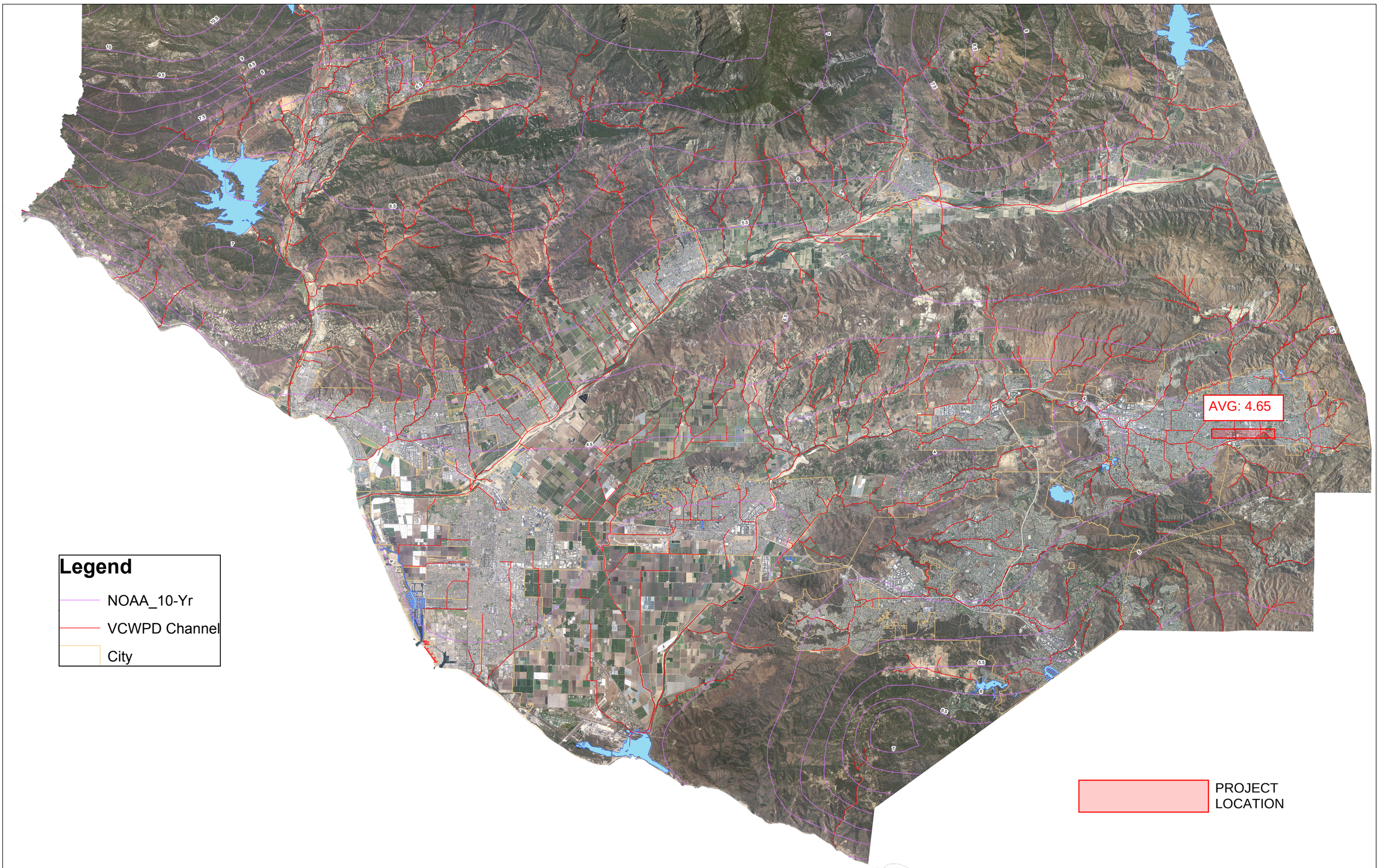
VENTURA SCORE PHASE I
SIMI VALLEY HYDROLOGY EXHIBIT

PROPOSED HYDROLOGY

CONTRACT NO. C0000-48
DRAWING NO.
REVISION
SHEET NO. 01 OF 03
SCALE AS NOTED

Appendix B

Ventura County Hydrology Maps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Legend
NOAA_10-Yr
VCWPD Channel
City
PROJECT LOCATION

AVG: 5.45

Legend

- NOAA_25yr
- VCWPD Channel
- City

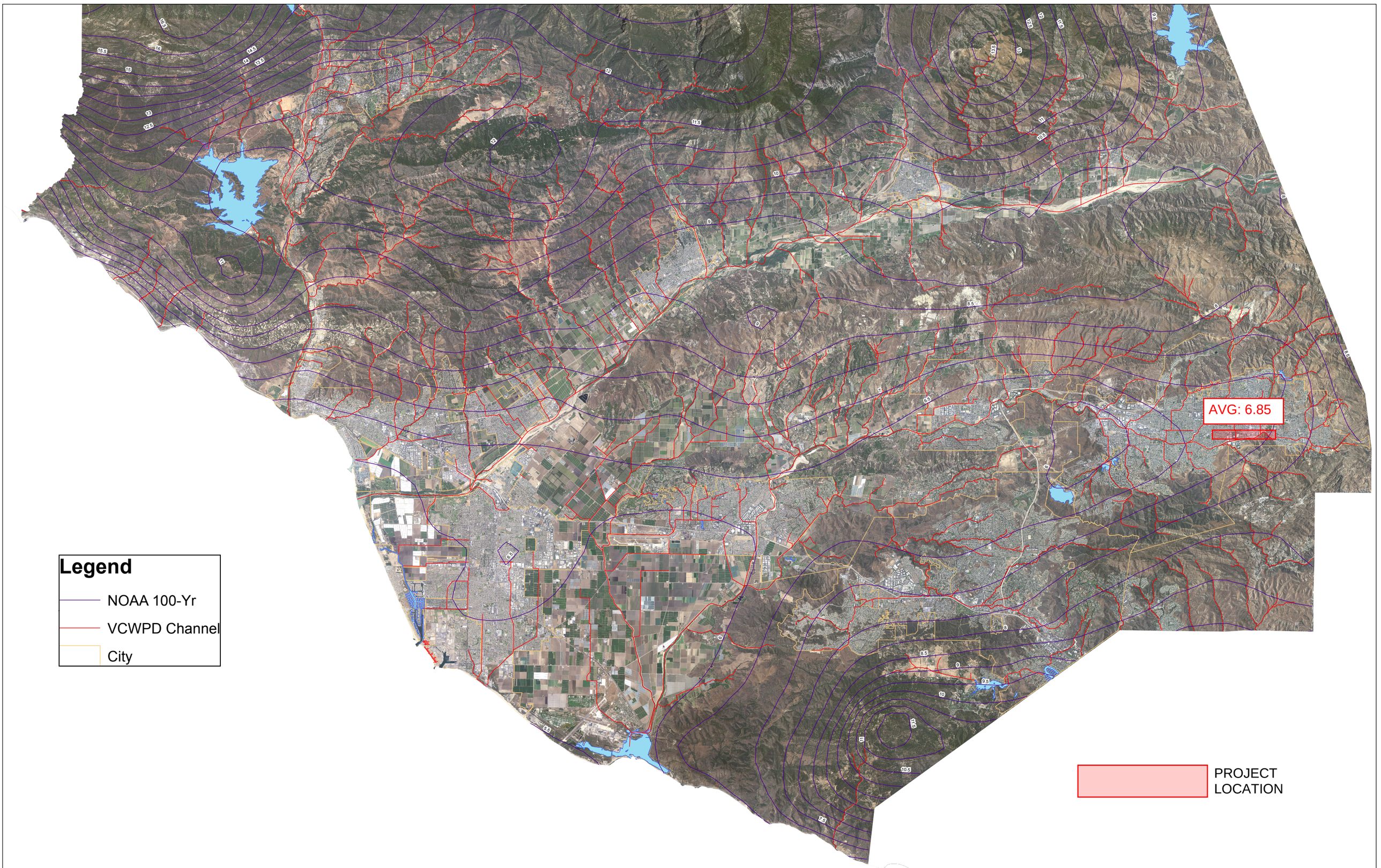
PROJECT LOCATION

AVG: 6.30

Legend

- NOAA_50yr
- VCWPD Channel
- City

PROJECT LOCATION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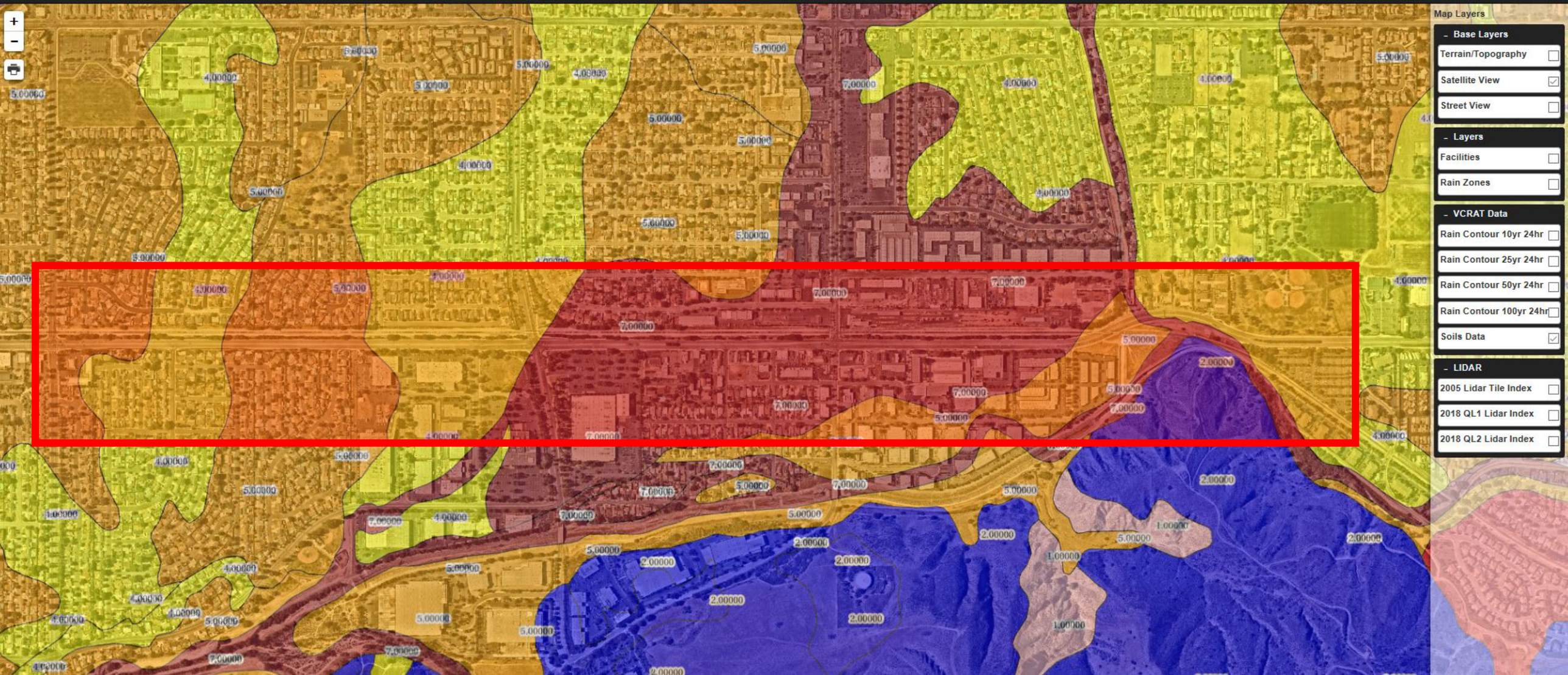
VCWPD Channel
City
PROJECT LOCATION


Map Layers
Base Layers
Terrain/Topography
Satellite View
Street View
Layers
Facilities
Rain Zones
VCRAT Data
Rain Contour 10yr 24hr
Rain Contour 25yr 24hr
Rain Contour 50yr 24hr
Rain Contour 100yr 24hr
Soils Data
LIDAR
2005 Lidar Tile Index
2018 QL1 Lidar Index
2018 QL2 Lidar Index

