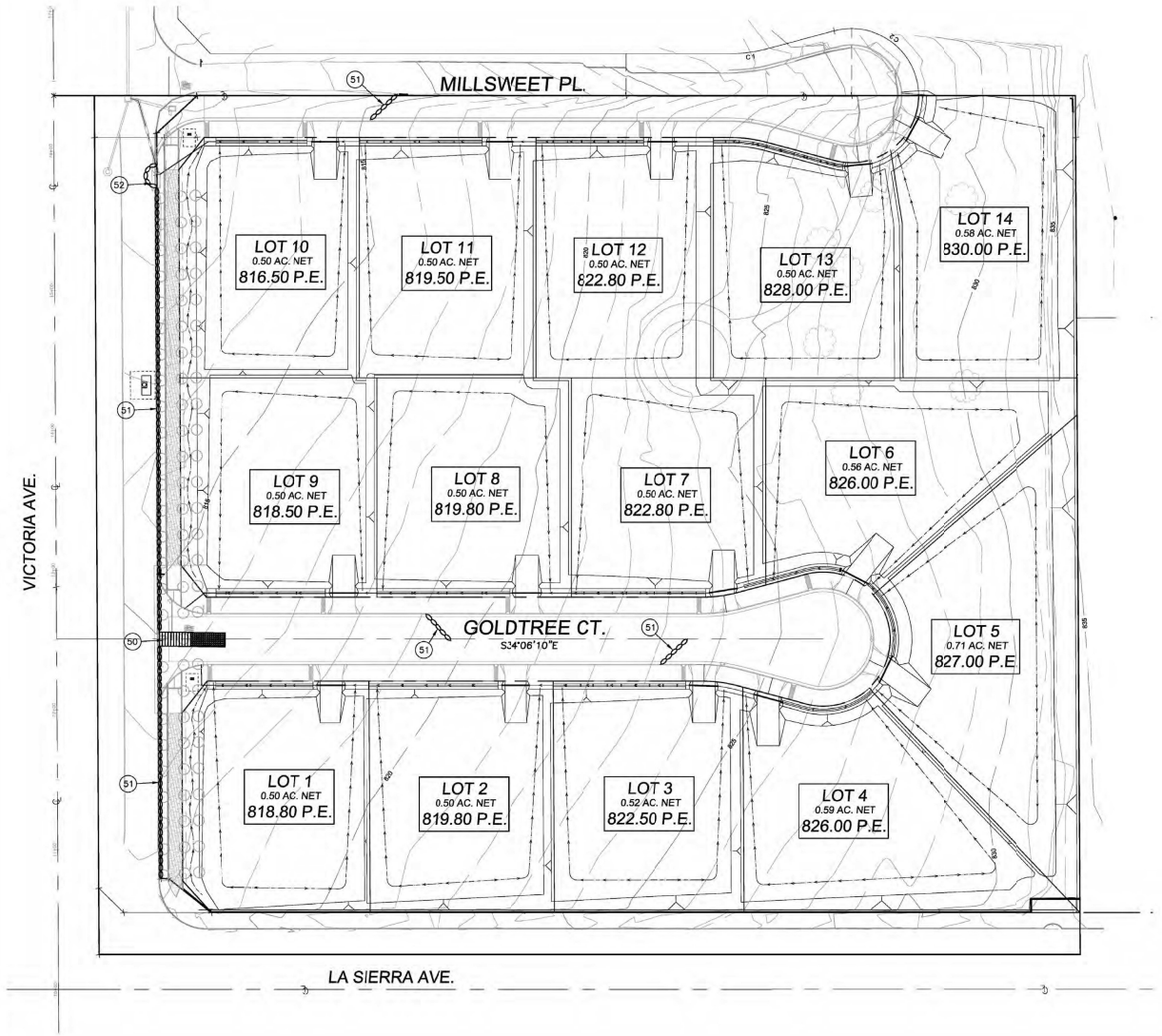



## EROSION CONTROL NOTES

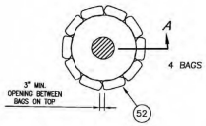
1. IN CASE OF EMERGENCY, CALL: HITESH PATEL
   WORK: (760) 963-3475
   EMAIL: _____
2. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON. NECESSARY MATERIALS SHALL BE AVAILABLE ON SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES WHEN RAIN IS IMMINENT.
3. DEVICES SHALL NOT BE MOVED OR MODIFIED WITHOUT THE APPROVAL OF THE ENGINEERING DEPARTMENT.
4. ALL REMOVABLE PROTECTIVE DEVICES SHOWN SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN THE 5-DAY RAIN PROBABILITY FORECAST EXCEEDS 40%.
5. AFTER A RAINSTORM, ALL SILT AND DEBRIS SHALL BE REMOVED FROM CHECK BERMS AND DESILTING BASINS, AND THE BASINS PUMPED DRY.
6. GRADED AREAS AROUND THE TRACT PERIMETER MUST DRAIN AWAY FROM THE FACE OF SLOPE AT THE CONCLUSION OF EACH WORKING DAY.
7. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATER CREATES A HAZARDOUS CONDITION.
8. GRAVEL BAG LAYOUT SHALL BE INSTALLED AS SHOWN PER PLAN OR AS DIRECTED BY THE CITY INSPECTOR.

## SITE PREPARATION:

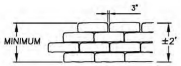
1 THE EMBANKMENT FOUNDATION AREA SHALL BE CLEARED OF ALL TREES, ROOTS, BRUSH, BOULDERS, SOD, AND DEBRIS.

2 ALL TOPSOIL CONTAINING EXCESSIVE AMOUNTS OF ORGANIC MATTER SHALL BE REMOVED.

3 ALL STORM DRAIN INLETS SHALL BE CAPPED AND/OR CATCH BASINS SHALL BE PROTECTED W/FILTER FABRIC HELD DOWN BY SANDBAGS AROUND BASINS.

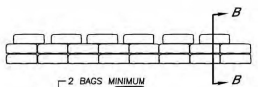



DETAIL "A"
N.T.S.




SECTION "A–A"
N.T.S.

GRAVELBAG DRAIN PROTECTION (52)
N.T.S.

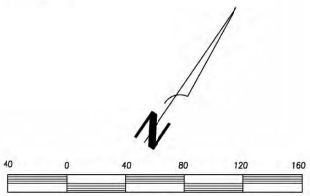



SECTION "B–B"
N.T.S.

GRAVELBAG INSTALLATION (51)
N.T.S.

## CONSTRUCTION NOTES:

(50) – CONST. STABILIZED ENTRANCE PER DETAIL ON SHT. 5
(51) – INSTALL GRAVEL BAGS PER DETAIL HEREON
(52) – INSTALL GRAVELBAG DRAIN PROTECTION PER DETAIL HEREON




SCALE: 1"=40'

DIG ALERT
TOLL FREE
1-800-227-2600
48 HOURS BEFORE YOU DIG

**BENCHMARK:**

CITY OF RIVERSIDE BM# E2P2; CHISEL SQUARE IN TOP CORB AT THE SE CORNER OF INDIANA AVE. & FILLMORE ST.

ELEV = 738.41'

CITY OF RIVERSIDE, CALIFORNIA
PLANNING DIVISION
APPROVED BY
DATE

CITY OF RIVERSIDE BUSINESS TAX ACCOUNT #74172 EXP. 7/30/18

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400 S. RAMONA AVE., STE. 202
CORONA, CALIFORNIA 92879
(951) 279-4041 FAX: (951) 279-2830

REGISTERED PROFESSIONAL ENGINEER
SAM AKBARPOUR
C053038
CIVIL
STATE OF CALIFORNIA

R.C.E. No. DATE

| MARK | REVISIONS | APPROVED | DATE |
|---|---|---|---|

WDID #8 33C379764

PW17-0496

EROSION CONTROL PLAN
TRACT 37764

| | | | |
|---|---|---|---|
| SCALE: 1"=40' | DRAWN: RL | CITY OF RIVERSIDE | |
| DATE: 7-9-2019 | DESIGNED: RL | DEPARTMENT OF PUBLIC WORKS | |
| JOB NO.: JN3053 | CHECKED: SA | W | |
| CASE NO. XX-X M.P. X | 520-769200-470701 | SHEET 4 of 5 | |

PR-2024-001656 (TM) Exhibit B - MND and Technical Studies

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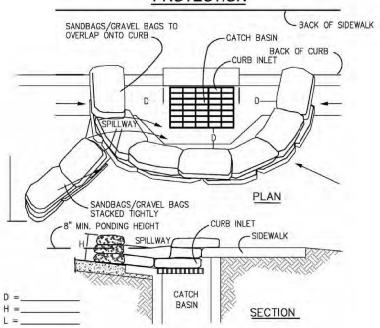
## A
### CATCH BASIN/INLET PROTECTION




NOTES:

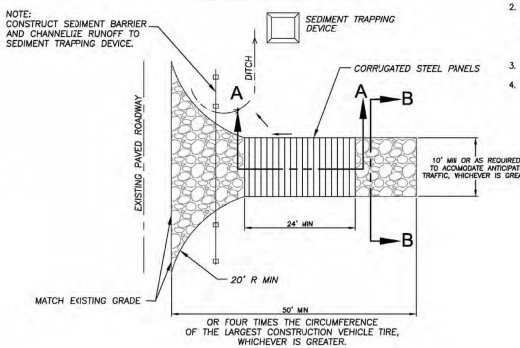
1. CATCH BASIN/INLET PROTECTION SHALL BE INSTALLED WHEREVER THERE IS A POTENTIAL OF STORMWATER OR NON-STORMWATER BEING DISCHARGED INTO IT.
2. INLET PROTECTION IS REQUIRED ALONG WITH OTHER POLLUTION PREVENTION MEASURES SUCH AS; EROSION CONTROL, SOIL STABILIZATION, AND MEASURES TO PREVENT TRACKING ONTO PAVED SURFACES.
3. MODIFY INLET PROTECTION AS NEEDED TO AVOID CREATING TRAFFIC HAZARDS.
4. INCLUDE INLET PROTECTION MEASURES AT HILLSIDE V-DITCHES AND MISC. DRAINAGE SWALES.
5. INLET PROTECTION SHALL BE INSPECTED AND ACCUMULATED SEDIMENTS REMOVED. SEDIMENT SHALL BE DISPOSED OF PROPERLY AND IN A MANNER THAT ASSURES THAT THE SEDIMENT DOES NOT ENTER THE STORM DRAIN SYSTEM
6. DAMAGED BAGS SHALL BE REPLACED IMMEDIATELY.
7. ADDITIONAL SANDBAG SEDIMENT TRAPS SHALL BE PLACED AT INTERVALS AS INDICATED ON SITE PLAN.

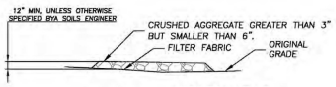
## B
### CONCRETE WASTE MANAGEMENT


NOTES:

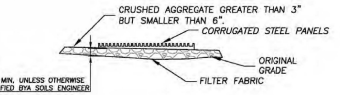
1. EXCESS AND WASTE CONCRETE SHALL NOT BE WASHED INTO THE STREET OR INTO A DRAINAGE SYSTEM.
2. FOR WASHOUT OF CONCRETE AND MORTAR PRODUCTS, A DESIGNATED CONTAINMENT FACILITY OF SUFFICIENT CAPACITY TO RETAIN LIQUID AND SOLID WASTE SHALL BE PROVIDED ON SITE.
3. SLURRY FROM CONCRETE AND ASPHALT SAW CUTTING SHALL BE VACUUMED OR CONTAINED, DRIED, PICKED UP AND DISPOSED OF PROPERLY.

## C
### STABILIZED CONSTRUCTION ENTRANCE / EXIT TC1




SECTION B–B
N.T.S.




SECTION A–A
N.T.S.

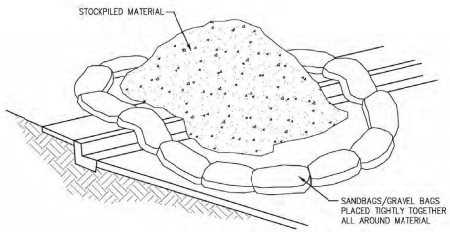
NOTES:

1. SEDIMENTS AND OTHER MATERIALS SHALL NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS SHALL BE STABILIZED SO AS TO PREVENT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC ROADS. DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS INTO THE STORM DRAIN SYSTEM.
2. STABILIZED CONSTRUCTION ENTRANCE SHALL BE:
   A. LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM A PUBLIC RIGHT OF WAY, STREET, ALLEY, AND SIDEWALK OR PARKING AREA.
   B. A SERIES OF STEEL PLATES WITH "RUMBLE STRIPS", AND/OR MIN 4" COARSE AGGREGATE WITH LENGTH, WIDTH & THICKNESS AS NEEDED TO ADEQUATELY PREVENT ANY TRACKING ONTO PAVED SURFACES.
3. ADDING A WASH RACK WITH A SEDIMENT TRAP LARGE ENOUGH TO COLLECT ALL WASH WATER CAN GREATLY IMPROVE EFFICIENCY.
4. ALL VEHICLES ACCESSING THE CONSTRUCTION SITE SHALL UTILIZE THE STABILIZED CONSTRUCTION ENTRANCE SITES.

### STREET MAINTENANCE

1. REMOVE ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS IMMEDIATELY.
2. SWEEP PAVED AREAS THAT RECEIVE CONSTRUCTION TRAFFIC WHENEVER SEDIMENT BECOMES VISIBLE.
3. PAVEMENT WASHING WITH WATER IS PROHIBITED IF IT RESULTS IN A DISCHARGE TO THE STORM DRAIN SYSTEM.

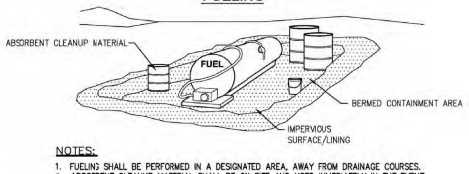
## D
### MATERIAL STORAGE




NOTES:

1. DIRT AND OTHER CONSTRUCTION RELATED MATERIALS PLACED IN THE STREET OR ON OTHER IMPERVIOUS SURFACES MUST BE CONTAINED WITH SANDBAGS OR OTHER MEASURES TO PREVENT TRANSPORT TO THE STORMDRAIN SYSTEM.
2. ANY CONSTRUCTION MATERIAL STORED OR STOCKPILED ON-SITE SHALL BE PROTECTED FROM BEING TRANSPORTED BY THE FORCE OF WIND OR WATER.

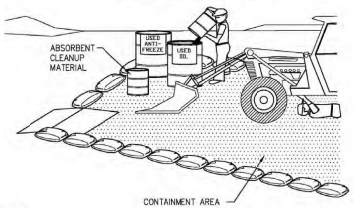
## E
### VEHICLE/EQUIPMENT FUELING




NOTES:

1. FUELING SHALL BE PERFORMED IN A DESIGNATED AREA, AWAY FROM DRAINAGE COURSES.
2. ABSORBENT CLEANUP MATERIAL SHALL BE ON SITE AND USED IMMEDIATELY IN THE EVENT OF A SPILL.

## F
### EQUIPMENT REPAIR/MAINTENANCE




NOTES:

1. LEAKING VEHICLES AND EQUIPMENT SHALL NOT BE ALLOWED ON-SITE. EQUIPMENT AND VEHICLES SHALL BE INSPECTED FREQUENTLY FOR LEAKS AND SHALL BE REPAIRED IMMEDIATELY. CLEAN UP SPILLS AND LEAKS PROMPTLY WITH ABSORBENT MATERIALS; DO NOT FLUSH WITH WATER.
2. VEHICLES AND EQUIPMENT SHALL BE MAINTAINED, AND REPAIRED ON-SITE ONLY IN DESIGNATED AREAS. PREVENT RUN-ON AND RUN-OFF FROM DESIGNATED AREAS. CONTAINMENT DEVICES SHALL BE PROVIDED AND AREAS SHALL BE COVERED IF NECESSARY.
3. DESIGNATE ON-SITE VEHICLE AND EQUIPMENT MAINTENANCE AREAS, AWAY FROM STORM DRAIN INLETS AND WATERCOURSES.
4. ALWAYS USE SECONDARY CONTAINMENT, SUCH AS A DRAIN PAN OR DROP CLOTH, TO CATCH SPILLS AND LEAKS WHEN REMOVING OR CHANGING FLUIDS.
5. LEGALLY DISPOSE OF USED OILS, FLUIDS, AND LUBRICANTS.
6. PROVIDE SPILL CONTAINMENT DIKES OR SECONDARY CONTAINMENT AROUND STORED OIL, FUEL, AND CHEMICAL DRUMS.
7. MAINTAIN AN ADEQUATE SUPPLY OF ABSORBENT SPILL CLEANUP MATERIALS IN DESIGNATED AREA.

## STORMWATER POLLUTION CONTROL PLAN

### GENERAL NOTES

1. BEST MANAGEMENT PRACTICES (BMP'S) CONTAINED HEREIN REFLECT MINIMUM REQUIREMENTS. FOR ADDITIONAL BMP'S REFER TO CALIFORNIA STORMWATER BMP HANDBOOKS.
2. ALL CONSTRUCTION ACTIVITY SHALL BE PERFORMED IN ACCORDANCE WITH A STORMWATER POLLUTION CONTROL PLAN (SWPCP) DEVELOPED AND IMPLEMENTED IN COMPLIANCE WITH REQUIREMENTS OF THE ORANGE COUNTYWIDE STORMWATER QUALITY MANAGEMENT PROGRAM, NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT NO. _____
3. THE SWPCP SHALL:
   A. IDENTIFY POTENTIAL POLLUTANT SOURCES AND INCLUDE THE DESIGN AND PLACEMENT OF BMP'S TO EFFECTIVELY PROHIBIT THE ENTRY OF POLLUTANTS FROM THE CONSTRUCTION SITE INTO AND ONTO THE STREET AND STORM DRAIN SYSTEM DURING CONSTRUCTION.
   B. BE KEPT ON SITE AND AMENDED TO REFLECT CHANGING CONDITIONS THROUGHOUT THE COARSE OF CONSTRUCTION.
   C. BE KEPT UP TO DATE. ANY ADDITIONAL UPDATES REQUESTED BY AGENCY REPRESENTATIVES ARE TO BE MADE IMMEDIATELY.
4. NON-STORMWATER DISCHARGES ARE PROHIBITED FROM ENTERING ANY STORM DRAIN SYSTEM AND/OR STREET.
5. DISCHARGES OF PUMPED GROUND WATER REQUIRE A DISCHARGE PERMIT FROM THE STATE OF CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD (RWQCB).
6. POLLUTANTS SHALL BE REMOVED FROM STORMWATER DISCHARGES TO THE MAXIMUM EXTENT PRACTICABLE (MEP) THROUGH DESIGN & IMPLEMENTATION OF THE SWPCP.
7. A STANDBY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON (NOV. 1 TO APR. 15). NECESSARY MATERIALS SHALL BE AVAILABLE ON SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF EMERGENCY DEVICES WHEN RAIN IS IMMINENT.
8. PORTABLE SANITARY FACILITIES SHALL BE LOCATED ON RELATIVELY LEVEL GROUND AWAY FROM TRAFFIC AREAS, DRAINAGE COURSES, AND STORM DRAIN INLETS.
9. EMPLOYEES, SUBCONTRACTORS AND SUPPLIERS SHALL BE EDUCATED ON ALL BMP'S INCLUDING CONCRETE WASTE STORAGE AND DISPOSAL PROCEDURES.
10. SEDIMENT CONTROL PRACTICES SHALL EFFECTIVELY PREVENT A NET INCREASE OF SEDIMENT LOAD IN STORMWATER DISCHARGE.

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1-800-227-2600
48 HOURS BEFORE YOU DIG

CITY OF RIVERSIDE BUSINESS TAX ACCOUNT #74172 EXP. 7/30/18

CITY OF RIVERSIDE, CALIFORNIA
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(951) 279-4041 FAX: (951) 279-2830

REGISTERED PROFESSIONAL ENGINEER
SAM AKBARPOUR
C053038
CIVIL
STATE OF CALIFORNIA
R.C.E. No. DATE

| MARK | REVISIONS | APPROVED | DATE |
|---|---|---|---|

WDID #8 33C379764

PW17-0496

BEST MANAGEMENT PRACTICE
TRACT 37764

SCALE: 1"=40' | DRAWN: RL
DATE: 7-9-2019 | DESIGNED: RL
JOB NO.: JN3053 | CHECKED: SA
CASE NO. XX-X M.P. X 520-769200-470701

CITY OF RIVERSIDE
DEPARTMENT OF PUBLIC UTILITIES
W
SHEET 5 of 5

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# Kevin Ballesteros | Phase I Project Manager

*5261 West Imperial Highway, Los Angeles, California 90045* *301-854-6300*
*Kevin.Ballesteros@efiglobal.com*

## Professional Summary:

Mr. Ballesteros has been in the environmental industry since 2016. Mr. Ballesteros started his career in the environmental industry researching human impacts on climate change using remote sensing technologies. Currently, Mr. Ballesteros conducts historical research and works with regulatory bodies to investigate historical and current uses of properties as part of the Phase I Environmental Site Assessment. Mr. Ballesteros's experience includes management of all stages of environmental projects including Phase I Environmental Site Assessments, Transaction Screen Assessments, and Database Reviews.

## Licenses and Certifications:

OSHA 40-Hour Hazardous Waste Operations Certified, Safety Unlimited, CA #1605141167706

State of California Department of Public Health Lead-Related Construction Certificate ID#32017

## Project Experience:

*Phase I ESA at Montclair, California* - Served as the Project Manager of a Phase I ESA for the entire 60-acre Montclair Plaza Shopping Mall, with several closed unauthorized release cases. This site included retail shops, offices, restaurants, a former automotive repair facility, and two former gasoline service stations. After extensive historical and regulatory agency research, EFI Global, Inc. was able to determine several concerns for the subject property which included: lack of removal and sampling associated with the first generation underground storage tanks of one of the former gasoline station operation, a former dry cleaners operated inside the mall, another automotive repair facility occupied the site, and lack of sampling performed on the automotive repair facility. EFI Global, Inc. was able to advise the property owner of the aforementioned concerns and that additional investigations were warranted prior to redevelopment of the site.

*Phase I ESA at Vernon,* California - Served as the Project Manager of a Phase I ESA for a vacant industrial property with a closed unauthorized release case issued by the City of Vernon, which was formerly part of a larger plastic bottle manufacturing operation. The former industrial facility had undergone numerous subsurface assessments and remedial cleanups dating back to 2008. Thorough historical and regulatory agency research indicated that one 10,000-gallon underground storage tank of unknown content was installed on the subject property. EFI Global, Inc. was able to advise the property buyer that the lack of documentation regarding the removal or sampling of the underground storage tanks was a concern and additional remediation work was warranted prior to redevelopment of the site.

*Phase I ESA at Whittier, California* - Served as the Project Manager of a Phase I ESA for a car wash and automotive repair facility, with former gasoline service station operations and a closed unauthorized release case. During initial project set up and conversations with the property owner during the site reconnaissance, it was believed that no concerns existed on the property. However, historical and regulatory agency research revealed that the property was occupied with four generations of gasoline stations. EFI Global, Inc. was able to advise the property owner that the lack of documentation

regarding the removal or sampling associated with the early generation underground storage tanks at the former gasoline stations were concerns and additional investigations was warranted at the time.

## Professional Experience:

Andersen Environmental an EFI Global company, Los Angeles, CA, Environmental Specialist, 2016 – Present

University of California Los Angeles Institute of the Environmental and Sustainability, Los Angeles, CA, Research Assistant 2013 – 2015

## Specialized Education:

Bachelor's Degree in Environmental Studies, University of California Los Angeles, Los Angeles, CA, 2015

## References:

Nicole Rivera - EFI Global, Inc. - 5261 West Imperial Highway, Los Angeles, CA 90045 - 310.854.6300

Matthew Rodda - EFI Global, Inc. - 5261 West Imperial Highway, Los Angeles, CA 90045 - 310.854.6300

# Raul Gaina | Project Manager, Certification

*5261 West Imperial Highway, Los Angeles, California 90045* *(310) 854-6300*
*Raul_Gaina@efiglobal.com*

## Professional Summary:

Raul Gaina has been engaged in the environmental sector since 2013 with experience in environmental consulting, environmental fieldwork, environmental education, environmental remediation, and water/wastewater treatment. Mr. Gaina has worked directly with clients and regulatory bodies to investigate historical and current site use and help clients achieve compliance with federal regulations for residential and commercial properties. Mr. Gaina's experience includes management of all stages of environmental projects including Phase I Environmental Site Assessments, Transaction Screen Assessments, and Database Reviews. In addition, Mr. Gaina has provided project oversight of various stages of site characterization and remediation projects including, soil investigation, groundwater monitoring well installation, monitoring well, and underground storage tank abandonment.

## Licenses and Certifications:

Engineer in Training (EIT), Board for Professional Engineers, Land Surveyors, and Geologists Certificate No. 479387

OSHA 40-Hour Hazardous Waste Operations and Emergency Response Certified, Safety Unlimited, California, Certificate No. 1703145194159

## Project Experience:

JP Morgan Chase Bank, N.A., Dallas, Tx
Phase I Environmental Site Assessment - Henderson, Nevada
Served as the Project Manager of a Phase I ESA for a commercial unit located within larger industrial park. During initial project set up, only the existing subject property address was identified and researched, which did not reveal any items of concern. However, during our site reconnaissance, a groundwater monitoring well was observed within the parking lot area of the subject property, which is indicative of a potential impacted resources at the subject property. Additional historical aerial photograph research revealed that prior to the current development, the subject property and immediately surrounding areas were formerly part of a larger industrial complex with multiple building and above ground storage tanks. After consulting with multiple regulatory agencies, including the Nevada Department of Environmental Protection (NDEP), it was determined that the historical facility was a former manufacturer of ammonium perchlorate – an oxidizer used as a component of solid propellant for rocket fuel. An explosion which destroyed the facility in 1988 resulted in an unauthorized release of perchlorate which impacted groundwater at the subject property and immediately surrounding areas. EFI Global reviewed multiple records, incident reports, correspondence, newspaper clippings, and groundwater monitoring reports on file at the NDEP, Southern Nevada Health Department (SNHD), and Clark County Department of Air Quality (CCDAQ). Based on information obtained from the most recent groundwater monitoring report, EFI Global determined that the concentrations of perchlorate at the subject property were above regulatory standards, which

constituted a Recognized Environmental Condition. However, based on the identification of the responsible party, ongoing remediation activities under the jurisdiction of the NDEP, and low potential for threat to human health due to confinement of the contamination to the groundwater, no further environmental investigation was recommended, and the client was solely advised to continue to adhere to NDEP recommendations and guidance until regulatory closure is obtained.

Pacific Premier Bank, Irvine, California
Phase I Environmental Site Assessment - Westminster, California
Served as the Project Manager for Phase I ESAs for two multi-tenant auto repair facilities. The facilities were both built in the 1960s and have been used for machine shop, spray painting, and auto repair purposes through the present. No records indicating tenants names, property usage, and/or hazardous materials records were available for the properties for the period 1960-1990. Based on the potential use of chlorinated solvents / petroleum hydrocarbons, and storage/handling of hazardous materials, the historical industrial shop, machine shop, and auto repair operations during a period of less stringent regulatory oversight (1965-1990). Additionally, EFI Global determined that an unauthorized release of petroleum hydrocarbons was reported at an adjoining property which bounded both sites. Upon review of the regulatory agency records, it was determined that the contamination on the adjoining site was concentrated in the vicinity of only one of the subject properties and had the potential of only impacting this site. By going above and beyond, review multiple groundwater, sampling, and remediation reports for adjoining properties, EFI Global was able to advise the client of the need to assess the potential impact from this adjoining site to only one of the subject properties instead of both.

## Professional Experience:

EFI Global, Inc., Phase I Project Manager, 2017 – present
Smith-Emery GeoServices, Phase I and Phase II Project Manager, 2015 – 2017
Smith-Emery GeoServices, Senior Environmental Specialist, 2014 – 2015
Smith-Emery GeoServices, Environmental Specialist, 2013 – 2014

## Education:

Master of Science, Civil and Environmental Engineering, University of California, Los Angeles, California, 2013
Bachelor of Science, Environmental Science, with a Minor in Environmental Engineering, University of California, Los Angeles, California, 2012

## References:

Nicole Rivera - EFI Global, Inc. - 5261 West Imperial Highway, Los Angeles, CA 90045 – 310.854.6300
Matthew Rodda - EFI Global, Inc. - 5261 West Imperial Highway, Los Angeles, CA 90045 – 310.854.6300

# Brian R. Brennan | Senior Project Manager

*5909 Sea Lion Drive, Unit H, Carlsbad, California 92010* *760-473-5695*
*brian.brennan@efiglobal.com*

## Professional Summary:

Mr. Brennan has over 20 years of environmental consulting experience. Mr. Brennan qualifies as an Environmental Professional with experience that includes preparing, reviewing and managing all aspects of Phase I and II Environmental Site Assessment (ESA) in commercial real estate transactions and large-scale residential developments following ASTM E 1527-13 and 40 CFR Part 312 (AAI) guidelines. Mr. Brennan has proven skills in planning, managing and executing all phases of small to large scale projects involving soil, soil gas and groundwater investigation and remediation at sites impacted by petroleum hydrocarbons, heavy metals, pesticides, and chlorinated solvents. Mr. Brennan's technical skills include developing, maintaining and meeting project scope and financial responsibilities; coordinating and managing professional staff and subcontractors; reviewing and evaluating environmental data and risk assessment; preparing technical writing documents; and communicating to senior and junior staff, regulatory agencies and clients. Mr. Brennan is an experienced project manager with the ability to oversee professional staff in multiple disciplines and geographic locations; tracking and maintaining schedules, budgets and deliverables; and maintaining current clients, while conducting future business development and marketing. Areas of expertise include:

Phase I/II Environmental Site Assessment

Environmental Site Assessment and Mitigation

Project Management

Data Evaluation

Third Party Review

## Licenses and Certifications:

OSHA 40-Hour Hazardous Waste Operations Certified

OSHA 8-Hour HAWOPER Annual Refresher

Environmental Professional, per the CFR Title 40, Chapter I, Subchapter J, Part 312, Subpart C, Section 312.21

California Registered Environmental Assessor II (REA-II) No. 07920

## Project Experience:

County of Riverside, Economic Development Agency. Former Riverside General Hospital, Riverside, CA. Leaking Underground Storage Tank (LUST) Site Investigation, Remediation and Regulatory Agency (Riverside County DEH) Case Closure.

Gannett Fleming. Former Exide Technologies Facility, City of Industry, CA. Lead-impacted Soil Investigation and Mitigation, and Regulatory Agency (LA County Fire Department) Case Closure.

Standard Pacific Homes. Harmony Gove Village, Master-Planned Community, Escondido, CA. Phase I ESA, Site Investigation, Environmental Monitoring and Sampling, and Regulatory Agency (County of San Diego DEH) Case Closure Associated with Master Planned Community.

KB Home Coastal Inc. Magnolia Trails, Single-family Residential Development, El Cajon, CA. Phase I ESA, Pesticide-Soil Investigation, Remedial Excavation, and Regulatory Agency (County of San Diego DEH) Case Closure.

Dynamic Development Corporation. Proposed Dollar General Store, Imperial, CA. Historical Phase I/II ESA review; LUST Site Investigation and Remediation; and Regulatory Agency (Colorado River Basin Water Quality Control Board) Case Closure.

Heslin Holdings, LLC. Former Mr. Best Cleaners, Oceanside, CA. Former Dry Cleaner Release Site; Chlorinated Solvent Investigation and Mitigation; and Regulatory Agency (County of San Diego) Oversight (closure in-progress).

California Bank & Trust Facility. Commercial Bank Property, Escondido, CA. Site Assessment, Mitigation and Environmental Monitoring, during Redevelopment; and Regulatory Agency (County of San Diego DEH) Case Closure.

Standard Pacific Homes/CalAtlantic Homes/Lennar. Multiple Locations, Southern California. Provided numerous Phase I and II ESA technical services, review and evaluation of previous consultant environmental site assessment and mitigation, soil remediation, and environmental field services related to various Southern California property acquisitions.

KB Home Coastal, Inc. Multiple Locations, Southern California. Provided numerous Phase I and II ESA technical services, review and evaluation of previous consultant environmental site assessment and mitigation, soil remediation, and environmental field services related to various Southern California property acquisitions.

County of Riverside, Economic Development Agency. Multiple Locations, Riverside County. Provided numerous Phase I and II ESA technical services, review and evaluation of previous consultant environmental site assessment and mitigation, soil remediation, and environmental field services throughout the County.

## Court Qualifications/ Depositions:

Superior Court of California, County of Riverside / County of Riverside v. Alvin C. Assink, et al., Case No. RIC 512629, July 16, 2012.