Appendix C

Hydrologic Calculation

Existing Hydrology

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	A	User Input
Watershed Area ac =	2.6	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**18.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.860	Calculated
C_undeveloped =	0.624	Calculated
C_composite =	0.657	Calculated
Peak cfs =	3.20	Calculated
Calculated Tc=	**17.66**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	955.56	954.84	67.79	0.011					3.8%	0.1	0.1
2	Natural Valley Channel	3	2.50	954.84	945.66	1543.37	0.006					96.2%	3.1	3.2
3	None	0										0.0%	-	3.2
4	None	0										0.0%	-	3.2
5	None	0										0.0%	-	3.2
6	None	0										0.0%	-	3.2
7	None	0										0.0%	-	3.2
8	None	0										0.0%	-	3.2
9	None	0										0.0%	-	3.2
10	None	0										0.0%	-	3.2
Sum			**2.6**									**100%**	**3.2**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	B	User Input
Watershed Area ac =	1.2	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**12.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.290	Calculated
C_undeveloped =	0.673	Calculated
C_composite =	0.701	Calculated
Peak cfs =	1.94	Calculated
Calculated Tc=	**11.68**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	950.07	945.69	89.47	0.049					16.7%	0.3	0.3
2	Natural Valley Channel	3	1.00	945.69	944.99	449.33	0.002					83.3%	1.6	1.9
3	None	0										0.0%	-	1.9
4	None	0										0.0%	-	1.9
5	None	0										0.0%	-	1.9
6	None	0										0.0%	-	1.9
7	None	0										0.0%	-	1.9
8	None	0										0.0%	-	1.9
9	None	0										0.0%	-	1.9
10	None	0										0.0%	-	1.9
Sum			**1.2**									**100%**	**1.9**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	C	User Input
Watershed Area ac =	4.0	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**30.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.460	Calculated
C_undeveloped =	0.549	Calculated
C_composite =	0.589	Calculated
Peak cfs =	3.47	Calculated
Calculated Tc=	**29.89**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	949.63	944.98	126.86	0.037					5.0%	0.2	0.2
2	Natural Valley Channel	3	3.80	944.98	941.93	1646.68	0.002					95.0%	3.3	3.5
3	None	0										0.0%	-	3.5
4	None	0										0.0%	-	3.5
5	None	0										0.0%	-	3.5
6	None	0										0.0%	-	3.5
7	None	0										0.0%	-	3.5
8	None	0										0.0%	-	3.5
9	None	0										0.0%	-	3.5
10	None	0										0.0%	-	3.5
Sum			**4.0**									**100%**	**3.5**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	D	User Input
Watershed Area ac =	3.7	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**21.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.730	Calculated
C_undeveloped =	0.604	Calculated
C_composite =	0.638	Calculated
Peak cfs =	4.12	Calculated
Calculated Tc=	**21.46**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	958	960.56	117.33	0.001					2.7%	0.1	0.1
2	Natural Valley Channel	3	3.60	960.56	945.04	2020.65	0.008					97.3%	4.0	4.1
3	None	0										0.0%	-	4.1
4	None	0										0.0%	-	4.1
5	None	0										0.0%	-	4.1
6	None	0										0.0%	-	4.1
7	None	0										0.0%	-	4.1
8	None	0										0.0%	-	4.1
9	None	0										0.0%	-	4.1
10	None	0										0.0%	-	4.1
Sum			**3.7**									**100%**	**4.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-2	User Input
Watershed Area ac =	3.2	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Tc Outside of Range, Reset to 15**
Intensity in/hr =	2.040	Calculated
C_undeveloped =	0.650	Calculated
C_composite =	0.680	Calculated
Peak cfs =	4.47	Calculated
Calculated Tc=	**49.95**	**Tc Outside of Range, Revise Flowpaths**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	950.77	945.76	114.87	0.044					3.1%	0.1	0.1
2	Natural Valley Channel	3	3.10	945.76	943.05	2256.55	0.001					96.9%	4.3	4.5
3	None	0										0.0%	-	4.5
4	None	0										0.0%	-	4.5
5	None	0										0.0%	-	4.5
6	None	0										0.0%	-	4.5
7	None	0										0.0%	-	4.5
8	None	0										0.0%	-	4.5
9	None	0										0.0%	-	4.5
10	None	0										0.0%	-	4.5
Sum			**3.2**									**100%**	**4.5**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-4	User Input
Watershed Area ac =	5.2	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**9.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.680	Calculated
C_undeveloped =	0.705	Calculated
C_composite =	0.913	Calculated
Peak cfs =	12.83	Calculated
Calculated Tc=	**8.71**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	954	953	122.96	0.008					3.8%	0.5	0.5
2	Street-32'Wide8"Curbs	7	5.00	953	945	728.7	0.011					96.2%	12.3	12.8
3	None	0										0.0%	-	12.8
4	None	0										0.0%	-	12.8
5	None	0										0.0%	-	12.8
6	None	0										0.0%	-	12.8
7	None	0										0.0%	-	12.8
8	None	0										0.0%	-	12.8
9	None	0										0.0%	-	12.8
10	None	0										0.0%	-	12.8
Sum			**5.2**									**100%**	**12.8**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-6	User Input
Watershed Area ac =	4.8	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**9.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.680	Calculated
C_undeveloped =	0.705	Calculated
C_composite =	0.913	Calculated
Peak cfs =	11.84	Calculated
Calculated Tc=	**8.94**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.30	953	952	118.2	0.008					6.3%	0.7	0.7
2	Street-32'Wide8"Curbs	7	4.50	952	946	739.57	0.008					93.8%	11.1	11.8
3	None	0										0.0%	-	11.8
4	None	0										0.0%	-	11.8
5	None	0										0.0%	-	11.8
6	None	0										0.0%	-	11.8
7	None	0										0.0%	-	11.8
8	None	0										0.0%	-	11.8
9	None	0										0.0%	-	11.8
10	None	0										0.0%	-	11.8
Sum			**4.8**									**100%**	**11.8**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-8	User Input
Watershed Area ac =	4.1	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**10.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.520	Calculated
C_undeveloped =	0.693	Calculated
C_composite =	0.912	Calculated
Peak cfs =	9.50	Calculated
Calculated Tc=	**10.09**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	952	951	102.3	0.010					4.9%	0.5	0.5
2	Street-32'Wide8"Curbs	7	3.90	951	948	754.76	0.004					95.1%	9.0	9.5
3	None	0										0.0%	-	9.5
4	None	0										0.0%	-	9.5
5	None	0										0.0%	-	9.5
6	None	0										0.0%	-	9.5
7	None	0										0.0%	-	9.5
8	None	0										0.0%	-	9.5
9	None	0										0.0%	-	9.5
10	None	0										0.0%	-	9.5
Sum			**4.1**									**100%**	**9.5**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-10	User Input
Watershed Area ac =	23.2	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**13.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.200	Calculated
C_undeveloped =	0.665	Calculated
C_composite =	0.907	Calculated
Peak cfs =	46.69	Calculated
Calculated Tc=	**13.19**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	969	968	93.68	0.011					0.9%	0.4	0.4
2	Street-32'Wide8"Curbs	7	23.00	968	947	2240.1	0.009					99.1%	46.3	46.7
3	None	0										0.0%	-	46.7
4	None	0										0.0%	-	46.7
5	None	0										0.0%	-	46.7
6	None	0										0.0%	-	46.7
7	None	0										0.0%	-	46.7
8	None	0										0.0%	-	46.7
9	None	0										0.0%	-	46.7
10	None	0										0.0%	-	46.7
Sum			**23.2**									**100%**	**46.7**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	G	User Input
Watershed Area ac =	21.1	Calculated from flowpath data
% Imperviousness =	90	User Input
Land Use Description =	Paved	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**14.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.120	Calculated
C_undeveloped =	0.658	Calculated
C_composite =	0.921	Calculated
Peak cfs =	41.53	Calculated
Calculated Tc=	**13.92**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	967	966	111.44	0.009					0.5%	0.2	0.2
2	Street-32'Wide8"Curbs	7	21.00	966	949.09	2013.79	0.008					99.5%	41.3	41.5
3	None	0										0.0%	-	41.5
4	None	0										0.0%	-	41.5
5	None	0										0.0%	-	41.5
6	None	0										0.0%	-	41.5
7	None	0										0.0%	-	41.5
8	None	0										0.0%	-	41.5
9	None	0										0.0%	-	41.5
10	None	0										0.0%	-	41.5
Sum			**21.1**									**100%**	**41.5**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	I	User Input
Watershed Area ac =	2.0	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**26.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.560	Calculated
C_undeveloped =	0.001	Calculated
C_composite =	0.096	Calculated
Peak cfs =	0.30	Calculated
Calculated Tc=	**25.73**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	968.26	966.97	71.27	0.018					5.0%	0.0	0.0
2	Natural Valley Channel	3	1.90	966.97	951.51	1964.6	0.008					95.0%	0.3	0.3
3	None	0										0.0%	-	0.3
4	None	0										0.0%	-	0.3
5	None	0										0.0%	-	0.3
6	None	0										0.0%	-	0.3
7	None	0										0.0%	-	0.3
8	None	0										0.0%	-	0.3
9	None	0										0.0%	-	0.3
10	None	0										0.0%	-	0.3
Sum			**2.0**									**100%**	**0.3**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	J	User Input
Watershed Area ac =	3.6	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**25.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.580	Calculated
C_undeveloped =	0.001	Calculated
C_composite =	0.096	Calculated
Peak cfs =	0.55	Calculated
Calculated Tc=	**24.83**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	968.97	968.38	88.32	0.007					2.8%	0.0	0.0
2	Natural Valley Channel	3	3.50	968.38	951.58	2009.12	0.008					97.2%	0.5	0.5
3	None	0										0.0%	-	0.5
4	None	0										0.0%	-	0.5
5	None	0										0.0%	-	0.5
6	None	0										0.0%	-	0.5
7	None	0										0.0%	-	0.5
8	None	0										0.0%	-	0.5
9	None	0										0.0%	-	0.5
10	None	0										0.0%	-	0.5
Sum			**3.6**									**100%**	**0.5**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	K	User Input
Watershed Area ac =	0.4	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.040	Calculated
C_undeveloped =	0.102	Calculated
C_composite =	0.187	Calculated
Peak cfs =	0.15	Calculated
Calculated Tc=	**14.78**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	956.36	955.96	94.38	0.004					25.0%	0.0	0.0
2	Natural Valley Channel	3	0.30	955.96	955.34	398.91	0.002					75.0%	0.1	0.2
3	None	0										0.0%	-	0.2
4	None	0										0.0%	-	0.2
5	None	0										0.0%	-	0.2
6	None	0										0.0%	-	0.2
7	None	0										0.0%	-	0.2
8	None	0										0.0%	-	0.2
9	None	0										0.0%	-	0.2
10	None	0										0.0%	-	0.2
Sum			**0.4**									**100%**	**0.2**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	L	User Input
Watershed Area ac =	1.4	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Tc Outside of Range, Reset to 15**
Intensity in/hr =	2.040	Calculated
C_undeveloped =	0.102	Calculated
C_composite =	0.187	Calculated
Peak cfs =	0.54	Calculated
Calculated Tc=	**33.39**	**Tc Outside of Range, Revise Flowpaths**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	978.6	978.28	79.5	0.004					7.1%	0.0	0.0
2	Natural Valley Channel	3	1.30	978.28	968.7	2101.54	0.005					92.9%	0.5	0.5
3	None	0										0.0%	-	0.5
4	None	0										0.0%	-	0.5
5	None	0										0.0%	-	0.5
6	None	0										0.0%	-	0.5
7	None	0										0.0%	-	0.5
8	None	0										0.0%	-	0.5
9	None	0										0.0%	-	0.5
10	None	0										0.0%	-	0.5
Sum			**1.4**									**100%**	**0.5**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	M	User Input
Watershed Area ac =	2.3	Calculated from flowpath data
% Imperviousness =	20	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Tc Outside of Range, Reset to 15**
Intensity in/hr =	2.040	Calculated
C_undeveloped =	0.102	Calculated
C_composite =	0.272	Calculated
Peak cfs =	1.29	Calculated
Calculated Tc=	**32.69**	**Tc Outside of Range, Revise Flowpaths**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.30	980	979.06	197.9	0.005					13.0%	0.2	0.2
2	Natural Valley Channel	3	2.00	979.06	969.93	2008.11	0.005					87.0%	1.1	1.3
3	None	0										0.0%	-	1.3
4	None	0										0.0%	-	1.3
5	None	0										0.0%	-	1.3
6	None	0										0.0%	-	1.3
7	None	0										0.0%	-	1.3
8	None	0										0.0%	-	1.3
9	None	0										0.0%	-	1.3
10	None	0										0.0%	-	1.3
Sum			**2.3**									**100%**	**1.3**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	N	User Input
Watershed Area ac =	5.3	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**18.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.860	Calculated
C_undeveloped =	0.001	Calculated
C_composite =	0.808	Calculated
Peak cfs =	8.03	Calculated
Calculated Tc=	**18.07**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	980.26	977.27	142.59	0.021					1.9%	0.2	0.2
2	Natural Valley Channel	3	5.20	977.27	971.75	1338.07	0.004					98.1%	7.9	8.0
3	None	0										0.0%	-	8.0
4	None	0										0.0%	-	8.0
5	None	0										0.0%	-	8.0
6	None	0										0.0%	-	8.0
7	None	0										0.0%	-	8.0
8	None	0										0.0%	-	8.0
9	None	0										0.0%	-	8.0
10	None	0										0.0%	-	8.0
Sum			**5.3**									**100%**	**8.0**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	O	User Input
Watershed Area ac =	2.3	Calculated from flowpath data
% Imperviousness =	90	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**7.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.090	Calculated
C_undeveloped =	0.371	Calculated
C_composite =	0.892	Calculated
Peak cfs =	6.39	Calculated
Calculated Tc=	**7.17**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	975.52	975.06	49.2	0.009					4.3%	0.3	0.3
2	Natural Valley Channel	3	2.20	975.06	968.88	768.85	0.008					95.7%	6.1	6.4
3	None	0										0.0%	-	6.4
4	None	0										0.0%	-	6.4
5	None	0										0.0%	-	6.4
6	None	0										0.0%	-	6.4
7	None	0										0.0%	-	6.4
8	None	0										0.0%	-	6.4
9	None	0										0.0%	-	6.4
10	None	0										0.0%	-	6.4
Sum			**2.3**									**100%**	**6.4**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	P	User Input
Watershed Area ac =	0.2	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Tc Outside of Range, Reset to 15**
Intensity in/hr =	2.040	Calculated
C_undeveloped =	0.650	Calculated
C_composite =	0.680	Calculated
Peak cfs =	0.21	Calculated
Calculated Tc=	**0.93**	**Tc Outside of Range, Revise Flowpaths**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.05	994.73	987.94	35.5	0.191					33.3%	0.1	0.1
2	Natural Valley Channel	3	0.10	987.94	982.06	105.05	0.056					66.7%	0.1	0.2
3	None	0										0.0%	-	0.2
4	None	0										0.0%	-	0.2
5	None	0										0.0%	-	0.2
6	None	0										0.0%	-	0.2
7	None	0										0.0%	-	0.2
8	None	0										0.0%	-	0.2
9	None	0										0.0%	-	0.2
10	None	0										0.0%	-	0.2
Sum			**0.2**									**100%**	**0.2**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	Q	User Input
Watershed Area ac =	0.7	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**9.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.680	Calculated
C_undeveloped =	0.705	Calculated
C_composite =	0.729	Calculated
Peak cfs =	1.38	Calculated
Calculated Tc=	**8.61**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	990.51	983.85	82.65	0.081					14.3%	0.2	0.2
2	Natural Valley Channel	3	0.60	983.85	981	559	0.005					85.7%	1.2	1.4
3	None	0										0.0%	-	1.4
4	None	0										0.0%	-	1.4
5	None	0										0.0%	-	1.4
6	None	0										0.0%	-	1.4
7	None	0										0.0%	-	1.4
8	None	0										0.0%	-	1.4
9	None	0										0.0%	-	1.4
10	None	0										0.0%	-	1.4
Sum			**0.7**									**100%**	**1.4**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	R	User Input
Watershed Area ac =	0.8	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Tc Outside of Range, Reset to 15**
Intensity in/hr =	2.040	Calculated
C_undeveloped =	0.650	Calculated
C_composite =	0.680	Calculated
Peak cfs =	1.12	Calculated
Calculated Tc=	**4.42**	**Tc Outside of Range, Revise Flowpaths**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	994.74	988.02	53.35	0.126					12.5%	0.1	0.1
2	Natural Valley Channel	3	0.70	988.02	983.21	424.26	0.011					87.5%	1.0	1.1
3	None	0										0.0%	-	1.1
4	None	0										0.0%	-	1.1
5	None	0										0.0%	-	1.1
6	None	0										0.0%	-	1.1
7	None	0										0.0%	-	1.1
8	None	0										0.0%	-	1.1
9	None	0										0.0%	-	1.1
10	None	0										0.0%	-	1.1
Sum			**0.8**									**100%**	**1.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	S	User Input
Watershed Area ac =	4.2	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**13.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.200	Calculated
C_undeveloped =	0.610	Calculated
C_composite =	0.644	Calculated
Peak cfs =	6.00	Calculated
Calculated Tc=	**13.01**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	996.72	995.363	78	0.017					2.4%	0.1	0.1
2	Natural Valley Channel	3	2.10	995.36	990.184	486.31	0.011					50.0%	3.0	3.1
3	Natural Valley Channel	3	2.00	990.18	977.508	1274.3	0.010					47.6%	2.9	6.0
4	None	0										0.0%	-	6.0
5	None	0										0.0%	-	6.0
6	None	0										0.0%	-	6.0
7	None	0										0.0%	-	6.0
8	None	0										0.0%	-	6.0
9	None	0										0.0%	-	6.0
10	None	0										0.0%	-	6.0
Sum			**4.2**									**100%**	**6.0**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	T	User Input
Watershed Area ac =	0.4	Calculated from flowpath data
% Imperviousness =	15	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**6.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.400	Calculated
C_undeveloped =	0.690	Calculated
C_composite =	0.729	Calculated
Peak cfs =	1.00	Calculated
Calculated Tc=	**5.80**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	990.5	987.91	94.22	0.027					25.0%	0.2	0.2
2	Natural Valley Channel	3	0.30	987.91	985.63	287.13	0.008					75.0%	0.7	1.0
3	None	0										0.0%	-	1.0
4	None	0										0.0%	-	1.0
5	None	0										0.0%	-	1.0
6	None	0										0.0%	-	1.0
7	None	0										0.0%	-	1.0
8	None	0										0.0%	-	1.0
9	None	0										0.0%	-	1.0
10	None	0										0.0%	-	1.0
Sum			**0.4**									**100%**	**1.0**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	U	User Input
Watershed Area ac =	2.3	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**28.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.500	Calculated
C_undeveloped =	0.508	Calculated
C_composite =	0.553	Calculated
Peak cfs =	1.92	Calculated
Calculated Tc=	**28.34**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	988.01	988	102.12	0.001					4.3%	0.1	0.1
2	Natural Valley Channel	3	2.20	988	979.13	2094.75	0.004					95.7%	1.8	1.9
3	None	0										0.0%	-	1.9
4	None	0										0.0%	-	1.9
5	None	0										0.0%	-	1.9
6	None	0										0.0%	-	1.9
7	None	0										0.0%	-	1.9
8	None	0										0.0%	-	1.9
9	None	0										0.0%	-	1.9
10	None	0										0.0%	-	1.9
Sum			**2.3**									**100%**	**1.9**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	V	User Input
Watershed Area ac =	3.7	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**9.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.680	Calculated
C_undeveloped =	0.645	Calculated
C_composite =	0.676	Calculated
Peak cfs =	6.75	Calculated
Calculated Tc=	**9.37**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	980.43	976.62	51.76	0.074					2.7%	0.2	0.2
2	Natural Valley Channel	3	3.60	976.62	969.86	994.18	0.007					97.3%	6.6	6.8
3	None	0										0.0%	-	6.8
4	None	0										0.0%	-	6.8
5	None	0										0.0%	-	6.8
6	None	0										0.0%	-	6.8
7	None	0										0.0%	-	6.8
8	None	0										0.0%	-	6.8
9	None	0										0.0%	-	6.8
10	None	0										0.0%	-	6.8
Sum			**3.7**									**100%**	**6.8**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	A	User Input
Watershed Area ac =	2.6	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**16.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.540	Calculated
C_undeveloped =	0.695	Calculated
C_composite =	0.720	Calculated
Peak cfs =	4.80	Calculated
Calculated Tc=	**15.64**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	955.56	954.84	67.79	0.011					3.8%	0.2	0.2
2	Natural Valley Channel	3	2.50	954.84	945.66	1543.37	0.006					96.2%	4.6	4.8
3	None	0										0.0%	-	4.8
4	None	0										0.0%	-	4.8
5	None	0										0.0%	-	4.8
6	None	0										0.0%	-	4.8
7	None	0										0.0%	-	4.8
8	None	0										0.0%	-	4.8
9	None	0										0.0%	-	4.8
10	None	0										0.0%	-	4.8
Sum			**2.6**									**100%**	**4.8**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	B	User Input
Watershed Area ac =	1.2	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**10.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.160	Calculated
C_undeveloped =	0.735	Calculated
C_composite =	0.756	Calculated
Peak cfs =	2.89	Calculated
Calculated Tc=	**10.09**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	950.07	945.69	89.47	0.049					16.7%	0.5	0.5
2	Natural Valley Channel	3	1.00	945.69	944.99	449.33	0.002					83.3%	2.4	2.9
3	None	0										0.0%	-	2.9
4	None	0										0.0%	-	2.9
5	None	0										0.0%	-	2.9
6	None	0										0.0%	-	2.9
7	None	0										0.0%	-	2.9
8	None	0										0.0%	-	2.9
9	None	0										0.0%	-	2.9
10	None	0										0.0%	-	2.9
Sum			**1.2**									**100%**	**2.9**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	C	User Input
Watershed Area ac =	4.0	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**29.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.870	Calculated
C_undeveloped =	0.625	Calculated
C_composite =	0.658	Calculated
Peak cfs =	4.96	Calculated
Calculated Tc=	**29.01**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	949.63	944.98	126.86	0.037					5.0%	0.2	0.2
2	Natural Valley Channel	3	3.80	944.98	941.93	1646.68	0.002					95.0%	4.7	5.0
3	None	0										0.0%	-	5.0
4	None	0										0.0%	-	5.0
5	None	0										0.0%	-	5.0
6	None	0										0.0%	-	5.0
7	None	0										0.0%	-	5.0
8	None	0										0.0%	-	5.0
9	None	0										0.0%	-	5.0
10	None	0										0.0%	-	5.0
Sum			**4.0**									**100%**	**5.0**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	D	User Input
Watershed Area ac =	3.7	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**19.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.350	Calculated
C_undeveloped =	0.678	Calculated
C_composite =	0.706	Calculated
Peak cfs =	6.19	Calculated
Calculated Tc=	**19.23**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	958	960.56	117.33	0.001					2.7%	0.2	0.2
2	Natural Valley Channel	3	3.60	960.56	945.04	2020.65	0.008					97.3%	6.0	6.2
3	None	0										0.0%	-	6.2
4	None	0										0.0%	-	6.2
5	None	0										0.0%	-	6.2
6	None	0										0.0%	-	6.2
7	None	0										0.0%	-	6.2
8	None	0										0.0%	-	6.2
9	None	0										0.0%	-	6.2
10	None	0										0.0%	-	6.2
Sum			**3.7**									**100%**	**6.2**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-2	User Input
Watershed Area ac =	3.2	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Tc Outside of Range, Reset to 15**
Intensity in/hr =	2.620	Calculated
C_undeveloped =	0.700	Calculated
C_composite =	0.725	Calculated
Peak cfs =	6.13	Calculated
Calculated Tc=	**45.86**	**Tc Outside of Range, Revise Flowpaths**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	950.77	945.76	114.87	0.044					3.1%	0.2	0.2
2	Natural Valley Channel	3	3.10	945.76	943.05	2256.55	0.001					96.9%	5.9	6.1
3	None	0										0.0%	-	6.1
4	None	0										0.0%	-	6.1
5	None	0										0.0%	-	6.1
6	None	0										0.0%	-	6.1
7	None	0										0.0%	-	6.1
8	None	0										0.0%	-	6.1
9	None	0										0.0%	-	6.1
10	None	0										0.0%	-	6.1
Sum			**3.2**									**100%**	**6.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-4	User Input
Watershed Area ac =	5.2	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**7.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.770	Calculated
C_undeveloped =	0.762	Calculated
C_composite =	0.922	Calculated
Peak cfs =	18.22	Calculated
Calculated Tc=	**6.73**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	954	953	122.96	0.008					3.8%	0.7	0.7
2	Street-32'Wide8"Curbs	7	5.00	953	945	728.7	0.011					96.2%	17.5	18.2
3	None	0										0.0%	-	18.2
4	None	0										0.0%	-	18.2
5	None	0										0.0%	-	18.2
6	None	0										0.0%	-	18.2
7	None	0										0.0%	-	18.2
8	None	0										0.0%	-	18.2
9	None	0										0.0%	-	18.2
10	None	0										0.0%	-	18.2
Sum			**5.2**									**100%**	**18.2**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-6	User Input
Watershed Area ac =	4.8	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**7.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.770	Calculated
C_undeveloped =	0.762	Calculated
C_composite =	0.922	Calculated
Peak cfs =	16.82	Calculated
Calculated Tc=	**6.99**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.30	953	952	118.2	0.008					6.3%	1.1	1.1
2	Street-32'Wide8"Curbs	7	4.50	952	946	739.57	0.008					93.8%	15.8	16.8
3	None	0										0.0%	-	16.8
4	None	0										0.0%	-	16.8
5	None	0										0.0%	-	16.8
6	None	0										0.0%	-	16.8
7	None	0										0.0%	-	16.8
8	None	0										0.0%	-	16.8
9	None	0										0.0%	-	16.8
10	None	0										0.0%	-	16.8
Sum			**4.8**									**100%**	**16.8**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-8	User Input
Watershed Area ac =	4.1	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**8.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.520	Calculated
C_undeveloped =	0.753	Calculated
C_composite =	0.920	Calculated
Peak cfs =	13.39	Calculated
Calculated Tc=	**8.21**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	952	951	102.3	0.010					4.9%	0.7	0.7
2	Street-32'Wide8"Curbs	7	3.90	951	948	754.76	0.004					95.1%	12.7	13.4
3	None	0										0.0%	-	13.4
4	None	0										0.0%	-	13.4
5	None	0										0.0%	-	13.4
6	None	0										0.0%	-	13.4
7	None	0										0.0%	-	13.4
8	None	0										0.0%	-	13.4
9	None	0										0.0%	-	13.4
10	None	0										0.0%	-	13.4
Sum			**4.1**									**100%**	**13.4**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-10	User Input
Watershed Area ac =	23.2	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**11.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.020	Calculated
C_undeveloped =	0.728	Calculated
C_composite =	0.917	Calculated
Peak cfs =	64.76	Calculated
Calculated Tc=	**11.15**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	969	968	93.68	0.011					0.9%	0.6	0.6
2	Street-32'Wide8"Curbs	7	23.00	968	947	2240.1	0.009					99.1%	64.2	64.8
3	None	0										0.0%	-	64.8
4	None	0										0.0%	-	64.8
5	None	0										0.0%	-	64.8
6	None	0										0.0%	-	64.8
7	None	0										0.0%	-	64.8
8	None	0										0.0%	-	64.8
9	None	0										0.0%	-	64.8
10	None	0										0.0%	-	64.8
Sum			**23.2**									**100%**	**64.8**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	G	User Input
Watershed Area ac =	21.1	Calculated from flowpath data
% Imperviousness =	90	User Input
Land Use Description =	Paved	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**12.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.900	Calculated
C_undeveloped =	0.720	Calculated
C_composite =	0.927	Calculated
Peak cfs =	57.19	Calculated
Calculated Tc=	**11.66**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	967	966	111.44	0.009					0.5%	0.3	0.3
2	Street-32'Wide8"Curbs	7	21.00	966	949.09	2013.79	0.008					99.5%	56.9	57.2
3	None	0										0.0%	-	57.2
4	None	0										0.0%	-	57.2
5	None	0										0.0%	-	57.2
6	None	0										0.0%	-	57.2
7	None	0										0.0%	-	57.2
8	None	0										0.0%	-	57.2
9	None	0										0.0%	-	57.2
10	None	0										0.0%	-	57.2
Sum			**21.1**									**100%**	**57.2**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	I	User Input
Watershed Area ac =	2.0	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**21.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.230	Calculated
C_undeveloped =	0.184	Calculated
C_composite =	0.260	Calculated
Peak cfs =	1.17	Calculated
Calculated Tc=	**20.56**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	968.26	966.97	71.27	0.018					5.0%	0.1	0.1
2	Natural Valley Channel	3	1.90	966.97	951.51	1964.6	0.008					95.0%	1.1	1.2
3	None	0										0.0%	-	1.2
4	None	0										0.0%	-	1.2
5	None	0										0.0%	-	1.2
6	None	0										0.0%	-	1.2
7	None	0										0.0%	-	1.2
8	None	0										0.0%	-	1.2
9	None	0										0.0%	-	1.2
10	None	0										0.0%	-	1.2
Sum			**2.0**									**100%**	**1.2**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	J	User Input
Watershed Area ac =	3.6	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**19.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.350	Calculated
C_undeveloped =	0.221	Calculated
C_composite =	0.294	Calculated
Peak cfs =	2.51	Calculated
Calculated Tc=	**18.79**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	968.97	968.38	88.32	0.007					2.8%	0.1	0.1
2	Natural Valley Channel	3	3.50	968.38	951.58	2009.12	0.008					97.2%	2.4	2.5
3	None	0										0.0%	-	2.5
4	None	0										0.0%	-	2.5
5	None	0										0.0%	-	2.5
6	None	0										0.0%	-	2.5
7	None	0										0.0%	-	2.5
8	None	0										0.0%	-	2.5
9	None	0										0.0%	-	2.5
10	None	0										0.0%	-	2.5
Sum			**3.6**									**100%**	**2.5**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	K	User Input
Watershed Area ac =	0.4	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**13.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.800	Calculated
C_undeveloped =	0.326	Calculated
C_composite =	0.388	Calculated
Peak cfs =	0.44	Calculated
Calculated Tc=	**12.65**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	956.36	955.96	94.38	0.004					25.0%	0.1	0.1
2	Natural Valley Channel	3	0.30	955.96	955.34	398.91	0.002					75.0%	0.3	0.4
3	None	0										0.0%	-	0.4
4	None	0										0.0%	-	0.4
5	None	0										0.0%	-	0.4
6	None	0										0.0%	-	0.4
7	None	0										0.0%	-	0.4
8	None	0										0.0%	-	0.4
9	None	0										0.0%	-	0.4
10	None	0										0.0%	-	0.4
Sum			**0.4**									**100%**	**0.4**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	L	User Input
Watershed Area ac =	1.4	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**29.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.870	Calculated
C_undeveloped =	0.007	Calculated
C_composite =	0.101	Calculated
Peak cfs =	0.27	Calculated
Calculated Tc=	**28.93**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	978.6	978.28	79.5	0.004					7.1%	0.0	0.0
2	Natural Valley Channel	3	1.30	978.28	968.7	2101.54	0.005					92.9%	0.2	0.3
3	None	0										0.0%	-	0.3
4	None	0										0.0%	-	0.3
5	None	0										0.0%	-	0.3
6	None	0										0.0%	-	0.3
7	None	0										0.0%	-	0.3
8	None	0										0.0%	-	0.3
9	None	0										0.0%	-	0.3
10	None	0										0.0%	-	0.3
Sum			**1.4**									**100%**	**0.3**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	M	User Input
Watershed Area ac =	2.3	Calculated from flowpath data
% Imperviousness =	20	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**28.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.900	Calculated
C_undeveloped =	0.025	Calculated
C_composite =	0.210	Calculated
Peak cfs =	0.92	Calculated
Calculated Tc=	**28.22**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.30	980	979.06	197.9	0.005					13.0%	0.1	0.1
2	Natural Valley Channel	3	2.00	979.06	969.93	2008.11	0.005					87.0%	0.8	0.9
3	None	0										0.0%	-	0.9
4	None	0										0.0%	-	0.9
5	None	0										0.0%	-	0.9
6	None	0										0.0%	-	0.9
7	None	0										0.0%	-	0.9
8	None	0										0.0%	-	0.9
9	None	0										0.0%	-	0.9
10	None	0										0.0%	-	0.9
Sum			**2.3**									**100%**	**0.9**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	N	User Input
Watershed Area ac =	5.3	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.620	Calculated
C_undeveloped =	0.292	Calculated
C_composite =	0.851	Calculated
Peak cfs =	11.92	Calculated
Calculated Tc=	**14.60**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	980.26	977.27	142.59	0.021					1.9%	0.2	0.2
2	Natural Valley Channel	3	5.20	977.27	971.75	1338.07	0.004					98.1%	11.7	11.9
3	None	0										0.0%	-	11.9
4	None	0										0.0%	-	11.9
5	None	0										0.0%	-	11.9
6	None	0										0.0%	-	11.9
7	None	0										0.0%	-	11.9
8	None	0										0.0%	-	11.9
9	None	0										0.0%	-	11.9
10	None	0										0.0%	-	11.9
Sum			**5.3**									**100%**	**11.9**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	O	User Input
Watershed Area ac =	2.3	Calculated from flowpath data
% Imperviousness =	90	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**6.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	4.100	Calculated
C_undeveloped =	0.463	Calculated
C_composite =	0.901	Calculated
Peak cfs =	8.57	Calculated
Calculated Tc=	**6.01**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	975.52	975.06	49.2	0.009					4.3%	0.4	0.4
2	Natural Valley Channel	3	2.20	975.06	968.88	768.85	0.008					95.7%	8.2	8.6
3	None	0										0.0%	-	8.6
4	None	0										0.0%	-	8.6
5	None	0										0.0%	-	8.6
6	None	0										0.0%	-	8.6
7	None	0										0.0%	-	8.6
8	None	0										0.0%	-	8.6
9	None	0										0.0%	-	8.6
10	None	0										0.0%	-	8.6
Sum			**2.3**									**100%**	**8.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	P	User Input
Watershed Area ac =	0.2	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Tc Outside of Range, Reset to 15**
Intensity in/hr =	2.620	Calculated
C_undeveloped =	0.700	Calculated
C_composite =	0.725	Calculated
Peak cfs =	0.29	Calculated
Calculated Tc=	**0.84**	**Tc Outside of Range, Revise Flowpaths**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.05	994.73	987.94	35.5	0.191					33.3%	0.1	0.1
2	Natural Valley Channel	3	0.10	987.94	982.06	105.05	0.056					66.7%	0.2	0.3
3	None	0										0.0%	-	0.3
4	None	0										0.0%	-	0.3
5	None	0										0.0%	-	0.3
6	None	0										0.0%	-	0.3
7	None	0										0.0%	-	0.3
8	None	0										0.0%	-	0.3
9	None	0										0.0%	-	0.3
10	None	0										0.0%	-	0.3
Sum			**0.2**									**100%**	**0.3**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	Q	User Input
Watershed Area ac =	0.7	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**7.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.770	Calculated
C_undeveloped =	0.762	Calculated
C_composite =	0.781	Calculated
Peak cfs =	2.08	Calculated
Calculated Tc=	**7.26**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	990.51	983.85	82.65	0.081					14.3%	0.3	0.3
2	Natural Valley Channel	3	0.60	983.85	981	559	0.005					85.7%	1.8	2.1
3	None	0										0.0%	-	2.1
4	None	0										0.0%	-	2.1
5	None	0										0.0%	-	2.1
6	None	0										0.0%	-	2.1
7	None	0										0.0%	-	2.1
8	None	0										0.0%	-	2.1
9	None	0										0.0%	-	2.1
10	None	0										0.0%	-	2.1
Sum			**0.7**									**100%**	**2.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	R	User Input
Watershed Area ac =	0.8	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Tc Outside of Range, Reset to 15**
Intensity in/hr =	2.620	Calculated
C_undeveloped =	0.700	Calculated
C_composite =	0.725	Calculated
Peak cfs =	1.53	Calculated
Calculated Tc=	**4.02**	**Tc Outside of Range, Revise Flowpaths**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	994.74	988.02	53.35	0.126					12.5%	0.2	0.2
2	Natural Valley Channel	3	0.70	988.02	983.21	424.26	0.011					87.5%	1.3	1.5
3	None	0										0.0%	-	1.5
4	None	0										0.0%	-	1.5
5	None	0										0.0%	-	1.5
6	None	0										0.0%	-	1.5
7	None	0										0.0%	-	1.5
8	None	0										0.0%	-	1.5
9	None	0										0.0%	-	1.5
10	None	0										0.0%	-	1.5
Sum			**0.8**									**100%**	**1.5**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	S	User Input
Watershed Area ac =	4.2	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**11.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.020	Calculated
C_undeveloped =	0.673	Calculated
C_composite =	0.701	Calculated
Peak cfs =	8.96	Calculated
Calculated Tc=	**10.82**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	996.72	995.363	78	0.017					2.4%	0.2	0.2
2	Natural Valley Channel	3	2.10	995.36	990.184	486.31	0.011					50.0%	4.5	4.7
3	Natural Valley Channel	3	2.00	990.18	977.508	1274.3	0.010					47.6%	4.3	9.0
4	None	0										0.0%	-	9.0
5	None	0										0.0%	-	9.0
6	None	0										0.0%	-	9.0
7	None	0										0.0%	-	9.0
8	None	0										0.0%	-	9.0
9	None	0										0.0%	-	9.0
10	None	0										0.0%	-	9.0
Sum			**4.2**									**100%**	**9.0**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	T	User Input
Watershed Area ac =	0.4	Calculated from flowpath data
% Imperviousness =	15	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Tc Outside of Range, Reset to 15**
Intensity in/hr =	2.620	Calculated
C_undeveloped =	0.640	Calculated
C_composite =	0.687	Calculated
Peak cfs =	0.73	Calculated
Calculated Tc=	**4.37**	**Tc Outside of Range, Revise Flowpaths**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	990.5	987.91	94.22	0.027					25.0%	0.2	0.2
2	Natural Valley Channel	3	0.30	987.91	985.63	287.13	0.008					75.0%	0.5	0.7
3	None	0										0.0%	-	0.7
4	None	0										0.0%	-	0.7
5	None	0										0.0%	-	0.7
6	None	0										0.0%	-	0.7
7	None	0										0.0%	-	0.7
8	None	0										0.0%	-	0.7
9	None	0										0.0%	-	0.7
10	None	0										0.0%	-	0.7
Sum			**0.4**									**100%**	**0.7**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	U	User Input
Watershed Area ac =	2.3	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**28.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.900	Calculated
C_undeveloped =	0.578	Calculated
C_composite =	0.615	Calculated
Peak cfs =	2.71	Calculated
Calculated Tc=	**27.96**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	988.01	988	102.12	0.001					4.3%	0.1	0.1
2	Natural Valley Channel	3	2.20	988	979.13	2094.75	0.004					95.7%	2.6	2.7
3	None	0										0.0%	-	2.7
4	None	0										0.0%	-	2.7
5	None	0										0.0%	-	2.7
6	None	0										0.0%	-	2.7
7	None	0										0.0%	-	2.7
8	None	0										0.0%	-	2.7
9	None	0										0.0%	-	2.7
10	None	0										0.0%	-	2.7
Sum			**2.3**									**100%**	**2.7**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	V	User Input
Watershed Area ac =	3.7	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**8.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.520	Calculated
C_undeveloped =	0.695	Calculated
C_composite =	0.721	Calculated
Peak cfs =	9.46	Calculated
Calculated Tc=	**8.18**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	980.43	976.62	51.76	0.074					2.7%	0.3	0.3
2	Natural Valley Channel	3	3.60	976.62	969.86	994.18	0.007					97.3%	9.2	9.5
3	None	0										0.0%	-	9.5
4	None	0										0.0%	-	9.5
5	None	0										0.0%	-	9.5
6	None	0										0.0%	-	9.5
7	None	0										0.0%	-	9.5
8	None	0										0.0%	-	9.5
9	None	0										0.0%	-	9.5
10	None	0										0.0%	-	9.5
Sum			**3.7**									**100%**	**9.5**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	A	User Input
Watershed Area ac =	2.6	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.890	Calculated
C_undeveloped =	0.719	Calculated
C_composite =	0.742	Calculated
Peak cfs =	5.62	Calculated
Calculated Tc=	**14.74**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	955.56	954.84	67.79	0.011					3.8%	0.2	0.2
2	Natural Valley Channel	3	2.50	954.84	945.66	1543.37	0.006					96.2%	5.4	5.6
3	None	0										0.0%	-	5.6
4	None	0										0.0%	-	5.6
5	None	0										0.0%	-	5.6
6	None	0										0.0%	-	5.6
7	None	0										0.0%	-	5.6
8	None	0										0.0%	-	5.6
9	None	0										0.0%	-	5.6
10	None	0										0.0%	-	5.6
Sum			**2.6**									**100%**	**5.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	B	User Input
Watershed Area ac =	1.2	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**9.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.740	Calculated
C_undeveloped =	0.761	Calculated
C_composite =	0.780	Calculated
Peak cfs =	3.53	Calculated
Calculated Tc=	**9.30**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	950.07	945.69	89.47	0.049					16.7%	0.6	0.6
2	Natural Valley Channel	3	1.00	945.69	944.99	449.33	0.002					83.3%	2.9	3.5
3	None	0										0.0%	-	3.5
4	None	0										0.0%	-	3.5
5	None	0										0.0%	-	3.5
6	None	0										0.0%	-	3.5
7	None	0										0.0%	-	3.5
8	None	0										0.0%	-	3.5
9	None	0										0.0%	-	3.5
10	None	0										0.0%	-	3.5
Sum			**1.2**									**100%**	**3.5**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	C	User Input
Watershed Area ac =	4.0	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**27.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.130	Calculated
C_undeveloped =	0.659	Calculated
C_composite =	0.688	Calculated
Peak cfs =	5.91	Calculated
Calculated Tc=	**27.35**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	949.63	944.98	126.86	0.037					5.0%	0.3	0.3
2	Natural Valley Channel	3	3.80	944.98	941.93	1646.68	0.002					95.0%	5.6	5.9
3	None	0										0.0%	-	5.9
4	None	0										0.0%	-	5.9
5	None	0										0.0%	-	5.9
6	None	0										0.0%	-	5.9
7	None	0										0.0%	-	5.9
8	None	0										0.0%	-	5.9
9	None	0										0.0%	-	5.9
10	None	0										0.0%	-	5.9
Sum			**4.0**									**100%**	**5.9**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	D	User Input
Watershed Area ac =	3.7	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**19.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.550	Calculated
C_undeveloped =	0.695	Calculated
C_composite =	0.721	Calculated
Peak cfs =	6.86	Calculated
Calculated Tc=	**18.90**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	958	960.56	117.33	0.001					2.7%	0.2	0.2
2	Natural Valley Channel	3	3.60	960.56	945.04	2020.65	0.008					97.3%	6.7	6.9
3	None	0										0.0%	-	6.9
4	None	0										0.0%	-	6.9
5	None	0										0.0%	-	6.9
6	None	0										0.0%	-	6.9
7	None	0										0.0%	-	6.9
8	None	0										0.0%	-	6.9
9	None	0										0.0%	-	6.9
10	None	0										0.0%	-	6.9
Sum			**3.7**									**100%**	**6.9**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-2	User Input
Watershed Area ac =	3.2	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Tc Outside of Range, Reset to 15**
Intensity in/hr =	2.890	Calculated
C_undeveloped =	0.719	Calculated
C_composite =	0.742	Calculated
Peak cfs =	6.92	Calculated
Calculated Tc=	**44.14**	**Tc Outside of Range, Revise Flowpaths**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	950.77	945.76	114.87	0.044					3.1%	0.2	0.2
2	Natural Valley Channel	3	3.10	945.76	943.05	2256.55	0.001					96.9%	6.7	6.9
3	None	0										0.0%	-	6.9
4	None	0										0.0%	-	6.9
5	None	0										0.0%	-	6.9
6	None	0										0.0%	-	6.9
7	None	0										0.0%	-	6.9
8	None	0										0.0%	-	6.9
9	None	0										0.0%	-	6.9
10	None	0										0.0%	-	6.9
Sum			**3.2**									**100%**	**6.9**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-4	User Input
Watershed Area ac =	5.2	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**6.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	4.590	Calculated
C_undeveloped =	0.787	Calculated
C_composite =	0.926	Calculated
Peak cfs =	22.27	Calculated
Calculated Tc=	**5.71**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	954	953	122.96	0.008					3.8%	0.9	0.9
2	Street-32'Wide8"Curbs	7	5.00	953	945	728.7	0.011					96.2%	21.4	22.3
3	None	0										0.0%	-	22.3
4	None	0										0.0%	-	22.3
5	None	0										0.0%	-	22.3
6	None	0										0.0%	-	22.3
7	None	0										0.0%	-	22.3
8	None	0										0.0%	-	22.3
9	None	0										0.0%	-	22.3
10	None	0										0.0%	-	22.3
Sum			**5.2**									**100%**	**22.3**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-6	User Input
Watershed Area ac =	4.8	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**6.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	4.590	Calculated
C_undeveloped =	0.787	Calculated
C_composite =	0.926	Calculated
Peak cfs =	20.56	Calculated
Calculated Tc=	**5.98**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.30	953	952	118.2	0.008					6.3%	1.3	1.3
2	Street-32'Wide8"Curbs	7	4.50	952	946	739.57	0.008					93.8%	19.3	20.6
3	None	0										0.0%	-	20.6
4	None	0										0.0%	-	20.6
5	None	0										0.0%	-	20.6
6	None	0										0.0%	-	20.6
7	None	0										0.0%	-	20.6
8	None	0										0.0%	-	20.6
9	None	0										0.0%	-	20.6
10	None	0										0.0%	-	20.6
Sum			**4.8**									**100%**	**20.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-8	User Input
Watershed Area ac =	4.1	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**7.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	4.230	Calculated
C_undeveloped =	0.777	Calculated
C_composite =	0.924	Calculated
Peak cfs =	16.16	Calculated
Calculated Tc=	**7.24**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	952	951	102.3	0.010					4.9%	0.8	0.8
2	Street-32'Wide8"Curbs	7	3.90	951	948	754.76	0.004					95.1%	15.4	16.2
3	None	0										0.0%	-	16.2
4	None	0										0.0%	-	16.2
5	None	0										0.0%	-	16.2
6	None	0										0.0%	-	16.2
7	None	0										0.0%	-	16.2
8	None	0										0.0%	-	16.2
9	None	0										0.0%	-	16.2
10	None	0										0.0%	-	16.2
Sum			**4.1**									**100%**	**16.2**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-10	User Input
Watershed Area ac =	23.2	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**10.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.570	Calculated
C_undeveloped =	0.755	Calculated
C_composite =	0.921	Calculated
Peak cfs =	76.89	Calculated
Calculated Tc=	**10.13**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	969	968	93.68	0.011					0.9%	0.7	0.7
2	Street-32'Wide8"Curbs	7	23.00	968	947	2240.1	0.009					99.1%	76.2	76.9
3	None	0										0.0%	-	76.9
4	None	0										0.0%	-	76.9
5	None	0										0.0%	-	76.9
6	None	0										0.0%	-	76.9
7	None	0										0.0%	-	76.9
8	None	0										0.0%	-	76.9
9	None	0										0.0%	-	76.9
10	None	0										0.0%	-	76.9
Sum			**23.2**									**100%**	**76.9**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	G	User Input
Watershed Area ac =	21.1	Calculated from flowpath data
% Imperviousness =	90	User Input
Land Use Description =	Paved	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**11.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.390	Calculated
C_undeveloped =	0.746	Calculated
C_composite =	0.930	Calculated
Peak cfs =	67.05	Calculated
Calculated Tc=	**10.55**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	967	966	111.44	0.009					0.5%	0.3	0.3
2	Street-32'Wide8"Curbs	7	21.00	966	949.09	2013.79	0.008					99.5%	66.7	67.0
3	None	0										0.0%	-	67.0
4	None	0										0.0%	-	67.0
5	None	0										0.0%	-	67.0
6	None	0										0.0%	-	67.0
7	None	0										0.0%	-	67.0
8	None	0										0.0%	-	67.0
9	None	0										0.0%	-	67.0
10	None	0										0.0%	-	67.0
Sum			**21.1**									**100%**	**67.0**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	I	User Input
Watershed Area ac =	2.0	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**20.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.490	Calculated
C_undeveloped =	0.258	Calculated
C_composite =	0.327	Calculated
Peak cfs =	1.64	Calculated
Calculated Tc=	**19.52**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	968.26	966.97	71.27	0.018					5.0%	0.1	0.1
2	Natural Valley Channel	3	1.90	966.97	951.51	1964.6	0.008					95.0%	1.6	1.6
3	None	0										0.0%	-	1.6
4	None	0										0.0%	-	1.6
5	None	0										0.0%	-	1.6
6	None	0										0.0%	-	1.6
7	None	0										0.0%	-	1.6
8	None	0										0.0%	-	1.6
9	None	0										0.0%	-	1.6
10	None	0										0.0%	-	1.6
Sum			**2.0**									**100%**	**1.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	J	User Input
Watershed Area ac =	3.6	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**18.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.620	Calculated
C_undeveloped =	0.292	Calculated
C_composite =	0.358	Calculated
Peak cfs =	3.40	Calculated
Calculated Tc=	**17.86**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	968.97	968.38	88.32	0.007					2.8%	0.1	0.1
2	Natural Valley Channel	3	3.50	968.38	951.58	2009.12	0.008					97.2%	3.3	3.4
3	None	0										0.0%	-	3.4
4	None	0										0.0%	-	3.4
5	None	0										0.0%	-	3.4
6	None	0										0.0%	-	3.4
7	None	0										0.0%	-	3.4
8	None	0										0.0%	-	3.4
9	None	0										0.0%	-	3.4
10	None	0										0.0%	-	3.4
Sum			**3.6**									**100%**	**3.4**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	K	User Input
Watershed Area ac =	0.4	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**12.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.230	Calculated
C_undeveloped =	0.387	Calculated
C_composite =	0.443	Calculated
Peak cfs =	0.58	Calculated
Calculated Tc=	**12.27**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	956.36	955.96	94.38	0.004					25.0%	0.1	0.1
2	Natural Valley Channel	3	0.30	955.96	955.34	398.91	0.002					75.0%	0.4	0.6
3	None	0										0.0%	-	0.6
4	None	0										0.0%	-	0.6
5	None	0										0.0%	-	0.6
6	None	0										0.0%	-	0.6
7	None	0										0.0%	-	0.6
8	None	0										0.0%	-	0.6
9	None	0										0.0%	-	0.6
10	None	0										0.0%	-	0.6
Sum			**0.4**									**100%**	**0.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	L	User Input
Watershed Area ac =	1.4	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**28.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.090	Calculated
C_undeveloped =	0.127	Calculated
C_composite =	0.209	Calculated
Peak cfs =	0.62	Calculated
Calculated Tc=	**28.00**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	978.6	978.28	79.5	0.004					7.1%	0.0	0.0
2	Natural Valley Channel	3	1.30	978.28	968.7	2101.54	0.005					92.9%	0.6	0.6
3	None	0										0.0%	-	0.6
4	None	0										0.0%	-	0.6
5	None	0										0.0%	-	0.6
6	None	0										0.0%	-	0.6
7	None	0										0.0%	-	0.6
8	None	0										0.0%	-	0.6
9	None	0										0.0%	-	0.6
10	None	0										0.0%	-	0.6
Sum			**1.4**									**100%**	**0.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	M	User Input
Watershed Area ac =	2.3	Calculated from flowpath data
% Imperviousness =	20	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**27.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.130	Calculated
C_undeveloped =	0.143	Calculated
C_composite =	0.304	Calculated
Peak cfs =	1.50	Calculated
Calculated Tc=	**27.45**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.30	980	979.06	197.9	0.005					13.0%	0.2	0.2
2	Natural Valley Channel	3	2.00	979.06	969.93	2008.11	0.005					87.0%	1.3	1.5
3	None	0										0.0%	-	1.5
4	None	0										0.0%	-	1.5
5	None	0										0.0%	-	1.5
6	None	0										0.0%	-	1.5
7	None	0										0.0%	-	1.5
8	None	0										0.0%	-	1.5
9	None	0										0.0%	-	1.5
10	None	0										0.0%	-	1.5
Sum			**2.3**									**100%**	**1.5**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	N	User Input
Watershed Area ac =	5.3	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**14.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.990	Calculated
C_undeveloped =	0.358	Calculated
C_composite =	0.861	Calculated
Peak cfs =	13.76	Calculated
Calculated Tc=	**14.21**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	980.26	977.27	142.59	0.021					1.9%	0.3	0.3
2	Natural Valley Channel	3	5.20	977.27	971.75	1338.07	0.004					98.1%	13.5	13.8
3	None	0										0.0%	-	13.8
4	None	0										0.0%	-	13.8
5	None	0										0.0%	-	13.8
6	None	0										0.0%	-	13.8
7	None	0										0.0%	-	13.8
8	None	0										0.0%	-	13.8
9	None	0										0.0%	-	13.8
10	None	0										0.0%	-	13.8
Sum			**5.3**									**100%**	**13.8**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	O	User Input
Watershed Area ac =	2.3	Calculated from flowpath data
% Imperviousness =	90	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**6.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	4.590	Calculated
C_undeveloped =	0.494	Calculated
C_composite =	0.904	Calculated
Peak cfs =	9.63	Calculated
Calculated Tc=	**5.88**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	975.52	975.06	49.2	0.009					4.3%	0.4	0.4
2	Natural Valley Channel	3	2.20	975.06	968.88	768.85	0.008					95.7%	9.2	9.6
3	None	0										0.0%	-	9.6
4	None	0										0.0%	-	9.6
5	None	0										0.0%	-	9.6
6	None	0										0.0%	-	9.6
7	None	0										0.0%	-	9.6
8	None	0										0.0%	-	9.6
9	None	0										0.0%	-	9.6
10	None	0										0.0%	-	9.6
Sum			**2.3**									**100%**	**9.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	P	User Input
Watershed Area ac =	0.2	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Tc Outside of Range, Reset to 15**
Intensity in/hr =	2.890	Calculated
C_undeveloped =	0.719	Calculated
C_composite =	0.742	Calculated
Peak cfs =	0.32	Calculated
Calculated Tc=	**0.78**	**Tc Outside of Range, Revise Flowpaths**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.05	994.73	987.94	35.5	0.191					33.3%	0.1	0.1
2	Natural Valley Channel	3	0.10	987.94	982.06	105.05	0.056					66.7%	0.2	0.3
3	None	0										0.0%	-	0.3
4	None	0										0.0%	-	0.3
5	None	0										0.0%	-	0.3
6	None	0										0.0%	-	0.3
7	None	0										0.0%	-	0.3
8	None	0										0.0%	-	0.3
9	None	0										0.0%	-	0.3
10	None	0										0.0%	-	0.3
Sum			**0.2**									**100%**	**0.3**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	Q	User Input
Watershed Area ac =	0.7	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**7.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	4.230	Calculated
C_undeveloped =	0.777	Calculated
C_composite =	0.794	Calculated
Peak cfs =	2.37	Calculated
Calculated Tc=	**7.07**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	990.51	983.85	82.65	0.081					14.3%	0.3	0.3
2	Natural Valley Channel	3	0.60	983.85	981	559	0.005					85.7%	2.0	2.4
3	None	0										0.0%	-	2.4
4	None	0										0.0%	-	2.4
5	None	0										0.0%	-	2.4
6	None	0										0.0%	-	2.4
7	None	0										0.0%	-	2.4
8	None	0										0.0%	-	2.4
9	None	0										0.0%	-	2.4
10	None	0										0.0%	-	2.4
Sum			**0.7**									**100%**	**2.4**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	R	User Input
Watershed Area ac =	0.8	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Tc Outside of Range, Reset to 15**
Intensity in/hr =	2.890	Calculated
C_undeveloped =	0.719	Calculated
C_composite =	0.742	Calculated
Peak cfs =	1.73	Calculated
Calculated Tc=	**3.82**	**Tc Outside of Range, Revise Flowpaths**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	994.74	988.02	53.35	0.126					12.5%	0.2	0.2
2	Natural Valley Channel	3	0.70	988.02	983.21	424.26	0.011					87.5%	1.5	1.7
3	None	0										0.0%	-	1.7
4	None	0										0.0%	-	1.7
5	None	0										0.0%	-	1.7
6	None	0										0.0%	-	1.7
7	None	0										0.0%	-	1.7
8	None	0										0.0%	-	1.7
9	None	0										0.0%	-	1.7
10	None	0										0.0%	-	1.7
Sum			**0.8**									**100%**	**1.7**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	S	User Input
Watershed Area ac =	4.2	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**11.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.390	Calculated
C_undeveloped =	0.689	Calculated
C_composite =	0.715	Calculated
Peak cfs =	10.27	Calculated
Calculated Tc=	**10.53**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	996.72	995.363	78	0.017					2.4%	0.2	0.2
2	Natural Valley Channel	3	2.10	995.36	990.184	486.31	0.011					50.0%	5.1	5.4
3	Natural Valley Channel	3	2.00	990.18	977.508	1274.3	0.010					47.6%	4.9	10.3
4	None	0										0.0%	-	10.3
5	None	0										0.0%	-	10.3
6	None	0										0.0%	-	10.3
7	None	0										0.0%	-	10.3
8	None	0										0.0%	-	10.3
9	None	0										0.0%	-	10.3
10	None	0										0.0%	-	10.3
Sum			**4.2**									**100%**	**10.3**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	T	User Input
Watershed Area ac =	0.4	Calculated from flowpath data
% Imperviousness =	15	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Tc Outside of Range, Reset to 15**
Intensity in/hr =	2.890	Calculated
C_undeveloped =	0.663	Calculated
C_composite =	0.706	Calculated
Peak cfs =	0.82	Calculated
Calculated Tc=	**4.32**	**Tc Outside of Range, Revise Flowpaths**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	990.5	987.91	94.22	0.027					25.0%	0.2	0.2
2	Natural Valley Channel	3	0.30	987.91	985.63	287.13	0.008					75.0%	0.6	0.8
3	None	0										0.0%	-	0.8
4	None	0										0.0%	-	0.8
5	None	0										0.0%	-	0.8
6	None	0										0.0%	-	0.8
7	None	0										0.0%	-	0.8
8	None	0										0.0%	-	0.8
9	None	0										0.0%	-	0.8
10	None	0										0.0%	-	0.8
Sum			**0.4**									**100%**	**0.8**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	U	User Input
Watershed Area ac =	2.3	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**27.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.130	Calculated
C_undeveloped =	0.605	Calculated
C_composite =	0.640	Calculated
Peak cfs =	3.16	Calculated
Calculated Tc=	**27.27**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	988.01	988	102.12	0.001					4.3%	0.1	0.1
2	Natural Valley Channel	3	2.20	988	979.13	2094.75	0.004					95.7%	3.0	3.2
3	None	0										0.0%	-	3.2
4	None	0										0.0%	-	3.2
5	None	0										0.0%	-	3.2
6	None	0										0.0%	-	3.2
7	None	0										0.0%	-	3.2
8	None	0										0.0%	-	3.2
9	None	0										0.0%	-	3.2
10	None	0										0.0%	-	3.2
Sum			**2.3**									**100%**	**3.2**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	V	User Input
Watershed Area ac =	3.7	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**8.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.950	Calculated
C_undeveloped =	0.710	Calculated
C_composite =	0.734	Calculated
Peak cfs =	10.81	Calculated
Calculated Tc=	**7.97**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	980.43	976.62	51.76	0.074					2.7%	0.3	0.3
2	Natural Valley Channel	3	3.60	976.62	969.86	994.18	0.007					97.3%	10.5	10.8
3	None	0										0.0%	-	10.8
4	None	0										0.0%	-	10.8
5	None	0										0.0%	-	10.8
6	None	0										0.0%	-	10.8
7	None	0										0.0%	-	10.8
8	None	0										0.0%	-	10.8
9	None	0										0.0%	-	10.8
10	None	0										0.0%	-	10.8
Sum			**3.7**									**100%**	**10.8**	