Superior Court of California, County of San Diego / Shirey Falls, LP v. Guadalupe and Evangeline Hernandez, Case No. 37-2014-00006580, October 27, 2015.

## Professional Experience:

EFI Global, Environmental Senior Project Manager, 2019-Present

EFI Global, Environmental Field Professional, 2018-2019

Environmental Professional/Independent Consultant/Contrator, 2011-2018

EEI, Director, Environmental Services/Senior Project Manager, 2014-2019

Terraphase Environmental Engineering, Senior Project Manager, 2014

EEI, Environmental Senior Project Manager, 2008-2014

EEI, Environmental Project Manager, 2004-2008

EEI, Environmental Staff Scientist, 2000-2004

United States Department of Interior, Yellowstone National Park, Visitor Use Assistance/Wildland Firefighter/GIS Analyst, 2001

City of San Diego, Parks and Recreation, GIS and Environmental Services, Intern, 1999

## Specialized Education:

Geographic Information Systems (GIS), ArcGIS , San Diego State University, 2000

The Groundwater Pollution and Hydrology Course, Princeton Groundwater, Inc., 2003

The Remediation Class, Princeton Groundwater, Inc., 2005

Natural Attenuation, Risk Assessment, and Risk-Based Corrective Action (RBCA) Through Applied Groundwater Modeling, National Groundwater Association (NGWA), 2007

California Environmental Quality Act**,** University of California, San Diego, 2008

## Education:

Master of Science, Environmental Engineering, National University, San Diego, California, 2008

Bachelor of Arts, Geography and Environmental Analysis, San Diego State University, San Diego, California, 2000

# Hydrology Report

for

# TR 38921

Located in the City of Riverside
County of Riverside
APN: 136-220-016

Prepared For:

Warmington RESIDENTIAL

3090 Pullman Street
Costa Mesa, CA 92626

Prepared by:

adkan ENGINEERS

6879 Airport Drive
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Job No. 10574
February 26, 2024

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# Table of Contents

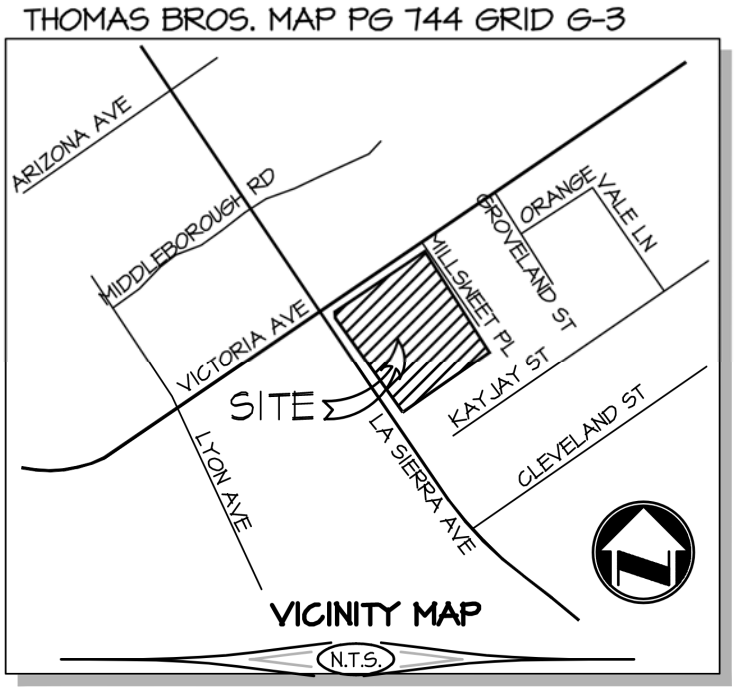
## 1. Purpose

The purpose of this study is to substantiate the hydrology design of Tract 38921 for the purposes of Entitlement Approval. Adkan Engineers has prepared this study to ensure that adequate size and proper operation of drainage facilities are incorporated into the Post-Development project site.

## 2. Project Description

Tract 38921 is located in the City of Riverside at the northeast corner of Victoria Avenue and La Sierra Avenue. The planned development will consist of 49 single family residential lots and 2 open space lots on 7.9+/- acres. The site will treat the 2 year 24 hour storm event through the use of an infiltration basin with an additional gravel layer beneath it. Since site flows are tributary to the Arizona Channel, all other storm events (5, 10 & 100 year) are not required to be analyzed.

### A. Vicinity Map




SEC. 24 T.3S. R.6W

## 3. Pre-Development Hydrology

The site is currently a functioning orange grove and there are no existing storm drain facilities on site. Onsite runoff sheet flows to the south west corner of Millsweet Place and Victoria Ave to an existing drop inlet structure that feeds site flows to City SD tributary to the Arizona Channel.

## 4. Post-Development Hydrology

Onsite flows are being directed towards the north east corner via a series of gutters throughout the project site. Surface flows in these proposed gutters will be captured via drop inlets and conveyed via an onsite storm drain

system to an infiltration basin located in the north east corner of the site. The infiltration basin will have an additional gravel layer beneath to mitigate the 2 year 24 hour storm flows.

| Basin Storage Volume Calculations | |
|---|---|
| Infiltration Basin Bottom Area (sf) | 3674 |
| Basin Top Area (sf) | 4899 |
| Depth of Basin (ft) | 2.5 |
| Open Basin Volume Provided (cf) | 10716 |
| Rock Storage depth (ft) | 4.6 |
| Rock Storage Volume (40% void) (cf) | 6755 |
| Total Flood Volume Stored | **17472** |
| | |
| Ex. 2-yr 24-hr Storm Volume (cf) | 8233 |
| Prop. 2-yr 24-hr Storm Volume (cf) | 26528 |
| Allowable 2-yr 24-hr Storm Volume (mitigated to 110% of existing) (cf) | **9056** |
| | |
| Prop. 2-yr 24-hr Storm Volume (cf) | 26528 |
| Total Flood Volume Stored | 17472 |
| Remaining Storm Volume | **9056** |

## 5. Method of Analysis

The site hydrology was based upon Riverside County Flood Control and Water Conversation District Hydrology Manual, from which pertinent soil and rainfall information was obtained.

Storm flows were determined by the "RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM", Riverside County Flood Control & Water Conservation District 1978 Hydrology Manual, produced by Bondamin Engineering.

The site was also analyzed by the "SYNTHETIC UNIT HYDROLOGY METHOD COMPUTER PROGRAM", Riverside County Flood Control & Water Conservation District 1978 Hydrology Manual, produced by Bondamin Engineering.

## 6. Conclusion

The hydrologic calculations provided herein substantiate the design of the Post-Development project and indicate the following:

- The Post-Development facilities demonstrate the ability to limit flow discharge from the project site to no greater than 110% of the pre-development 2-year peak flow.

Since site flows are tributary to the Arizona Channel, no other storm events need to be mitigated/analyzed.

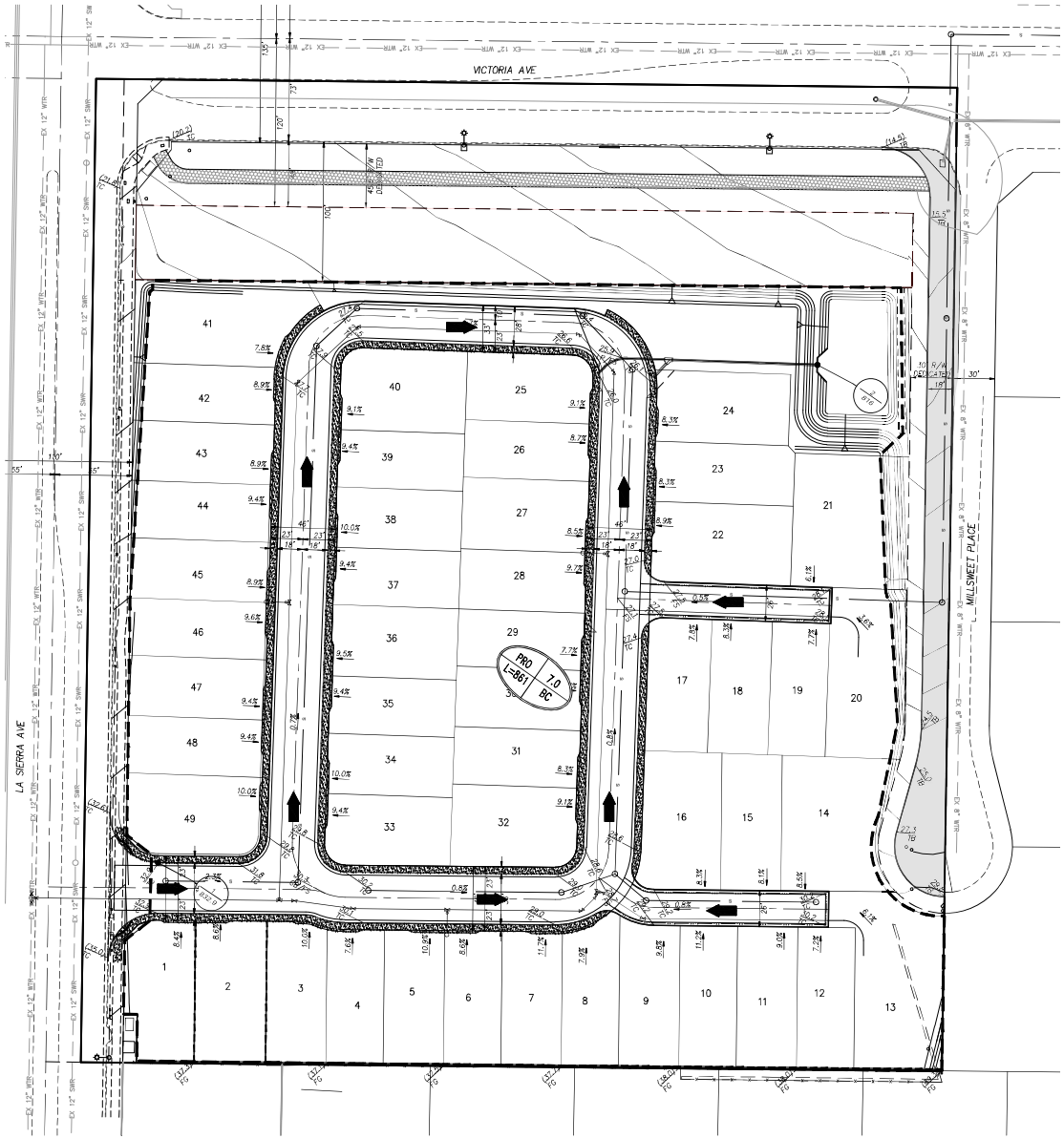
Therefore, it is our conclusion this project **does not** negatively impact the local community or watershed goals.

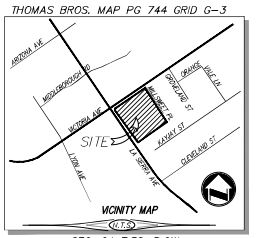
# Section 1

## Pre-Development Unit Hydrograph

IN THE COMMUNITY OF WINCHESTER, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

# POST DEVELOPMENT UNIT HYDROGRAPH




SEC. 24 T.3S. R.6W

SCALE: 1" = 40'

PLANS PREPARED BY:

adkan ENGINEERS

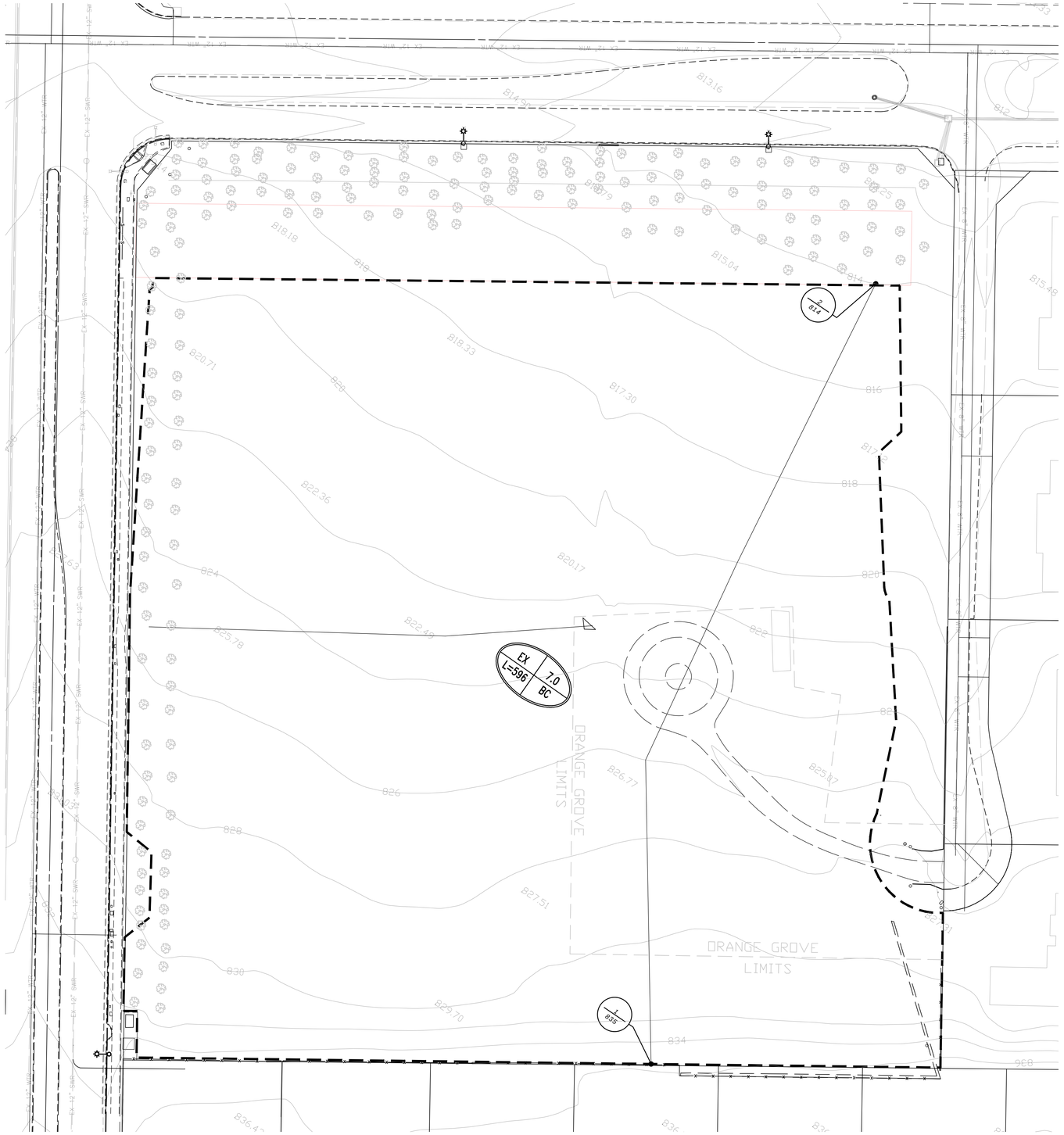
Civil Engineering • Surveying • Planning

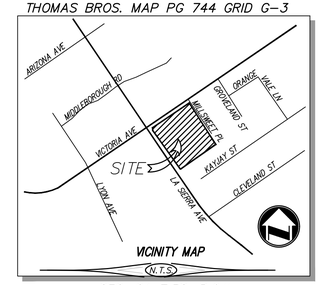
6879 Airport Drive, Riverside, CA. 92504

Tel:(951) 688-0241•Fax:(951) 688-0599

IN THE COMMUNITY OF WINCHESTER, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

# PRE DEVELOPMENT UNIT HYDROGRAPH




SEC. 24 T.3S. R.6W

0 40 120

20 80 160

SCALE: 1" = 40'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```
        U n i t   H y d r o g r a p h   A n a l y s i s

        Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2008, Version 8.1
                Study date  02/22/24 File: EX2YR242.out

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
------------------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 5006

------------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



------------------------------------------------------------------------
------------------------------------------------------------------------
Drainage Area =       7.00(Ac.)  =      0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       7.00(Ac.)  =      0.011 Sq. Mi.
Length along longest watercourse =     596.00(Ft.)
Length along longest watercourse measured to centroid =     300.00(Ft.)
Length along longest watercourse =      0.113 Mi.
Length along longest watercourse measured to centroid =      0.057 Mi.
Difference in elevation =      26.00(Ft.)
Slope along watercourse =    230.3356 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time =    0.038 Hr.
Lag time =     2.26 Min.
25% of lag time =     0.56 Min.
40% of lag time =     0.90 Min.
Unit time =     5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.00            1.80                 12.60