Proposed Hydrology

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	A	User Input
Watershed Area ac =	2.9	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**18.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.860	Calculated
C_undeveloped =	0.624	Calculated
C_composite =	0.657	Calculated
Peak cfs =	3.57	Calculated
Calculated Tc=	**17.66**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	955.56	954.567	67.79	0.015					3.4%	0.1	0.1
2	Natural Valley Channel	3	2.80	954.57	945.7	1543.37	0.006					96.6%	3.4	3.6
3	None	0										0.0%	-	3.6
4	None	0										0.0%	-	3.6
5	None	0										0.0%	-	3.6
6	None	0										0.0%	-	3.6
7	None	0										0.0%	-	3.6
8	None	0										0.0%	-	3.6
9	None	0										0.0%	-	3.6
10	None	0										0.0%	-	3.6
Sum			**2.9**									**100%**	**3.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	B	User Input
Watershed Area ac =	1.3	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**12.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.290	Calculated
C_undeveloped =	0.673	Calculated
C_composite =	0.701	Calculated
Peak cfs =	2.10	Calculated
Calculated Tc=	**11.60**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	950.07	945.69	89.47	0.049					15.4%	0.3	0.3
2	Natural Valley Channel	3	1.10	945.69	944.99	449.33	0.002					84.6%	1.8	2.1
3	None	0										0.0%	-	2.1
4	None	0										0.0%	-	2.1
5	None	0										0.0%	-	2.1
6	None	0										0.0%	-	2.1
7	None	0										0.0%	-	2.1
8	None	0										0.0%	-	2.1
9	None	0										0.0%	-	2.1
10	None	0										0.0%	-	2.1
Sum			**1.3**									**100%**	**2.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	C	User Input
Watershed Area ac =	4.1	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Tc Outside of Range, Reset to 15**
Intensity in/hr =	2.040	Calculated
C_undeveloped =	0.650	Calculated
C_composite =	0.680	Calculated
Peak cfs =	5.73	Calculated
Calculated Tc=	**32.21**	**Tc Outside of Range, Revise Flowpaths**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	949.63	945	126.86	0.036					4.9%	0.3	0.3
2	Natural Valley Channel	3	3.90	945	941.93	1646.68	0.002					95.1%	5.5	5.7
3	None	0										0.0%	-	5.7
4	None	0										0.0%	-	5.7
5	None	0										0.0%	-	5.7
6	None	0										0.0%	-	5.7
7	None	0										0.0%	-	5.7
8	None	0										0.0%	-	5.7
9	None	0										0.0%	-	5.7
10	None	0										0.0%	-	5.7
Sum			**4.1**									**100%**	**5.7**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	D	User Input
Watershed Area ac =	3.5	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**16.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.980	Calculated
C_undeveloped =	0.642	Calculated
C_composite =	0.673	Calculated
Peak cfs =	4.70	Calculated
Calculated Tc=	**15.85**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	960	960	117.33	0.001					2.9%	0.1	0.1
2	Natural Valley Channel	3	3.40	960	946.412	1496.3	0.009					97.1%	4.6	4.7
3	None	0										0.0%	-	4.7
4	None	0										0.0%	-	4.7
5	None	0										0.0%	-	4.7
6	None	0										0.0%	-	4.7
7	None	0										0.0%	-	4.7
8	None	0										0.0%	-	4.7
9	None	0										0.0%	-	4.7
10	None	0										0.0%	-	4.7
Sum			**3.5**									**100%**	**4.7**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-2	User Input
Watershed Area ac =	2.9	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Tc Outside of Range, Reset to 15**
Intensity in/hr =	2.040	Calculated
C_undeveloped =	0.650	Calculated
C_composite =	0.680	Calculated
Peak cfs =	4.05	Calculated
Calculated Tc=	**30.15**	**Tc Outside of Range, Revise Flowpaths**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	947.17	947.217	73.4	0.001					3.4%	0.1	0.1
2	Natural Valley Channel	3	2.80	947.22	940.317	2149.519	0.003					96.6%	3.9	4.1
3	None	0										0.0%	-	4.1
4	None	0										0.0%	-	4.1
5	None	0										0.0%	-	4.1
6	None	0										0.0%	-	4.1
7	None	0										0.0%	-	4.1
8	None	0										0.0%	-	4.1
9	None	0										0.0%	-	4.1
10	None	0										0.0%	-	4.1
Sum			**2.9**									**100%**	**4.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-4	User Input
Watershed Area ac =	5.2	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**9.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.680	Calculated
C_undeveloped =	0.705	Calculated
C_composite =	0.913	Calculated
Peak cfs =	12.83	Calculated
Calculated Tc=	**9.36**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	954	954	122.96	0.001					3.8%	0.5	0.5
2	Street-32'Wide8"Curbs	7	5.00	954	948.713	728.7	0.007					96.2%	12.3	12.8
3	None	0										0.0%	-	12.8
4	None	0										0.0%	-	12.8
5	None	0										0.0%	-	12.8
6	None	0										0.0%	-	12.8
7	None	0										0.0%	-	12.8
8	None	0										0.0%	-	12.8
9	None	0										0.0%	-	12.8
10	None	0										0.0%	-	12.8
Sum			**5.2**									**100%**	**12.8**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-6	User Input
Watershed Area ac =	4.8	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**10.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.520	Calculated
C_undeveloped =	0.693	Calculated
C_composite =	0.912	Calculated
Peak cfs =	11.12	Calculated
Calculated Tc=	**10.12**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.30	952	952	118.2	0.001					6.3%	0.7	0.7
2	Street-32'Wide8"Curbs	7	4.50	952	948.749	739.57	0.004					93.8%	10.4	11.1
3	None	0										0.0%	-	11.1
4	None	0										0.0%	-	11.1
5	None	0										0.0%	-	11.1
6	None	0										0.0%	-	11.1
7	None	0										0.0%	-	11.1
8	None	0										0.0%	-	11.1
9	None	0										0.0%	-	11.1
10	None	0										0.0%	-	11.1
Sum			**4.8**									**100%**	**11.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-8	User Input
Watershed Area ac =	4.1	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.040	Calculated
C_undeveloped =	0.650	Calculated
C_composite =	0.905	Calculated
Peak cfs =	7.63	Calculated
Calculated Tc=	**14.72**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	952	951	102.3	0.010					4.9%	0.4	0.4
2	Street-32'Wide8"Curbs	7	3.90	951	952	754.76	0.001					95.1%	7.3	7.6
3	None	0										0.0%	-	7.6
4	None	0										0.0%	-	7.6
5	None	0										0.0%	-	7.6
6	None	0										0.0%	-	7.6
7	None	0										0.0%	-	7.6
8	None	0										0.0%	-	7.6
9	None	0										0.0%	-	7.6
10	None	0										0.0%	-	7.6
Sum			**4.1**									**100%**	**7.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-10	User Input
Watershed Area ac =	23.2	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**14.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.120	Calculated
C_undeveloped =	0.658	Calculated
C_composite =	0.906	Calculated
Peak cfs =	44.94	Calculated
Calculated Tc=	**13.85**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	969	969	93.68	0.001					0.9%	0.4	0.4
2	Street-32'Wide8"Curbs	7	23.00	969	950.803	2240.1	0.008					99.1%	44.6	44.9
3	None	0										0.0%	-	44.9
4	None	0										0.0%	-	44.9
5	None	0										0.0%	-	44.9
6	None	0										0.0%	-	44.9
7	None	0										0.0%	-	44.9
8	None	0										0.0%	-	44.9
9	None	0										0.0%	-	44.9
10	None	0										0.0%	-	44.9
Sum			**23.2**									**100%**	**44.9**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	G	User Input
Watershed Area ac =	21.1	Calculated from flowpath data
% Imperviousness =	90	User Input
Land Use Description =	Paved	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**14.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.120	Calculated
C_undeveloped =	0.658	Calculated
C_composite =	0.921	Calculated
Peak cfs =	41.53	Calculated
Calculated Tc=	**13.92**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	967	966	111.44	0.009					0.5%	0.2	0.2
2	Street-32'Wide8"Curbs	7	21.00	966	949.09	2013.79	0.008					99.5%	41.3	41.5
3	None	0										0.0%	-	41.5
4	None	0										0.0%	-	41.5
5	None	0										0.0%	-	41.5
6	None	0										0.0%	-	41.5
7	None	0										0.0%	-	41.5
8	None	0										0.0%	-	41.5
9	None	0										0.0%	-	41.5
10	None	0										0.0%	-	41.5
Sum			**21.1**									**100%**	**41.5**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	I	User Input
Watershed Area ac =	2.5	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**25.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.580	Calculated
C_undeveloped =	0.001	Calculated
C_composite =	0.096	Calculated
Peak cfs =	0.38	Calculated
Calculated Tc=	**25.21**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	968.26	967	71.27	0.018					4.0%	0.0	0.0
2	Natural Valley Channel	3	2.40	967	951.51	1964.6	0.008					96.0%	0.4	0.4
3	None	0										0.0%	-	0.4
4	None	0										0.0%	-	0.4
5	None	0										0.0%	-	0.4
6	None	0										0.0%	-	0.4
7	None	0										0.0%	-	0.4
8	None	0										0.0%	-	0.4
9	None	0										0.0%	-	0.4
10	None	0										0.0%	-	0.4
Sum			**2.5**									**100%**	**0.4**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	J	User Input
Watershed Area ac =	3.5	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**24.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.620	Calculated
C_undeveloped =	0.001	Calculated
C_composite =	0.096	Calculated
Peak cfs =	0.55	Calculated
Calculated Tc=	**24.15**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	969.71	968.382	87.38	0.015					2.9%	0.0	0.0
2	Natural Valley Channel	3	3.40	968.38	952.02	1952.8	0.008					97.1%	0.5	0.5
3	None	0										0.0%	-	0.5
4	None	0										0.0%	-	0.5
5	None	0										0.0%	-	0.5
6	None	0										0.0%	-	0.5
7	None	0										0.0%	-	0.5
8	None	0										0.0%	-	0.5
9	None	0										0.0%	-	0.5
10	None	0										0.0%	-	0.5
Sum			**3.5**									**100%**	**0.5**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	L	User Input
Watershed Area ac =	1.2	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Tc Outside of Range, Reset to 15**
Intensity in/hr =	2.620	Calculated
C_undeveloped =	0.292	Calculated
C_composite =	0.358	Calculated
Peak cfs =	1.13	Calculated
Calculated Tc=	**39.02**	**Tc Outside of Range, Revise Flowpaths**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	975	974	66.81	0.015					8.3%	0.1	0.1
2	Natural Valley Channel	3	1.10	974	969.87	2002.704	0.002					91.7%	1.0	1.1
3	None	0										0.0%	-	1.1
4	None	0										0.0%	-	1.1
5	None	0										0.0%	-	1.1
6	None	0										0.0%	-	1.1
7	None	0										0.0%	-	1.1
8	None	0										0.0%	-	1.1
9	None	0										0.0%	-	1.1
10	None	0										0.0%	-	1.1
Sum			**1.2**									**100%**	**1.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	M	User Input
Watershed Area ac =	9.8	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**25.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.580	Calculated
C_undeveloped =	0.001	Calculated
C_composite =	0.808	Calculated
Peak cfs =	12.61	Calculated
Calculated Tc=	**25.43**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	979	979.06	130	0.001					1.0%	0.1	0.1
2	Natural Valley Channel	3	9.70	979.06	969	2253.98	0.004					99.0%	12.5	12.6
3	None	0										0.0%	-	12.6
4	None	0										0.0%	-	12.6
5	None	0										0.0%	-	12.6
6	None	0										0.0%	-	12.6
7	None	0										0.0%	-	12.6
8	None	0										0.0%	-	12.6
9	None	0										0.0%	-	12.6
10	None	0										0.0%	-	12.6
Sum			**9.8**									**100%**	**12.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	P	User Input
Watershed Area ac =	2.8	Calculated from flowpath data
% Imperviousness =	40	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**12.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.290	Calculated
C_undeveloped =	0.673	Calculated
C_composite =	0.784	Calculated
Peak cfs =	5.07	Calculated
Calculated Tc=	**12.13**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	966.7	995.323	78.54	0.001					3.6%	0.2	0.2
2	Street-40'Wide6"Curbs	6	2.00	995.32	990.163	486.31	0.011					71.4%	3.6	3.8
3	None	0	0.00		982	18						0.0%	-	3.8
4	Natural Valley Channel	3	0.70	982	980.25	587.45	0.003					25.0%	1.3	5.1
5	None	0										0.0%	-	5.1
6	None	0										0.0%	-	5.1
7	None	0										0.0%	-	5.1
8	None	0										0.0%	-	5.1
9	None	0										0.0%	-	5.1
10	None	0										0.0%	-	5.1
Sum			**2.8**									**100%**	**5.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	Q	User Input
Watershed Area ac =	1.0	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**9.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.680	Calculated
C_undeveloped =	0.705	Calculated
C_composite =	0.729	Calculated
Peak cfs =	1.97	Calculated
Calculated Tc=	**8.94**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	988.7	987.92	70	0.011					10.0%	0.2	0.2
2	Natural Valley Channel	3	0.90	987.92	983	709.888	0.007					90.0%	1.8	2.0
3	None	0										0.0%	-	2.0
4	None	0										0.0%	-	2.0
5	None	0										0.0%	-	2.0
6	None	0										0.0%	-	2.0
7	None	0										0.0%	-	2.0
8	None	0										0.0%	-	2.0
9	None	0										0.0%	-	2.0
10	None	0										0.0%	-	2.0
Sum			**1.0**									**100%**	**2.0**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	S	User Input
Watershed Area ac =	1.1	Calculated from flowpath data
% Imperviousness =	70	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.040	Calculated
C_undeveloped =	0.597	Calculated
C_composite =	0.844	Calculated
Peak cfs =	1.91	Calculated
Calculated Tc=	**14.71**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	988.26	990.188	55	0.001					9.1%	0.2	0.2
2	Natural Valley Channel	3	1.00	990.19	980.59	1342	0.007					90.9%	1.7	1.9
3	None	0										0.0%	-	1.9
4	None	0										0.0%	-	1.9
5	None	0										0.0%	-	1.9
6	None	0										0.0%	-	1.9
7	None	0										0.0%	-	1.9
8	None	0										0.0%	-	1.9
9	None	0										0.0%	-	1.9
10	None	0										0.0%	-	1.9
Sum			**1.1**									**100%**	**1.9**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	T	User Input
Watershed Area ac =	0.9	Calculated from flowpath data
% Imperviousness =	15	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**18.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.860	Calculated
C_undeveloped =	0.572	Calculated
C_composite =	0.629	Calculated
Peak cfs =	1.06	Calculated
Calculated Tc=	**18.29**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	986.38	986.659	133.6	0.001					11.1%	0.1	0.1
2	Natural Valley Channel	3	0.80	986.66	982	1010.664	0.005					88.9%	0.9	1.1
3	None	0										0.0%	-	1.1
4	None	0										0.0%	-	1.1
5	None	0										0.0%	-	1.1
6	None	0										0.0%	-	1.1
7	None	0										0.0%	-	1.1
8	None	0										0.0%	-	1.1
9	None	0										0.0%	-	1.1
10	None	0										0.0%	-	1.1
Sum			**0.9**									**100%**	**1.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	U	User Input
Watershed Area ac =	2.5	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**28.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.500	Calculated
C_undeveloped =	0.508	Calculated
C_composite =	0.553	Calculated
Peak cfs =	2.09	Calculated
Calculated Tc=	**28.11**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	985	982.15	121.025	0.024					4.0%	0.1	0.1
2	Natural Valley Channel	3	2.40	982.15	978	1551.992	0.003					96.0%	2.0	2.1
3	None	0										0.0%	-	2.1
4	None	0										0.0%	-	2.1
5	None	0										0.0%	-	2.1
6	None	0										0.0%	-	2.1
7	None	0										0.0%	-	2.1
8	None	0										0.0%	-	2.1
9	None	0										0.0%	-	2.1
10	None	0										0.0%	-	2.1
Sum			**2.5**									**100%**	**2.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	V	User Input
Watershed Area ac =	3.5	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Tc Outside of Range, Reset to 15**
Intensity in/hr =	2.040	Calculated
C_undeveloped =	0.597	Calculated
C_composite =	0.633	Calculated
Peak cfs =	4.55	Calculated
Calculated Tc=	**4.80**	**Tc Outside of Range, Revise Flowpaths**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	978.9	978.88	48.72	0.001					2.9%	0.1	0.1
2	Natural Valley Channel	3	3.40	978.88	971.48	539.713	0.014					97.1%	4.4	4.6
3	None	0										0.0%	-	4.6
4	None	0										0.0%	-	4.6
5	None	0										0.0%	-	4.6
6	None	0										0.0%	-	4.6
7	None	0										0.0%	-	4.6
8	None	0										0.0%	-	4.6
9	None	0										0.0%	-	4.6
10	None	0										0.0%	-	4.6
Sum			**3.5**									**100%**	**4.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	Z	User Input
Watershed Area ac =	0.5	Calculated from flowpath data
% Imperviousness =	100	User Input
Land Use Description =	Paved	DropMenu
Storm Frequency	10	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_10	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**13.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.200	Calculated
C_undeveloped =	0.665	Calculated
C_composite =	0.950	Calculated
Peak cfs =	1.05	Calculated
Calculated Tc=	**12.88**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	988	988.83	30.72	0.001					20.0%	0.2	0.2
2	Street-32'Wide8"Curbs	7	0.40	988.83	989.01	561.096	0.001					80.0%	0.8	1.1
3	None	0										0.0%	-	1.1
4	None	0										0.0%	-	1.1
5	None	0										0.0%	-	1.1
6	None	0										0.0%	-	1.1
7	None	0										0.0%	-	1.1
8	None	0										0.0%	-	1.1
9	None	0										0.0%	-	1.1
10	None	0										0.0%	-	1.1
Sum			**0.5**									**100%**	**1.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	A	User Input
Watershed Area ac =	2.9	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**16.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.540	Calculated
C_undeveloped =	0.695	Calculated
C_composite =	0.720	Calculated
Peak cfs =	5.35	Calculated
Calculated Tc=	**15.63**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	955.56	954.567	67.79	0.015					3.4%	0.2	0.2
2	Natural Valley Channel	3	2.80	954.57	945.7	1543.37	0.006					96.6%	5.2	5.3
3	None	0										0.0%	-	5.3
4	None	0										0.0%	-	5.3
5	None	0										0.0%	-	5.3
6	None	0										0.0%	-	5.3
7	None	0										0.0%	-	5.3
8	None	0										0.0%	-	5.3
9	None	0										0.0%	-	5.3
10	None	0										0.0%	-	5.3
Sum			**2.9**									**100%**	**5.3**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	B	User Input
Watershed Area ac =	1.3	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**10.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.160	Calculated
C_undeveloped =	0.735	Calculated
C_composite =	0.756	Calculated
Peak cfs =	3.13	Calculated
Calculated Tc=	**10.01**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	950.07	945.69	89.47	0.049					15.4%	0.5	0.5
2	Natural Valley Channel	3	1.10	945.69	944.99	449.33	0.002					84.6%	2.7	3.1
3	None	0										0.0%	-	3.1
4	None	0										0.0%	-	3.1
5	None	0										0.0%	-	3.1
6	None	0										0.0%	-	3.1
7	None	0										0.0%	-	3.1
8	None	0										0.0%	-	3.1
9	None	0										0.0%	-	3.1
10	None	0										0.0%	-	3.1
Sum			**1.3**									**100%**	**3.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	C	User Input
Watershed Area ac =	4.1	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**29.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	1.870	Calculated
C_undeveloped =	0.625	Calculated
C_composite =	0.658	Calculated
Peak cfs =	5.09	Calculated
Calculated Tc=	**28.83**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	949.63	945	126.86	0.036					4.9%	0.2	0.2
2	Natural Valley Channel	3	3.90	945	941.93	1646.68	0.002					95.1%	4.8	5.1
3	None	0										0.0%	-	5.1
4	None	0										0.0%	-	5.1
5	None	0										0.0%	-	5.1
6	None	0										0.0%	-	5.1
7	None	0										0.0%	-	5.1
8	None	0										0.0%	-	5.1
9	None	0										0.0%	-	5.1
10	None	0										0.0%	-	5.1
Sum			**4.1**									**100%**	**5.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	D	User Input
Watershed Area ac =	3.5	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**14.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.720	Calculated
C_undeveloped =	0.707	Calculated
C_composite =	0.732	Calculated
Peak cfs =	7.02	Calculated
Calculated Tc=	**14.04**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	960	960	117.33	0.001					2.9%	0.2	0.2
2	Natural Valley Channel	3	3.40	960	946.412	1496.3	0.009					97.1%	6.8	7.0
3	None	0										0.0%	-	7.0
4	None	0										0.0%	-	7.0
5	None	0										0.0%	-	7.0
6	None	0										0.0%	-	7.0
7	None	0										0.0%	-	7.0
8	None	0										0.0%	-	7.0
9	None	0										0.0%	-	7.0
10	None	0										0.0%	-	7.0
Sum			**3.5**									**100%**	**7.0**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-2	User Input
Watershed Area ac =	2.9	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Tc Outside of Range, Reset to 15**
Intensity in/hr =	2.620	Calculated
C_undeveloped =	0.700	Calculated
C_composite =	0.725	Calculated
Peak cfs =	5.56	Calculated
Calculated Tc=	**27.92**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	947.17	947.217	73.4	0.001					3.4%	0.2	0.2
2	Natural Valley Channel	3	2.80	947.22	940.317	2149.519	0.003					96.6%	5.4	5.6
3	None	0										0.0%	-	5.6
4	None	0										0.0%	-	5.6
5	None	0										0.0%	-	5.6
6	None	0										0.0%	-	5.6
7	None	0										0.0%	-	5.6
8	None	0										0.0%	-	5.6
9	None	0										0.0%	-	5.6
10	None	0										0.0%	-	5.6
Sum			**2.9**									**100%**	**5.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-4	User Input
Watershed Area ac =	5.2	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**8.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.520	Calculated
C_undeveloped =	0.753	Calculated
C_composite =	0.920	Calculated
Peak cfs =	16.99	Calculated
Calculated Tc=	**8.06**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	954	954	122.96	0.001					3.8%	0.7	0.7
2	Street-32'Wide8"Curbs	7	5.00	954	948.713	728.7	0.007					96.2%	16.3	17.0
3	None	0										0.0%	-	17.0
4	None	0										0.0%	-	17.0
5	None	0										0.0%	-	17.0
6	None	0										0.0%	-	17.0
7	None	0										0.0%	-	17.0
8	None	0										0.0%	-	17.0
9	None	0										0.0%	-	17.0
10	None	0										0.0%	-	17.0
Sum			**5.2**									**100%**	**17.0**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-6	User Input
Watershed Area ac =	4.8	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**9.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.330	Calculated
C_undeveloped =	0.743	Calculated
C_composite =	0.919	Calculated
Peak cfs =	14.81	Calculated
Calculated Tc=	**8.78**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.30	952	952	118.2	0.001					6.3%	0.9	0.9
2	Street-32'Wide8"Curbs	7	4.50	952	948.749	739.57	0.004					93.8%	13.9	14.8
3	None	0										0.0%	-	14.8
4	None	0										0.0%	-	14.8
5	None	0										0.0%	-	14.8
6	None	0										0.0%	-	14.8
7	None	0										0.0%	-	14.8
8	None	0										0.0%	-	14.8
9	None	0										0.0%	-	14.8
10	None	0										0.0%	-	14.8
Sum			**4.8**									**100%**	**14.8**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-8	User Input
Watershed Area ac =	4.1	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**12.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.900	Calculated
C_undeveloped =	0.720	Calculated
C_composite =	0.916	Calculated
Peak cfs =	10.98	Calculated
Calculated Tc=	**12.37**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	952	951	102.3	0.010					4.9%	0.5	0.5
2	Street-32'Wide8"Curbs	7	3.90	951	952	754.76	0.001					95.1%	10.4	11.0
3	None	0										0.0%	-	11.0
4	None	0										0.0%	-	11.0
5	None	0										0.0%	-	11.0
6	None	0										0.0%	-	11.0
7	None	0										0.0%	-	11.0
8	None	0										0.0%	-	11.0
9	None	0										0.0%	-	11.0
10	None	0										0.0%	-	11.0
Sum			**4.1**									**100%**	**11.0**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-10	User Input
Watershed Area ac =	23.2	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**12.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.900	Calculated
C_undeveloped =	0.720	Calculated
C_composite =	0.916	Calculated
Peak cfs =	62.11	Calculated
Calculated Tc=	**12.27**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	969	969	93.68	0.001					0.9%	0.5	0.5
2	Street-32'Wide8"Curbs	7	23.00	969	950.803	2240.1	0.008					99.1%	61.6	62.1
3	None	0										0.0%	-	62.1
4	None	0										0.0%	-	62.1
5	None	0										0.0%	-	62.1
6	None	0										0.0%	-	62.1
7	None	0										0.0%	-	62.1
8	None	0										0.0%	-	62.1
9	None	0										0.0%	-	62.1
10	None	0										0.0%	-	62.1
Sum			**23.2**									**100%**	**62.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	G	User Input
Watershed Area ac =	21.1	Calculated from flowpath data
% Imperviousness =	90	User Input
Land Use Description =	Paved	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**12.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.900	Calculated
C_undeveloped =	0.720	Calculated
C_composite =	0.927	Calculated
Peak cfs =	57.19	Calculated
Calculated Tc=	**11.66**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	967	966	111.44	0.009					0.5%	0.3	0.3
2	Street-32'Wide8"Curbs	7	21.00	966	949.09	2013.79	0.008					99.5%	56.9	57.2
3	None	0										0.0%	-	57.2
4	None	0										0.0%	-	57.2
5	None	0										0.0%	-	57.2
6	None	0										0.0%	-	57.2
7	None	0										0.0%	-	57.2
8	None	0										0.0%	-	57.2
9	None	0										0.0%	-	57.2
10	None	0										0.0%	-	57.2
Sum			**21.1**									**100%**	**57.2**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	I	User Input
Watershed Area ac =	2.5	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**20.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.290	Calculated
C_undeveloped =	0.205	Calculated
C_composite =	0.280	Calculated
Peak cfs =	1.61	Calculated
Calculated Tc=	**19.73**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	968.26	967	71.27	0.018					4.0%	0.1	0.1
2	Natural Valley Channel	3	2.40	967	951.51	1964.6	0.008					96.0%	1.6	1.6
3	None	0										0.0%	-	1.6
4	None	0										0.0%	-	1.6
5	None	0										0.0%	-	1.6
6	None	0										0.0%	-	1.6
7	None	0										0.0%	-	1.6
8	None	0										0.0%	-	1.6
9	None	0										0.0%	-	1.6
10	None	0										0.0%	-	1.6
Sum			**2.5**									**100%**	**1.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	J	User Input
Watershed Area ac =	3.5	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**18.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.410	Calculated
C_undeveloped =	0.237	Calculated
C_composite =	0.308	Calculated
Peak cfs =	2.62	Calculated
Calculated Tc=	**18.12**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	969.71	968.382	87.38	0.015					2.9%	0.1	0.1
2	Natural Valley Channel	3	3.40	968.38	952.02	1952.8	0.008					97.1%	2.5	2.6
3	None	0										0.0%	-	2.6
4	None	0										0.0%	-	2.6
5	None	0										0.0%	-	2.6
6	None	0										0.0%	-	2.6
7	None	0										0.0%	-	2.6
8	None	0										0.0%	-	2.6
9	None	0										0.0%	-	2.6
10	None	0										0.0%	-	2.6
Sum			**3.5**									**100%**	**2.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	L	User Input
Watershed Area ac =	1.2	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Tc Outside of Range, Reset to 15**
Intensity in/hr =	2.620	Calculated
C_undeveloped =	0.292	Calculated
C_composite =	0.358	Calculated
Peak cfs =	1.13	Calculated
Calculated Tc=	**39.02**	**Tc Outside of Range, Revise Flowpaths**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	975	974	66.81	0.015					8.3%	0.1	0.1
2	Natural Valley Channel	3	1.10	974	969.87	2002.704	0.002					91.7%	1.0	1.1
3	None	0										0.0%	-	1.1
4	None	0										0.0%	-	1.1
5	None	0										0.0%	-	1.1
6	None	0										0.0%	-	1.1
7	None	0										0.0%	-	1.1
8	None	0										0.0%	-	1.1
9	None	0										0.0%	-	1.1
10	None	0										0.0%	-	1.1
Sum			**1.2**									**100%**	**1.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	M	User Input
Watershed Area ac =	9.8	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**23.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.120	Calculated
C_undeveloped =	0.139	Calculated
C_composite =	0.828	Calculated
Peak cfs =	17.35	Calculated
Calculated Tc=	**22.99**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	979	979.06	130	0.001					1.0%	0.2	0.2
2	Natural Valley Channel	3	9.70	979.06	969	2253.98	0.004					99.0%	17.2	17.4
3	None	0										0.0%	-	17.4
4	None	0										0.0%	-	17.4
5	None	0										0.0%	-	17.4
6	None	0										0.0%	-	17.4
7	None	0										0.0%	-	17.4
8	None	0										0.0%	-	17.4
9	None	0										0.0%	-	17.4
10	None	0										0.0%	-	17.4
Sum			**9.8**									**100%**	**17.4**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	P	User Input
Watershed Area ac =	2.8	Calculated from flowpath data
% Imperviousness =	40	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**11.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.020	Calculated
C_undeveloped =	0.728	Calculated
C_composite =	0.817	Calculated
Peak cfs =	6.96	Calculated
Calculated Tc=	**10.86**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	966.7	995.323	78.54	0.001					3.6%	0.2	0.2
2	Street-40'Wide6"Curbs	6	2.00	995.32	990.163	486.31	0.011					71.4%	5.0	5.2
3	None	0	0.00		982	18						0.0%	-	5.2
4	Natural Valley Channel	3	0.70	982	980.25	587.45	0.003					25.0%	1.7	7.0
5	None	0										0.0%	-	7.0
6	None	0										0.0%	-	7.0
7	None	0										0.0%	-	7.0
8	None	0										0.0%	-	7.0
9	None	0										0.0%	-	7.0
10	None	0										0.0%	-	7.0
Sum			**2.8**									**100%**	**7.0**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	Q	User Input
Watershed Area ac =	1.0	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**7.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.770	Calculated
C_undeveloped =	0.762	Calculated
C_composite =	0.781	Calculated
Peak cfs =	2.97	Calculated
Calculated Tc=	**7.29**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	988.7	987.92	70	0.011					10.0%	0.3	0.3
2	Natural Valley Channel	3	0.90	987.92	983	709.888	0.007					90.0%	2.7	3.0
3	None	0										0.0%	-	3.0
4	None	0										0.0%	-	3.0
5	None	0										0.0%	-	3.0
6	None	0										0.0%	-	3.0
7	None	0										0.0%	-	3.0
8	None	0										0.0%	-	3.0
9	None	0										0.0%	-	3.0
10	None	0										0.0%	-	3.0
Sum			**1.0**									**100%**	**3.0**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	S	User Input
Watershed Area ac =	1.1	Calculated from flowpath data
% Imperviousness =	70	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**14.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.720	Calculated
C_undeveloped =	0.648	Calculated
C_composite =	0.860	Calculated
Peak cfs =	2.59	Calculated
Calculated Tc=	**13.59**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	988.26	990.188	55	0.001					9.1%	0.2	0.2
2	Natural Valley Channel	3	1.00	990.19	980.59	1342	0.007					90.9%	2.4	2.6
3	None	0										0.0%	-	2.6
4	None	0										0.0%	-	2.6
5	None	0										0.0%	-	2.6
6	None	0										0.0%	-	2.6
7	None	0										0.0%	-	2.6
8	None	0										0.0%	-	2.6
9	None	0										0.0%	-	2.6
10	None	0										0.0%	-	2.6
Sum			**1.1**									**100%**	**2.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	T	User Input
Watershed Area ac =	0.9	Calculated from flowpath data
% Imperviousness =	15	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**16.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.540	Calculated
C_undeveloped =	0.633	Calculated
C_composite =	0.681	Calculated
Peak cfs =	1.57	Calculated
Calculated Tc=	**16.39**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	986.38	986.659	133.6	0.001					11.1%	0.2	0.2
2	Natural Valley Channel	3	0.80	986.66	982	1010.664	0.005					88.9%	1.4	1.6
3	None	0										0.0%	-	1.6
4	None	0										0.0%	-	1.6
5	None	0										0.0%	-	1.6
6	None	0										0.0%	-	1.6
7	None	0										0.0%	-	1.6
8	None	0										0.0%	-	1.6
9	None	0										0.0%	-	1.6
10	None	0										0.0%	-	1.6
Sum			**0.9**									**100%**	**1.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	U	User Input
Watershed Area ac =	2.5	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**24.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.070	Calculated
C_undeveloped =	0.601	Calculated
C_composite =	0.636	Calculated
Peak cfs =	3.32	Calculated
Calculated Tc=	**24.15**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	985	982.15	121.025	0.024					4.0%	0.1	0.1
2	Natural Valley Channel	3	2.40	982.15	978	1551.992	0.003					96.0%	3.2	3.3
3	None	0										0.0%	-	3.3
4	None	0										0.0%	-	3.3
5	None	0										0.0%	-	3.3
6	None	0										0.0%	-	3.3
7	None	0										0.0%	-	3.3
8	None	0										0.0%	-	3.3
9	None	0										0.0%	-	3.3
10	None	0										0.0%	-	3.3
Sum			**2.5**									**100%**	**3.3**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	V	User Input
Watershed Area ac =	3.5	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Tc Outside of Range, Reset to 15**
Intensity in/hr =	2.620	Calculated
C_undeveloped =	0.640	Calculated
C_composite =	0.671	Calculated
Peak cfs =	6.20	Calculated
Calculated Tc=	**4.68**	**Tc Outside of Range, Revise Flowpaths**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	978.9	978.88	48.72	0.001					2.9%	0.2	0.2
2	Natural Valley Channel	3	3.40	978.88	971.48	539.713	0.014					97.1%	6.0	6.2
3	None	0										0.0%	-	6.2
4	None	0										0.0%	-	6.2
5	None	0										0.0%	-	6.2
6	None	0										0.0%	-	6.2
7	None	0										0.0%	-	6.2
8	None	0										0.0%	-	6.2
9	None	0										0.0%	-	6.2
10	None	0										0.0%	-	6.2
Sum			**3.5**									**100%**	**6.2**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	Z	User Input
Watershed Area ac =	0.5	Calculated from flowpath data
% Imperviousness =	100	User Input
Land Use Description =	Paved	DropMenu
Storm Frequency	50	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_50	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**12.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.900	Calculated
C_undeveloped =	0.720	Calculated
C_composite =	0.950	Calculated
Peak cfs =	1.39	Calculated
Calculated Tc=	**11.80**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	988	988.83	30.72	0.001					20.0%	0.3	0.3
2	Street-32'Wide8"Curbs	7	0.40	988.83	989.01	561.096	0.001					80.0%	1.1	1.4
3	None	0										0.0%	-	1.4
4	None	0										0.0%	-	1.4
5	None	0										0.0%	-	1.4
6	None	0										0.0%	-	1.4
7	None	0										0.0%	-	1.4
8	None	0										0.0%	-	1.4
9	None	0										0.0%	-	1.4
10	None	0										0.0%	-	1.4
Sum			**0.5**									**100%**	**1.4**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	A	User Input
Watershed Area ac =	2.9	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.890	Calculated
C_undeveloped =	0.719	Calculated
C_composite =	0.742	Calculated
Peak cfs =	6.27	Calculated
Calculated Tc=	**14.73**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	955.56	954.567	67.79	0.015					3.4%	0.2	0.2
2	Natural Valley Channel	3	2.80	954.57	945.7	1543.37	0.006					96.6%	6.1	6.3
3	None	0										0.0%	-	6.3
4	None	0										0.0%	-	6.3
5	None	0										0.0%	-	6.3
6	None	0										0.0%	-	6.3
7	None	0										0.0%	-	6.3
8	None	0										0.0%	-	6.3
9	None	0										0.0%	-	6.3
10	None	0										0.0%	-	6.3
Sum			**2.9**									**100%**	**6.3**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	B	User Input
Watershed Area ac =	1.3	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**9.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.740	Calculated
C_undeveloped =	0.761	Calculated
C_composite =	0.780	Calculated
Peak cfs =	3.82	Calculated
Calculated Tc=	**9.22**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	950.07	945.69	89.47	0.049					15.4%	0.6	0.6
2	Natural Valley Channel	3	1.10	945.69	944.99	449.33	0.002					84.6%	3.2	3.8
3	None	0										0.0%	-	3.8
4	None	0										0.0%	-	3.8
5	None	0										0.0%	-	3.8
6	None	0										0.0%	-	3.8
7	None	0										0.0%	-	3.8
8	None	0										0.0%	-	3.8
9	None	0										0.0%	-	3.8
10	None	0										0.0%	-	3.8
Sum			**1.3**									**100%**	**3.8**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	C	User Input
Watershed Area ac =	4.1	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**27.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.130	Calculated
C_undeveloped =	0.659	Calculated
C_composite =	0.688	Calculated
Peak cfs =	6.06	Calculated
Calculated Tc=	**27.17**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	949.63	945	126.86	0.036					4.9%	0.3	0.3
2	Natural Valley Channel	3	3.90	945	941.93	1646.68	0.002					95.1%	5.8	6.1
3	None	0										0.0%	-	6.1
4	None	0										0.0%	-	6.1
5	None	0										0.0%	-	6.1
6	None	0										0.0%	-	6.1
7	None	0										0.0%	-	6.1
8	None	0										0.0%	-	6.1
9	None	0										0.0%	-	6.1
10	None	0										0.0%	-	6.1
Sum			**4.1**									**100%**	**6.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	D	User Input
Watershed Area ac =	3.5	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**14.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.990	Calculated
C_undeveloped =	0.726	Calculated
C_composite =	0.749	Calculated
Peak cfs =	7.90	Calculated
Calculated Tc=	**13.80**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	960	960	117.33	0.001					2.9%	0.2	0.2
2	Natural Valley Channel	3	3.40	960	946.412	1496.3	0.009					97.1%	7.7	7.9
3	None	0										0.0%	-	7.9
4	None	0										0.0%	-	7.9
5	None	0										0.0%	-	7.9
6	None	0										0.0%	-	7.9
7	None	0										0.0%	-	7.9
8	None	0										0.0%	-	7.9
9	None	0										0.0%	-	7.9
10	None	0										0.0%	-	7.9
Sum			**3.5**									**100%**	**7.9**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-2	User Input
Watershed Area ac =	2.9	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**30.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.020	Calculated
C_undeveloped =	0.648	Calculated
C_composite =	0.678	Calculated
Peak cfs =	4.01	Calculated
Calculated Tc=	**29.62**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	947.17	947.217	73.4	0.001					3.4%	0.1	0.1
2	Natural Valley Channel	3	2.80	947.22	940.317	2149.519	0.003					96.6%	3.9	4.0
3	None	0										0.0%	-	4.0
4	None	0										0.0%	-	4.0
5	None	0										0.0%	-	4.0
6	None	0										0.0%	-	4.0
7	None	0										0.0%	-	4.0
8	None	0										0.0%	-	4.0
9	None	0										0.0%	-	4.0
10	None	0										0.0%	-	4.0
Sum			**2.9**									**100%**	**4.0**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-4	User Input
Watershed Area ac =	5.2	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**8.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.950	Calculated
C_undeveloped =	0.768	Calculated
C_composite =	0.923	Calculated
Peak cfs =	19.11	Calculated
Calculated Tc=	**7.93**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	954	954	122.96	0.001					3.8%	0.7	0.7
2	Street-32'Wide8"Curbs	7	5.00	954	948.713	728.7	0.007					96.2%	18.4	19.1
3	None	0										0.0%	-	19.1
4	None	0										0.0%	-	19.1
5	None	0										0.0%	-	19.1
6	None	0										0.0%	-	19.1
7	None	0										0.0%	-	19.1
8	None	0										0.0%	-	19.1
9	None	0										0.0%	-	19.1
10	None	0										0.0%	-	19.1
Sum			**5.2**									**100%**	**19.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-6	User Input
Watershed Area ac =	4.8	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**9.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.740	Calculated
C_undeveloped =	0.761	Calculated
C_composite =	0.922	Calculated
Peak cfs =	16.68	Calculated
Calculated Tc=	**8.63**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.30	952	952	118.2	0.001					6.3%	1.0	1.0
2	Street-32'Wide8"Curbs	7	4.50	952	948.749	739.57	0.004					93.8%	15.6	16.7
3	None	0										0.0%	-	16.7
4	None	0										0.0%	-	16.7
5	None	0										0.0%	-	16.7
6	None	0										0.0%	-	16.7
7	None	0										0.0%	-	16.7
8	None	0										0.0%	-	16.7
9	None	0										0.0%	-	16.7
10	None	0										0.0%	-	16.7
Sum			**4.8**									**100%**	**16.7**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-8	User Input
Watershed Area ac =	4.1	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**11.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.390	Calculated
C_undeveloped =	0.746	Calculated
C_composite =	0.919	Calculated
Peak cfs =	12.89	Calculated
Calculated Tc=	**11.27**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	952	951	102.3	0.010					4.9%	0.6	0.6
2	Street-32'Wide8"Curbs	7	3.90	951	952	754.76	0.001					95.1%	12.3	12.9
3	None	0										0.0%	-	12.9
4	None	0										0.0%	-	12.9
5	None	0										0.0%	-	12.9
6	None	0										0.0%	-	12.9
7	None	0										0.0%	-	12.9
8	None	0										0.0%	-	12.9
9	None	0										0.0%	-	12.9
10	None	0										0.0%	-	12.9
Sum			**4.1**									**100%**	**12.9**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	E-10	User Input
Watershed Area ac =	23.2	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	IndYard	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**12.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.230	Calculated
C_undeveloped =	0.738	Calculated
C_composite =	0.918	Calculated
Peak cfs =	69.38	Calculated
Calculated Tc=	**12.00**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.20	969	969	93.68	0.001					0.9%	0.6	0.6
2	Street-32'Wide8"Curbs	7	23.00	969	950.803	2240.1	0.008					99.1%	68.8	69.4
3	None	0										0.0%	-	69.4
4	None	0										0.0%	-	69.4
5	None	0										0.0%	-	69.4
6	None	0										0.0%	-	69.4
7	None	0										0.0%	-	69.4
8	None	0										0.0%	-	69.4
9	None	0										0.0%	-	69.4
10	None	0										0.0%	-	69.4
Sum			**23.2**									**100%**	**69.4**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	G	User Input
Watershed Area ac =	21.1	Calculated from flowpath data
% Imperviousness =	90	User Input
Land Use Description =	Paved	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**11.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.390	Calculated
C_undeveloped =	0.746	Calculated
C_composite =	0.930	Calculated
Peak cfs =	67.05	Calculated
Calculated Tc=	**10.55**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	967	966	111.44	0.009					0.5%	0.3	0.3
2	Street-32'Wide8"Curbs	7	21.00	966	949.09	2013.79	0.008					99.5%	66.7	67.0
3	None	0										0.0%	-	67.0
4	None	0										0.0%	-	67.0
5	None	0										0.0%	-	67.0
6	None	0										0.0%	-	67.0
7	None	0										0.0%	-	67.0
8	None	0										0.0%	-	67.0
9	None	0										0.0%	-	67.0
10	None	0										0.0%	-	67.0
Sum			**21.1**									**100%**	**67.0**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	I	User Input
Watershed Area ac =	2.5	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**19.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.550	Calculated
C_undeveloped =	0.274	Calculated
C_composite =	0.341	Calculated
Peak cfs =	2.19	Calculated
Calculated Tc=	**18.78**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	968.26	967	71.27	0.018					4.0%	0.1	0.1
2	Natural Valley Channel	3	2.40	967	951.51	1964.6	0.008					96.0%	2.1	2.2
3	None	0										0.0%	-	2.2
4	None	0										0.0%	-	2.2
5	None	0										0.0%	-	2.2
6	None	0										0.0%	-	2.2
7	None	0										0.0%	-	2.2
8	None	0										0.0%	-	2.2
9	None	0										0.0%	-	2.2
10	None	0										0.0%	-	2.2
Sum			**2.5**									**100%**	**2.2**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	J	User Input
Watershed Area ac =	3.5	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**17.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.700	Calculated
C_undeveloped =	0.309	Calculated
C_composite =	0.373	Calculated
Peak cfs =	3.55	Calculated
Calculated Tc=	**17.22**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	969.71	968.382	87.38	0.015					2.9%	0.1	0.1
2	Natural Valley Channel	3	3.40	968.38	952.02	1952.8	0.008					97.1%	3.4	3.6
3	None	0										0.0%	-	3.6
4	None	0										0.0%	-	3.6
5	None	0										0.0%	-	3.6
6	None	0										0.0%	-	3.6
7	None	0										0.0%	-	3.6
8	None	0										0.0%	-	3.6
9	None	0										0.0%	-	3.6
10	None	0										0.0%	-	3.6
Sum			**3.5**									**100%**	**3.6**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	L	User Input
Watershed Area ac =	1.2	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Tc Outside of Range, Reset to 15**
Intensity in/hr =	2.890	Calculated
C_undeveloped =	0.341	Calculated
C_composite =	0.402	Calculated
Peak cfs =	1.41	Calculated
Calculated Tc=	**37.71**	**Tc Outside of Range, Revise Flowpaths**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	975	974	66.81	0.015					8.3%	0.1	0.1
2	Natural Valley Channel	3	1.10	974	969.87	2002.704	0.002					91.7%	1.3	1.4
3	None	0										0.0%	-	1.4
4	None	0										0.0%	-	1.4
5	None	0										0.0%	-	1.4
6	None	0										0.0%	-	1.4
7	None	0										0.0%	-	1.4
8	None	0										0.0%	-	1.4
9	None	0										0.0%	-	1.4
10	None	0										0.0%	-	1.4
Sum			**1.2**									**100%**	**1.4**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	M	User Input
Watershed Area ac =	9.8	Calculated from flowpath data
% Imperviousness =	85	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	7	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**23.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.310	Calculated
C_undeveloped =	0.211	Calculated
C_composite =	0.839	Calculated
Peak cfs =	19.15	Calculated
Calculated Tc=	**22.57**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	979	979.06	130	0.001					1.0%	0.2	0.2
2	Natural Valley Channel	3	9.70	979.06	969	2253.98	0.004					99.0%	19.0	19.2
3	None	0										0.0%	-	19.2
4	None	0										0.0%	-	19.2
5	None	0										0.0%	-	19.2
6	None	0										0.0%	-	19.2
7	None	0										0.0%	-	19.2
8	None	0										0.0%	-	19.2
9	None	0										0.0%	-	19.2
10	None	0										0.0%	-	19.2
Sum			**9.8**									**100%**	**19.2**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	p	User Input
Watershed Area ac =	2.8	Calculated from flowpath data
% Imperviousness =	40	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**11.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.390	Calculated
C_undeveloped =	0.746	Calculated
C_composite =	0.828	Calculated
Peak cfs =	7.92	Calculated
Calculated Tc=	**10.61**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	966.7	995.323	78.54	0.001					3.6%	0.3	0.3
2	Street-40'Wide6"Curbs	6	2.00	995.32	990.163	486.31	0.011					71.4%	5.7	5.9
3	None	0	0.00		982	18						0.0%	-	5.9
4	Natural Valley Channel	3	0.70	982	980.25	587.45	0.003					25.0%	2.0	7.9
5	None	0										0.0%	-	7.9
6	None	0										0.0%	-	7.9
7	None	0										0.0%	-	7.9
8	None	0										0.0%	-	7.9
9	None	0										0.0%	-	7.9
10	None	0										0.0%	-	7.9
Sum			**2.8**									**100%**	**7.9**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	Q	User Input
Watershed Area ac =	1.0	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**7.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	4.230	Calculated
C_undeveloped =	0.777	Calculated
C_composite =	0.794	Calculated
Peak cfs =	3.39	Calculated
Calculated Tc=	**7.13**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	988.7	987.92	70	0.011					10.0%	0.3	0.3
2	Natural Valley Channel	3	0.90	987.92	983	709.888	0.007					90.0%	3.0	3.4
3	None	0										0.0%	-	3.4
4	None	0										0.0%	-	3.4
5	None	0										0.0%	-	3.4
6	None	0										0.0%	-	3.4
7	None	0										0.0%	-	3.4
8	None	0										0.0%	-	3.4
9	None	0										0.0%	-	3.4
10	None	0										0.0%	-	3.4
Sum			**1.0**									**100%**	**3.4**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	S	User Input
Watershed Area ac =	1.1	Calculated from flowpath data
% Imperviousness =	70	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**13.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.100	Calculated
C_undeveloped =	0.676	Calculated
C_composite =	0.868	Calculated
Peak cfs =	2.98	Calculated
Calculated Tc=	**13.28**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	988.26	990.188	55	0.001					9.1%	0.3	0.3
2	Natural Valley Channel	3	1.00	990.19	980.59	1342	0.007					90.9%	2.7	3.0
3	None	0										0.0%	-	3.0
4	None	0										0.0%	-	3.0
5	None	0										0.0%	-	3.0
6	None	0										0.0%	-	3.0
7	None	0										0.0%	-	3.0
8	None	0										0.0%	-	3.0
9	None	0										0.0%	-	3.0
10	None	0										0.0%	-	3.0
Sum			**1.1**									**100%**	**3.0**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	T	User Input
Watershed Area ac =	0.9	Calculated from flowpath data
% Imperviousness =	15	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**16.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.790	Calculated
C_undeveloped =	0.654	Calculated
C_composite =	0.699	Calculated
Peak cfs =	1.77	Calculated
Calculated Tc=	**16.15**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	986.38	986.659	133.6	0.001					11.1%	0.2	0.2
2	Natural Valley Channel	3	0.80	986.66	982	1010.664	0.005					88.9%	1.6	1.8
3	None	0										0.0%	-	1.8
4	None	0										0.0%	-	1.8
5	None	0										0.0%	-	1.8
6	None	0										0.0%	-	1.8
7	None	0										0.0%	-	1.8
8	None	0										0.0%	-	1.8
9	None	0										0.0%	-	1.8
10	None	0										0.0%	-	1.8
Sum			**0.9**									**100%**	**1.8**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	U	User Input
Watershed Area ac =	2.5	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**24.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	2.260	Calculated
C_undeveloped =	0.614	Calculated
C_composite =	0.648	Calculated
Peak cfs =	3.69	Calculated
Calculated Tc=	**23.71**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	985	982.15	121.025	0.024					4.0%	0.1	0.1
2	Natural Valley Channel	3	2.40	982.15	978	1551.992	0.003					96.0%	3.5	3.7
3	None	0										0.0%	-	3.7
4	None	0										0.0%	-	3.7
5	None	0										0.0%	-	3.7
6	None	0										0.0%	-	3.7
7	None	0										0.0%	-	3.7
8	None	0										0.0%	-	3.7
9	None	0										0.0%	-	3.7
10	None	0										0.0%	-	3.7
Sum			**2.5**									**100%**	**3.7**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	V	User Input
Watershed Area ac =	3.5	Calculated from flowpath data
% Imperviousness =	10	User Input
Land Use Description =	Ind	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	5	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**15.00**	**Tc Outside of Range, Reset to 15**
Intensity in/hr =	2.890	Calculated
C_undeveloped =	0.663	Calculated
C_composite =	0.691	Calculated
Peak cfs =	7.05	Calculated
Calculated Tc=	**4.60**	**Tc Outside of Range, Revise Flowpaths**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	978.9	978.88	48.72	0.001					2.9%	0.2	0.2
2	Natural Valley Channel	3	3.40	978.88	971.48	539.713	0.014					97.1%	6.9	7.1
3	None	0										0.0%	-	7.1
4	None	0										0.0%	-	7.1
5	None	0										0.0%	-	7.1
6	None	0										0.0%	-	7.1
7	None	0										0.0%	-	7.1
8	None	0										0.0%	-	7.1
9	None	0										0.0%	-	7.1
10	None	0										0.0%	-	7.1
Sum			**3.5**									**100%**	**7.1**	