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.00            6.00                 42.00

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    1.800(In)
Area Averaged 100-Year Rainfall =    6.000(In)

Point rain (area averaged) =    1.800(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.800(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     7.000           72.00          0.100
 Total Area Entered =      7.00(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
72.0  53.4      0.537     0.100        0.489       1.000      0.489
                                                 Sum (F) =    0.489
Area averaged mean soil loss (F) (In/Hr) =  0.489
Minimum soil loss rate ((In/Hr)) =  0.244
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.820
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                      VALLEY S-Curve
------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
```

| | | | | |
|---|---|---|---|---|
| 1 | 0.083 | 221.634 | 46.905 | 3.309 |
| 2 | 0.167 | 443.269 | 41.886 | 2.955 |
| 3 | 0.250 | 664.903 | 7.981 | 0.563 |
| 4 | 0.333 | 886.537 | 3.228 | 0.228 |
| | | | Sum = 100.000 Sum= | 7.055 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.014 | ( 0.867) | 0.012 | 0.003 |
| 2 | 0.17 | 0.07 | 0.014 | ( 0.863) | 0.012 | 0.003 |
| 3 | 0.25 | 0.07 | 0.014 | ( 0.860) | 0.012 | 0.003 |
| 4 | 0.33 | 0.10 | 0.022 | ( 0.857) | 0.018 | 0.004 |
| 5 | 0.42 | 0.10 | 0.022 | ( 0.853) | 0.018 | 0.004 |
| 6 | 0.50 | 0.10 | 0.022 | ( 0.850) | 0.018 | 0.004 |
| 7 | 0.58 | 0.10 | 0.022 | ( 0.847) | 0.018 | 0.004 |
| 8 | 0.67 | 0.10 | 0.022 | ( 0.843) | 0.018 | 0.004 |
| 9 | 0.75 | 0.10 | 0.022 | ( 0.840) | 0.018 | 0.004 |
| 10 | 0.83 | 0.13 | 0.029 | ( 0.837) | 0.024 | 0.005 |
| 11 | 0.92 | 0.13 | 0.029 | ( 0.834) | 0.024 | 0.005 |
| 12 | 1.00 | 0.13 | 0.029 | ( 0.830) | 0.024 | 0.005 |
| 13 | 1.08 | 0.10 | 0.022 | ( 0.827) | 0.018 | 0.004 |
| 14 | 1.17 | 0.10 | 0.022 | ( 0.824) | 0.018 | 0.004 |
| 15 | 1.25 | 0.10 | 0.022 | ( 0.820) | 0.018 | 0.004 |
| 16 | 1.33 | 0.10 | 0.022 | ( 0.817) | 0.018 | 0.004 |
| 17 | 1.42 | 0.10 | 0.022 | ( 0.814) | 0.018 | 0.004 |
| 18 | 1.50 | 0.10 | 0.022 | ( 0.811) | 0.018 | 0.004 |
| 19 | 1.58 | 0.10 | 0.022 | ( 0.807) | 0.018 | 0.004 |
| 20 | 1.67 | 0.10 | 0.022 | ( 0.804) | 0.018 | 0.004 |
| 21 | 1.75 | 0.10 | 0.022 | ( 0.801) | 0.018 | 0.004 |
| 22 | 1.83 | 0.13 | 0.029 | ( 0.798) | 0.024 | 0.005 |
| 23 | 1.92 | 0.13 | 0.029 | ( 0.795) | 0.024 | 0.005 |
| 24 | 2.00 | 0.13 | 0.029 | ( 0.791) | 0.024 | 0.005 |
| 25 | 2.08 | 0.13 | 0.029 | ( 0.788) | 0.024 | 0.005 |
| 26 | 2.17 | 0.13 | 0.029 | ( 0.785) | 0.024 | 0.005 |
| 27 | 2.25 | 0.13 | 0.029 | ( 0.782) | 0.024 | 0.005 |
| 28 | 2.33 | 0.13 | 0.029 | ( 0.779) | 0.024 | 0.005 |
| 29 | 2.42 | 0.13 | 0.029 | ( 0.775) | 0.024 | 0.005 |
| 30 | 2.50 | 0.13 | 0.029 | ( 0.772) | 0.024 | 0.005 |
| 31 | 2.58 | 0.17 | 0.036 | ( 0.769) | 0.030 | 0.006 |
| 32 | 2.67 | 0.17 | 0.036 | ( 0.766) | 0.030 | 0.006 |
| 33 | 2.75 | 0.17 | 0.036 | ( 0.763) | 0.030 | 0.006 |
| 34 | 2.83 | 0.17 | 0.036 | ( 0.760) | 0.030 | 0.006 |
| 35 | 2.92 | 0.17 | 0.036 | ( 0.756) | 0.030 | 0.006 |
| 36 | 3.00 | 0.17 | 0.036 | ( 0.753) | 0.030 | 0.006 |
| 37 | 3.08 | 0.17 | 0.036 | ( 0.750) | 0.030 | 0.006 |
| 38 | 3.17 | 0.17 | 0.036 | ( 0.747) | 0.030 | 0.006 |
| 39 | 3.25 | 0.17 | 0.036 | ( 0.744) | 0.030 | 0.006 |
| 40 | 3.33 | 0.17 | 0.036 | ( 0.741) | 0.030 | 0.006 |
| 41 | 3.42 | 0.17 | 0.036 | ( 0.738) | 0.030 | 0.006 |
| 42 | 3.50 | 0.17 | 0.036 | ( 0.735) | 0.030 | 0.006 |
| 43 | 3.58 | 0.17 | 0.036 | ( 0.732) | 0.030 | 0.006 |
| 44 | 3.67 | 0.17 | 0.036 | ( 0.729) | 0.030 | 0.006 |
| 45 | 3.75 | 0.17 | 0.036 | ( 0.726) | 0.030 | 0.006 |
| 46 | 3.83 | 0.20 | 0.043 | ( 0.722) | 0.035 | 0.008 |
| 47 | 3.92 | 0.20 | 0.043 | ( 0.719) | 0.035 | 0.008 |
| 48 | 4.00 | 0.20 | 0.043 | ( 0.716) | 0.035 | 0.008 |
| 49 | 4.08 | 0.20 | 0.043 | ( 0.713) | 0.035 | 0.008 |
| 50 | 4.17 | 0.20 | 0.043 | ( 0.710) | 0.035 | 0.008 |
| 51 | 4.25 | 0.20 | 0.043 | ( 0.707) | 0.035 | 0.008 |
| 52 | 4.33 | 0.23 | 0.050 | ( 0.704) | 0.041 | 0.009 |
| 53 | 4.42 | 0.23 | 0.050 | ( 0.701) | 0.041 | 0.009 |
| 54 | 4.50 | 0.23 | 0.050 | ( 0.698) | 0.041 | 0.009 |
| 55 | 4.58 | 0.23 | 0.050 | ( 0.695) | 0.041 | 0.009 |
| 56 | 4.67 | 0.23 | 0.050 | ( 0.692) | 0.041 | 0.009 |
| 57 | 4.75 | 0.23 | 0.050 | ( 0.689) | 0.041 | 0.009 |
| 58 | 4.83 | 0.27 | 0.058 | ( 0.686) | 0.047 | 0.010 |
| 59 | 4.92 | 0.27 | 0.058 | ( 0.683) | 0.047 | 0.010 |
| 60 | 5.00 | 0.27 | 0.058 | ( 0.680) | 0.047 | 0.010 |
| 61 | 5.08 | 0.20 | 0.043 | ( 0.677) | 0.035 | 0.008 |
| 62 | 5.17 | 0.20 | 0.043 | ( 0.674) | 0.035 | 0.008 |
| 63 | 5.25 | 0.20 | 0.043 | ( 0.672) | 0.035 | 0.008 |
| 64 | 5.33 | 0.23 | 0.050 | ( 0.669) | 0.041 | 0.009 |
| 65 | 5.42 | 0.23 | 0.050 | ( 0.666) | 0.041 | 0.009 |
| 66 | 5.50 | 0.23 | 0.050 | ( 0.663) | 0.041 | 0.009 |
| 67 | 5.58 | 0.27 | 0.058 | ( 0.660) | 0.047 | 0.010 |
| 68 | 5.67 | 0.27 | 0.058 | ( 0.657) | 0.047 | 0.010 |
| 69 | 5.75 | 0.27 | 0.058 | ( 0.654) | 0.047 | 0.010 |
| 70 | 5.83 | 0.27 | 0.058 | ( 0.651) | 0.047 | 0.010 |
| 71 | 5.92 | 0.27 | 0.058 | ( 0.648) | 0.047 | 0.010 |
| 72 | 6.00 | 0.27 | 0.058 | ( 0.645) | 0.047 | 0.010 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 73 | 6.08 | 0.30 | 0.065 | ( 0.643) | 0.053 | 0.012 |
| 74 | 6.17 | 0.30 | 0.065 | ( 0.640) | 0.053 | 0.012 |
| 75 | 6.25 | 0.30 | 0.065 | ( 0.637) | 0.053 | 0.012 |
| 76 | 6.33 | 0.30 | 0.065 | ( 0.634) | 0.053 | 0.012 |
| 77 | 6.42 | 0.30 | 0.065 | ( 0.631) | 0.053 | 0.012 |
| 78 | 6.50 | 0.30 | 0.065 | ( 0.628) | 0.053 | 0.012 |
| 79 | 6.58 | 0.33 | 0.072 | ( 0.626) | 0.059 | 0.013 |
| 80 | 6.67 | 0.33 | 0.072 | ( 0.623) | 0.059 | 0.013 |
| 81 | 6.75 | 0.33 | 0.072 | ( 0.620) | 0.059 | 0.013 |
| 82 | 6.83 | 0.33 | 0.072 | ( 0.617) | 0.059 | 0.013 |
| 83 | 6.92 | 0.33 | 0.072 | ( 0.614) | 0.059 | 0.013 |
| 84 | 7.00 | 0.33 | 0.072 | ( 0.612) | 0.059 | 0.013 |
| 85 | 7.08 | 0.33 | 0.072 | ( 0.609) | 0.059 | 0.013 |
| 86 | 7.17 | 0.33 | 0.072 | ( 0.606) | 0.059 | 0.013 |
| 87 | 7.25 | 0.33 | 0.072 | ( 0.603) | 0.059 | 0.013 |
| 88 | 7.33 | 0.37 | 0.079 | ( 0.600) | 0.065 | 0.014 |
| 89 | 7.42 | 0.37 | 0.079 | ( 0.598) | 0.065 | 0.014 |
| 90 | 7.50 | 0.37 | 0.079 | ( 0.595) | 0.065 | 0.014 |
| 91 | 7.58 | 0.40 | 0.086 | ( 0.592) | 0.071 | 0.016 |
| 92 | 7.67 | 0.40 | 0.086 | ( 0.589) | 0.071 | 0.016 |
| 93 | 7.75 | 0.40 | 0.086 | ( 0.587) | 0.071 | 0.016 |
| 94 | 7.83 | 0.43 | 0.094 | ( 0.584) | 0.077 | 0.017 |
| 95 | 7.92 | 0.43 | 0.094 | ( 0.581) | 0.077 | 0.017 |
| 96 | 8.00 | 0.43 | 0.094 | ( 0.579) | 0.077 | 0.017 |
| 97 | 8.08 | 0.50 | 0.108 | ( 0.576) | 0.089 | 0.019 |
| 98 | 8.17 | 0.50 | 0.108 | ( 0.573) | 0.089 | 0.019 |
| 99 | 8.25 | 0.50 | 0.108 | ( 0.571) | 0.089 | 0.019 |
| 100 | 8.33 | 0.50 | 0.108 | ( 0.568) | 0.089 | 0.019 |
| 101 | 8.42 | 0.50 | 0.108 | ( 0.565) | 0.089 | 0.019 |
| 102 | 8.50 | 0.50 | 0.108 | ( 0.563) | 0.089 | 0.019 |
| 103 | 8.58 | 0.53 | 0.115 | ( 0.560) | 0.094 | 0.021 |
| 104 | 8.67 | 0.53 | 0.115 | ( 0.557) | 0.094 | 0.021 |
| 105 | 8.75 | 0.53 | 0.115 | ( 0.555) | 0.094 | 0.021 |
| 106 | 8.83 | 0.57 | 0.122 | ( 0.552) | 0.100 | 0.022 |
| 107 | 8.92 | 0.57 | 0.122 | ( 0.550) | 0.100 | 0.022 |
| 108 | 9.00 | 0.57 | 0.122 | ( 0.547) | 0.100 | 0.022 |
| 109 | 9.08 | 0.63 | 0.137 | ( 0.544) | 0.112 | 0.025 |
| 110 | 9.17 | 0.63 | 0.137 | ( 0.542) | 0.112 | 0.025 |
| 111 | 9.25 | 0.63 | 0.137 | ( 0.539) | 0.112 | 0.025 |
| 112 | 9.33 | 0.67 | 0.144 | ( 0.537) | 0.118 | 0.026 |
| 113 | 9.42 | 0.67 | 0.144 | ( 0.534) | 0.118 | 0.026 |
| 114 | 9.50 | 0.67 | 0.144 | ( 0.531) | 0.118 | 0.026 |
| 115 | 9.58 | 0.70 | 0.151 | ( 0.529) | 0.124 | 0.027 |
| 116 | 9.67 | 0.70 | 0.151 | ( 0.526) | 0.124 | 0.027 |
| 117 | 9.75 | 0.70 | 0.151 | ( 0.524) | 0.124 | 0.027 |
| 118 | 9.83 | 0.73 | 0.158 | ( 0.521) | 0.130 | 0.029 |
| 119 | 9.92 | 0.73 | 0.158 | ( 0.519) | 0.130 | 0.029 |
| 120 | 10.00 | 0.73 | 0.158 | ( 0.516) | 0.130 | 0.029 |
| 121 | 10.08 | 0.50 | 0.108 | ( 0.514) | 0.089 | 0.019 |
| 122 | 10.17 | 0.50 | 0.108 | ( 0.511) | 0.089 | 0.019 |
| 123 | 10.25 | 0.50 | 0.108 | ( 0.509) | 0.089 | 0.019 |
| 124 | 10.33 | 0.50 | 0.108 | ( 0.506) | 0.089 | 0.019 |
| 125 | 10.42 | 0.50 | 0.108 | ( 0.504) | 0.089 | 0.019 |
| 126 | 10.50 | 0.50 | 0.108 | ( 0.501) | 0.089 | 0.019 |
| 127 | 10.58 | 0.67 | 0.144 | ( 0.499) | 0.118 | 0.026 |
| 128 | 10.67 | 0.67 | 0.144 | ( 0.497) | 0.118 | 0.026 |
| 129 | 10.75 | 0.67 | 0.144 | ( 0.494) | 0.118 | 0.026 |
| 130 | 10.83 | 0.67 | 0.144 | ( 0.492) | 0.118 | 0.026 |
| 131 | 10.92 | 0.67 | 0.144 | ( 0.489) | 0.118 | 0.026 |
| 132 | 11.00 | 0.67 | 0.144 | ( 0.487) | 0.118 | 0.026 |
| 133 | 11.08 | 0.63 | 0.137 | ( 0.485) | 0.112 | 0.025 |
| 134 | 11.17 | 0.63 | 0.137 | ( 0.482) | 0.112 | 0.025 |
| 135 | 11.25 | 0.63 | 0.137 | ( 0.480) | 0.112 | 0.025 |
| 136 | 11.33 | 0.63 | 0.137 | ( 0.477) | 0.112 | 0.025 |
| 137 | 11.42 | 0.63 | 0.137 | ( 0.475) | 0.112 | 0.025 |
| 138 | 11.50 | 0.63 | 0.137 | ( 0.473) | 0.112 | 0.025 |
| 139 | 11.58 | 0.57 | 0.122 | ( 0.470) | 0.100 | 0.022 |
| 140 | 11.67 | 0.57 | 0.122 | ( 0.468) | 0.100 | 0.022 |
| 141 | 11.75 | 0.57 | 0.122 | ( 0.466) | 0.100 | 0.022 |
| 142 | 11.83 | 0.60 | 0.130 | ( 0.463) | 0.106 | 0.023 |
| 143 | 11.92 | 0.60 | 0.130 | ( 0.461) | 0.106 | 0.023 |
| 144 | 12.00 | 0.60 | 0.130 | ( 0.459) | 0.106 | 0.023 |
| 145 | 12.08 | 0.83 | 0.180 | ( 0.456) | 0.148 | 0.032 |
| 146 | 12.17 | 0.83 | 0.180 | ( 0.454) | 0.148 | 0.032 |
| 147 | 12.25 | 0.83 | 0.180 | ( 0.452) | 0.148 | 0.032 |
| 148 | 12.33 | 0.87 | 0.187 | ( 0.450) | 0.154 | 0.034 |
| 149 | 12.42 | 0.87 | 0.187 | ( 0.447) | 0.154 | 0.034 |
| 150 | 12.50 | 0.87 | 0.187 | ( 0.445) | 0.154 | 0.034 |
| 151 | 12.58 | 0.93 | 0.202 | ( 0.443) | 0.165 | 0.036 |
| 152 | 12.67 | 0.93 | 0.202 | ( 0.441) | 0.165 | 0.036 |
| 153 | 12.75 | 0.93 | 0.202 | ( 0.438) | 0.165 | 0.036 |
| 154 | 12.83 | 0.97 | 0.209 | ( 0.436) | 0.171 | 0.038 |
| 155 | 12.92 | 0.97 | 0.209 | ( 0.434) | 0.171 | 0.038 |
| 156 | 13.00 | 0.97 | 0.209 | ( 0.432) | 0.171 | 0.038 |
| 157 | 13.08 | 1.13 | 0.245 | ( 0.430) | 0.201 | 0.044 |
| 158 | 13.17 | 1.13 | 0.245 | ( 0.427) | 0.201 | 0.044 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 159 | 13.25 | 1.13 | 0.245 | ( 0.425) | 0.201 | 0.044 |
| 160 | 13.33 | 1.13 | 0.245 | ( 0.423) | 0.201 | 0.044 |
| 161 | 13.42 | 1.13 | 0.245 | ( 0.421) | 0.201 | 0.044 |
| 162 | 13.50 | 1.13 | 0.245 | ( 0.419) | 0.201 | 0.044 |
| 163 | 13.58 | 0.77 | 0.166 | ( 0.417) | 0.136 | 0.030 |
| 164 | 13.67 | 0.77 | 0.166 | ( 0.415) | 0.136 | 0.030 |
| 165 | 13.75 | 0.77 | 0.166 | ( 0.412) | 0.136 | 0.030 |
| 166 | 13.83 | 0.77 | 0.166 | ( 0.410) | 0.136 | 0.030 |
| 167 | 13.92 | 0.77 | 0.166 | ( 0.408) | 0.136 | 0.030 |
| 168 | 14.00 | 0.77 | 0.166 | ( 0.406) | 0.136 | 0.030 |
| 169 | 14.08 | 0.90 | 0.194 | ( 0.404) | 0.159 | 0.035 |
| 170 | 14.17 | 0.90 | 0.194 | ( 0.402) | 0.159 | 0.035 |
| 171 | 14.25 | 0.90 | 0.194 | ( 0.400) | 0.159 | 0.035 |
| 172 | 14.33 | 0.87 | 0.187 | ( 0.398) | 0.154 | 0.034 |
| 173 | 14.42 | 0.87 | 0.187 | ( 0.396) | 0.154 | 0.034 |
| 174 | 14.50 | 0.87 | 0.187 | ( 0.394) | 0.154 | 0.034 |
| 175 | 14.58 | 0.87 | 0.187 | ( 0.392) | 0.154 | 0.034 |
| 176 | 14.67 | 0.87 | 0.187 | ( 0.390) | 0.154 | 0.034 |
| 177 | 14.75 | 0.87 | 0.187 | ( 0.388) | 0.154 | 0.034 |
| 178 | 14.83 | 0.83 | 0.180 | ( 0.386) | 0.148 | 0.032 |
| 179 | 14.92 | 0.83 | 0.180 | ( 0.384) | 0.148 | 0.032 |
| 180 | 15.00 | 0.83 | 0.180 | ( 0.382) | 0.148 | 0.032 |
| 181 | 15.08 | 0.80 | 0.173 | ( 0.380) | 0.142 | 0.031 |
| 182 | 15.17 | 0.80 | 0.173 | ( 0.378) | 0.142 | 0.031 |
| 183 | 15.25 | 0.80 | 0.173 | ( 0.376) | 0.142 | 0.031 |
| 184 | 15.33 | 0.77 | 0.166 | ( 0.374) | 0.136 | 0.030 |
| 185 | 15.42 | 0.77 | 0.166 | ( 0.372) | 0.136 | 0.030 |
| 186 | 15.50 | 0.77 | 0.166 | ( 0.370) | 0.136 | 0.030 |
| 187 | 15.58 | 0.63 | 0.137 | ( 0.368) | 0.112 | 0.025 |
| 188 | 15.67 | 0.63 | 0.137 | ( 0.367) | 0.112 | 0.025 |
| 189 | 15.75 | 0.63 | 0.137 | ( 0.365) | 0.112 | 0.025 |
| 190 | 15.83 | 0.63 | 0.137 | ( 0.363) | 0.112 | 0.025 |
| 191 | 15.92 | 0.63 | 0.137 | ( 0.361) | 0.112 | 0.025 |
| 192 | 16.00 | 0.63 | 0.137 | ( 0.359) | 0.112 | 0.025 |
| 193 | 16.08 | 0.13 | 0.029 | ( 0.357) | 0.024 | 0.005 |
| 194 | 16.17 | 0.13 | 0.029 | ( 0.355) | 0.024 | 0.005 |
| 195 | 16.25 | 0.13 | 0.029 | ( 0.354) | 0.024 | 0.005 |
| 196 | 16.33 | 0.13 | 0.029 | ( 0.352) | 0.024 | 0.005 |
| 197 | 16.42 | 0.13 | 0.029 | ( 0.350) | 0.024 | 0.005 |
| 198 | 16.50 | 0.13 | 0.029 | ( 0.348) | 0.024 | 0.005 |
| 199 | 16.58 | 0.10 | 0.022 | ( 0.346) | 0.018 | 0.004 |
| 200 | 16.67 | 0.10 | 0.022 | ( 0.345) | 0.018 | 0.004 |
| 201 | 16.75 | 0.10 | 0.022 | ( 0.343) | 0.018 | 0.004 |
| 202 | 16.83 | 0.10 | 0.022 | ( 0.341) | 0.018 | 0.004 |
| 203 | 16.92 | 0.10 | 0.022 | ( 0.339) | 0.018 | 0.004 |
| 204 | 17.00 | 0.10 | 0.022 | ( 0.338) | 0.018 | 0.004 |
| 205 | 17.08 | 0.17 | 0.036 | ( 0.336) | 0.030 | 0.006 |
| 206 | 17.17 | 0.17 | 0.036 | ( 0.334) | 0.030 | 0.006 |
| 207 | 17.25 | 0.17 | 0.036 | ( 0.333) | 0.030 | 0.006 |
| 208 | 17.33 | 0.17 | 0.036 | ( 0.331) | 0.030 | 0.006 |
| 209 | 17.42 | 0.17 | 0.036 | ( 0.329) | 0.030 | 0.006 |
| 210 | 17.50 | 0.17 | 0.036 | ( 0.328) | 0.030 | 0.006 |
| 211 | 17.58 | 0.17 | 0.036 | ( 0.326) | 0.030 | 0.006 |
| 212 | 17.67 | 0.17 | 0.036 | ( 0.324) | 0.030 | 0.006 |
| 213 | 17.75 | 0.17 | 0.036 | ( 0.323) | 0.030 | 0.006 |
| 214 | 17.83 | 0.13 | 0.029 | ( 0.321) | 0.024 | 0.005 |
| 215 | 17.92 | 0.13 | 0.029 | ( 0.320) | 0.024 | 0.005 |
| 216 | 18.00 | 0.13 | 0.029 | ( 0.318) | 0.024 | 0.005 |
| 217 | 18.08 | 0.13 | 0.029 | ( 0.316) | 0.024 | 0.005 |
| 218 | 18.17 | 0.13 | 0.029 | ( 0.315) | 0.024 | 0.005 |
| 219 | 18.25 | 0.13 | 0.029 | ( 0.313) | 0.024 | 0.005 |
| 220 | 18.33 | 0.13 | 0.029 | ( 0.312) | 0.024 | 0.005 |
| 221 | 18.42 | 0.13 | 0.029 | ( 0.310) | 0.024 | 0.005 |
| 222 | 18.50 | 0.13 | 0.029 | ( 0.309) | 0.024 | 0.005 |
| 223 | 18.58 | 0.10 | 0.022 | ( 0.307) | 0.018 | 0.004 |
| 224 | 18.67 | 0.10 | 0.022 | ( 0.306) | 0.018 | 0.004 |
| 225 | 18.75 | 0.10 | 0.022 | ( 0.304) | 0.018 | 0.004 |
| 226 | 18.83 | 0.07 | 0.014 | ( 0.303) | 0.012 | 0.003 |
| 227 | 18.92 | 0.07 | 0.014 | ( 0.301) | 0.012 | 0.003 |
| 228 | 19.00 | 0.07 | 0.014 | ( 0.300) | 0.012 | 0.003 |
| 229 | 19.08 | 0.10 | 0.022 | ( 0.299) | 0.018 | 0.004 |
| 230 | 19.17 | 0.10 | 0.022 | ( 0.297) | 0.018 | 0.004 |
| 231 | 19.25 | 0.10 | 0.022 | ( 0.296) | 0.018 | 0.004 |
| 232 | 19.33 | 0.13 | 0.029 | ( 0.294) | 0.024 | 0.005 |
| 233 | 19.42 | 0.13 | 0.029 | ( 0.293) | 0.024 | 0.005 |
| 234 | 19.50 | 0.13 | 0.029 | ( 0.292) | 0.024 | 0.005 |
| 235 | 19.58 | 0.10 | 0.022 | ( 0.290) | 0.018 | 0.004 |
| 236 | 19.67 | 0.10 | 0.022 | ( 0.289) | 0.018 | 0.004 |
| 237 | 19.75 | 0.10 | 0.022 | ( 0.288) | 0.018 | 0.004 |
| 238 | 19.83 | 0.07 | 0.014 | ( 0.286) | 0.012 | 0.003 |
| 239 | 19.92 | 0.07 | 0.014 | ( 0.285) | 0.012 | 0.003 |
| 240 | 20.00 | 0.07 | 0.014 | ( 0.284) | 0.012 | 0.003 |
| 241 | 20.08 | 0.10 | 0.022 | ( 0.283) | 0.018 | 0.004 |
| 242 | 20.17 | 0.10 | 0.022 | ( 0.281) | 0.018 | 0.004 |
| 243 | 20.25 | 0.10 | 0.022 | ( 0.280) | 0.018 | 0.004 |
| 244 | 20.33 | 0.10 | 0.022 | ( 0.279) | 0.018 | 0.004 |

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245  20.42     0.10      0.022       (  0.278)       0.018        0.004
246  20.50     0.10      0.022       (  0.277)       0.018        0.004
247  20.58     0.10      0.022       (  0.275)       0.018        0.004
248  20.67     0.10      0.022       (  0.274)       0.018        0.004
249  20.75     0.10      0.022       (  0.273)       0.018        0.004
250  20.83     0.07      0.014       (  0.272)       0.012        0.003
251  20.92     0.07      0.014       (  0.271)       0.012        0.003
252  21.00     0.07      0.014       (  0.270)       0.012        0.003
253  21.08     0.10      0.022       (  0.269)       0.018        0.004
254  21.17     0.10      0.022       (  0.268)       0.018        0.004
255  21.25     0.10      0.022       (  0.267)       0.018        0.004
256  21.33     0.07      0.014       (  0.266)       0.012        0.003
257  21.42     0.07      0.014       (  0.265)       0.012        0.003
258  21.50     0.07      0.014       (  0.264)       0.012        0.003
259  21.58     0.10      0.022       (  0.263)       0.018        0.004
260  21.67     0.10      0.022       (  0.262)       0.018        0.004
261  21.75     0.10      0.022       (  0.261)       0.018        0.004
262  21.83     0.07      0.014       (  0.260)       0.012        0.003
263  21.92     0.07      0.014       (  0.259)       0.012        0.003
264  22.00     0.07      0.014       (  0.258)       0.012        0.003
265  22.08     0.10      0.022       (  0.257)       0.018        0.004
266  22.17     0.10      0.022       (  0.256)       0.018        0.004
267  22.25     0.10      0.022       (  0.256)       0.018        0.004
268  22.33     0.07      0.014       (  0.255)       0.012        0.003
269  22.42     0.07      0.014       (  0.254)       0.012        0.003
270  22.50     0.07      0.014       (  0.253)       0.012        0.003
271  22.58     0.07      0.014       (  0.253)       0.012        0.003
272  22.67     0.07      0.014       (  0.252)       0.012        0.003
273  22.75     0.07      0.014       (  0.251)       0.012        0.003
274  22.83     0.07      0.014       (  0.251)       0.012        0.003
275  22.92     0.07      0.014       (  0.250)       0.012        0.003
276  23.00     0.07      0.014       (  0.249)       0.012        0.003
277  23.08     0.07      0.014       (  0.249)       0.012        0.003
278  23.17     0.07      0.014       (  0.248)       0.012        0.003
279  23.25     0.07      0.014       (  0.248)       0.012        0.003
280  23.33     0.07      0.014       (  0.247)       0.012        0.003
281  23.42     0.07      0.014       (  0.247)       0.012        0.003
282  23.50     0.07      0.014       (  0.246)       0.012        0.003
283  23.58     0.07      0.014       (  0.246)       0.012        0.003
284  23.67     0.07      0.014       (  0.245)       0.012        0.003
285  23.75     0.07      0.014       (  0.245)       0.012        0.003
286  23.83     0.07      0.014       (  0.245)       0.012        0.003
287  23.92     0.07      0.014       (  0.245)       0.012        0.003
288  24.00     0.07      0.014       (  0.245)       0.012        0.003
                (Loss Rate Not Used)
    Sum =     100.0                                  Sum =      3.9
      Flood volume = Effective rainfall      0.32(In)
       times area       7.0(Ac.)/[(In)/(Ft.)] =       0.2(Ac.Ft)
      Total soil loss =      1.48(In)
      Total soil loss =     0.861(Ac.Ft)
      Total rainfall =      1.80(In)
      Flood volume =        8232.7 Cubic Feet
      Total soil loss =       37504.6 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      0.311(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0001      0.01  Q          |         |         |         |
   0+10       0.0002      0.02  Q          |         |         |         |
   0+15       0.0003      0.02  Q          |         |         |         |
   0+20       0.0004      0.02  Q          |         |         |         |
   0+25       0.0006      0.03  Q          |         |         |         |
   0+30       0.0008      0.03  Q          |         |         |         |
   0+35       0.0010      0.03  Q          |         |         |         |
   0+40       0.0012      0.03  Q          |         |         |         |
   0+45       0.0014      0.03  Q          |         |         |         |
   0+50       0.0016      0.03  Q          |         |         |         |
   0+55       0.0018      0.04  Q          |         |         |         |
   1+ 0       0.0021      0.04  Q          |         |         |         |
   1+ 5       0.0023      0.03  Q          |         |         |         |
   1+10       0.0025      0.03  Q          |         |         |         |
   1+15       0.0027      0.03  Q          |         |         |         |
   1+20       0.0029      0.03  Q          |         |         |         |
   1+25       0.0031      0.03  Q          |         |         |         |
   1+30       0.0033      0.03  Q          |         |         |         |
   1+35       0.0035      0.03  Q          |         |         |         |
   1+40       0.0037      0.03  Q          |         |         |         |
   1+45       0.0038      0.03  Q          |         |         |         |
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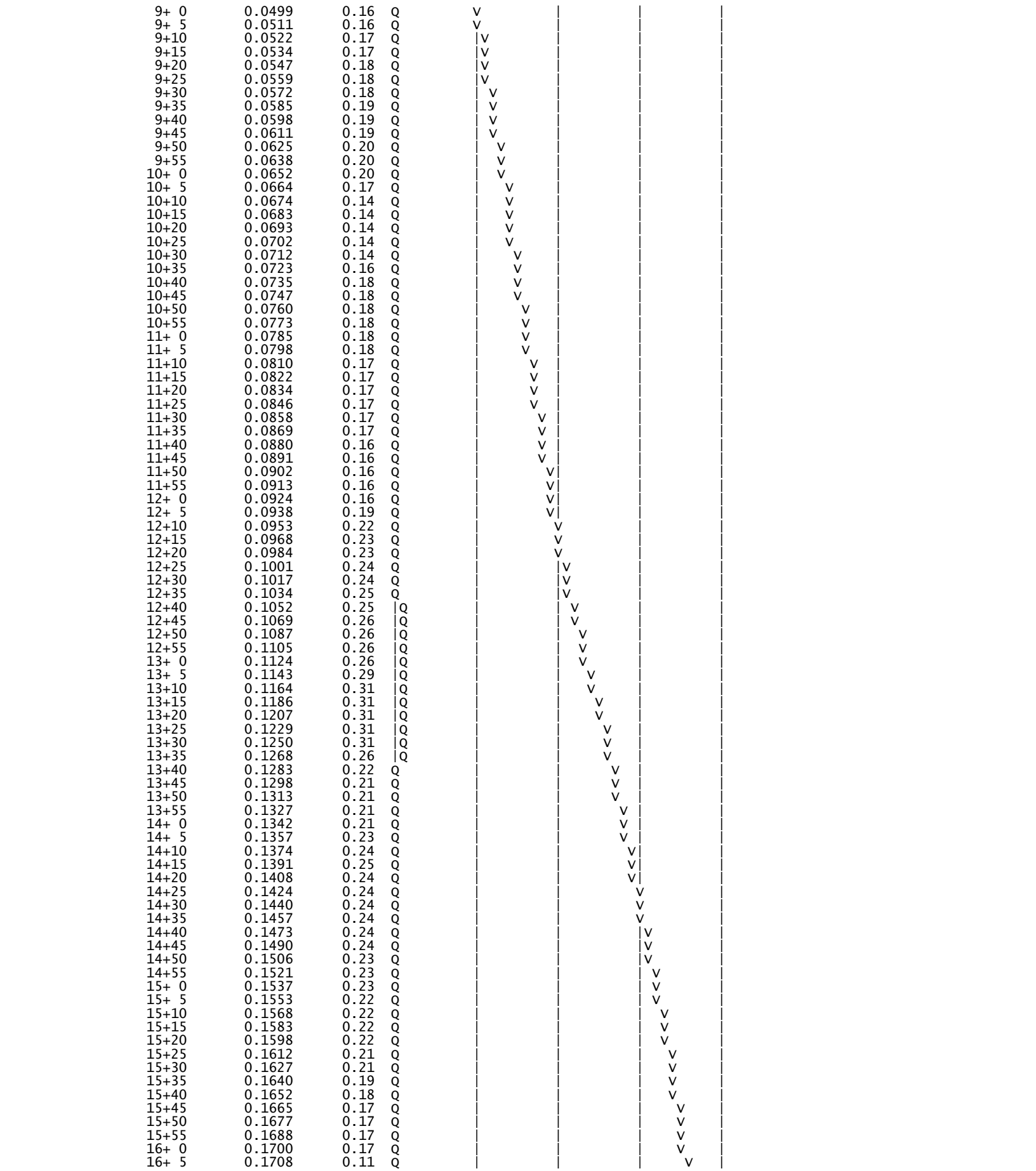
1+50       0.0041      0.03  Q          |          |          |          |
1+55       0.0043      0.04  Q          |          |          |          |
2+ 0       0.0046      0.04  Q          |          |          |          |
2+ 5       0.0048      0.04  QV         |          |          |          |
2+10       0.0051      0.04  QV         |          |          |          |
2+15       0.0053      0.04  QV         |          |          |          |
2+20       0.0056      0.04  QV         |          |          |          |
2+25       0.0058      0.04  QV         |          |          |          |
2+30       0.0061      0.04  QV         |          |          |          |
2+35       0.0063      0.04  QV         |          |          |          |
2+40       0.0067      0.04  QV         |          |          |          |
2+45       0.0070      0.05  QV         |          |          |          |
2+50       0.0073      0.05  QV         |          |          |          |
2+55       0.0076      0.05  QV         |          |          |          |
3+ 0       0.0079      0.05  QV         |          |          |          |
3+ 5       0.0082      0.05  QV         |          |          |          |
3+10       0.0085      0.05  QV         |          |          |          |
3+15       0.0089      0.05  QV         |          |          |          |
3+20       0.0092      0.05  QV         |          |          |          |
3+25       0.0095      0.05  Q V        |          |          |          |
3+30       0.0098      0.05  Q V        |          |          |          |
3+35       0.0101      0.05  Q V        |          |          |          |
3+40       0.0104      0.05  Q V        |          |          |          |
3+45       0.0107      0.05  Q V        |          |          |          |
3+50       0.0111      0.05  Q V        |          |          |          |
3+55       0.0115      0.05  Q V        |          |          |          |
4+ 0       0.0118      0.05  Q V        |          |          |          |
4+ 5       0.0122      0.05  Q V        |          |          |          |
4+10       0.0126      0.05  Q V        |          |          |          |
4+15       0.0130      0.05  Q V        |          |          |          |
4+20       0.0134      0.06  Q V        |          |          |          |
4+25       0.0138      0.06  Q V        |          |          |          |
4+30       0.0143      0.06  Q  V       |          |          |          |
4+35       0.0147      0.06  Q  V       |          |          |          |
4+40       0.0151      0.06  Q  V       |          |          |          |
4+45       0.0156      0.06  Q  V       |          |          |          |
4+50       0.0160      0.07  Q  V       |          |          |          |
4+55       0.0165      0.07  Q  V       |          |          |          |
5+ 0       0.0170      0.07  Q  V       |          |          |          |
5+ 5       0.0175      0.06  Q  V       |          |          |          |
5+10       0.0179      0.06  Q  V       |          |          |          |
5+15       0.0183      0.06  Q  V       |          |          |          |
5+20       0.0187      0.06  Q  V       |          |          |          |
5+25       0.0191      0.06  Q   V      |          |          |          |
5+30       0.0195      0.06  Q   V      |          |          |          |
5+35       0.0200      0.07  Q   V      |          |          |          |
5+40       0.0205      0.07  Q   V      |          |          |          |
5+45       0.0210      0.07  Q   V      |          |          |          |
5+50       0.0215      0.07  Q   V      |          |          |          |
5+55       0.0220      0.07  Q   V      |          |          |          |
6+ 0       0.0225      0.07  Q   V      |          |          |          |
6+ 5       0.0231      0.08  Q   V      |          |          |          |
6+10       0.0236      0.08  Q   V      |          |          |          |
6+15       0.0242      0.08  Q    V     |          |          |          |
6+20       0.0248      0.08  Q    V     |          |          |          |
6+25       0.0253      0.08  Q    V     |          |          |          |
6+30       0.0259      0.08  Q    V     |          |          |          |
6+35       0.0265      0.09  Q    V     |          |          |          |
6+40       0.0271      0.09  Q    V     |          |          |          |
6+45       0.0277      0.09  Q    V     |          |          |          |
6+50       0.0284      0.09  Q     V    |          |          |          |
6+55       0.0290      0.09  Q     V    |          |          |          |
7+ 0       0.0296      0.09  Q     V    |          |          |          |
7+ 5       0.0303      0.09  Q     V    |          |          |          |
7+10       0.0309      0.09  Q     V    |          |          |          |
7+15       0.0315      0.09  Q     V    |          |          |          |
7+20       0.0322      0.10  Q     V    |          |          |          |
7+25       0.0329      0.10  Q     V    |          |          |          |
7+30       0.0336      0.10  Q      V   |          |          |          |
7+35       0.0343      0.10  Q      V   |          |          |          |
7+40       0.0350      0.11  Q      V   |          |          |          |
7+45       0.0358      0.11  Q      V   |          |          |          |
7+50       0.0366      0.11  Q      V   |          |          |          |
7+55       0.0374      0.12  Q      V   |          |          |          |
8+ 0       0.0382      0.12  Q       V  |          |          |          |
8+ 5       0.0391      0.13  Q       V  |          |          |          |
8+10       0.0400      0.14  Q       V  |          |          |          |
8+15       0.0409      0.14  Q       V  |          |          |          |
8+20       0.0419      0.14  Q       V  |          |          |          |
8+25       0.0428      0.14  Q        V |          |          |          |
8+30       0.0438      0.14  Q        V |          |          |          |
8+35       0.0448      0.14  Q        V |          |          |          |
8+40       0.0458      0.15  Q        V |          |          |          |
8+45       0.0468      0.15  Q        V |          |          |          |
8+50       0.0478      0.15  Q         V          |          |          |
8+55       0.0489      0.15  Q         V          |          |          |
```