Tc Calculator Data Sheet V6.1

Project Name and Number: Tc Calculator V6

USER INPUT IN BLUE FIELDS:		
Subarea Name =	Z	User Input
Watershed Area ac =	0.5	Calculated from flowpath data
% Imperviousness =	100	User Input
Land Use Description =	Paved	DropMenu
Storm Frequency	100	DropMenu
Storm Zone =	K	DropMenu
Zone ID =	K_100	Calculated
District Soil Number (1-7) =	4	DropMenu- Rev for Revised C Coefficients
Tc for Intensity Calc min =	**11.00**	**Rounded, Use for Peak Flow Calc.**
Intensity in/hr =	3.390	Calculated
C_undeveloped =	0.746	Calculated
C_composite =	0.950	Calculated
Peak cfs =	1.62	Calculated
Calculated Tc=	**11.37**	**Calculated**

Instructions:

1. Set to manual calculations with File->Options->Formulas
2. Set max iterative calculations to 50
3. Enter required subarea and flowpath data in blue fields
4. Use site-specific topo or District 2005 LiDAR data for elevations
5. LiDAR and rain zone data at: http://vcwatershed.net/publicMaps/data/
6. Clear any unnessary flowpath data from blue fields
7. Manually calculate with F9 or Formulas->Calculate Now
8. If error or comments appear, revise input data accordingly
9. Tc's in cells C12 and C17 should converge to the nearest minute.
10. Use result in C12 for peak flow calculation.
11. Print area is set for printing this page on one sheet.

FLOWPATH DATA- UPSTREAM TO DOWNSTREAM

Flowpath Number	Type- Selected with DropMenus	Type#	Flowpath Area ac	Upper Elev. Ft	Bott. Elev. Ft	Length ft	Map Slope ft/ft	Mtn Chan. Eff. Slope ft/ft	Diam/ Width ft	n value	Side-slope X; XH:1V	% Area	Q cfs	Cum. Q cfs
1	Overland-Undeveloped	1	0.10	988	988.83	30.72	0.001					20.0%	0.3	0.3
2	Street-32'Wide8"Curbs	7	0.40	988.83	989.01	561.096	0.001					80.0%	1.3	1.6
3	None	0										0.0%	-	1.6
4	None	0										0.0%	-	1.6
5	None	0										0.0%	-	1.6
6	None	0										0.0%	-	1.6
7	None	0										0.0%	-	1.6
8	None	0										0.0%	-	1.6
9	None	0										0.0%	-	1.6
10	None	0										0.0%	-	1.6
Sum			**0.5**									**100%**	**1.6**	

Appendix D

Hydraulic Analysis

Trackside 9” Ditch Analysis

Worksheet for Trackside Ditch 9" Deep

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.035	
Channel Slope	0.00500	ft/ft
Left Side Slope	2.00	ft/ft (H:V)
Right Side Slope	2.00	ft/ft (H:V)
Bottom Width	2.00	ft
Discharge	3.20	ft³/s

Results

Normal Depth	0.60	ft
Flow Area	1.93	ft²
Wetted Perimeter	4.69	ft
Hydraulic Radius	0.41	ft
Top Width	4.41	ft
Critical Depth	0.38	ft
Critical Slope	0.02862	ft/ft
Velocity	1.66	ft/s
Velocity Head	0.04	ft
Specific Energy	0.64	ft
Froude Number	0.44	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.60	ft
Critical Depth	0.38	ft
Channel Slope	0.00500	ft/ft

Worksheet for Trackside Ditch 9" Deep

GVF Output Data

Critical Slope	0.02862	ft/ft

18” RCP Analysis

Worksheet for 18" RCP 0.50% Slope

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.00500	ft/ft
Diameter	1.50	ft
Discharge	1.80	ft³/s

Results

Normal Depth	0.50	ft
Flow Area	0.52	ft²
Wetted Perimeter	1.85	ft
Hydraulic Radius	0.28	ft
Top Width	1.42	ft
Critical Depth	0.50	ft
Percent Full	33.5	%
Critical Slope	0.00492	ft/ft
Velocity	3.46	ft/s
Velocity Head	0.19	ft
Specific Energy	0.69	ft
Froude Number	1.01	
Maximum Discharge	7.99	ft³/s
Discharge Full	7.43	ft³/s
Slope Full	0.00029	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	33.53	%
Downstream Velocity	Infinity	ft/s

Worksheet for 18" RCP 0.50% Slope

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.50	ft
Critical Depth	0.50	ft
Channel Slope	0.00500	ft/ft
Critical Slope	0.00492	ft/ft

24” RCP Analysis

Worksheet for 24" RCP - 0.50% Slope

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.00500	ft/ft
Diameter	2.00	ft
Discharge	8.00	ft³/s

Results

Normal Depth	1.00	ft
Flow Area	1.57	ft²
Wetted Perimeter	3.14	ft
Hydraulic Radius	0.50	ft
Top Width	2.00	ft
Critical Depth	1.01	ft
Percent Full	50.0	%
Critical Slope	0.00489	ft/ft
Velocity	5.09	ft/s
Velocity Head	0.40	ft
Specific Energy	1.40	ft
Froude Number	1.01	
Maximum Discharge	17.21	ft³/s
Discharge Full	16.00	ft³/s
Slope Full	0.00125	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	50.02	%
Downstream Velocity	Infinity	ft/s

Worksheet for 24" RCP - 0.50% Slope

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	1.00	ft
Critical Depth	1.01	ft
Channel Slope	0.00500	ft/ft
Critical Slope	0.00489	ft/ft

8” Underdrain Analysis

Worksheet for 8" UD - 0.5% Slope

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.010	
Channel Slope	0.00500	ft/ft
Diameter	0.67	ft
Discharge	0.55	ft³/s

Results

Normal Depth	0.33	ft
Flow Area	0.17	ft²
Wetted Perimeter	1.04	ft
Hydraulic Radius	0.17	ft
Top Width	0.67	ft
Critical Depth	0.35	ft
Percent Full	49.7	%
Critical Slope	0.00425	ft/ft
Velocity	3.18	ft/s
Velocity Head	0.16	ft
Specific Energy	0.49	ft
Froude Number	1.10	
Maximum Discharge	1.19	ft³/s
Discharge Full	1.11	ft³/s
Slope Full	0.00123	ft/ft
Flow Type	SuperCritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Average End Depth Over Rise	0.00	%
Normal Depth Over Rise	49.70	%
Downstream Velocity	Infinity	ft/s

Worksheet for 8" UD - 0.5% Slope

GVF Output Data

Upstream Velocity	Infinity	ft/s
Normal Depth	0.33	ft
Critical Depth	0.35	ft
Channel Slope	0.00500	ft/ft
Critical Slope	0.00425	ft/ft

Appendix E

Drainage Design Plans

(1)	PROTECT IN PLACE	
(68)	CONSTRUCT TRACKSIDE EARTHEN DITCH PER DETAIL E	
(69)	CONSTRUCT 8" UNDERDRAIN PER DETAIL D	
(70)	CONSTRUCT CURB OPENING CATCH BASIN, W=7', PER SPPWC 300-3	
(71)	CONSTRUCT PIPE TO PIPE JUNCTION STRUCTURE PER SPPWC DWG 332-2 (CASE 1)	
(72)	OUTLET INTO PROPOSED DITCH	
(73)	CONSTRUCT PIPE TO RCB JUNCTION STRUCTURE PER SPPWC DWG 335-2	
(74)	CONSTRUCT FLARED END SECTION PER CALTRANS STD DWG D94B	
(75)	CONSTRUCT 36" RCP (3000-D)	
(76)	CONSTRUCT 24" RCP (3000-D)	
(77)	INSTALL 6" TRENCH DRAIN WITH 4" DOWNDRAINS PER DETAIL B	
(78)	INSTALL PRECAST TYPE G1 CATCH BASIN PER CALTRANS STD DWG D73B	
(79)	REMOVE AND RECONSTRUCT STORM DRAIN TO SLOPE EAST	
(80)	INSTALL TYPE I RIP RAP	
(81)	INSTALL 6" NON-PERFORATED PVC PIPE	
(82)	CAP AND PLUG EXISTING CULVERT	
(83)	INSTALL 8" DIP FORCE MAIN	
(84)	CONSTRUCT PUMP STATION PER DETAIL A	
(85)	INSTALL 8" NON-PERFORATED PVC PIPE	
(86)	CONSTRUCT 18" RCP (3000-D)	
(87)	NOT USED	
(88)	INSTALL HDPE PIPE, SIZE PER PLAN	
(89)	INSTALL 8" HDPE STORM DRAIN CLEANOUT	
(90)	CONSTRUCT CONCRETE V-DITCH PER DETAIL C	
(91)	INSTALL 10" STEEL CASING	
(92)	CONNECT TO EXISTING ALLEY GRATING BASIN PER SPPWC STD 332-2	
(93)	CONNECT TO EXISTING 18" RCP PER SPPWC STD 332-2	
(94)	CONNECT TO EXISTING SIDE OPENING CATCH BASIN	
(95)	NOT USED	
(96)	CONSTRUCT PUMP STATION ELECTRICAL EQUIPMENT PER ELECTRICAL SHEET XX	
(97)	CONSTRUCT MANHOLE PER SPPWC DWG 321-2	
(98)	CONSTRUCT CONCRETE COLLAR PER SPPWC DWG 380-4	

REV.	DATE		BY	SUB	APP.

DESIGNED BY K.GARRETT
DRAWN BY J.MAY
CHECKED BY
APPROVED BY A.SHAH
DATE 04-17-2020

30% SUBMITTAL

NOT FOR CONSTRUCTION

METROLINK®

HDR, Inc.
2280 Market Street, Suite 100
Riverside, CA 92501-2110
(951) 320-7300

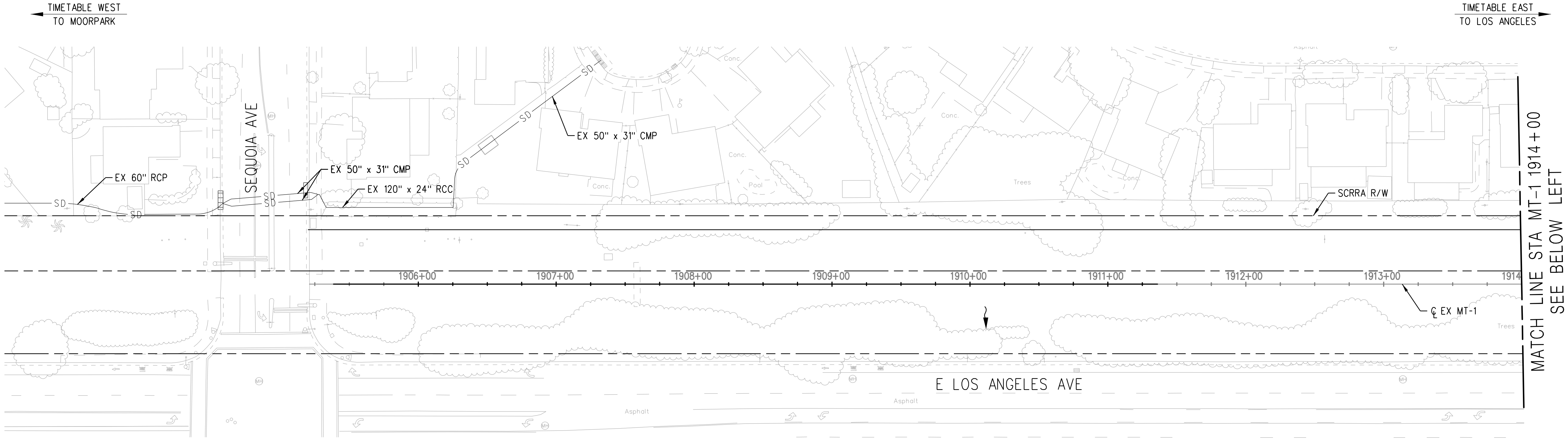
SUBMITTED: AVI SHAH, PE
PROJECT MANAGER

APPROVED:

SCORE PHASE 1 - VENTURA CORRIDOR
SIMI VALLEY DOUBLE TRACK AND PLATFORM

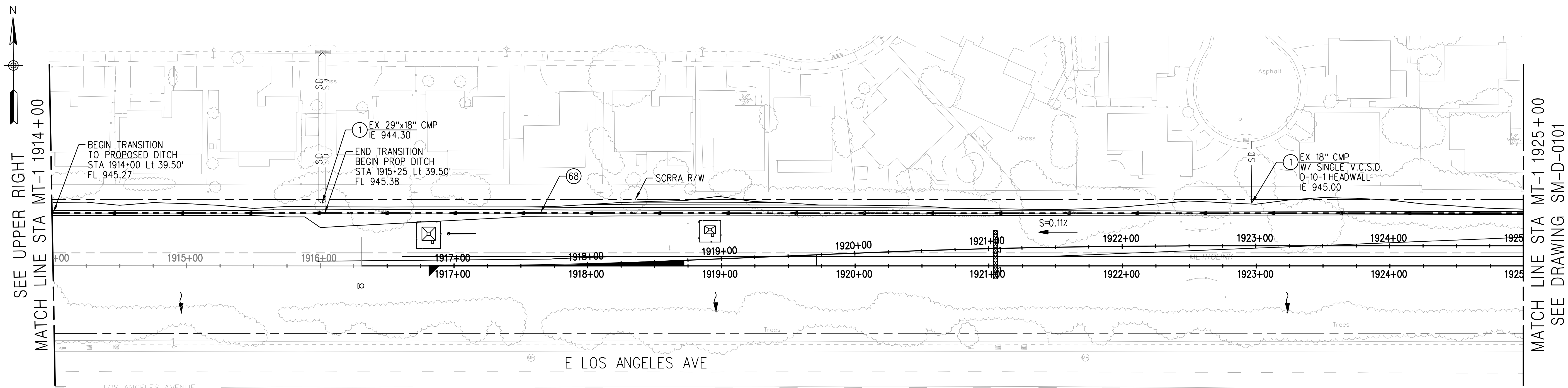
GRADING AND DRAINAGE CONSTRUCTION NOTE

CONTRACT NO.
DRAWING NO. SM-D-0001
REVISION | SHEET NO.
SCALE NO SCALE



CONSTRUCTION NOTES:

1. PROTECT IN PLACE
68. CONSTRUCT TRACKSIDE EARTHEN DITCH PER DETAIL E



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SCALE: 1"=40'

USER = KGARRETT
4/15/2020

REV.	DATE	BY	SUB.	APP.