9+ 0 0.0499 0.16 Q
9+ 5 0.0511 0.16 Q
9+10 0.0522 0.17 Q
9+15 0.0534 0.17 Q
9+20 0.0547 0.18 Q
9+25 0.0559 0.18 Q
9+30 0.0572 0.18 Q
9+35 0.0585 0.19 Q
9+40 0.0598 0.19 Q
9+45 0.0611 0.19 Q
9+50 0.0625 0.20 Q
9+55 0.0638 0.20 Q
10+ 0 0.0652 0.20 Q
10+ 5 0.0664 0.17 Q
10+10 0.0674 0.14 Q
10+15 0.0683 0.14 Q
10+20 0.0693 0.14 Q
10+25 0.0702 0.14 Q
10+30 0.0712 0.14 Q
10+35 0.0723 0.16 Q
10+40 0.0735 0.18 Q
10+45 0.0747 0.18 Q
10+50 0.0760 0.18 Q
10+55 0.0773 0.18 Q
11+ 0 0.0785 0.18 Q
11+ 5 0.0798 0.18 Q
11+10 0.0810 0.17 Q
11+15 0.0822 0.17 Q
11+20 0.0834 0.17 Q
11+25 0.0846 0.17 Q
11+30 0.0858 0.17 Q
11+35 0.0869 0.17 Q
11+40 0.0880 0.16 Q
11+45 0.0891 0.16 Q
11+50 0.0902 0.16 Q
11+55 0.0913 0.16 Q
12+ 0 0.0924 0.16 Q
12+ 5 0.0938 0.19 Q
12+10 0.0953 0.22 Q
12+15 0.0968 0.23 Q
12+20 0.0984 0.23 Q
12+25 0.1001 0.24 Q
12+30 0.1017 0.24 Q
12+35 0.1034 0.25 Q
12+40 0.1052 0.25 Q
12+45 0.1069 0.26 Q
12+50 0.1087 0.26 Q
12+55 0.1105 0.26 Q
13+ 0 0.1124 0.26 Q
13+ 5 0.1143 0.29 Q
13+10 0.1164 0.31 Q
13+15 0.1186 0.31 Q
13+20 0.1207 0.31 Q
13+25 0.1229 0.31 Q
13+30 0.1250 0.31 Q
13+35 0.1268 0.26 Q
13+40 0.1283 0.22 Q
13+45 0.1298 0.21 Q
13+50 0.1313 0.21 Q
13+55 0.1327 0.21 Q
14+ 0 0.1342 0.21 Q
14+ 5 0.1357 0.23 Q
14+10 0.1374 0.24 Q
14+15 0.1391 0.25 Q
14+20 0.1408 0.24 Q
14+25 0.1424 0.24 Q
14+30 0.1440 0.24 Q
14+35 0.1457 0.24 Q
14+40 0.1473 0.24 Q
14+45 0.1490 0.24 Q
14+50 0.1506 0.23 Q
14+55 0.1521 0.23 Q
15+ 0 0.1537 0.23 Q
15+ 5 0.1553 0.22 Q
15+10 0.1568 0.22 Q
15+15 0.1583 0.22 Q
15+20 0.1598 0.22 Q
15+25 0.1612 0.21 Q
15+30 0.1627 0.21 Q
15+35 0.1640 0.19 Q
15+40 0.1652 0.18 Q
15+45 0.1665 0.17 Q
15+50 0.1677 0.17 Q
15+55 0.1688 0.17 Q
16+ 0 0.1700 0.17 Q
16+ 5 0.1708 0.11 Q

```
16+10       0.1712      0.05  Q        |          |          |      V   |
16+15       0.1714      0.04  Q        |          |          |      V   |
16+20       0.1717      0.04  Q        |          |          |      V   |
16+25       0.1719      0.04  Q        |          |          |      V   |
16+30       0.1722      0.04  Q        |          |          |      V   |
16+35       0.1724      0.03  Q        |          |          |      V   |
16+40       0.1726      0.03  Q        |          |          |      V   |
16+45       0.1728      0.03  Q        |          |          |      V   |
16+50       0.1730      0.03  Q        |          |          |      V   |
16+55       0.1732      0.03  Q        |          |          |      V   |
17+ 0       0.1734      0.03  Q        |          |          |      V   |
17+ 5       0.1736      0.04  Q        |          |          |      V   |
17+10       0.1739      0.04  Q        |          |          |      V   |
17+15       0.1742      0.05  Q        |          |          |      V   |
17+20       0.1745      0.05  Q        |          |          |      V   |
17+25       0.1749      0.05  Q        |          |          |       V  |
17+30       0.1752      0.05  Q        |          |          |       V  |
17+35       0.1755      0.05  Q        |          |          |       V  |
17+40       0.1758      0.05  Q        |          |          |       V  |
17+45       0.1761      0.05  Q        |          |          |       V  |
17+50       0.1764      0.04  Q        |          |          |       V  |
17+55       0.1767      0.04  Q        |          |          |       V  |
18+ 0       0.1769      0.04  Q        |          |          |       V  |
18+ 5       0.1772      0.04  Q        |          |          |       V  |
18+10       0.1774      0.04  Q        |          |          |       V  |
18+15       0.1777      0.04  Q        |          |          |       V  |
18+20       0.1779      0.04  Q        |          |          |       V  |
18+25       0.1782      0.04  Q        |          |          |       V  |
18+30       0.1784      0.04  Q        |          |          |       V  |
18+35       0.1787      0.03  Q        |          |          |       V  |
18+40       0.1789      0.03  Q        |          |          |       V  |
18+45       0.1790      0.03  Q        |          |          |       V  |
18+50       0.1792      0.02  Q        |          |          |       V  |
18+55       0.1793      0.02  Q        |          |          |       V  |
19+ 0       0.1795      0.02  Q        |          |          |       V  |
19+ 5       0.1796      0.02  Q        |          |          |        V |
19+10       0.1798      0.03  Q        |          |          |        V |
19+15       0.1800      0.03  Q        |          |          |        V |
19+20       0.1802      0.03  Q        |          |          |        V |
19+25       0.1805      0.04  Q        |          |          |        V |
19+30       0.1807      0.04  Q        |          |          |        V |
19+35       0.1809      0.03  Q        |          |          |        V |
19+40       0.1811      0.03  Q        |          |          |        V |
19+45       0.1813      0.03  Q        |          |          |        V |
19+50       0.1815      0.02  Q        |          |          |        V |
19+55       0.1816      0.02  Q        |          |          |        V |
20+ 0       0.1817      0.02  Q        |          |          |        V |
20+ 5       0.1819      0.02  Q        |          |          |        V |
20+10       0.1821      0.03  Q        |          |          |        V |
20+15       0.1823      0.03  Q        |          |          |        V |
20+20       0.1824      0.03  Q        |          |          |        V |
20+25       0.1826      0.03  Q        |          |          |        V |
20+30       0.1828      0.03  Q        |          |          |        V |
20+35       0.1830      0.03  Q        |          |          |        V |
20+40       0.1832      0.03  Q        |          |          |        V |
20+45       0.1834      0.03  Q        |          |          |        V |
20+50       0.1835      0.02  Q        |          |          |        V |
20+55       0.1837      0.02  Q        |          |          |        V |
21+ 0       0.1838      0.02  Q        |          |          |        V |
21+ 5       0.1840      0.02  Q        |          |          |        V |
21+10       0.1841      0.03  Q        |          |          |        V |
21+15       0.1843      0.03  Q        |          |          |         V|
21+20       0.1845      0.02  Q        |          |          |         V|
21+25       0.1846      0.02  Q        |          |          |         V|
21+30       0.1848      0.02  Q        |          |          |         V|
21+35       0.1849      0.02  Q        |          |          |         V|
21+40       0.1851      0.03  Q        |          |          |         V|
21+45       0.1853      0.03  Q        |          |          |         V|
21+50       0.1854      0.02  Q        |          |          |         V|
21+55       0.1856      0.02  Q        |          |          |         V|
22+ 0       0.1857      0.02  Q        |          |          |         V|
22+ 5       0.1859      0.02  Q        |          |          |         V|
22+10       0.1860      0.03  Q        |          |          |         V|
22+15       0.1862      0.03  Q        |          |          |         V|
22+20       0.1864      0.02  Q        |          |          |         V|
22+25       0.1865      0.02  Q        |          |          |         V|
22+30       0.1866      0.02  Q        |          |          |         V|
22+35       0.1868      0.02  Q        |          |          |         V|
22+40       0.1869      0.02  Q        |          |          |         V|
22+45       0.1870      0.02  Q        |          |          |         V|
22+50       0.1871      0.02  Q        |          |          |         V|
22+55       0.1873      0.02  Q        |          |          |         V|
23+ 0       0.1874      0.02  Q        |          |          |         V|
23+ 5       0.1875      0.02  Q        |          |          |         V|
23+10       0.1877      0.02  Q        |          |          |         V|
23+15       0.1878      0.02  Q        |          |          |         V|
```