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DESIGNED BY	K. GARRETT
DRAWN BY	K. GARRETT
CHECKED BY	L. VALDIVIA
APPROVED BY	A. SHAH
DATE	04-17-2020

30% SUBMITTAL

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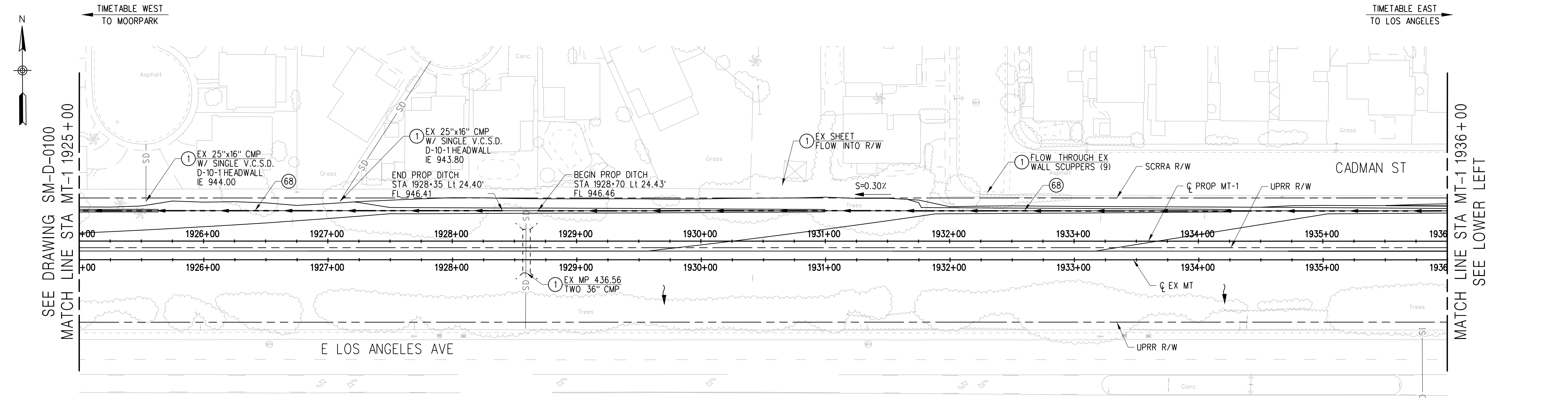
SUBMITTED: AVI SHAH, PE PROJECT MANAGER

APPROVED:

SCORE PHASE 1 - VENTURA CORRIDOR
SIMI VALLEY DOUBLE TRACK AND PLATFORM

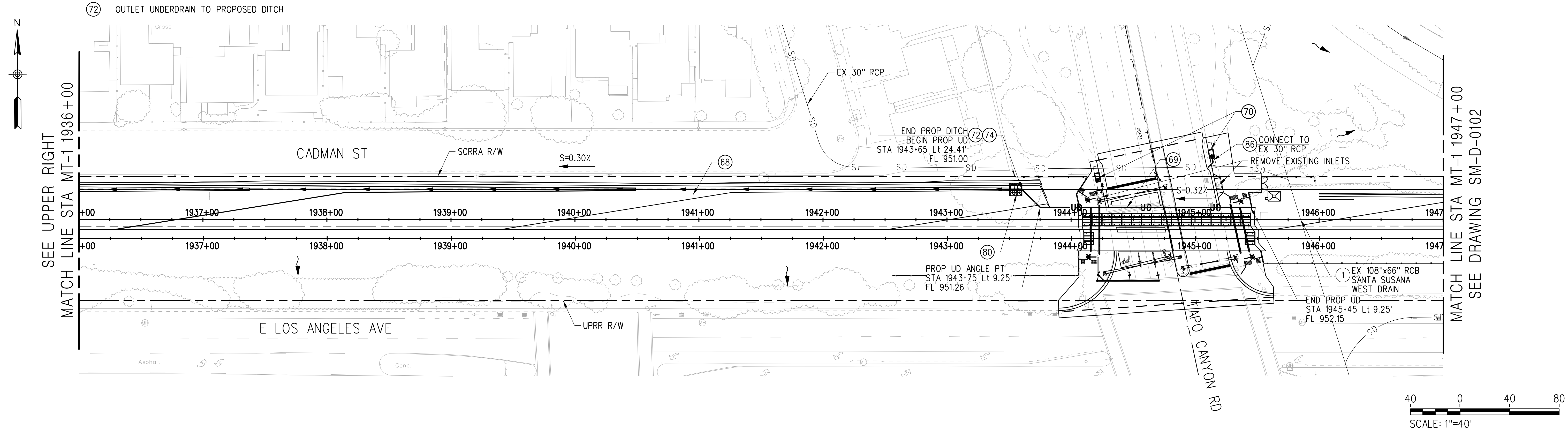
GRADING AND DRAINAGE PLAN
MT-1 STA 1911+36 TO STA 1925+00

CONTRACT NO.	
DRAWING NO.	SM-D-0100
REVISION	SHEET NO.
SCALE	AS NOTED



CONSTRUCTION NOTES:

- (1) PROTECT IN PLACE
- (68) CONSTRUCT TRACKSIDE EARTHEN DITCH PER DETAIL E
- (69) CONSTRUCT 8" UNDERDRAIN PER DETAIL D
- (70) CONSTRUCT CURB OPENING CATCH BASIN, W=7', PER SPPWC DWG 300-3
- (72) OUTLET UNDERDRAIN TO PROPOSED DITCH
- (74) CONSTRUCT FLARED END SECTION PER CALTRANS STD DWG D94B
- (80) INSTALL TYPE I RIP RAP
- (86) CONSTRUCT 18" RCP (3000-D)



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DRAWN BY	K. GARRETT
CHECKED BY	L. VALDIVIA
APPROVED BY	A. SHAH
DATE	04-17-2020

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SUBMITTED: AVI SHAH, PE
PROJECT MANAGER

APPROVED:

SCORE PHASE 1 - VENTURA CORRIDOR
SIMI VALLEY DOUBLE TRACK AND PLATFORM

GRADING AND DRAINAGE PLAN
MT-1 STA 1925+00 TO STA 1947+00

CONTRACT NO.	
DRAWING NO.	SM-D-0101
REVISION	SHEET NO.
SCALE	AS NOTED

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4/8/2020
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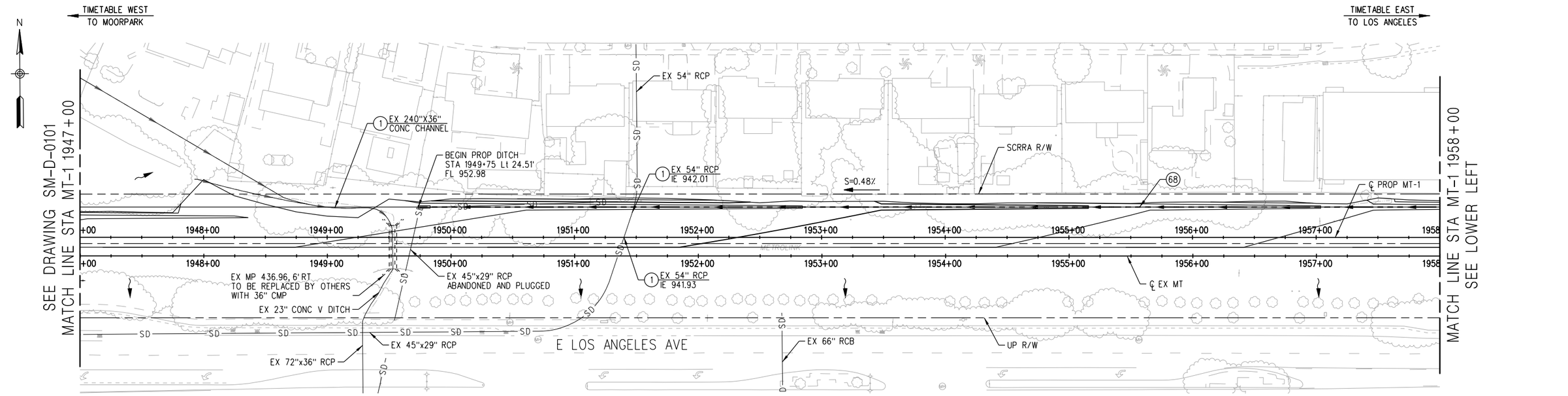

REV.	DATE	BY	SUB.	APP.

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DESIGNED BY	K. GARRETT
DRAWN BY	K. GARRETT
CHECKED BY	L. VALDIVIA
APPROVED BY	A. SHAH
DATE	04-17-2020

30% SUBMITTAL

NOT FOR CONSTRUCTION

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(951) 320-7300

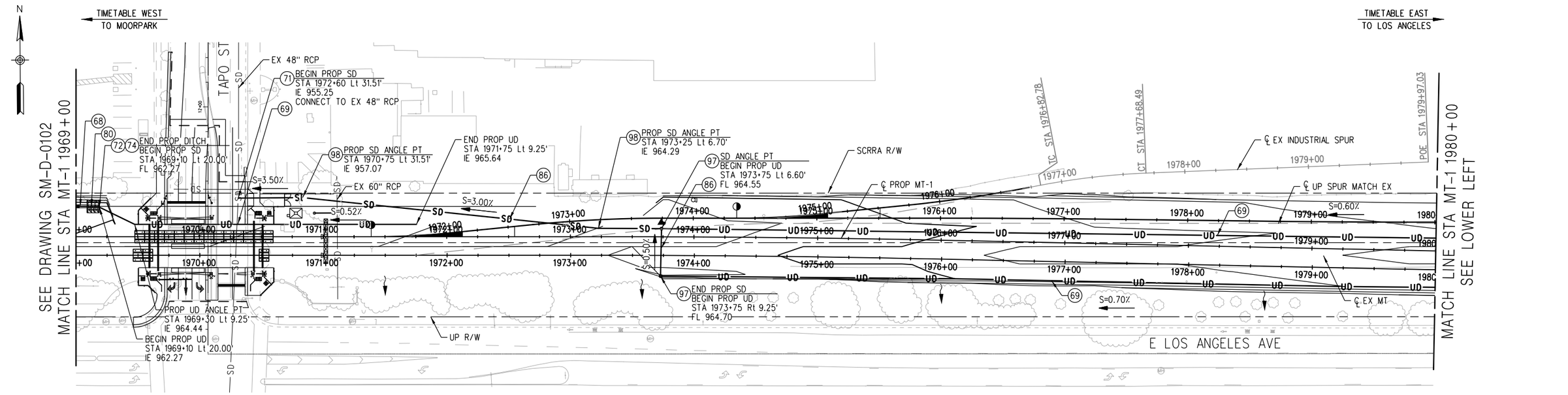
SUBMITTED: AVI SHAH, PE
PROJECT MANAGER

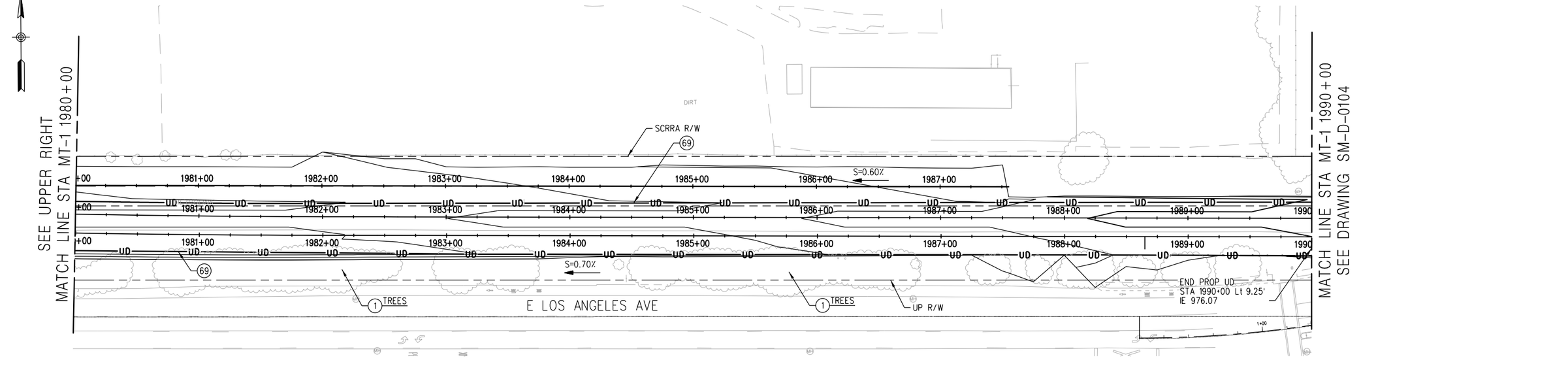
APPROVED:

SCORE PHASE 1 - VENTURA CORRIDOR
SIMI VALLEY DOUBLE TRACK AND PLATFORM

GRADING AND DRAINAGE PLAN
MT-1 STA 1947+00 TO STA 1969+00

CONTRACT NO.	
DRAWING NO.	SM-D-0102
REVISION	SHEET NO.
SCALE	AS NOTED





CONSTRUCTION NOTES:

1. PROTECT IN PLACE
68. CONSTRUCT TRACKSIDE EARTHEN DITCH PER DETAIL E
69. CONSTRUCT 8" UNDERDRAIN PER DETAIL D
71. PIPE TO PIPE JUNCTION STRUCTURE PER SPPWC DWG 332-2 (CASE 1)
72. OUTLET INTO PROPOSED DITCH
74. CONSTRUCT FLARED END SECTION PER CALTRANS STD DWG D94B
80. INSTALL TYPE I RIPRAP
86. CONSTRUCT 18" RCP (3000-D)
97. CONSTRUCT MANHOLE PER SPPWC DWG 321-2
98. CONSTRUCT CONCRETE COLLAR PER SPPWC DWG 380-4

40 0 40 80
SCALE: 1"=40'

REV.	DATE	BY	SUB.	APP.

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CHECKED BY	L. VALDIVIA
APPROVED BY	A. SHAH
DATE	04-17-2020

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NOT FOR CONSTRUCTION

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SUBMITTED: AVI SHAH, PE
PROJECT MANAGER
APPROVED:

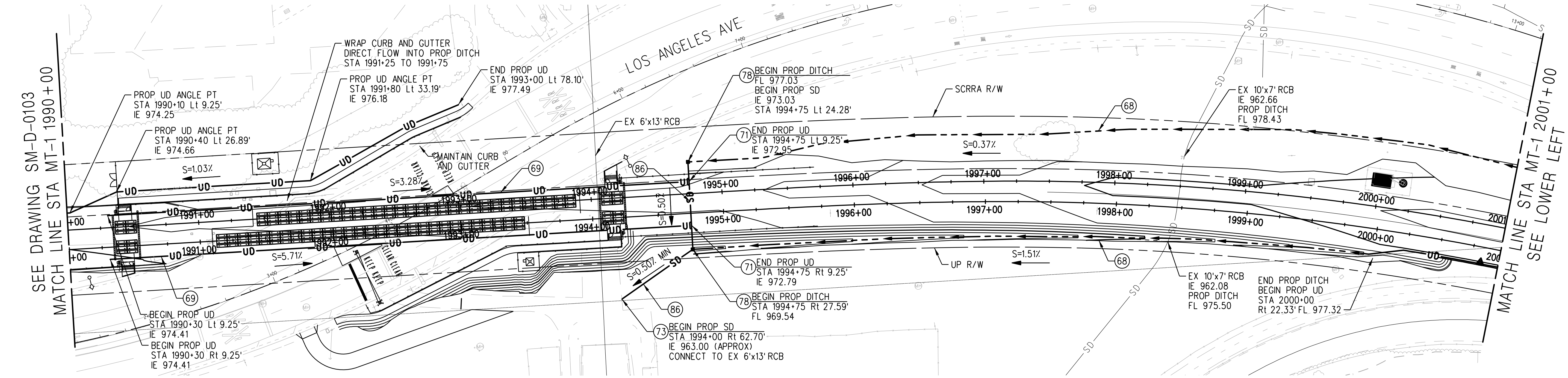
SCORE PHASE 1 - VENTURA CORRIDOR
SIMI VALLEY DOUBLE TRACK AND PLATFORM

GRADING AND DRAINAGE PLAN
MT-1 STA 1969+00 TO STA 1990+00

CONTRACT NO.	
DRAWING NO.	SM-D-0103
REVISION	SHEET NO.
SCALE	AS NOTED

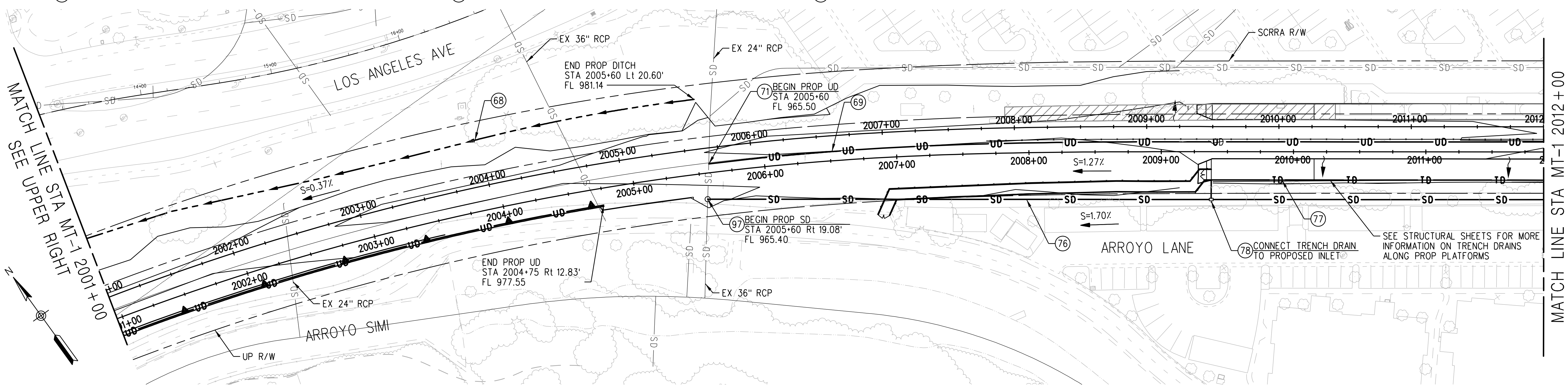
TIMETABLE WEST
TO MOORPARK

TIMETABLE EAST
TO LOS ANGELES



CONSTRUCTION NOTES:

(68)	CONSTRUCT TRACKSIDE EARTHEN DITCH PER DETAIL E
(69)	CONSTRUCT 8" UNDERDRAIN PER DETAIL D
(71)	CONSTRUCT PIPE TO PIPE JUNCTION STRUCTURE PER SPPWC DWG 332-2 (CASE 1)
(73)	CONSTRUCT PIPE TO RCB JUNCTION STRUCTURE PER SPPWC DWG 335-2
(76)	CONSTRUCT 24" RCP (3000-D)
(77)	INSTALL 6" TRENCH DRAIN WITH 4" DOWNDRAINS PER DETAIL B
(78)	INSTALL PRECAST TYPE G1 CATCH BASIN PER CALTRANS STD DWG D73B
(86)	CONSTRUCT 18" RCP (3000-D)
(97)	CONSTRUCT MANHOLE PER SPPWC DWG 321-2



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4/15/2020
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REV.	DATE	BY	SUB.	APP.

DESIGNED BY	K. GARRETT
DRAWN BY	K. GARRETT
CHECKED BY	L. VALDIVIA
APPROVED BY	A. SHAH
DATE	04-17-2020

30% SUBMITTAL

NOT FOR CONSTRUCTION

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SUBMITTED: AVI SHAH, PE
PROJECT MANAGER

APPROVED:

SCORE PHASE 1 - VENTURA CORRIDOR
SIMI VALLEY DOUBLE TRACK AND PLATFORM

GRADING AND DRAINAGE PLAN
MT-1 STA 1990+00 TO STA 2012+00

CONTRACT NO.

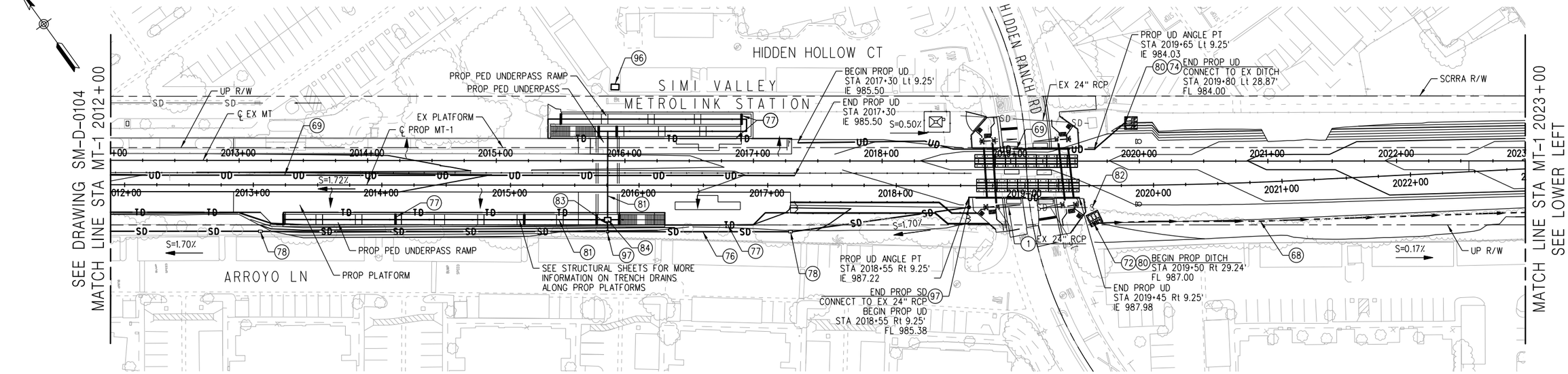
DRAWING NO. SM-D-0104

REVISION | SHEET NO.

SCALE AS NOTED

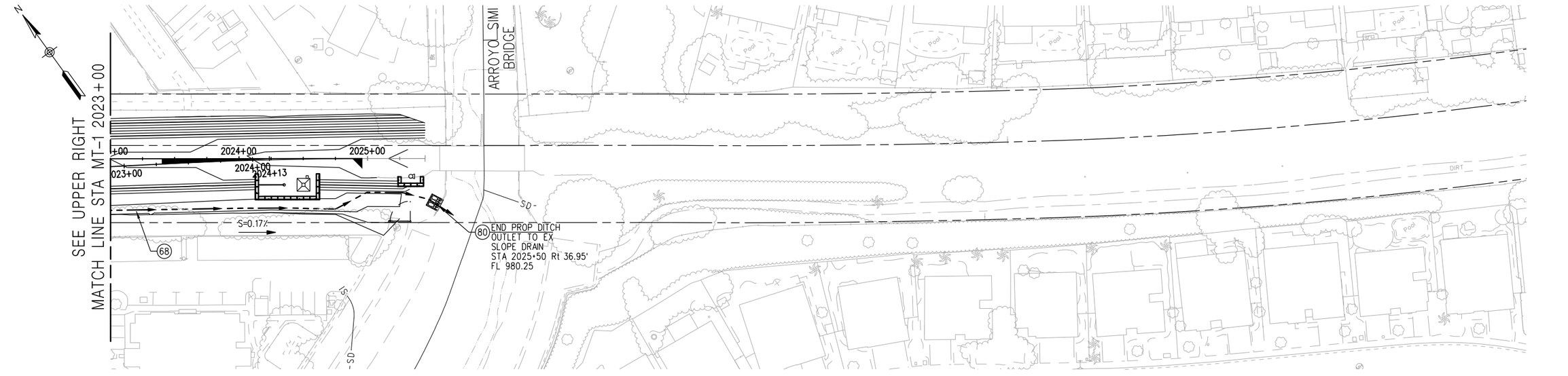
TIMETABLE WEST
TO MOORPARK

TIMETABLE EAST
TO LOS ANGELES



CONSTRUCTION NOTES:

(1)	PROTECT IN PLACE	(76)	CONSTRUCT 24" RCP (3000-D)
(68)	CONSTRUCT TRACKSIDE EARTHEN DITCH PER DETAIL E	(77)	INSTALL 6" TRENCH DRAIN WITH 4" DOWNDRAINS PER DETAIL B
(69)	CONSTRUCT 8" UNDERDRAIN DITCH PER DETAIL D	(78)	INSTALL PRECAST TYPE G1 CATCH BASIN PER CALTRANS STD DWG D73B
(72)	OUTLET INTO PROPOSED DITCH	(80)	INSTALL TYPE I RIPRAP
(74)	CONSTRUCT FLARED END SECTION PER CALTRANS STD DWG D94B	(81)	INSTALL 6" NON-PERFORATED PVC
(82)	CAP AND PLUG EXISTING CULVERT	(83)	INSTALL 8" DIP FORCE MAIN
(84)	CONSTRUCT PUMP STATION PER DETAIL A	(96)	INSTALL PUMP STATION ELECTRICAL EQUIPMENT PER ELECTRICAL SHEET XX
(97)	CONSTRUCT MANHOLE PER SPPWC DWG 321-2		



40 0 40 80
SCALE: 1"=40'

REV.	DATE	BY	APP.	SUB.

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DESIGNED BY	K. GARRETT
DRAWN BY	K. GARRETT
CHECKED BY	L. VALDIVIA
APPROVED BY	A. SHAH
DATE	04-17-2020

30% SUBMITTAL

NOT FOR CONSTRUCTION

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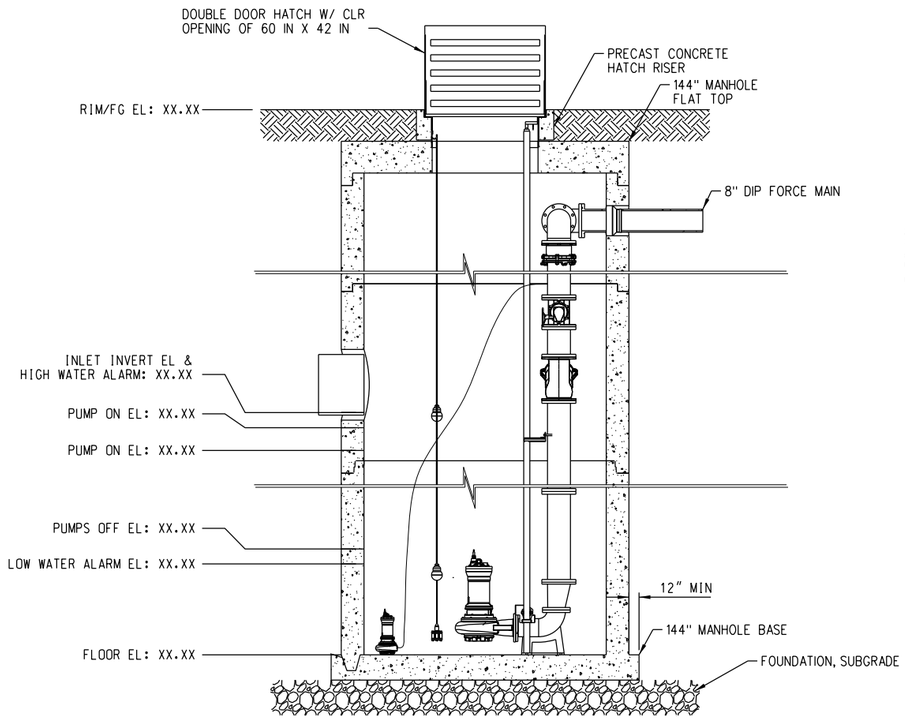
SUBMITTED: AVI SHAH, PE
PROJECT MANAGER

APPROVED:

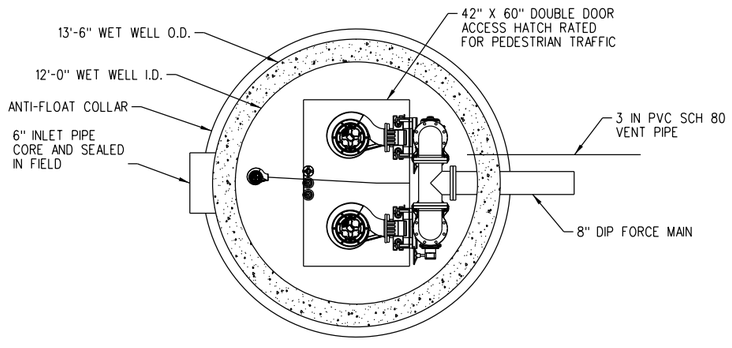
SCORE PHASE 1 - VENTURA CORRIDOR
SIMI VALLEY DOUBLE TRACK AND PLATFORM

GRADING AND DRAINAGE PLAN
MT-1 STA 2012+00 TO STA 2025+43.67

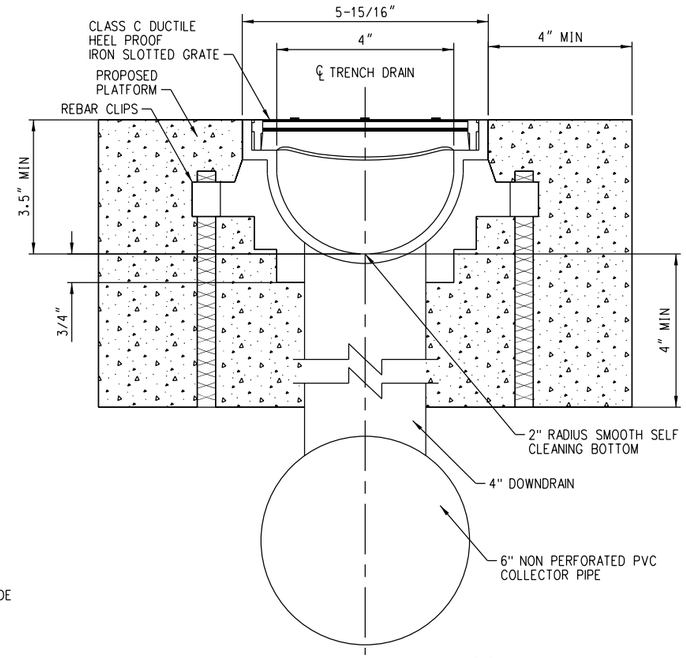
CONTRACT NO.
DRAWING NO. SM-D-0105
REVISION | SHEET NO.
SCALE AS NOTED



PUMP STATION A
PROFILE VIEW
NOT TO SCALE



PUMP STATION A1
PLAN VIEW
NOT TO SCALE



TRENCH DRAIN B
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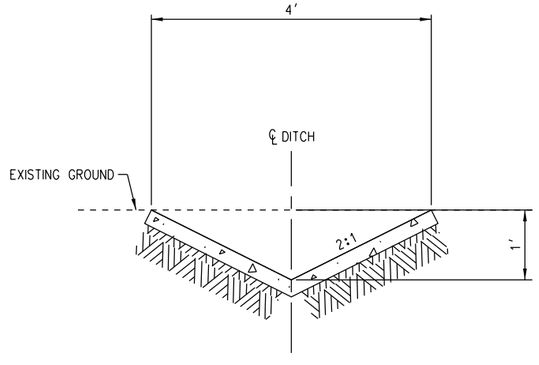
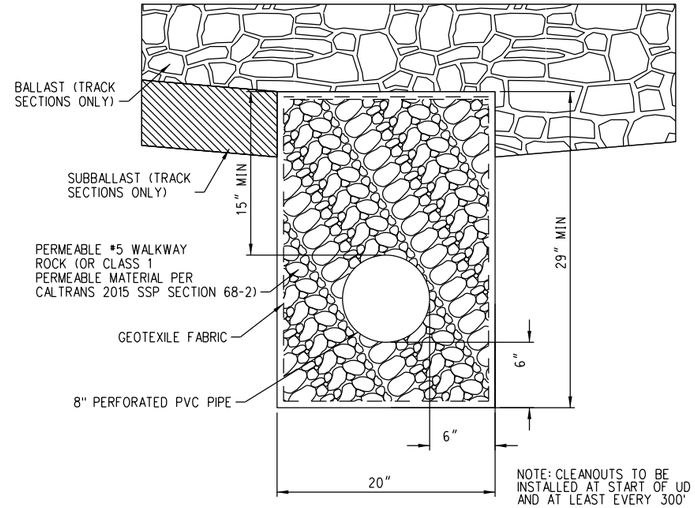
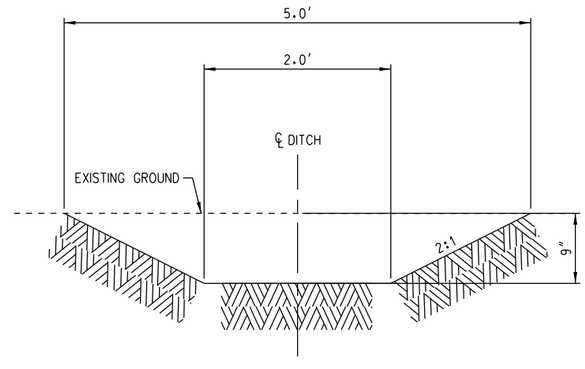


CONCRETE V-DITCH C
NOT TO SCALE
(NOT USED FOR 30% DESIGN)



UNDERDRAIN D
NOT TO SCALE



EARTHEN DITCH E
NOT TO SCALE

REV.	DATE		BY	SUB.	APP.

INFORMATION CONFIDENTIAL:
All plans, drawings, specifications, and or information furnished herewith shall remain the property of the the Southern California Regional Rail Authority and shall be held confidential and shall not be used for any purpose not provided for in agreements with the Southern California Regional Rail Authority.