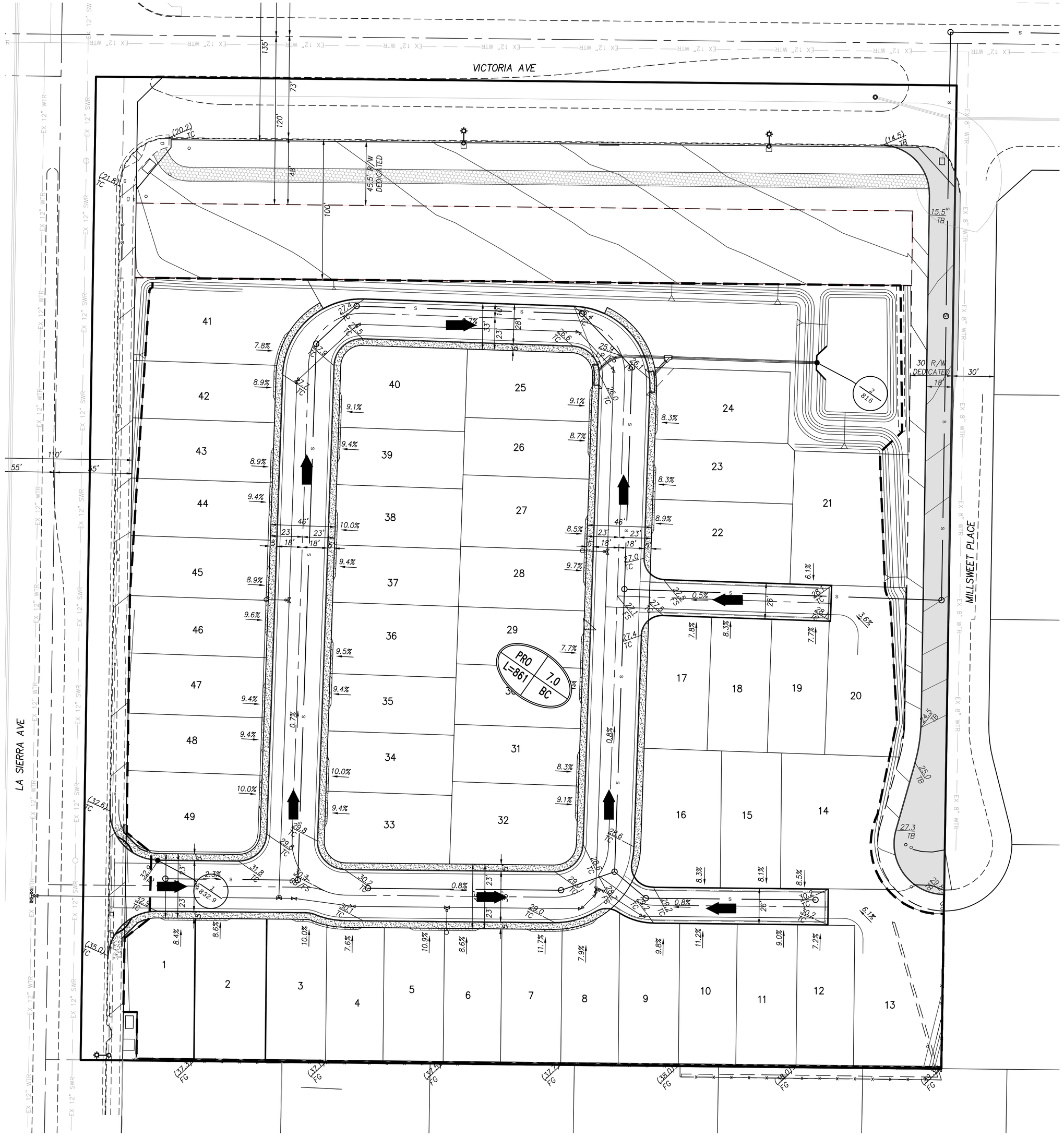
```
   23+20       0.1879      0.02  Q          |          |          |          v|
   23+25       0.1880      0.02  Q          |          |          |          v|
   23+30       0.1882      0.02  Q          |          |          |          v|
   23+35       0.1883      0.02  Q          |          |          |          v|
   23+40       0.1884      0.02  Q          |          |          |          v|
   23+45       0.1885      0.02  Q          |          |          |          v|
   23+50       0.1887      0.02  Q          |          |          |          v|
   23+55       0.1888      0.02  Q          |          |          |          v|
   24+ 0       0.1889      0.02  Q          |          |          |          v|
   24+ 5       0.1890      0.01  Q          |          |          |          v|
   24+10       0.1890      0.00  Q          |          |          |          v|
   24+15       0.1890      0.00  Q          |          |          |          v|
-------------------------------------------------------------------------------
```

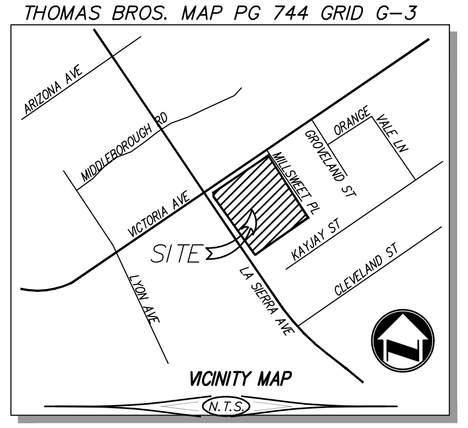
# Section 2

## Post-Development Unit Hydrograph

IN THE COMMUNITY OF WINCHESTER, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

# POST DEVELOPMENT UNIT HYDROGRAPH




SEC. 24 T.3S. R.6W


PLANS PREPARED BY:
adkan ENGINEERS
Civil Engineering • Surveying • Planning
6879 Airport Drive, Riverside, CA 92504
Tel:(951) 688-0241 • Fax:(951) 688-0599

```
        U n i t   H y d r o g r a p h   A n a l y s i s

        Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2008, Version 8.1
               Study date  02/22/24 File: 2YR242.out

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------------------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 5006

------------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



------------------------------------------------------------------------
------------------------------------------------------------------------
Drainage Area =       7.00(Ac.)  =      0.011 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       7.00(Ac.)  =      0.011 Sq. Mi.
Length along longest watercourse =     861.00(Ft.)
Length along longest watercourse measured to centroid =     430.00(Ft.)
Length along longest watercourse =      0.163 Mi.
Length along longest watercourse measured to centroid =      0.081 Mi.
Difference in elevation =      16.90(Ft.)
Slope along watercourse =    103.6376 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.029 Hr.
Lag time =     1.73 Min.
25% of lag time =     0.43 Min.
40% of lag time =     0.69 Min.
Unit time =     5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.00            1.80                 12.60

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        7.00            6.00                 42.00

STORM EVENT (YEAR) =    2.00
Area Averaged 2-Year Rainfall =    1.800(In)
Area Averaged 100-Year Rainfall =    6.000(In)

Point rain (area averaged) =    1.800(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.800(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     7.000           69.00          0.600
 Total Area Entered =      7.00(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-1     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
69.0  49.8      0.574     0.600        0.264       1.000      0.264
                                                 Sum (F) =   0.264
Area averaged mean soil loss (F) (In/Hr) =  0.264
Minimum soil loss rate ((In/Hr)) =  0.132
(for 24 hour storm duration)
Soil low loss rate (decimal) =   0.420
------------------------------------------------------------------------

               U n i t  H y d r o g r a p h
                      VALLEY S-Curve
------------------------------------------------------------------
               Unit Hydrograph Data
------------------------------------------------------------------
Unit time period   Time % of lag   Distribution   Unit Hydrograph
    (hrs)                          Graph %           (CFS)
```

| | | | | | |
|---|---|---|---|---|---|
| 1 | 0.083 | 288.833 | 55.504 | | 3.916 |
| 2 | 0.167 | 577.666 | 37.752 | | 2.663 |
| 3 | 0.250 | 866.500 | 6.744 | | 0.476 |
| | | | Sum = 100.000 | Sum= | 7.055 |