DESIGNED BY	K. GARRETT
DRAWN BY	K. GARRETT
CHECKED BY	L. VALDIVIA
APPROVED BY	A. SHAH
DATE	04-17-2020

30% SUBMITTAL
NOT FOR CONSTRUCTION

METROLINK®

HDR, Inc.
2280 Market Street, Suite 100
Riverside, CA 92501-2110
(951) 320-7300

SUBMITTED: AVI SHAH, PE
PROJECT MANAGER
APPROVED:

SCORE PHASE 1 - VENTURA CORRIDOR SIMI VALLEY DOUBLE TRACK AND PLATFORM

GRADING AND DRAINAGE DETAILS

CONTRACT NO.	
DRAWING NO.	SM-D-0200
REVISION	SHEET NO.
SCALE	NO SCALE

Appendix F

As-Built Drainage Plans

CITY OF SIMI VALLEY

KASRAIE CONSULTING

Legend

Points

- BubblerWCollar
- Catch Basin
- Clean Out
- Collar
- Diversion Structure
- Drop Inlet / Area Drain
- Energy Dissipator
- Grade Break
- Inlet
- Junction Structure
- Junction Structure W/Manhole
- Manhole
- ManholeW/ Catch Basin
- Outlet
- Overflow Inlet
- ParkWay Drain
- Plug
- Pump
- RiserWOutlet
- Standpipe Inlet
- WaterQualityBMP

Line Features

- Abandoned Lines
- AC Spillway
- Additional Storm Main
- Box Culvert
- Collector
- Earthen Channel
- Improved Channel
- Lateral
- Natural
- SubDrains
- Swale
- Transition Structure
- V-Ditch
- Weir
- Redline Channel Subtype)
- Redline Channel (VCWPD Jur.)

Hydrology

- VCWPD Jur. Channels

Polygons

- Debris Basin
- Desilting Basin
- Detention Basin
- VCWPD Fee/ Easement

Landbase Data

- 5' Contour
- 10' Contour
- Centerline
- City Limits
- Parcels

NA - Data Not Available

N12	N13	N14
M12	M13	M14
L12	L13	L14

STORM DRAIN ATLAS BOOK

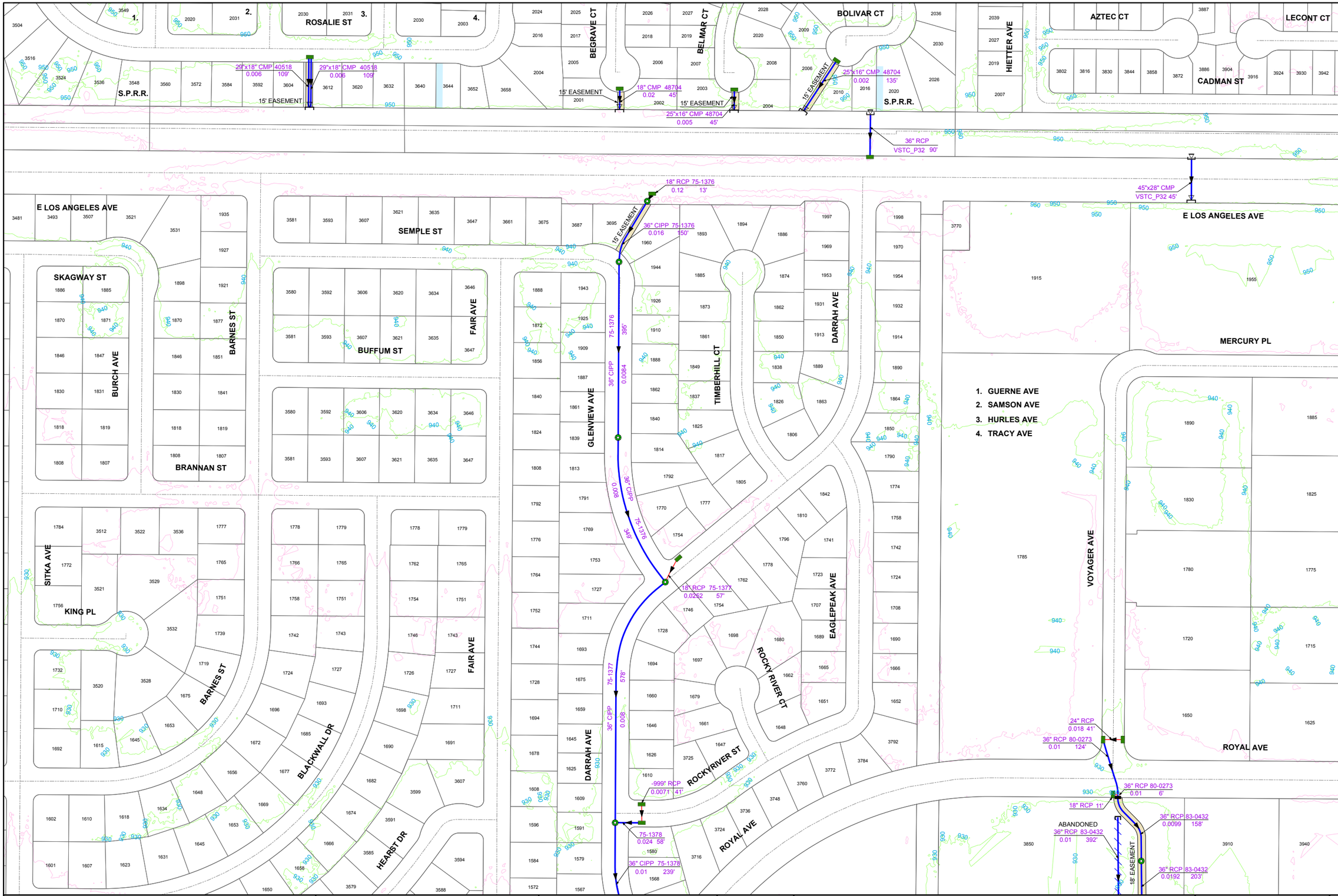
0 50 100 200 Feet

SCALE: 1" = 200'
NOT FOR CONSTRUCTION USE

DISCLAIMER: This map sheet represents a visual aid intended to assist City of Simi Valley personnel with maintenance of its Storm Drain facilities. Data provided hereon is not a guarantee of actual field conditions or a substitute for record drawings and surveyed field verification.

August 2018

ATLAS: M13



CITY OF SIMI VALLEY

KASRAIE CONSULTING

Legend

Points

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- VCWPD Jur. Channels

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- VCWPD Fee/ Easement

Landbase Data

- 5' Contour
- 10' Contour
- Centerline
- City Limits
- Parcels

NA - Data Not Available

N13	N14	N15
M13	M14	M15
L13	L14	L15

STORM DRAIN ATLAS BOOK

0 50 100 200 Feet

SCALE: 1" = 200'
NOT FOR CONSTRUCTION USE

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August 2018

ATLAS: M14

CITY OF SIMI VALLEY

KASRAIE CONSULTING

Legend

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- Collar
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- Energy Dissipator
- Grade Break
- Inlet
- Junction Structure
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- ManholeW/ Catch Basin
- Outlet
- Overflow Inlet
- ParkWay Drain
- Plug
- Pump
- RiserWOutlet
- Standpipe Inlet
- WaterQualityBMP

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- Improved Channel
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- Natural
- SubDrains
- Swale
- Transition Structure
- V-Ditch
- Weir
- Redline Channel Subtype)
- Redline Channel (VCWPD Jur.)

Hydrology

- VCWPD Jur. Channels

Polygons

- Debris Basin
- Desilting Basin
- Detention Basin
- VCWPD Fee/ Easement

Landbase Data

- 5' Contour
- 10' Contour
- Centerline
- City Limits
- Parcels

NA - Data Not Available

N14	N15	N16
M14	M15	M16
L14	L15	NA

STORM DRAIN ATLAS BOOK

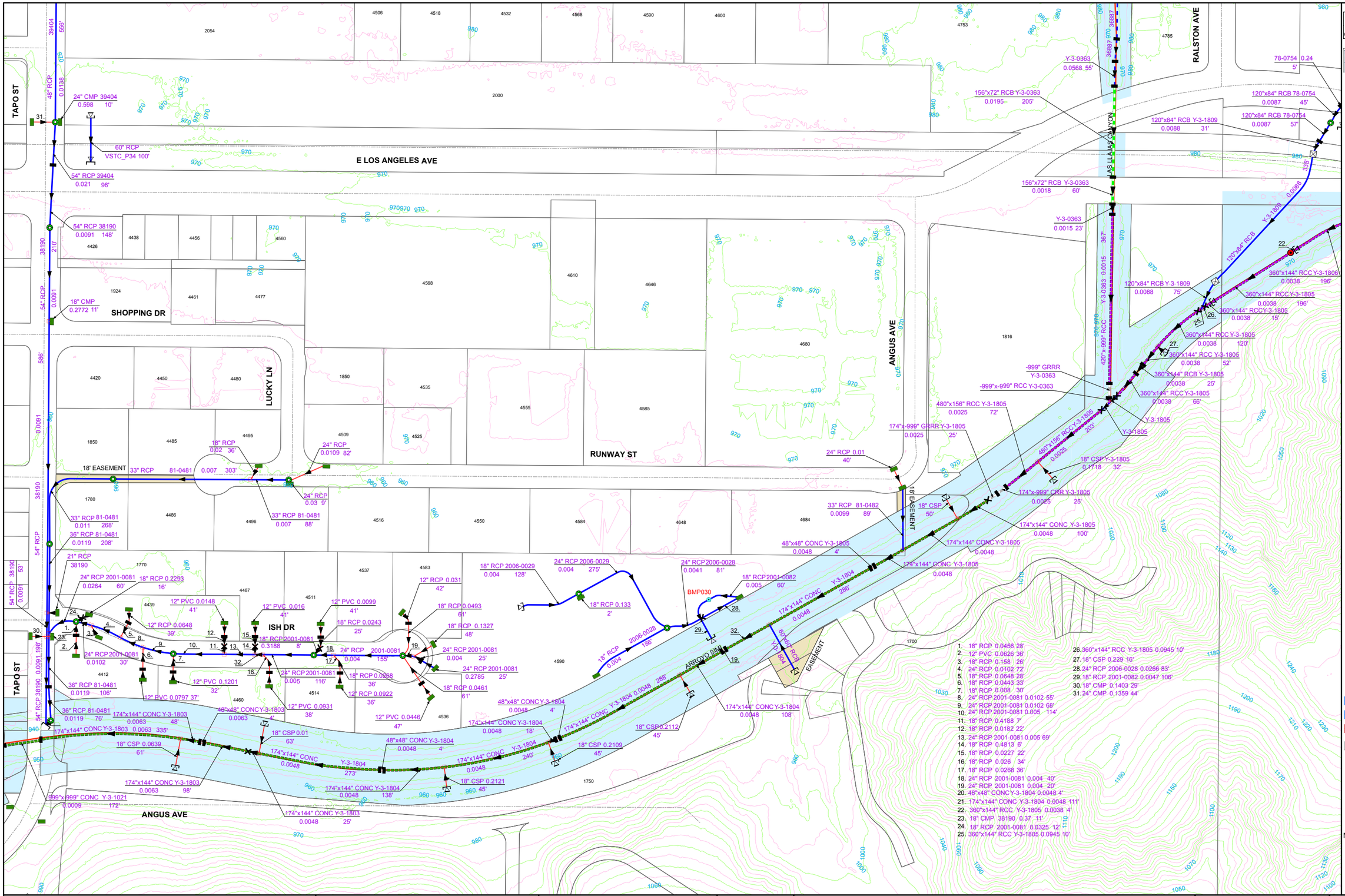
0 50 100 200 Feet

SCALE: 1" = 200'
NOT FOR CONSTRUCTION USE

DISCLAIMER: This map sheet represents a visual aid intended to assist City of Simi Valley personnel with maintenance of its Storm Drain facilities. Data provided hereon is not a guarantee of actual field conditions or a substitute for record drawings and surveyed field verification.

August 2018

ATLAS: M15



CITY OF SIMI VALLEY

KASRAIE CONSULTING

Legend

Points

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- VCWPD Jur. Channels

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Landbase Data

- 5' Contour
- 10' Contour
- Centerline
- City Limits
- Parcels

NA - Data Not Available

N15	N16	N17
M15	M16	M17
L15	NA	L17

STORM DRAIN ATLAS BOOK

0 50 100 200 Feet

SCALE: 1" = 200'
NOT FOR CONSTRUCTION USE

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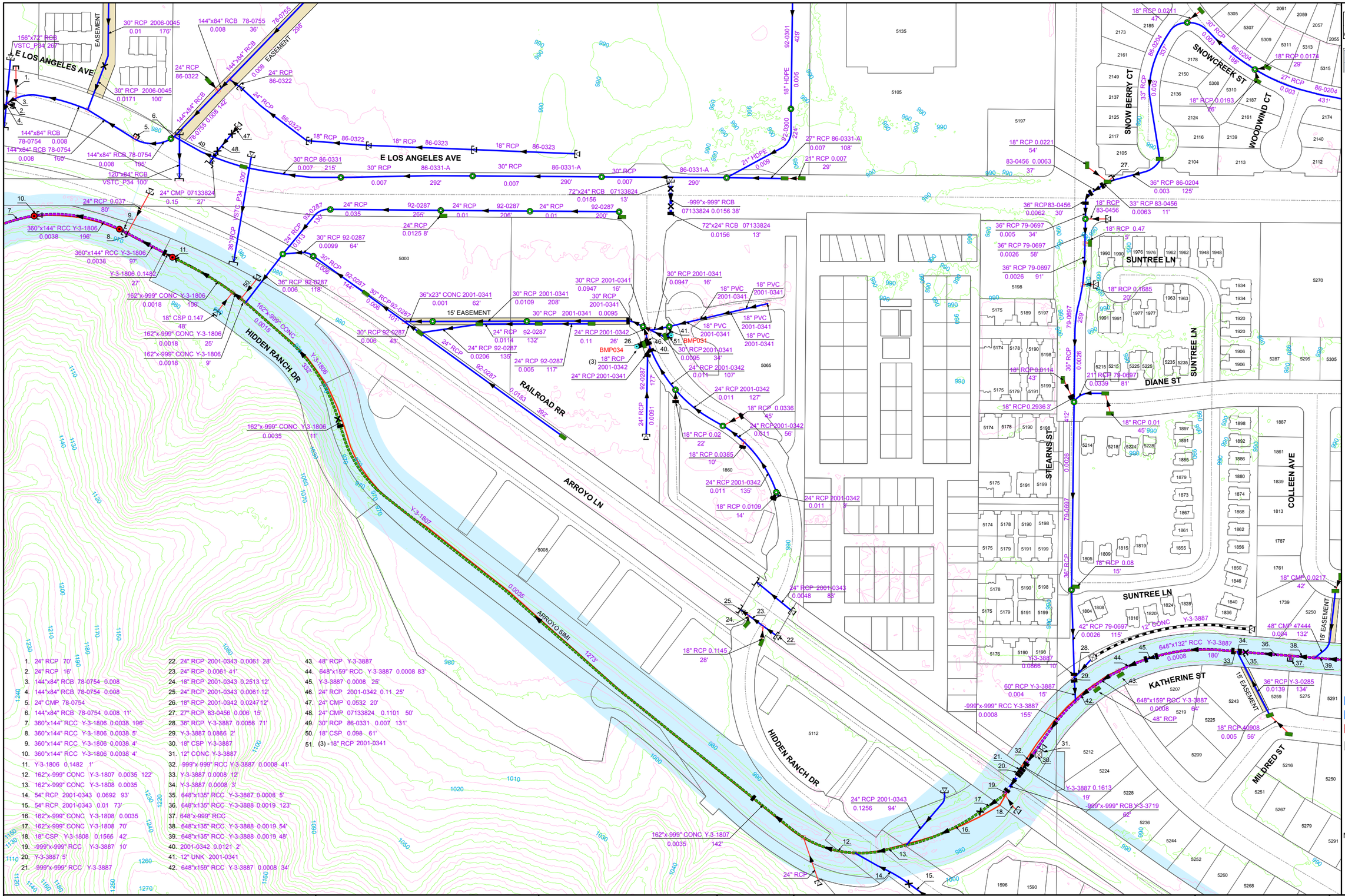
August 2018

ATLAS: M16



CITY OF SIMI VALLEY

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- VCWPD Jur. Channels

Polygons

- Debris Basin
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- VCWPD Fee/ Easement

Landbase Data

- 5' Contour
- 10' Contour
- Centerline
- City Limits
- Parcels

NA - Data Not Available

N16	N17	N18
M16	M17	M18
NA	L17	L18

STORM DRAIN ATLAS BOOK

0 50 100 200 Feet

SCALE: 1" = 200'
NOT FOR CONSTRUCTION USE

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August 2018

ATLAS: M17

EW PARKING LOT IMPROVEMENTS AND LANDSCAPING PER
PD-S-178, MOD 2

NOT A PART

1 STORY COMMERCIAL BLDG

WINIFRED STREET

VALLEY FAIR STREET

TAPO STREET

CONSTRUCT NEW DRIVEWAY PER STREET PLANS, SHEET 5

EX. S.S. MH

T.C. = F.S. + 6"

EX. 9", 12", 15" OLIVE (OLEA)

EX. 7", 8", 11" OLIVE (OLEA)

EX. 7", 9", 9½", 9½" OLIVE (OLEA)

EX. RAYWOOD ASH STREET TREES

EX. SYCAMORE

5' SCREEN FENCE

ACCESS RAMP

6' FREE-STANDING SIGN

1 STORY OFFICE

DECK

AREA 3 = 0.27 AC

EX. AC PAVT.

EX. OLEANDER BUSHES

6' CHAIN LINK FENCE W/ 3-STRAND BARBED WIRE

AREA 4 = 0.24 AC

EXISTING 2' x 3' INLET

REMOVE EXISTING CONCRETE DRAIN, AND DAMAGE AREAS, FILL EXISTING HOLE. CONSTRUCT OUTLET DEVICE AND BIO FILTER STRIP AND SWALE PER DETAILS BELOW

12' WIDE "V" BOTTOM GRASS SWALE PER DETAIL HEREON
USE EXCAVATED SOIL TO CONSTRUCT 12"-18" BERM BETWEEN PARKING LOT AND BACK OF PUBLIC SIDEWALK AND TO PROVIDE MATERIAL FOR NEW PLANTER ISLANDS. ESTIMATE CUT QUANTITIES IS 47 CU. YDS.

LIMIT OF DETENTION PONDING

PLANTER ELEVATIONS FOR INFO ONLY. CONSTRUCT TOP OF NEW CURB 6" ABOVE EXISITNG FS ELEVATION

18" RCP

CONC. OUTLET DEVICE
NOT TO SCALE

DRAINAGE BIO-FILTER DETAIL
NOT TO SCALE

RIBBON GUTTER CUT OFF DETAIL

24" RIBBON GUTTER SECTION

12' LANDSCAPE STRIP, DRAINAGE AND BIO-SWALE

AS-BUILT

PLAN NOTES

1. CONSTRUCT NEW 6" CONCRETE CURBS AT PERIMETER OF ALL LANDSCAPE AREAS.
2. NEW PLANTER ISLANDS. DEMOLISH AND REMOVE EXISTING PAVEMENT PER DEMOLITION PLAN, SHEET NO. 2.
3. FILL-IN PARKING AREA PAVING TO BE 3" A.C. ON 4" BASE
4. CONSTRUCT NEW 6" CURB WITH 12" GUTTER
5. CONSTRUCT NEW 6" TO 15" CONCRETE CURB
6. 12' X 12' CUT OFF 6" THICK CONCRETE APRON, WITH 12" TURN DOWN AT LEADING EDGE
7. THERE SHALL BE NO OBSTRUCTION GREATER THAN 30" IN HEIGHT WITHIN THE SIGHT DISTANCE DELTA. SEE NOTES SHEET 1.
8. SAW CUT AND REMOVE AC LIMITS. SEE DEMOLITION PLAN.
9. REMOVE EXISTING DEBRIS, AC & CONCRETE PAVEMENT TO TOP OF DRAIN. CONCRETE PLATFORM TO REMAIN
10. CONSTRUCT 24" RIBBON GUTTER PER DETAILS HEREON

LEGEND

- IRRIGATED TURF FILTER STRIP AND/OR BIO-SWALE. MINIMUM GRASS HEIGHT = 2", MAXIMUM GRASS HEIGHT = 4"
- DETENTION PONDING AREA: REQUIRE VOLUME IS 1000 CF x SITE AREA (2.06 AC) = 2060 CF. PROVIDED = 2175 CF
- NEW A.C. PAVEMENT (3" AC ON 4" BASE)

NORTH
SCALE: 1"=20'

REGISTERED PROFESSIONAL ENGINEER — WILLIAM B. FOWLER No.22981 CIVIL EXP. 12/31/05 — STATE OF CALIFORNIA

NO.	REVISIONS	PREP. BY	APPVD. BY	DATE

ACCEPTED: CITY OF SIMI VALLEY — INTERIM CITY ENGINEER — SEP 13 2005 DATE

SPECTRUM LAND PLANNING INC
2665-B PARK CENTER DR. SIMI VALLEY, CA 93065
(805) 526-6084 FAX (805) 581-4169
WILLIAM B. FOWLER R.C.E. NO. 22981 — 7-14-05 DATE

Simi Valley
DEPARTMENT OF PUBLIC WORKS

REVIEWED: CITY OF SIMI VALLEY
PROJECT ENGINEER — 8/25/05 DATE
RECOMMENDED: CITY OF SIMI VALLEY
PRINCIPAL / ENGINEER — 10/27/05 DATE

FINE GRADING AND DRAINAGE PLAN

PD-S-178, MOD. 2
CORNERSTONE COMMUNITY CHURCH

SHEET NUMBER: IP ___ OF ___ — 4 OF 5
DRAWING NUMBER (CITY OF SIMI VALLEY): 20005-0137

PlotName: F FileName: C635P04-FG. Plot Date: Wed Jul 13 16:14:38 2005


Construct Headwall. See Detail.
Tract Nº 1192
Wly. Line Tract Nº 1192
Exist. Ground 951.8
Toe North Slope
Construct Earth Ditch See Detail Sheet 3 Tract Nº 1192
Toe South Slope
Elliptical Reinf. Conc. Pipe shall meet the requirements of A.S.T.M. C-76 Table II. Latest revision. Loading requirement 4500# per Lin. Ft.
29"x45" Elliptical Reinf. Conc. Pipe
American Marietta Co. "La-Hed" or equal.
Exist. Gas Company Line Approx. Location.
℄ Los Angeles Avenue ℄ (State Highway 118)
2080'± to ℄ of Tapo St. Santa Susana
Exist. 6" Shell Oil Co. Line in 8" Casing
B.M. North end of conc. Culvert Wing Wall Elev. 952.91
Exist. Box Culvert
S.P.R.R. Sta. 495+10± as per Sheet 36 of Main Line of S.P.R.R.
Southern Pacific Railway R/W.
State Hwy. Sta. 190+40±
Exist. 6'x3' Box Culvert
Euc. Tree
953.20 Top of Tie
952.57 Top of Tie
Main Track
Spur Track.
Top of Pavement
950.84
Exist. Box Culvert
Exist. 6'x3' Box Culvert
SAME AS SHOWN ON PLAN
948.92
946.91
946.95
946.40
946.50
946.58
946.20
0.208%
Top 945.50
Exist. Gas Company Line
Exist. 6" Shell Oil Co. Line in 8" Casing
For bottom see Sec. A-A
Cut groove in bottom of conc. pipe to fit over exist. 8" casing. Provide concrete encasement for exist. casing as shown. Fill space between conc. pipe and 8" casing with grout.
Top of Spur Track Tie 952.57
Top of Headwall 951.50
INLET HEADWALL NORTH ELEVATION Scale 1/4"=1'-0"
HEADWALL AT NORTH END OF CULVERT
Make hor. reinf. cont. around corner Nº 3 as shown. Both faces
SECTION A-A OUTLET HEADWALL At South end of Culvert Scale 1/2"=1'-0"
Nº 3 @ 12" Both Ways
Vert. Reinf. Nº 4 @ 8" Hor. Reinf. Nº 3 @ 12"
Round end of Pipe
29"x45" Reinf. Conc. Pipe Arch
Hor. reinf. in footing, Nº 4 cont. as shown.
SECTION AT ℄ OF CULVERT Scale 1/2"=1'-0" INLET HEADWALL At North End of Culvert
LOS ANGELES AVENUE
Exist. Box Culvert
945.9 F/L
945.8 F/L
945.3 F/L
944.7 F/L
943.57 F/L
F/L Exist. Ditch.
Exist. Culvert
TYPICAL DITCH SECTION LOOKING UP-STREAM. HOR. 1"=40' VER. 1"=4'
Cochran St.
Tapo St.
PROJECT
Tract 1057
Scale: 1"=2000'
Southern Pacific
Los Angeles (State Highway 118) Ave.
SANTA SUSANA
AIRPORT
ARROYO SIMI
LOCATION MAP

Scales
Hor. 1" = 8'-0"
Vert. 1" = 0.8'

NOTICE TO CONTRACTORS

All construction shall conform with the rules of the Southern Pacific Lines, (see Southern Pacific Lines Drawing Nº C.S.1741) and with the requirements of the State of California Division of Highways.

No work shall be undertaken without a valid permit from both agencies.

Lines & grade may have to be modified to meet the requirements of the above agencies.

AS BUILT
JAN 1961.

2 Put angle in inlet Headwall & indicated earth ditch to agree with Tract Nº 1192 Sheet 3. 3-3-60

1 Revised Headwalls to suit State & R.R. Requirements 5-11-59 and changed concrete pipe designation.

PLAN, PROFILE AND DETAILS
OF CULVERT AT 2000'± WEST OF TAPO STREET SANTA SUSANA

WRIGHT RANCH ESTATES

COUNTY OF VENTURA
PREPARED BY
JENNINGS-HANSEN ENGINEERING
1239 E. MAIN STREET VENTURA CALIF.

SHEET 1 OF 1 SHEET

Gerard Gieges
DATE: 2-7-59 R.C.E. 9055

APPROVED BY M. C. Lorenz
COUNTY SURVEYOR DATE Feb. 27 '59
W. W. MacMillan
DEPUTY

23-213

DRAWING NUI #38190

PLAN HOLD CORPORATION - TORRANCE - CALIFORNIA
REORDER BY NO. 0705A-24

3064

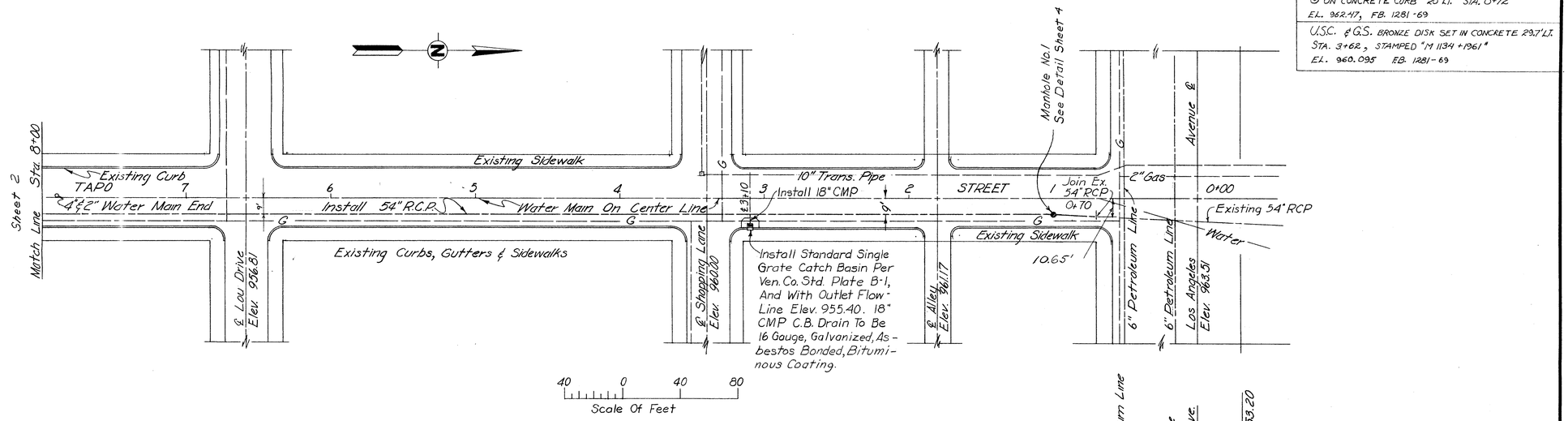
Tapo Street Storm Drain

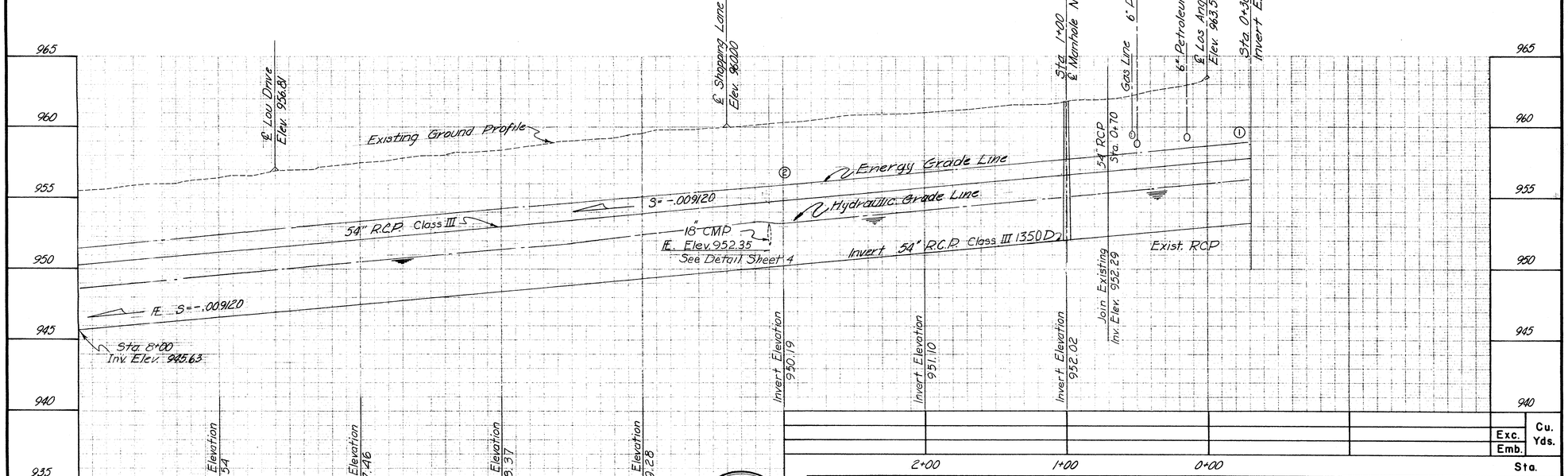
PEEL PROTECTIVE STRIP TO EXPOSE ADHESIVE. POSITION EDGE OF PRINT ON THIS LINE AND RUB TO ADHERE.

BENCH MARKS-

"⊙" ON CONCRETE CURB 20'LT. STA. 0+72
EL. 962.47, FB. 1281-69

U.S.C. & G.S. BRONZE DISK SET IN CONCRETE 29.7'LT.
STA. 3+62, STAMPED "M 1134 1961"
EL. 960.095 FB. 1281-69





REGISTERED CIVIL ENGINEER
THOMAS M. MORGAN
No. 8634
STATE OF CALIFORNIA

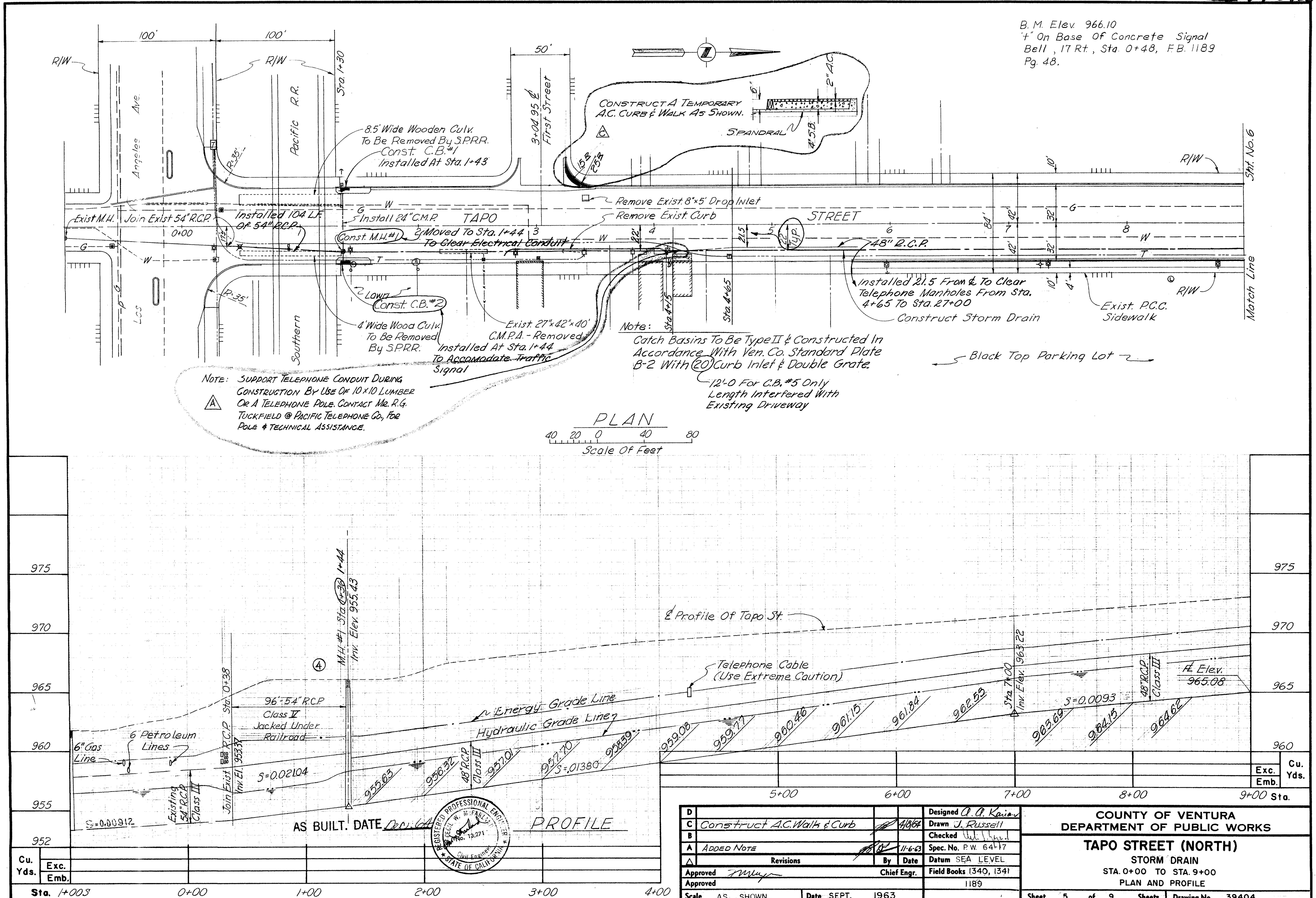
D				Designed	A. A. Karian
C				Drawn	F. C. LUNA
B				Checked	
A				Spec. No.	PW-63-22
△	Revisions	By	Date	Datum	SEA LEVEL
Approved		Chief Engr.		Field Books	1252, 1281,
Approved					
Scale	AS SHOWN	Date	MAY 1963		

COUNTY OF VENTURA
DEPARTMENT OF PUBLIC WORKS

TAPO STREET DRAIN
(SOUTH)
STA. 0+00 TO STA. 8+00
PLAN AND PROFILE

Sheet 3 of 4 Sheets | Drawing No. 38190

No Plans Available AS BUILT. DATE Jan 23, 1964



24-092
B. M. Elev. 966.10
"+" On Base Of Concrete Signal Bell, 17 Rt., Sta. 0+48, F.B. 1189 Pg. 48.
100'
100'
50'
R/W
R/W
Sta. 1+30
Los Angeles Ave.
Southern Pacific R.R.
3+01.95 ℄ First Street
Construct A Temporary A.C. Curb & Walk As Shown.
Spandral
2" A.C.
4" S.B.
6"
8.5' Wide Wooden Culv. To Be Removed By S.P.R.R.
Const. C.B. #1 Installed At Sta. 1+43
Remove Exist. 8"x5' Drop Inlet
Remove Exist. Curb
Exist M.H.
Join Exist 54" R.C.P.
0+00
Installed 104 L.F. Of 54" R.C.P.
Install 24" C.M.P.
TAPO
STREET
Const. M.H. #1
Moved To Sta. 1+44
To Clear Electrical Conduit
48" R.C.P.
Installed 21.5 From ℄ To Clear Telephone Manholes From Sta. 4+65 To Sta. 27+00
Construct Storm Drain
Exist. P.C.C. Sidewalk
Match Line
Sht. No. 6
Lown
Const. C.B. #2
4' Wide Wood Culv. To Be Removed By S.P.R.R.
Exist. 27"x42"x40' C.M.P.A. - Removed
Installed At Sta. 1+44 To Accomodate Traffic Signal
Sta. 4+15
Sta. 4+65
Note: Catch Basins To Be Type II & Constructed In Accordance With Ven. Co. Standard Plate B-2 With 20 Curb Inlet & Double Grate.
12'-0 For C.B. #5 Only Length Interfered With Existing Driveway
Black Top Parking Lot
Note: Support Telephone Conduit During Construction By Use Of 10 x 10 Lumber Or A Telephone Pole. Contact Mr. R.G. Tuckfield @ Pacific Telephone Co. For Pole & Technical Assistance.
PLAN
40 20 0 40 80
Scale Of Feet
975
970
965
960
955
952
℄ Profile Of Tapo St.
Telephone Cable (Use Extreme Caution)
M.H. #1 Sta. 1+36 1+44 Inv. Elev. 955.43
96'-54" R.C.P. Class V Jacked Under Railroad
Join Exist. R.C.P. Sta. 0+38 Inv. El. 953.37
Energy Grade Line
Hydraulic Grade Line
6" Gas Line
6 Petroleum Lines
Existing 54" R.C.P. Class III
S=0.00912
S=0.02104
48" R.C.P. Class III
S=.01380
S=0.0093
955.63
956.32
957.01
957.70
958.39
959.08
959.77
960.46
961.15
961.84
962.53
Sta. 7+00 Inv. Elev. 963.22
963.69
964.15
964.62
48" R.C.P. Class III
℄ Elev. 965.08
AS BUILT. DATE
PROFILE
Registered Professional Engineer Cecil W. McFarland No. 13271 Civil Engineer State of California
Exc.
Emb.
Cu. Yds.
Sta. 1+003 0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00

Rev.	Revisions	By	Date
D			
C	Construct A.C. Walk & Curb		4/8/64
B			
A	Added Note		11-6-63

Approved: | Chief Engr.

Approved:

Scale: AS SHOWN | Date: SEPT. 1963

Designed: A. A. Kaiser
Drawn: J. Russell
Checked:
Spec. No. P.W. 64-17
Datum: SEA LEVEL
Field Books: 1340, 1341, 1189

COUNTY OF VENTURA
DEPARTMENT OF PUBLIC WORKS

TAPO STREET (NORTH)
STORM DRAIN
STA. 0+00 TO STA. 9+00
PLAN AND PROFILE

Sheet 5 of 9 Sheets | Drawing No. 39404

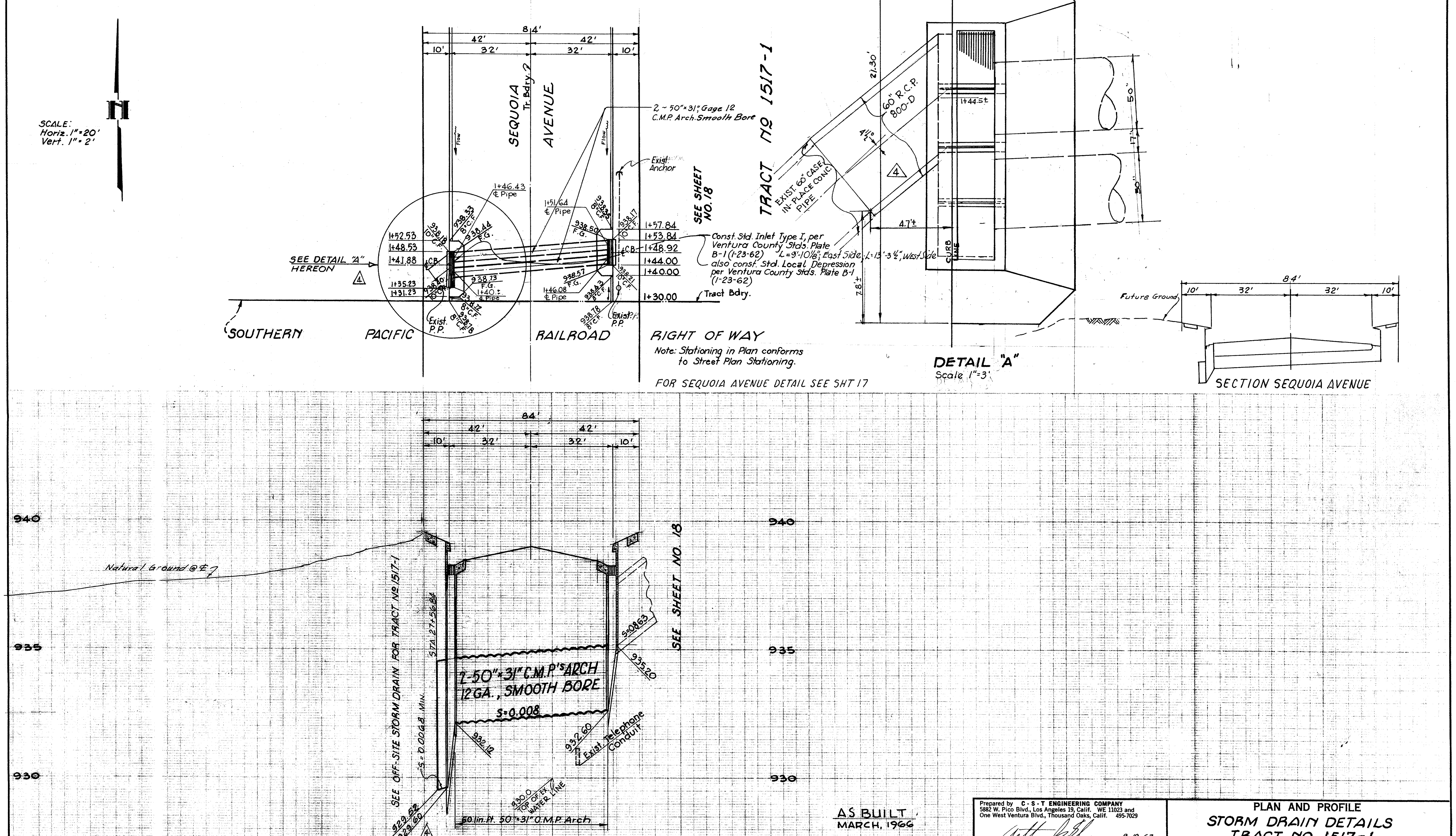
DRAWING NUMBER 39404

PLAN HOLD CORPORATION · TORRANCE · CALIFORNIA REORDER BY NO. 0705A-24

TAPO ST. At Los Angeles STORM DRAIN
As Built 1964

PEEL PROTECTIVE STRIP TO EXPOSE ADHESIVE. POSITION EDGE OF PRINT ON THIS LINE AND RUB TO ADHERE.

24-299



Prepared by C·S·T ENGINEERING COMPANY
5882 W. Pico Blvd., Los Angeles 19, Calif. WE 11023 and One West Ventura Blvd., Thousand Oaks, Calif. 495-7029

REGISTERED CIVIL ENGINEER #10872 — Date 9-19-63

W.O. 1388-1 Design B.W. Drawn by C.E.M.

Approved: Chief, Subdivision Engineering, Ventura County — Date 3-10-64

PLAN AND PROFILE
STORM DRAIN DETAILS
TRACT NO. 1517-1

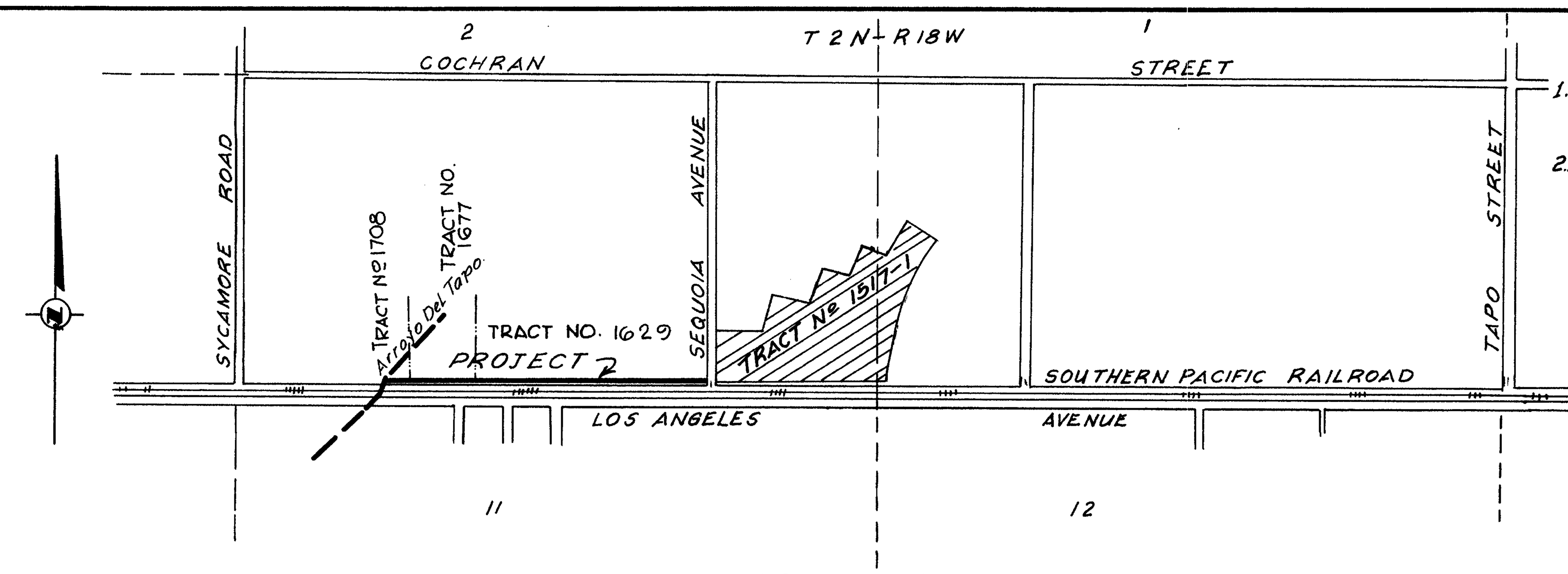
SCALE: As shown

NO.	SHT. NO.	DESCRIPTION OF CHANGE	APPROVED	DATE
1	16	Revised Grades Ist Ck Cty.		9-16-63
2	16	C.B.'s and Pipes		2-13-64
3	16	Revised C.B. outlet Elev.		10-16-64
4	10-18-65	Rev. C.B. West Side		
5				

SHT 16 OF 19

Ventura County Plan No. 40515

DRAWING NUMBER 40515



LOCATION MAP
SCALE: 1" = 1000'

~ GENERAL NOTES ~

1.) All work will conform to the Standard Secification for Cast in Place Concrete Pipe, of the County of Ventura Standard Specification 22.1 Revised. Nov. 1962.

2.) The Existence and location of any underground utility pipes, conduits, or structures shown on these plans are obtained by a search of the available records. To the best of our knowledge there are no existing utilities exept as shown on these plans.

The contractor is required to take due precautionary measures to protect the utility lines shown and any other lines not of record or not shown on these drawings.

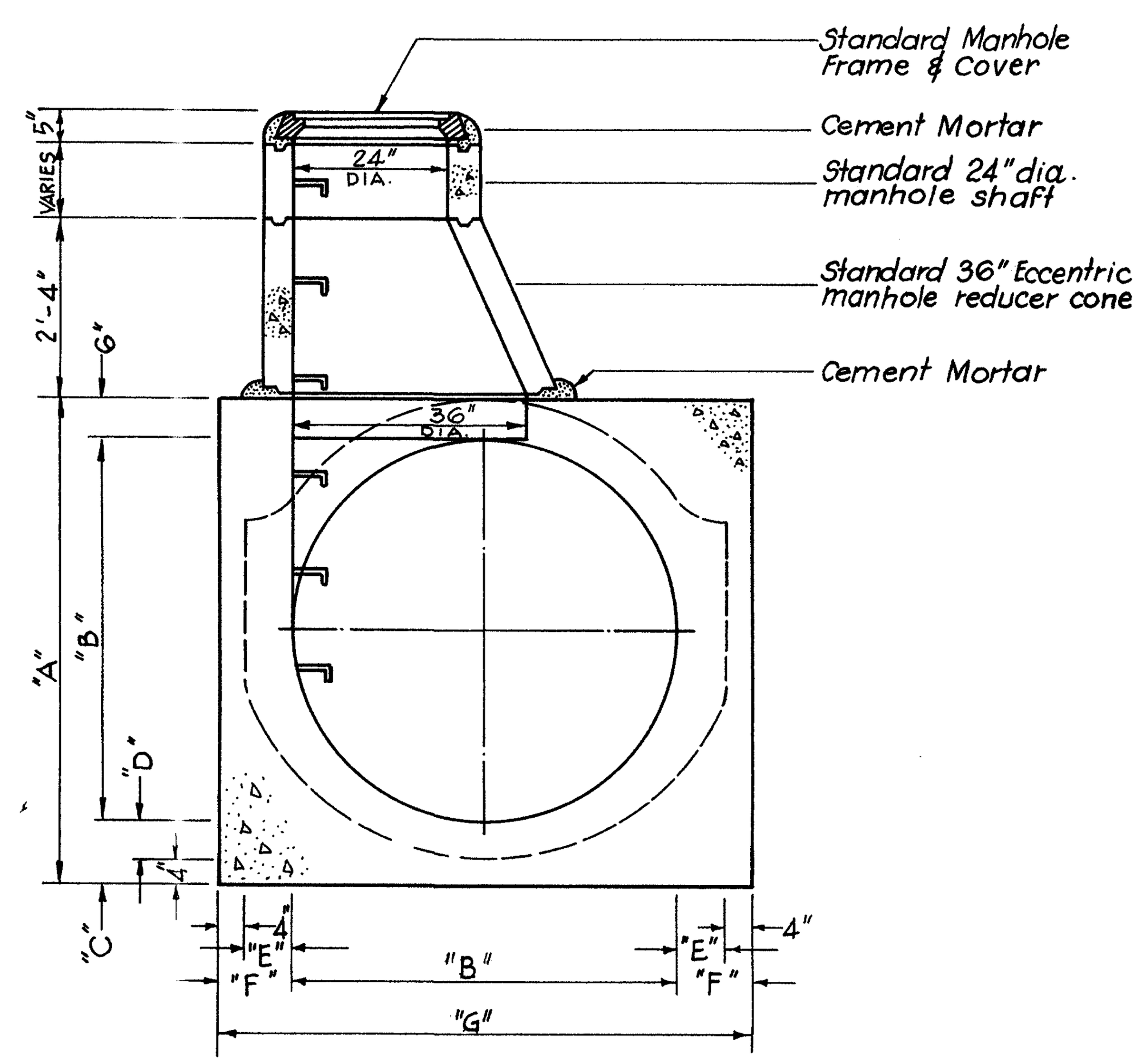
The contractor further assumes all liability and responsibility for the anderground utility pipes, conduits or structures shown or not shown on these drawings.

BENCH MARK: #1 (No Reference)
Brass Cap "Z 609 1942" 0.9 mile west along S.P.R.R. from Station at Santa Susana at culvert 436.56 in top of west end of South Concrete Headwall.
Elevation = 946.33

BENCH MARK: #2
"O" Cut on conc. curb over abutment of the North end of Erringer Road Bridge # 267 and on the West Side of Bridge (Painted B.M. 22 U.S.C. & G.S.) Elevation = 840.851

DIMENSION SCHEDULE

PIPE SIZE	A	B	C	D	E	F	G
54"	5'-9½"	54"	9½"	5½"	6½"	10½"	6'-3"
60"	6'-4"	60"	10"	6"	7"	11"	6'-10"



DETAIL ~ STORM DRAIN MANHOLE
Scale: ½" = 1'-0"

NOTE: Manhole per "No-Joint Conc. Pipe Corp. of So. Calif." or approved equal

CERTIFICATE OF AS BUILT PLANS

Per grade sheets prepared and submitted by:
Edgar W. Beery, L.S. 3076
90 Nº Wake Forest Ave.
Ventura, Calif.
I hereby certify that the work shown on Drawings # 40516 A through 40516 D marked "AS BUILTS" has been constructed in conformance with lines and grades shown on said plans, drawings and referred specifications.

Arthur G. Sherman R.C.E. NO. 10872

AS BUILT
Nov. 1964

Approved: Chief, Subdivision Engineering, Ventura County
H P Nilmeier 7-13-64
Date

Checked by: A. C. Knott 7-13-64
Project Development Engineer Date

Prepared by C-S-T ENGINEERING COMPANY
5882 W. Pico Blvd., Los Angeles 19, Calif. WE 11023 and
One West Ventura Blvd., Thousand Oaks, Calif. 495-7029

Arthur G. Sherman 5/1/64
Arthur G. Sherman Date
REGISTERED CIVIL ENGINEER # 10872
W.O. 1690 Design S.E. Drawn by D.S.

Approved: M. C. LORENZ, County Surveyor, Ventura County
By: M C Lorenz 7-16-64
County Surveyor Date

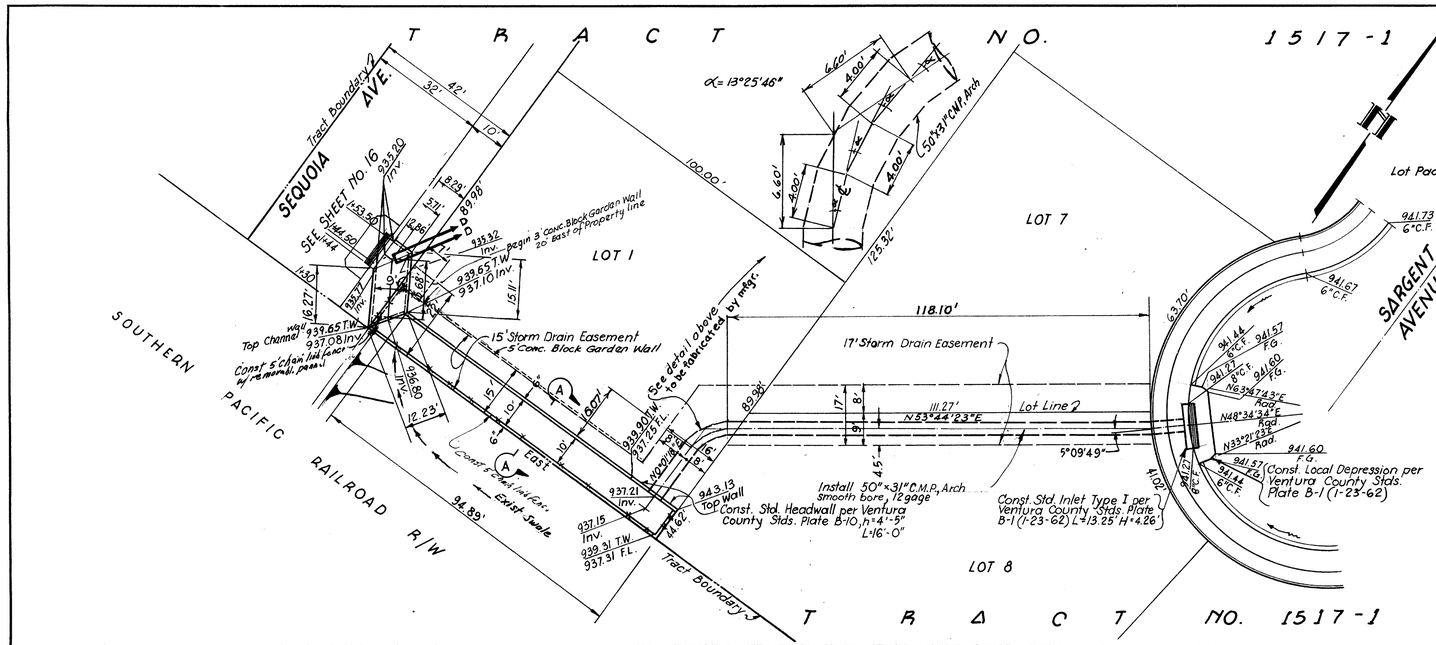
TITLE SHEET
OFF-SITE STORM DRAIN
TRACT NO. 1517-1

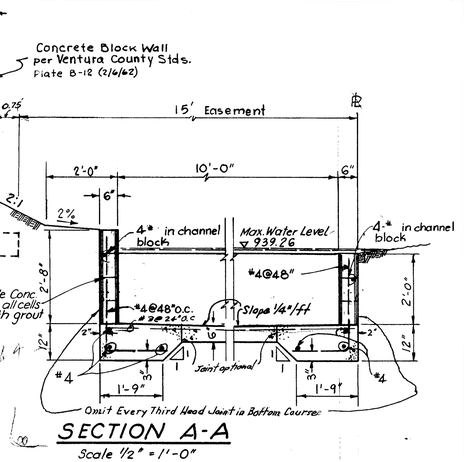
NO.	SHT. NO.	DESCRIPTION OF CHANGE	APPROVED	DATE
1		GRADE & SIZE OF PIPE	H. Nilmeier	10/16/64
2				
3				
4				
5				

SHT 1 OF 4

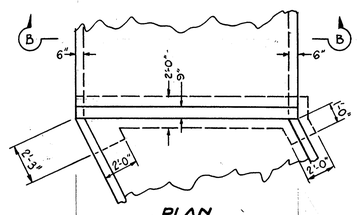
Ventura County Plan No.
40516 A

24-305

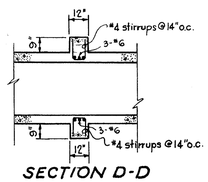




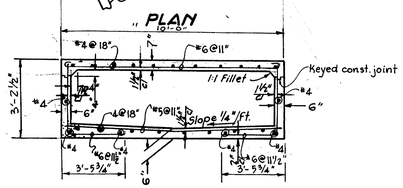
SECTION A-A
Scale 1/2" = 1'-0"



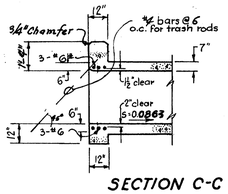
PLAN
10'-0"



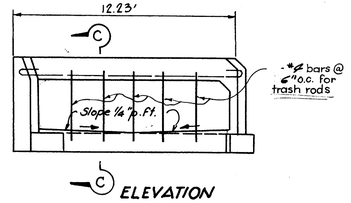
SECTION D-D



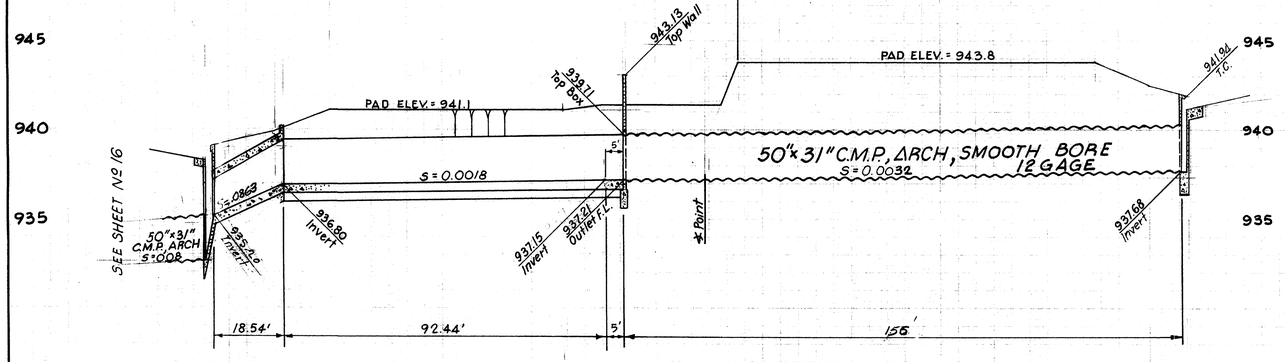
SECTION B-B



SECTION C-C



ELEVATION



PROFILE ALONG CENTERLINE OF STORM DRAIN

INLET STRUCTURE AT S.W. CORNER OF LOT 1
Scale: 1/4" = 1'-0"

AS BUILT
Nov. 1964

Prepared by C-S-T ENGINEERING COMPANY
5862 W. Pico Blvd., Los Angeles 19, Calif. WE 11023 and
One West Ventura Blvd., Thousand Oaks, Calif. 495-7029

Arthur G. Sherman — Date
REGISTERED CIVIL ENGINEER #10872
W.O. 1388-1 Design B.W. Drawn by C.E.M.

Approved: Chief, Subdivision Engineering, Ventura County
By: H.P. Nelsmeier 3-10-64 Date

PLAN AND PROFILE
STORM DRAIN DETAILS
TRACT NO. 1517-1

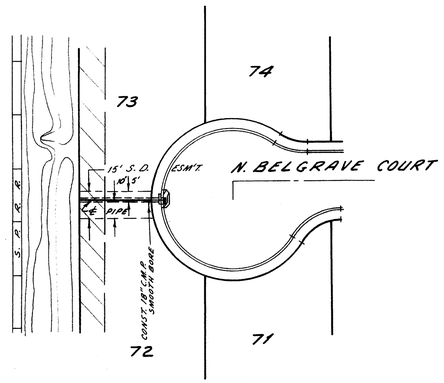
SCALE: Horiz 1"=20', Vert 1"=4'

NO.	SHT. NO.	DESCRIPTION OF CHANGE	APPROVED	DATE
1	18	C.B. Inverts	HPN	7-13-64
2				
3				
4				
5				

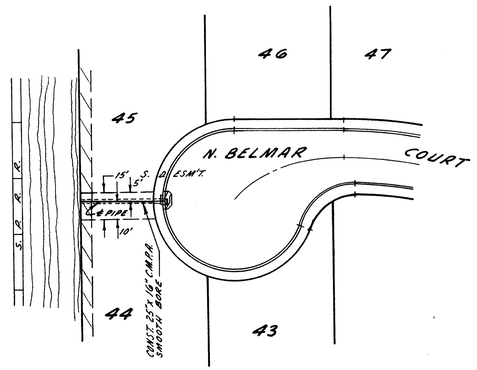
SHT 18
OF 19

Ventura County Plan No.
40517

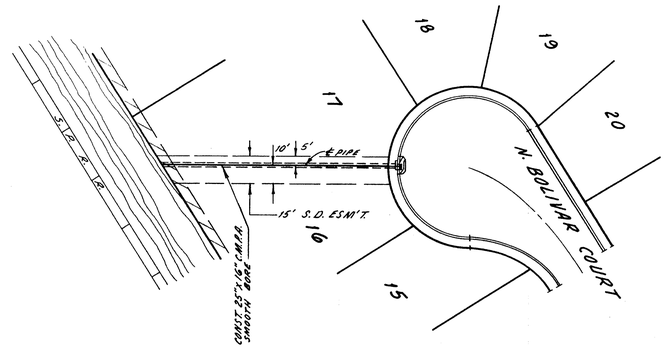
28-144



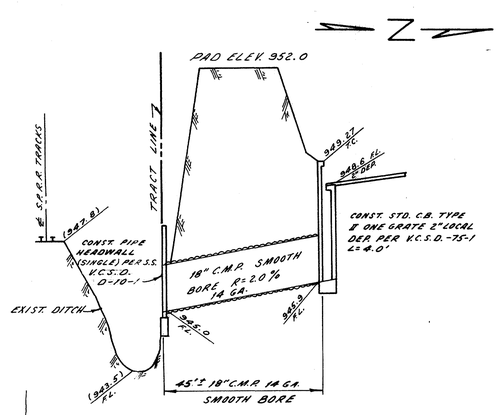
PLAN VIEW
SCALE: 1"=40'



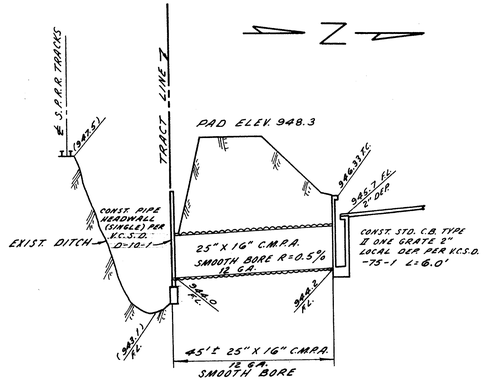
PLAN VIEW
SCALE: 1"=40'



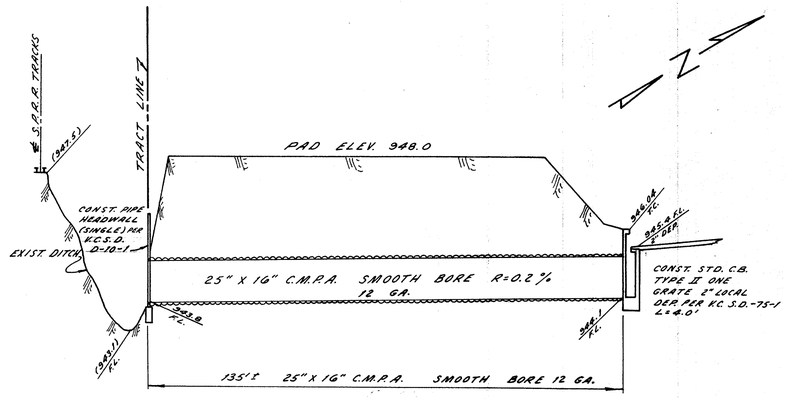
PLAN VIEW
SCALE: 1"=40'



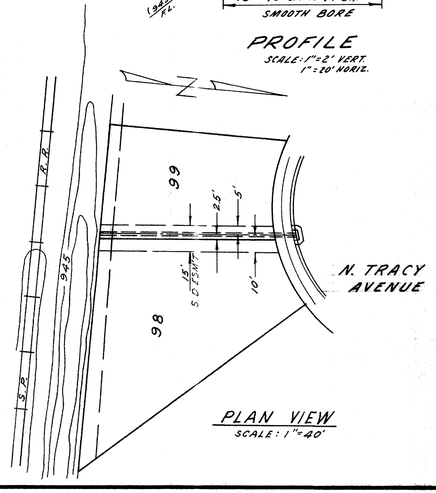
PROFILE
SCALE: 1"=2' VERT.
1"=20' HORIZ.



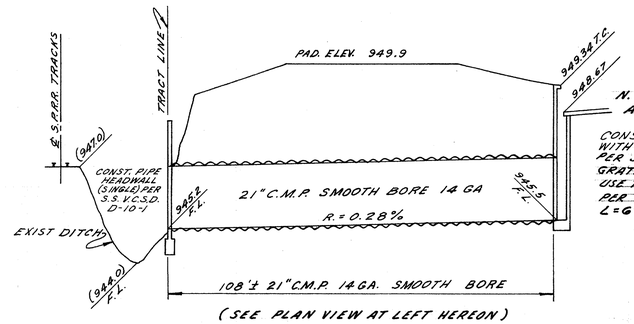
PROFILE
SCALE: 1"=2' VERT.
1"=20' HORIZ.



PROFILE
SCALE: 1"=2' VERT.
1"=20' HORIZ.



PLAN VIEW
SCALE: 1"=40'



(SEE PLAN VIEW AT LEFT HEREON)

PROFILE
SCALE: 1"=2' VERT.
1"=20' HORIZ.

NOTE: PIPE TO BE ASBESTOS BONDED UNLESS SOILS ANALYSIS STATES OTHERWISE

AS BUILT
FEB. 1970

REVISED STAGE GRADING NOTE & MISC. CHANGES & ADDITIONS	WJ			WJV	4-21 69
DESCRIPTION OF CHANGE	R.C.E. INITIAL	VENTURA COUNTY P.D.E. INITIAL	DATE	C.S.D.E. INITIAL	DATE

STORM DRAIN

TRACT NO. 2025-1

VENTURA COUNTY, CALIFORNIA

CHECKED VENTURA COUNTY

PROJECT DEVELOPMENT ENGINEER — DATE

PREPARED BY
JENNINGS · HANSEN ENGINEERING
VENTURA, CALIF.

REGISTERED CIVIL ENGINEER No. 12480 — 2/11/69 DATE

APPROVED VENTURA COUNTY
By _____ CHIEF SUBDIVISION ENGINEERING — 3/12/69 DATE

DESIGNED RFB | CHECKED | FILE 48704

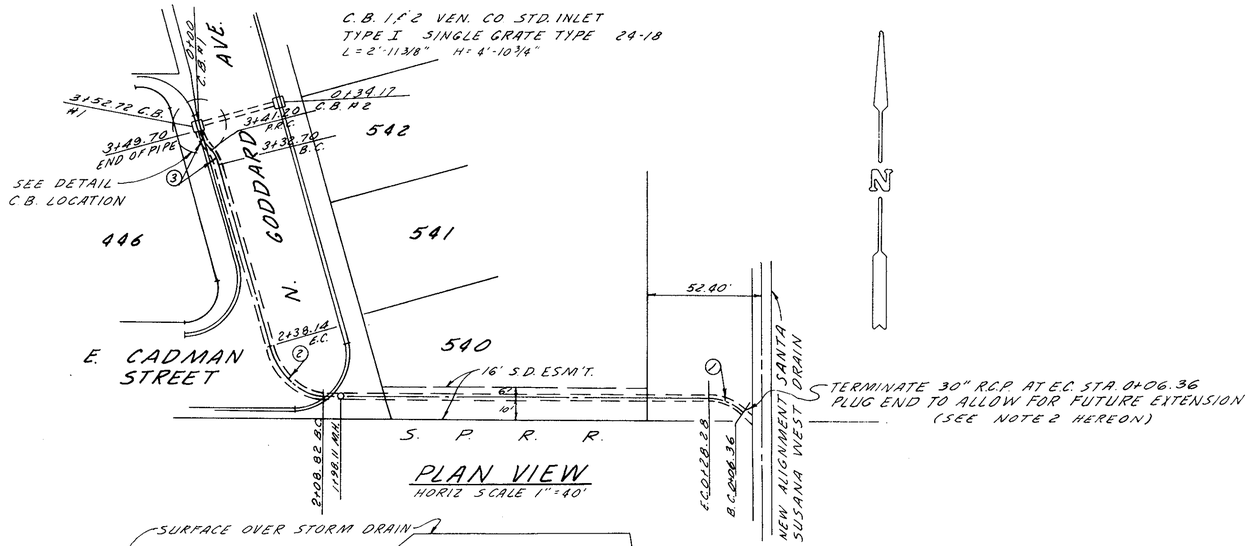
SHEET 17 OF 19 SHEETS

℄ CURVE DATA

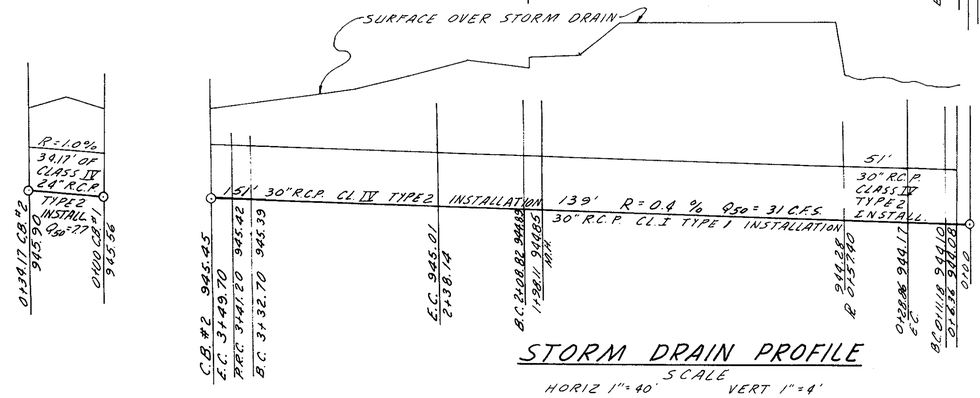
1 Δ = 45°01'26"
R = 22.50'
L = 17.68'
T = 9.32'

2 Δ = 74°40'33"
R = 22.50'
L = 29.32'
T = 17.16'

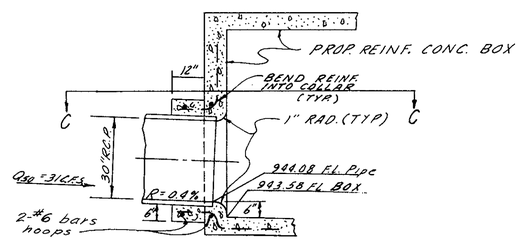
3 Δ = 21°38'07"
R = 22.50'
L = 8.50'
T = 4.30'



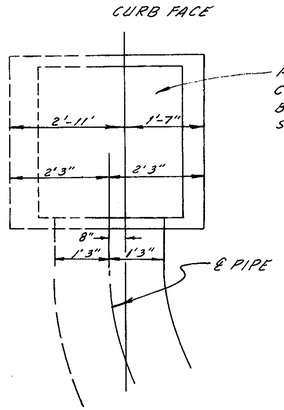
PLAN VIEW
HORIZ SCALE 1" = 40'



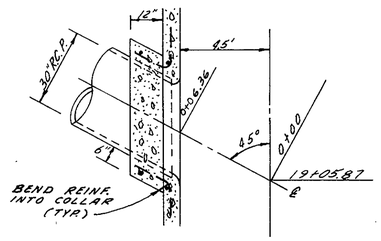
STORM DRAIN PROFILE
SCALE
HORIZ 1" = 40' VERT 1" = 4'



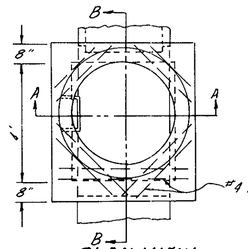
FUTURE JUNCTION WITH SANTA SUSANA WEST DRAIN
NOT TO SCALE



CATCH BASIN LOCATION
NOT TO SCALE

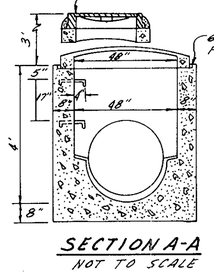


SECTION C-C
NOT TO SCALE

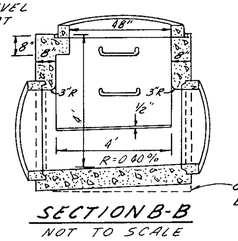


PLAN VIEW
NO SCALE

MANHOLE FRAME, WATER TIGHT COVER, (ALHAMBRA A 1264 B OR EQUAL)



SECTION A-A
NOT TO SCALE



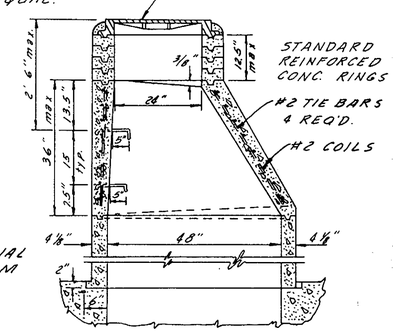
SECTION B-B
NOT TO SCALE

NOTE
1 CRADLE OF MANHOLE SHALL BE POURED IN ONE CONTINUOUS OPERATION EXCEPT THAT A CONST. JOINT WITH A LONGITUDINAL KEYWAY MAY BE PLACED AT THE SPRINGING LINE

2 ALL JOINTS SHALL BE FILLED WITH MORTAR AND NEATLY POINTED OR WIPED ON INSIDE OF SHAFT.

3 STEPS SHALL BE 3/4" DIA. GALVANIZED STEEL IMBEDDED 5" IN WALL. ALHAMBRA A-3320 OR EQUAL.

MANHOLE WATER TIGHT FRAME AND COVER ALHAMBRA A12648 OR APPROVED EQUAL.



SECTION MANHOLE
NOT TO SCALE

NOTE:
1. TO REMOVE EXIST. LINING, A SERIES OF HOLES SPACED 6" C.T.O C. SHALL BE DRILLED THROUGH WALL AT LIMITS OF WALL OPENING. OPENING TO BE A MAX. 2' GREATER THAN OUTSIDE DIAMETER OF PIPE.

2. CONNECTION OF 30" R.C.P. IS TO BE MADE TO SANTA SUSANE WEST DRAIN STRUCTURE AT TIME OF VENTURA COUNTY FLOOD CONTROL CONST. PROJECT. IF V.C.F.C.D. PROJECT IS DELAYED, CASH BOND TO GUARANTEE CONST. OF THE CONNECTION IS TO BE POSTED WITH VEN. CO. DEPT. OF PUB. WORKS BEFORE SUBDIVISION IMPUTS. ARE ACCEPTED.

STORM DRAIN

TRACT NO. 2025-5

VENTURA COUNTY, CALIFORNIA

#26 V.C.F.C.D. 8/7/69

CHECKED VENTURA COUNTY
PROJECT DEVELOPMENT ENGINEER — DATE 8/1/69

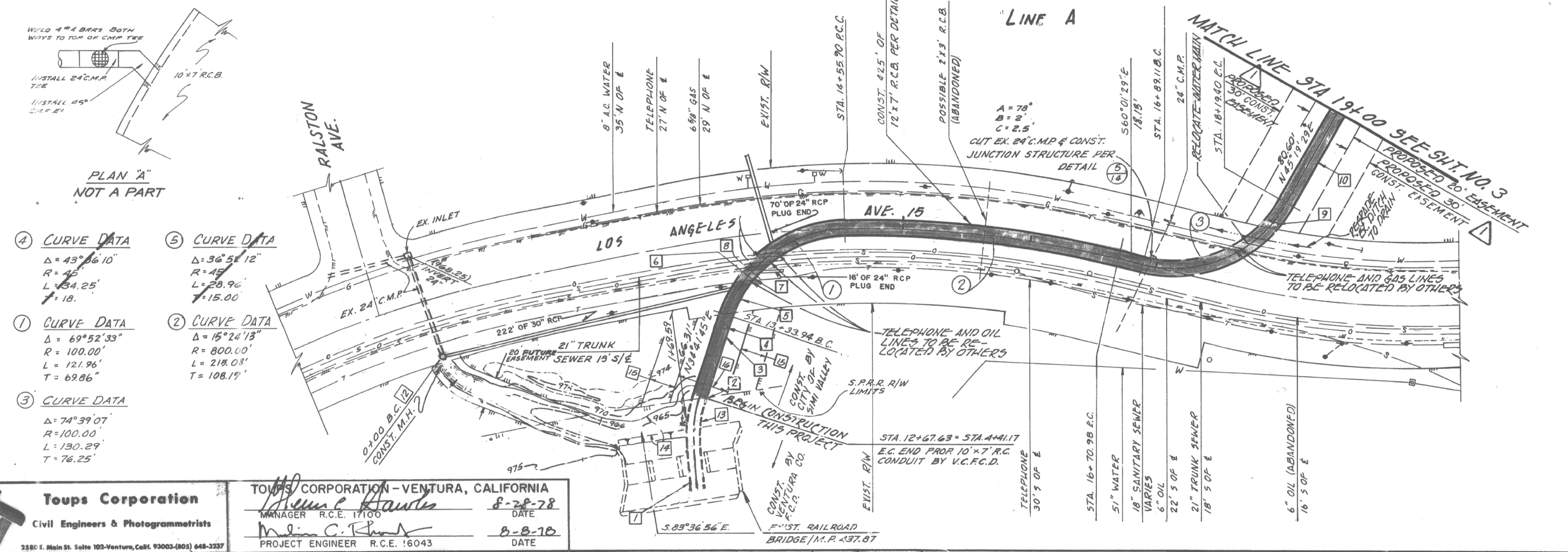
PREPARED BY
JENNINGS · HANSEN ENGINEERING
VENTURA, CALIF.
REGISTERED CIVIL ENGINEER No. 12460 — DATE 6/16/69

By ACTING CHIEF SUBDIVISION ENGINEERING — APPROVED VENTURA COUNTY — DATE 8/12/69

DESIGNED AM&C. CHECKED D.T.B

SHEET 24 OF 25 SHEETS

FILE 49189



④ CURVE DATA
Δ = 43°06'10"
R = 45
L = 34.25'
T = 18.

⑤ CURVE DATA
Δ = 36°52'12"
R = 45
L = 28.96'
T = 15.00

① CURVE DATA
Δ = 69°52'33"
R = 100.00'
L = 121.96'
T = 69.86'

② CURVE DATA
Δ = 15°24'13"
R = 800.00'
L = 218.03'
T = 108.19'

③ CURVE DATA
Δ = 74°39'07"
R = 100.00'
L = 130.29'
T = 76.25'

KEYED CONSTRUCTION NOTES:

1. EXIST. 10'x7' R.C.B. BY VENTURA COUNTY FLOOD CONTROL DISTRICT.
2. JOIN TO EXIST. 10'x7' R.C.B.
3. CONST. 57' OF 10'x7' R.C.B. PER DETAIL (5/13)
4. STA. 13+25.00 CONST. M.H. PER DETAIL (3/15)
5. CONST. 45' OF 10'x7' R.C.B. PER DETAIL (5/13)
6. STA. 13+70.00 BEGIN TRANSITION STRUCTURE
7. CONST. 5' TRANSITION STRUCTURE PER DETAIL (2/14)
8. STA. 13+75.00 END TRANSITION STRUCTURE
9. STA. 18+00.00 CONST. M.H. PER DETAIL (3/15)
10. CONST. 100' OF 12'x7' R.C.B. PER DETAIL (5/13)
11. ~~INSTALL 170' OF 24" C.M.P. 14 GAGE~~
12. ~~STA. 0+00 CONST. M.H. PER DETAIL (1/16) AND JOIN EX. 24" C.M.P.~~
13. STA. 12+36.46 CONST. CONCRETE PLUG AT EXIST. 2'x1' WINDOW IN SOUTHEAST CHANNEL WALL.
14. ~~FILL LIMITS: GRADE TO DRAIN TO CMP TEE INLET. SLOPE AT 2:1 TO JOIN EXISTING GROUND EXTERIOR OF THE RAILROAD BRIDGE.~~
15. PROPOSED 20' CONSTRUCTION EASEMENT.
16. PROPOSED 40' EASEMENT.

AS BUILT

Toups Corporation
Civil Engineers & Photogrammetrists
2580 E. Main St. Suite 102-Ventura, Calif. 93003-(805) 648-3237

TOUPS CORPORATION - VENTURA, CALIFORNIA

[signature] MANAGER R.C.E. 17100	8-28-78 DATE
[signature] PROJECT ENGINEER R.C.E. 16043	8-8-78 DATE

DESIGNED L.W.	CHECKED John Mundwat DATE 5-5-80
DRAWN B.S. D.Z.	APPROVED Ronald C. Coons DATE 5-6-80 CITY ENGINEER

NO.	REVISION	APPROVED BY	DATE
1	REVISED EASEMENT DIMENSIONS		5/20/80

Simi Valley
DEPARTMENT OF PUBLIC WORKS

STEARNS STREET STORM DRAIN
LINE A - STA. 12+67.63 TO STA. 19+00

SHEET NUMBER 2 OF 17

DRAWING NUMBER 78-0754

80-0130

L.A. AVE. TAPO CYN. RD. ROYAL AVE.

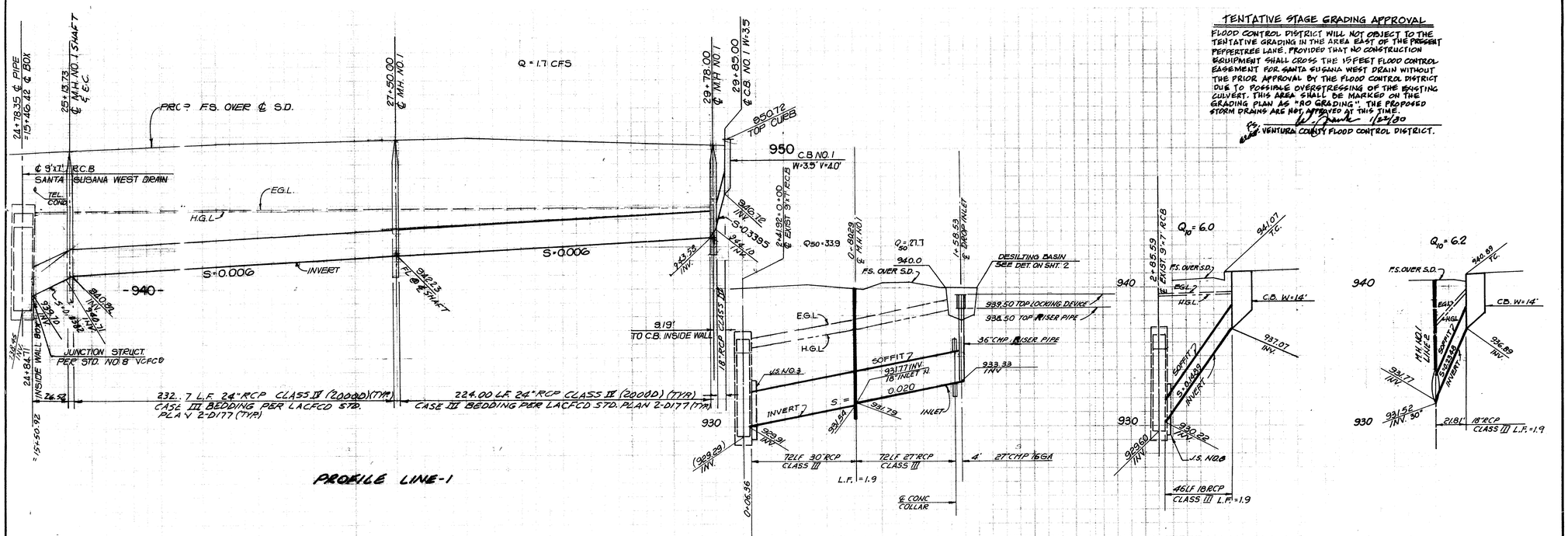
STORM DRAIN 11 OF 14

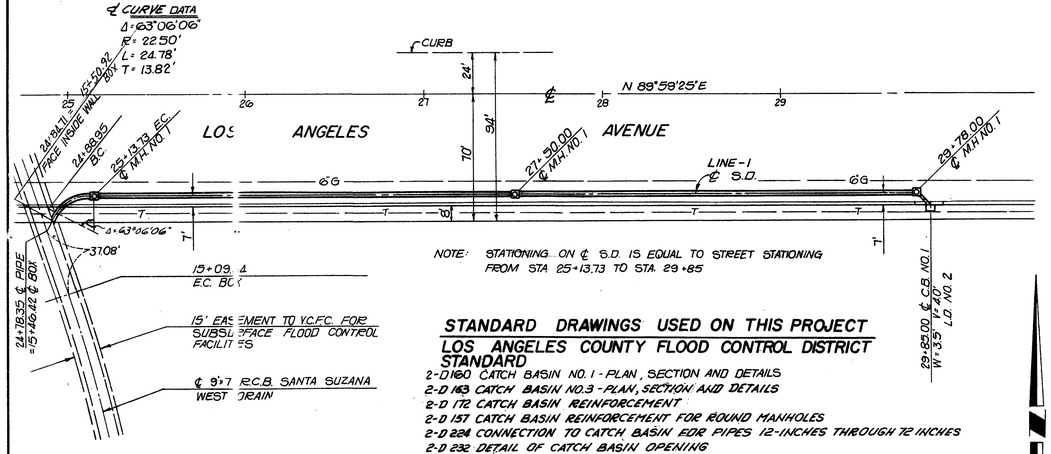
TENTATIVE STAGE GRADING APPROVAL

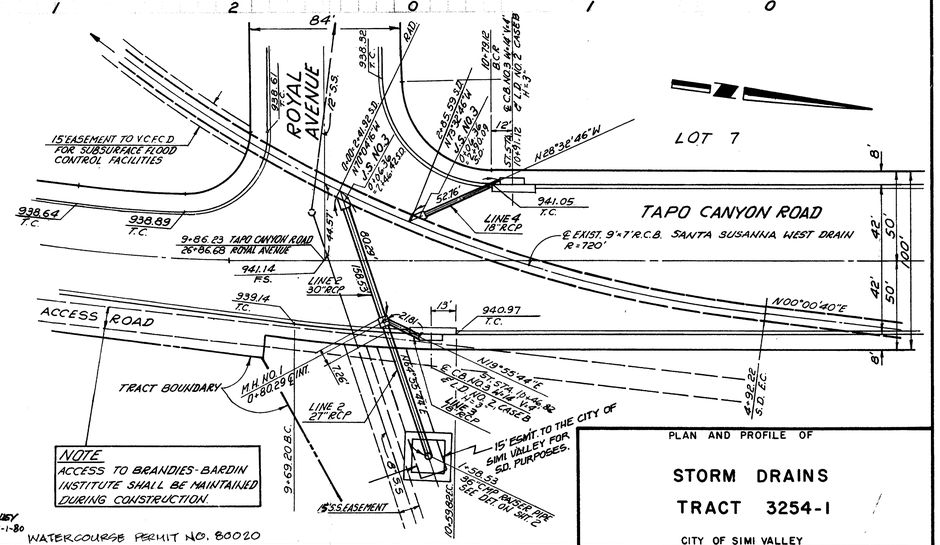
FLOOD CONTROL DISTRICT WILL NOT OBJECT TO THE TENTATIVE GRADING IN THE AREA EAST OF THE PRESENT PEPPERTREE LANE. PROVIDED THAT NO CONSTRUCTION EQUIPMENT SHALL CROSS THE 15 FEET FLOOD CONTROL EASEMENT FOR SANTA SUSANA WEST DRAIN WITHOUT THE PRIOR APPROVAL BY THE FLOOD CONTROL DISTRICT DUE TO POSSIBLE OVERSTRESSING OF THE EXISTING CULVERT. THIS AREA SHALL BE MARKED ON THE GRADING PLAN AS "NO GRADING". THE PROPOSED STORM DRAINS ARE NOT APPROVED AT THIS TIME.

BY: W. Frank 1/22/80

FOR: VENTURA COUNTY FLOOD CONTROL DISTRICT.







STANDARD DRAWINGS USED ON THIS PROJECT

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT STANDARD

2-D 160 CATCH BASIN NO. 1 - PLAN, SECTION AND DETAILS
2-D 163 CATCH BASIN NO. 3 - PLAN, SECTION AND DETAILS
2-D 172 CATCH BASIN REINFORCEMENT
2-D 157 CATCH BASIN REINFORCEMENT FOR ROUND MANHOLES
2-D 224 CONNECTION TO CATCH BASIN FOR PIPES 12-INCHES THROUGH 72 INCHES
2-D 232 DETAIL OF CATCH BASIN OPENING
2-D 88 LOCAL DEPRESSION NO. 2, CASE B
2-D 415 LOCAL DEPRESSION NO. 4
2-D 102 MANHOLE NO. 1 - PLAN, SECTION AND DETAIL
2-D 181 STANDARD NON-ROCKING MANHOLE FRAME & COVER
2-D 393 CONCRETE COLLAR FOR PIPES 12 INCHES THROUGH 66 INCHES
2-D 177 PIPE BEDDING IN TRENCHES (CASE III)
2-D 213.3 "D" LOAD TABLE FOR DESIGN OF RCP
2-D 191 JUNCTION STRUCTURE NO. 3 (AT MANHOLES)

AS BUILT
JULY 1981

HORIZ: 1" = 40'
VERT: 1" = 4'

APPROVED: CITY OF SIMI VALLEY 8-1-80

WATERCOURSE PERMIT NO. 80020

REVISION: LINE 1 RELOCATED, PLAN & PROFILE CHANGED Q'S FOR LINE 2 INCREASED. APPROVED BY W. Frank 7/30/80 V.C.F.C.D. DATE

REVIEWED BY: VENTURA COUNTY FLOOD CONTROL DISTRICT W. Frank 7/30/80 DATE

PREPARED BY: JOEL SILVERMAN & ASSOCIATES 13400 RIVERSIDE DRIVE SHERMAN OAKS, CAL. 91423
REGISTERED CIVIL ENGINEER NO. 25198 12-12-79 DATE

PLAN AND PROFILE OF

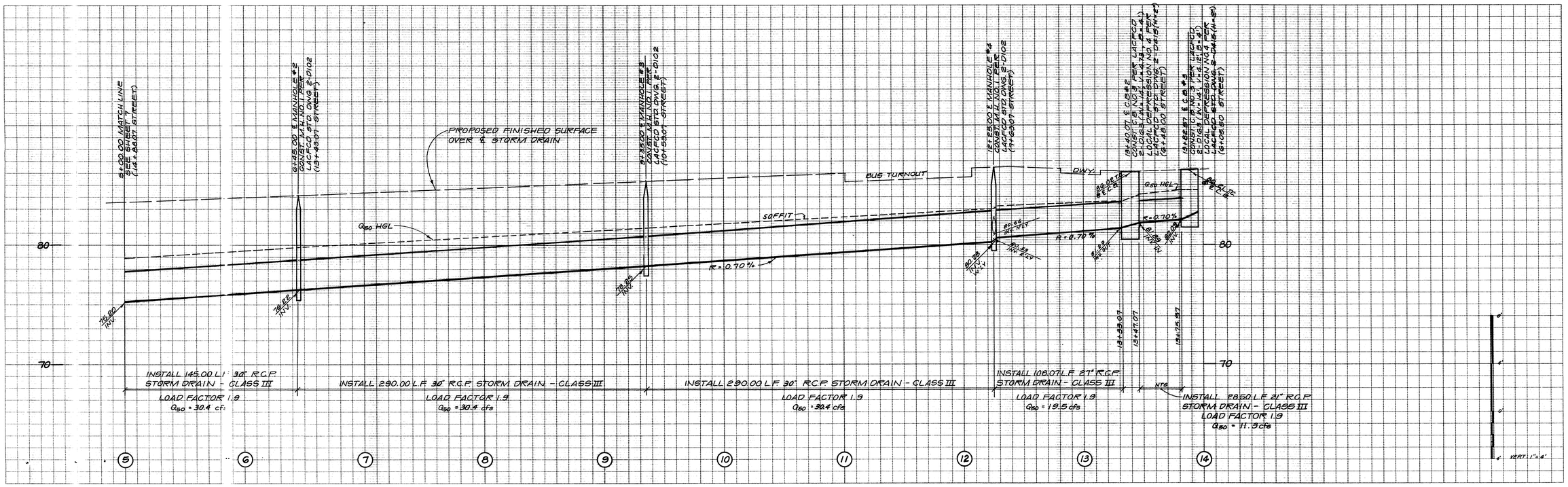
STORM DRAINS TRACT 3254-1

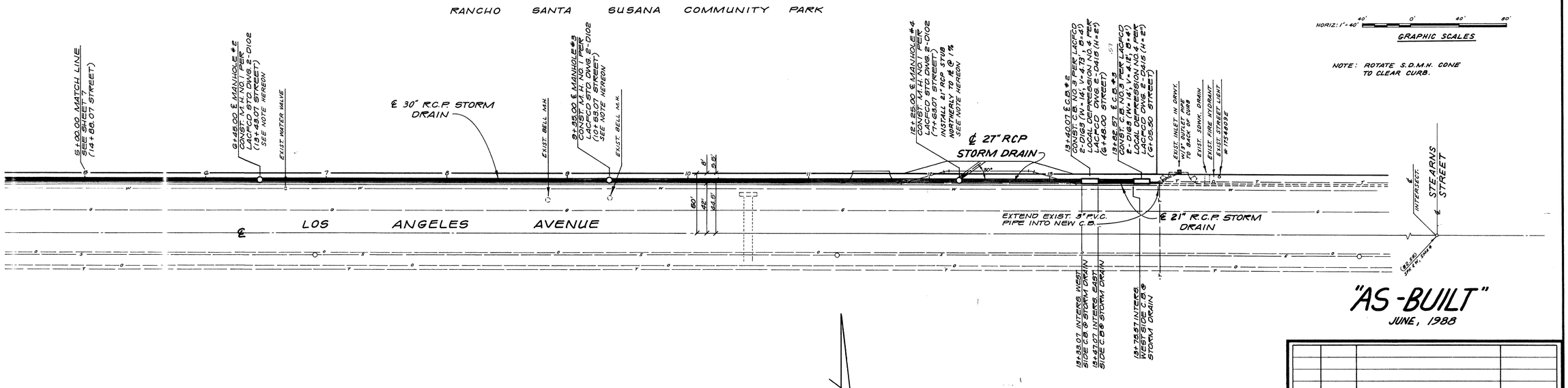
CITY OF SIMI VALLEY

APPROVED CITY OF SIMI VALLEY BY SUBDIVISION ENGINEER 1-25-80 DATE
CHECKED CITY OF SIMI VALLEY BY PROJECT DEVELOPMENT ENGINEER 1-25-80 DATE

SHEET 11 OF 14 FILE

CITY OF SIMI VALLEY DRAWING NO. 80-0130





"AS-BUILT"
JUNE, 1988

PLAN SCALE: 1" = 40'

CITY OF SIMI VALLEY
ACCEPTED BY:
Ronald R Coons 8-13-86
CITY ENGINEER DATE

CHECKED BY:
8/18/86
PROJECT DEVELOPMENT ENG'R DATE

REVIEWED BY:
8/19/86
SENIOR ENG'R, SUBDIVISIONS DATE

NO.	DATE	REVISION	BY

SHEET TITLE: PLAN & PROFILE
STORM DRAIN — LOS ANGELES AVENUE —
PROJECT: RANCHO SANTA SUSANA COMMUNITY PARK PD-S-526

PROJECT NO. 832-3
SCALE 1"=4' VERT. 1"=40' HORIZ.
DATE DEC. 1985
DRAWN BY ck
CHECKED BY R.O.L.
DRAWING NO.

LBH ENGINEERING COMPANY
P.O. BOX 479
SIMI VALLEY, CALIFORNIA 93062
(805) 522-1900
BY: Raymond D. Linaweaver R.C.E. 16649 4/14/86
RAYMOND D. LINAWEAVER (EXP. 6/30/89) DATE

8 OF 8 SHTS

CITY OF SIMI VALLEY DRWG. NO. 86-083 1-A

Mon Sep 28 06:58:48 1992 s2-t36b J:\PLOTS\QUEUES\T36B\CEDRNA.PRF

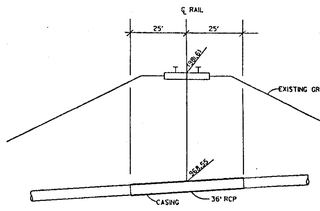
NOTE:

CONTROLgate shall be series 761 as manufactured by Rodnay Hunt Company or approved equal. Operating mechanism or stem is not required. Slide gate shall be permanently fixed in a partially open condition by stainless steel bolts as recommended by the manufacturer and approved by the Engineer. Design head shall be fifteen feet. All necessary attaching bolts and anchors bolts will be stainless steel. The guides shall be of extruded aluminum incorporating a dual slot design. The primary slot shall accept the plate of the disc and the secondary slot shall be sufficiently wide to accept the reinforcing ribs of the disc. The guides shall be designed for maximum rigidity, shall have a weight of not less than 3 lbs. per foot and shall be provided with holes for anchor bolts every 18 inches. The invert of the frame shall be an angle welded to the lower ends of the guides to form a seating surface for the resilient seal mounted on the disc.

The guides shall extend above the opening a sufficient distance to support the disc in the fully open position.

The disc or sliding member shall be of aluminum plate reinforced with "U" shaped aluminum extrusions welded to the plate not more than 16 inches apart. The disc shall not deflect more that 1/360 of the span of the gate under the design head. Reinforcing ribs shall extend into the guides so that they overlap the seating surface of the guide.

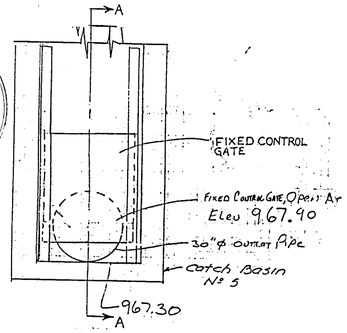
All parts of the gate shall have a minimum thickness 1/4".



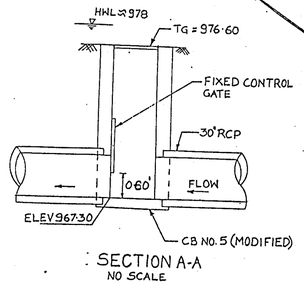
JACKING CULVERT UNDER EXISTING TRACK

REGISTERED PROFESSIONAL ENGINEER GEORGE T. BERG No. 16804 EXP. 6-30-93 CIVIL STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER WILLIAM ROBERTSON No. 047776 Exp. 12/31/95 CIVIL STATE OF CALIFORNIA



CONTROL GATE DETAILS
NO SCALE



SECTION A-A
NO SCALE

NOTE:

1. ALL MANHOLE COVERS SHALL HAVE CAST INTO THE LID 'CITY OF SIMI VALLEY'.
2. ALL RCP SHALL HAVE A DLOAD OF 2000.
3. CASING FOR THE JACKING CULVERT SHALL CONSIST OF STEEL WITH AN ADEQUATE THICKNESS TO SUPPORT ANTICPATED RAIL LOADS AS APPROVED BY THE ENGINEER. THE DIAMETER OF THE CASING SHALL BE OF SUFFICIENT SIZE TO READILY PASS THE OUTER DIAMETER OF 36" RCP.
4. VCFCD PERMIT IS LIMITED TO THE CONNECTION OF THE OUTLET AND PORTION OF THE STORM DRAIN WITHIN THE VCFCD R/W. OTHER REQUIREMENTS OF THE STORM DRAIN SHALL BE REVIEWED BY THE CITY OF SIMI VALLEY.

L.A. COUNTY FLOOD CONTROL DISTRICT
STANDARD PLANS

TITLE	DRAWING NO.
STANDARD DROP STEP	2-D96
STANDARD 24" MANHOLE FRAME & COVER	2-D156
CATCH BASIN NO.3	2-D163
CATCH BASIN NO.5	2-D164
CATCH BASIN REINFORCEMENT	2-D172
MANHOLE NO.2	2-D184
MANHOLE NO.4	2-D113
FRAME AND GRATE FOR CATCH BASINS	2-D227
LOCAL DEPRESSION	2-D415

VENTURA COUNTY FLOOD CONTROL DISTRICT
STANDARD PLANS
STANDARD DRAWING NO. 9

Reviewed By:
Ventura County Flood Control District
Encroachment/
Watercourse Permit EP #92133
By: Dolores B. Taylor Date: 10/5/92

SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY
COMMUTER RAIL DESIGN AND CONSTRUCTION

DE LEUW, CATHER & CO.
100 W. WALNUT STREET
PASADENA CALIF.
91124

GIVENS, SAIKI AND WILLIAMS
JENKINS, GALES & MARTINEZ, INC.
SANCHEZ, RAMPS & ASSOCIATES

SUBMITTED: _____ APPROVED: _____

CO. NO.	DESCRIPTION	PREP. BY	APPVD BY	DATE

ACCEPTED: CITY OF SIMI VALLEY
George T. Berg 9-29-92
CITY ENGINEER R.C.E. 16804 DATE

PREPARED BY: DE LEUW, CATHER & CO.
100 W. WALNUT STREET
PASADENA CALIF. 91124
R.C.E. 47775 EXP. DATE 28 Sept 92 DATE

Simi Valley
DEPARTMENT OF PUBLIC WORKS

REVIEWED: CITY OF SIMI VALLEY
PROJECT DEVELOPMENT ENGINEER
RECOMMENDED: CITY OF SIMI VALLEY
PRINCIPAL/SENIOR CIVIL ENGINEER
DATE 9-28-92

COMMUTER RAIL PROJECT
SIMI VALLEY STATION
DRAINAGE PLAN
SUP-S-402

SHEET NUMBER 8
DRAWING NUMBER 92-0287

C-12

Mon Sep 28 1992 s2-t36b J:\PLOTS\QUEUES\T36B\CEDRNA.PRF