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

| Unit | Time (Hr.) | Pattern Percent | Storm Rain (In/Hr) | Loss rate(In./Hr) Max | Low | Effective (In/Hr) |
|---|---|---|---|---|---|---|
| 1 | 0.08 | 0.07 | 0.014 | ( 0.468) | 0.006 | 0.008 |
| 2 | 0.17 | 0.07 | 0.014 | ( 0.466) | 0.006 | 0.008 |
| 3 | 0.25 | 0.07 | 0.014 | ( 0.464) | 0.006 | 0.008 |
| 4 | 0.33 | 0.10 | 0.022 | ( 0.463) | 0.009 | 0.013 |
| 5 | 0.42 | 0.10 | 0.022 | ( 0.461) | 0.009 | 0.013 |
| 6 | 0.50 | 0.10 | 0.022 | ( 0.459) | 0.009 | 0.013 |
| 7 | 0.58 | 0.10 | 0.022 | ( 0.457) | 0.009 | 0.013 |
| 8 | 0.67 | 0.10 | 0.022 | ( 0.455) | 0.009 | 0.013 |
| 9 | 0.75 | 0.10 | 0.022 | ( 0.454) | 0.009 | 0.013 |
| 10 | 0.83 | 0.13 | 0.029 | ( 0.452) | 0.012 | 0.017 |
| 11 | 0.92 | 0.13 | 0.029 | ( 0.450) | 0.012 | 0.017 |
| 12 | 1.00 | 0.13 | 0.029 | ( 0.448) | 0.012 | 0.017 |
| 13 | 1.08 | 0.10 | 0.022 | ( 0.447) | 0.009 | 0.013 |
| 14 | 1.17 | 0.10 | 0.022 | ( 0.445) | 0.009 | 0.013 |
| 15 | 1.25 | 0.10 | 0.022 | ( 0.443) | 0.009 | 0.013 |
| 16 | 1.33 | 0.10 | 0.022 | ( 0.441) | 0.009 | 0.013 |
| 17 | 1.42 | 0.10 | 0.022 | ( 0.439) | 0.009 | 0.013 |
| 18 | 1.50 | 0.10 | 0.022 | ( 0.438) | 0.009 | 0.013 |
| 19 | 1.58 | 0.10 | 0.022 | ( 0.436) | 0.009 | 0.013 |
| 20 | 1.67 | 0.10 | 0.022 | ( 0.434) | 0.009 | 0.013 |
| 21 | 1.75 | 0.10 | 0.022 | ( 0.433) | 0.009 | 0.013 |
| 22 | 1.83 | 0.13 | 0.029 | ( 0.431) | 0.012 | 0.017 |
| 23 | 1.92 | 0.13 | 0.029 | ( 0.429) | 0.012 | 0.017 |
| 24 | 2.00 | 0.13 | 0.029 | ( 0.427) | 0.012 | 0.017 |
| 25 | 2.08 | 0.13 | 0.029 | ( 0.426) | 0.012 | 0.017 |
| 26 | 2.17 | 0.13 | 0.029 | ( 0.424) | 0.012 | 0.017 |
| 27 | 2.25 | 0.13 | 0.029 | ( 0.422) | 0.012 | 0.017 |
| 28 | 2.33 | 0.13 | 0.029 | ( 0.420) | 0.012 | 0.017 |
| 29 | 2.42 | 0.13 | 0.029 | ( 0.419) | 0.012 | 0.017 |
| 30 | 2.50 | 0.13 | 0.029 | ( 0.417) | 0.012 | 0.017 |
| 31 | 2.58 | 0.17 | 0.036 | ( 0.415) | 0.015 | 0.021 |
| 32 | 2.67 | 0.17 | 0.036 | ( 0.414) | 0.015 | 0.021 |
| 33 | 2.75 | 0.17 | 0.036 | ( 0.412) | 0.015 | 0.021 |
| 34 | 2.83 | 0.17 | 0.036 | ( 0.410) | 0.015 | 0.021 |
| 35 | 2.92 | 0.17 | 0.036 | ( 0.408) | 0.015 | 0.021 |
| 36 | 3.00 | 0.17 | 0.036 | ( 0.407) | 0.015 | 0.021 |
| 37 | 3.08 | 0.17 | 0.036 | ( 0.405) | 0.015 | 0.021 |
| 38 | 3.17 | 0.17 | 0.036 | ( 0.403) | 0.015 | 0.021 |
| 39 | 3.25 | 0.17 | 0.036 | ( 0.402) | 0.015 | 0.021 |
| 40 | 3.33 | 0.17 | 0.036 | ( 0.400) | 0.015 | 0.021 |
| 41 | 3.42 | 0.17 | 0.036 | ( 0.398) | 0.015 | 0.021 |
| 42 | 3.50 | 0.17 | 0.036 | ( 0.397) | 0.015 | 0.021 |
| 43 | 3.58 | 0.17 | 0.036 | ( 0.395) | 0.015 | 0.021 |
| 44 | 3.67 | 0.17 | 0.036 | ( 0.393) | 0.015 | 0.021 |
| 45 | 3.75 | 0.17 | 0.036 | ( 0.392) | 0.015 | 0.021 |
| 46 | 3.83 | 0.20 | 0.043 | ( 0.390) | 0.018 | 0.025 |
| 47 | 3.92 | 0.20 | 0.043 | ( 0.388) | 0.018 | 0.025 |
| 48 | 4.00 | 0.20 | 0.043 | ( 0.387) | 0.018 | 0.025 |
| 49 | 4.08 | 0.20 | 0.043 | ( 0.385) | 0.018 | 0.025 |
| 50 | 4.17 | 0.20 | 0.043 | ( 0.384) | 0.018 | 0.025 |
| 51 | 4.25 | 0.20 | 0.043 | ( 0.382) | 0.018 | 0.025 |
| 52 | 4.33 | 0.23 | 0.050 | ( 0.380) | 0.021 | 0.029 |
| 53 | 4.42 | 0.23 | 0.050 | ( 0.379) | 0.021 | 0.029 |
| 54 | 4.50 | 0.23 | 0.050 | ( 0.377) | 0.021 | 0.029 |
| 55 | 4.58 | 0.23 | 0.050 | ( 0.375) | 0.021 | 0.029 |
| 56 | 4.67 | 0.23 | 0.050 | ( 0.374) | 0.021 | 0.029 |
| 57 | 4.75 | 0.23 | 0.050 | ( 0.372) | 0.021 | 0.029 |
| 58 | 4.83 | 0.27 | 0.058 | ( 0.371) | 0.024 | 0.033 |
| 59 | 4.92 | 0.27 | 0.058 | ( 0.369) | 0.024 | 0.033 |
| 60 | 5.00 | 0.27 | 0.058 | ( 0.367) | 0.024 | 0.033 |
| 61 | 5.08 | 0.20 | 0.043 | ( 0.366) | 0.018 | 0.025 |
| 62 | 5.17 | 0.20 | 0.043 | ( 0.364) | 0.018 | 0.025 |
| 63 | 5.25 | 0.20 | 0.043 | ( 0.363) | 0.018 | 0.025 |
| 64 | 5.33 | 0.23 | 0.050 | ( 0.361) | 0.021 | 0.029 |
| 65 | 5.42 | 0.23 | 0.050 | ( 0.359) | 0.021 | 0.029 |
| 66 | 5.50 | 0.23 | 0.050 | ( 0.358) | 0.021 | 0.029 |
| 67 | 5.58 | 0.27 | 0.058 | ( 0.356) | 0.024 | 0.033 |
| 68 | 5.67 | 0.27 | 0.058 | ( 0.355) | 0.024 | 0.033 |
| 69 | 5.75 | 0.27 | 0.058 | ( 0.353) | 0.024 | 0.033 |
| 70 | 5.83 | 0.27 | 0.058 | ( 0.352) | 0.024 | 0.033 |
| 71 | 5.92 | 0.27 | 0.058 | ( 0.350) | 0.024 | 0.033 |
| 72 | 6.00 | 0.27 | 0.058 | ( 0.349) | 0.024 | 0.033 |
| 73 | 6.08 | 0.30 | 0.065 | ( 0.347) | 0.027 | 0.038 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 74 | 6.17 | 0.30 | 0.065 | ( 0.345) | 0.027 | 0.038 |
| 75 | 6.25 | 0.30 | 0.065 | ( 0.344) | 0.027 | 0.038 |
| 76 | 6.33 | 0.30 | 0.065 | ( 0.342) | 0.027 | 0.038 |
| 77 | 6.42 | 0.30 | 0.065 | ( 0.341) | 0.027 | 0.038 |
| 78 | 6.50 | 0.30 | 0.065 | ( 0.339) | 0.027 | 0.038 |
| 79 | 6.58 | 0.33 | 0.072 | ( 0.338) | 0.030 | 0.042 |
| 80 | 6.67 | 0.33 | 0.072 | ( 0.336) | 0.030 | 0.042 |
| 81 | 6.75 | 0.33 | 0.072 | ( 0.335) | 0.030 | 0.042 |
| 82 | 6.83 | 0.33 | 0.072 | ( 0.333) | 0.030 | 0.042 |
| 83 | 6.92 | 0.33 | 0.072 | ( 0.332) | 0.030 | 0.042 |
| 84 | 7.00 | 0.33 | 0.072 | ( 0.330) | 0.030 | 0.042 |
| 85 | 7.08 | 0.33 | 0.072 | ( 0.329) | 0.030 | 0.042 |
| 86 | 7.17 | 0.33 | 0.072 | ( 0.327) | 0.030 | 0.042 |
| 87 | 7.25 | 0.33 | 0.072 | ( 0.326) | 0.030 | 0.042 |
| 88 | 7.33 | 0.37 | 0.079 | ( 0.324) | 0.033 | 0.046 |
| 89 | 7.42 | 0.37 | 0.079 | ( 0.323) | 0.033 | 0.046 |
| 90 | 7.50 | 0.37 | 0.079 | ( 0.321) | 0.033 | 0.046 |
| 91 | 7.58 | 0.40 | 0.086 | ( 0.320) | 0.036 | 0.050 |
| 92 | 7.67 | 0.40 | 0.086 | ( 0.318) | 0.036 | 0.050 |
| 93 | 7.75 | 0.40 | 0.086 | ( 0.317) | 0.036 | 0.050 |
| 94 | 7.83 | 0.43 | 0.094 | ( 0.315) | 0.039 | 0.054 |
| 95 | 7.92 | 0.43 | 0.094 | ( 0.314) | 0.039 | 0.054 |
| 96 | 8.00 | 0.43 | 0.094 | ( 0.312) | 0.039 | 0.054 |
| 97 | 8.08 | 0.50 | 0.108 | ( 0.311) | 0.045 | 0.063 |
| 98 | 8.17 | 0.50 | 0.108 | ( 0.310) | 0.045 | 0.063 |
| 99 | 8.25 | 0.50 | 0.108 | ( 0.308) | 0.045 | 0.063 |
| 100 | 8.33 | 0.50 | 0.108 | ( 0.307) | 0.045 | 0.063 |
| 101 | 8.42 | 0.50 | 0.108 | ( 0.305) | 0.045 | 0.063 |
| 102 | 8.50 | 0.50 | 0.108 | ( 0.304) | 0.045 | 0.063 |
| 103 | 8.58 | 0.53 | 0.115 | ( 0.302) | 0.048 | 0.067 |
| 104 | 8.67 | 0.53 | 0.115 | ( 0.301) | 0.048 | 0.067 |
| 105 | 8.75 | 0.53 | 0.115 | ( 0.300) | 0.048 | 0.067 |
| 106 | 8.83 | 0.57 | 0.122 | ( 0.298) | 0.051 | 0.071 |
| 107 | 8.92 | 0.57 | 0.122 | ( 0.297) | 0.051 | 0.071 |
| 108 | 9.00 | 0.57 | 0.122 | ( 0.295) | 0.051 | 0.071 |
| 109 | 9.08 | 0.63 | 0.137 | ( 0.294) | 0.057 | 0.079 |
| 110 | 9.17 | 0.63 | 0.137 | ( 0.293) | 0.057 | 0.079 |
| 111 | 9.25 | 0.63 | 0.137 | ( 0.291) | 0.057 | 0.079 |
| 112 | 9.33 | 0.67 | 0.144 | ( 0.290) | 0.060 | 0.084 |
| 113 | 9.42 | 0.67 | 0.144 | ( 0.288) | 0.060 | 0.084 |
| 114 | 9.50 | 0.67 | 0.144 | ( 0.287) | 0.060 | 0.084 |
| 115 | 9.58 | 0.70 | 0.151 | ( 0.286) | 0.064 | 0.088 |
| 116 | 9.67 | 0.70 | 0.151 | ( 0.284) | 0.064 | 0.088 |
| 117 | 9.75 | 0.70 | 0.151 | ( 0.283) | 0.064 | 0.088 |
| 118 | 9.83 | 0.73 | 0.158 | ( 0.282) | 0.067 | 0.092 |
| 119 | 9.92 | 0.73 | 0.158 | ( 0.280) | 0.067 | 0.092 |
| 120 | 10.00 | 0.73 | 0.158 | ( 0.279) | 0.067 | 0.092 |
| 121 | 10.08 | 0.50 | 0.108 | ( 0.277) | 0.045 | 0.063 |
| 122 | 10.17 | 0.50 | 0.108 | ( 0.276) | 0.045 | 0.063 |
| 123 | 10.25 | 0.50 | 0.108 | ( 0.275) | 0.045 | 0.063 |
| 124 | 10.33 | 0.50 | 0.108 | ( 0.273) | 0.045 | 0.063 |
| 125 | 10.42 | 0.50 | 0.108 | ( 0.272) | 0.045 | 0.063 |
| 126 | 10.50 | 0.50 | 0.108 | ( 0.271) | 0.045 | 0.063 |
| 127 | 10.58 | 0.67 | 0.144 | ( 0.269) | 0.060 | 0.084 |
| 128 | 10.67 | 0.67 | 0.144 | ( 0.268) | 0.060 | 0.084 |
| 129 | 10.75 | 0.67 | 0.144 | ( 0.267) | 0.060 | 0.084 |
| 130 | 10.83 | 0.67 | 0.144 | ( 0.266) | 0.060 | 0.084 |
| 131 | 10.92 | 0.67 | 0.144 | ( 0.264) | 0.060 | 0.084 |
| 132 | 11.00 | 0.67 | 0.144 | ( 0.263) | 0.060 | 0.084 |
| 133 | 11.08 | 0.63 | 0.137 | ( 0.262) | 0.057 | 0.079 |
| 134 | 11.17 | 0.63 | 0.137 | ( 0.260) | 0.057 | 0.079 |
| 135 | 11.25 | 0.63 | 0.137 | ( 0.259) | 0.057 | 0.079 |
| 136 | 11.33 | 0.63 | 0.137 | ( 0.258) | 0.057 | 0.079 |
| 137 | 11.42 | 0.63 | 0.137 | ( 0.256) | 0.057 | 0.079 |
| 138 | 11.50 | 0.63 | 0.137 | ( 0.255) | 0.057 | 0.079 |
| 139 | 11.58 | 0.57 | 0.122 | ( 0.254) | 0.051 | 0.071 |
| 140 | 11.67 | 0.57 | 0.122 | ( 0.253) | 0.051 | 0.071 |
| 141 | 11.75 | 0.57 | 0.122 | ( 0.251) | 0.051 | 0.071 |
| 142 | 11.83 | 0.60 | 0.130 | ( 0.250) | 0.054 | 0.075 |
| 143 | 11.92 | 0.60 | 0.130 | ( 0.249) | 0.054 | 0.075 |
| 144 | 12.00 | 0.60 | 0.130 | ( 0.248) | 0.054 | 0.075 |
| 145 | 12.08 | 0.83 | 0.180 | ( 0.246) | 0.076 | 0.104 |
| 146 | 12.17 | 0.83 | 0.180 | ( 0.245) | 0.076 | 0.104 |
| 147 | 12.25 | 0.83 | 0.180 | ( 0.244) | 0.076 | 0.104 |
| 148 | 12.33 | 0.87 | 0.187 | ( 0.243) | 0.079 | 0.109 |
| 149 | 12.42 | 0.87 | 0.187 | ( 0.242) | 0.079 | 0.109 |
| 150 | 12.50 | 0.87 | 0.187 | ( 0.240) | 0.079 | 0.109 |
| 151 | 12.58 | 0.93 | 0.202 | ( 0.239) | 0.085 | 0.117 |
| 152 | 12.67 | 0.93 | 0.202 | ( 0.238) | 0.085 | 0.117 |
| 153 | 12.75 | 0.93 | 0.202 | ( 0.237) | 0.085 | 0.117 |
| 154 | 12.83 | 0.97 | 0.209 | ( 0.236) | 0.088 | 0.121 |
| 155 | 12.92 | 0.97 | 0.209 | ( 0.234) | 0.088 | 0.121 |
| 156 | 13.00 | 0.97 | 0.209 | ( 0.233) | 0.088 | 0.121 |
| 157 | 13.08 | 1.13 | 0.245 | ( 0.232) | 0.103 | 0.142 |
| 158 | 13.17 | 1.13 | 0.245 | ( 0.231) | 0.103 | 0.142 |
| 159 | 13.25 | 1.13 | 0.245 | ( 0.230) | 0.103 | 0.142 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 160 | 13.33 | 1.13 | 0.245 | ( 0.228) | 0.103 | 0.142 |
| 161 | 13.42 | 1.13 | 0.245 | ( 0.227) | 0.103 | 0.142 |
| 162 | 13.50 | 1.13 | 0.245 | ( 0.226) | 0.103 | 0.142 |
| 163 | 13.58 | 0.77 | 0.166 | ( 0.225) | 0.070 | 0.096 |
| 164 | 13.67 | 0.77 | 0.166 | ( 0.224) | 0.070 | 0.096 |
| 165 | 13.75 | 0.77 | 0.166 | ( 0.223) | 0.070 | 0.096 |
| 166 | 13.83 | 0.77 | 0.166 | ( 0.222) | 0.070 | 0.096 |
| 167 | 13.92 | 0.77 | 0.166 | ( 0.220) | 0.070 | 0.096 |
| 168 | 14.00 | 0.77 | 0.166 | ( 0.219) | 0.070 | 0.096 |
| 169 | 14.08 | 0.90 | 0.194 | ( 0.218) | 0.082 | 0.113 |
| 170 | 14.17 | 0.90 | 0.194 | ( 0.217) | 0.082 | 0.113 |
| 171 | 14.25 | 0.90 | 0.194 | ( 0.216) | 0.082 | 0.113 |
| 172 | 14.33 | 0.87 | 0.187 | ( 0.215) | 0.079 | 0.109 |
| 173 | 14.42 | 0.87 | 0.187 | ( 0.214) | 0.079 | 0.109 |
| 174 | 14.50 | 0.87 | 0.187 | ( 0.213) | 0.079 | 0.109 |
| 175 | 14.58 | 0.87 | 0.187 | ( 0.212) | 0.079 | 0.109 |
| 176 | 14.67 | 0.87 | 0.187 | ( 0.210) | 0.079 | 0.109 |
| 177 | 14.75 | 0.87 | 0.187 | ( 0.209) | 0.079 | 0.109 |
| 178 | 14.83 | 0.83 | 0.180 | ( 0.208) | 0.076 | 0.104 |
| 179 | 14.92 | 0.83 | 0.180 | ( 0.207) | 0.076 | 0.104 |
| 180 | 15.00 | 0.83 | 0.180 | ( 0.206) | 0.076 | 0.104 |
| 181 | 15.08 | 0.80 | 0.173 | ( 0.205) | 0.073 | 0.100 |
| 182 | 15.17 | 0.80 | 0.173 | ( 0.204) | 0.073 | 0.100 |
| 183 | 15.25 | 0.80 | 0.173 | ( 0.203) | 0.073 | 0.100 |
| 184 | 15.33 | 0.77 | 0.166 | ( 0.202) | 0.070 | 0.096 |
| 185 | 15.42 | 0.77 | 0.166 | ( 0.201) | 0.070 | 0.096 |
| 186 | 15.50 | 0.77 | 0.166 | ( 0.200) | 0.070 | 0.096 |
| 187 | 15.58 | 0.63 | 0.137 | ( 0.199) | 0.057 | 0.079 |
| 188 | 15.67 | 0.63 | 0.137 | ( 0.198) | 0.057 | 0.079 |
| 189 | 15.75 | 0.63 | 0.137 | ( 0.197) | 0.057 | 0.079 |
| 190 | 15.83 | 0.63 | 0.137 | ( 0.196) | 0.057 | 0.079 |
| 191 | 15.92 | 0.63 | 0.137 | ( 0.195) | 0.057 | 0.079 |
| 192 | 16.00 | 0.63 | 0.137 | ( 0.194) | 0.057 | 0.079 |
| 193 | 16.08 | 0.13 | 0.029 | ( 0.193) | 0.012 | 0.017 |
| 194 | 16.17 | 0.13 | 0.029 | ( 0.192) | 0.012 | 0.017 |
| 195 | 16.25 | 0.13 | 0.029 | ( 0.191) | 0.012 | 0.017 |
| 196 | 16.33 | 0.13 | 0.029 | ( 0.190) | 0.012 | 0.017 |
| 197 | 16.42 | 0.13 | 0.029 | ( 0.189) | 0.012 | 0.017 |
| 198 | 16.50 | 0.13 | 0.029 | ( 0.188) | 0.012 | 0.017 |
| 199 | 16.58 | 0.10 | 0.022 | ( 0.187) | 0.009 | 0.013 |
| 200 | 16.67 | 0.10 | 0.022 | ( 0.186) | 0.009 | 0.013 |
| 201 | 16.75 | 0.10 | 0.022 | ( 0.185) | 0.009 | 0.013 |
| 202 | 16.83 | 0.10 | 0.022 | ( 0.184) | 0.009 | 0.013 |
| 203 | 16.92 | 0.10 | 0.022 | ( 0.183) | 0.009 | 0.013 |
| 204 | 17.00 | 0.10 | 0.022 | ( 0.182) | 0.009 | 0.013 |
| 205 | 17.08 | 0.17 | 0.036 | ( 0.181) | 0.015 | 0.021 |
| 206 | 17.17 | 0.17 | 0.036 | ( 0.181) | 0.015 | 0.021 |
| 207 | 17.25 | 0.17 | 0.036 | ( 0.180) | 0.015 | 0.021 |
| 208 | 17.33 | 0.17 | 0.036 | ( 0.179) | 0.015 | 0.021 |
| 209 | 17.42 | 0.17 | 0.036 | ( 0.178) | 0.015 | 0.021 |
| 210 | 17.50 | 0.17 | 0.036 | ( 0.177) | 0.015 | 0.021 |
| 211 | 17.58 | 0.17 | 0.036 | ( 0.176) | 0.015 | 0.021 |
| 212 | 17.67 | 0.17 | 0.036 | ( 0.175) | 0.015 | 0.021 |
| 213 | 17.75 | 0.17 | 0.036 | ( 0.174) | 0.015 | 0.021 |
| 214 | 17.83 | 0.13 | 0.029 | ( 0.173) | 0.012 | 0.017 |
| 215 | 17.92 | 0.13 | 0.029 | ( 0.173) | 0.012 | 0.017 |
| 216 | 18.00 | 0.13 | 0.029 | ( 0.172) | 0.012 | 0.017 |
| 217 | 18.08 | 0.13 | 0.029 | ( 0.171) | 0.012 | 0.017 |
| 218 | 18.17 | 0.13 | 0.029 | ( 0.170) | 0.012 | 0.017 |
| 219 | 18.25 | 0.13 | 0.029 | ( 0.169) | 0.012 | 0.017 |
| 220 | 18.33 | 0.13 | 0.029 | ( 0.168) | 0.012 | 0.017 |
| 221 | 18.42 | 0.13 | 0.029 | ( 0.168) | 0.012 | 0.017 |
| 222 | 18.50 | 0.13 | 0.029 | ( 0.167) | 0.012 | 0.017 |
| 223 | 18.58 | 0.10 | 0.022 | ( 0.166) | 0.009 | 0.013 |
| 224 | 18.67 | 0.10 | 0.022 | ( 0.165) | 0.009 | 0.013 |
| 225 | 18.75 | 0.10 | 0.022 | ( 0.164) | 0.009 | 0.013 |
| 226 | 18.83 | 0.07 | 0.014 | ( 0.164) | 0.006 | 0.008 |
| 227 | 18.92 | 0.07 | 0.014 | ( 0.163) | 0.006 | 0.008 |
| 228 | 19.00 | 0.07 | 0.014 | ( 0.162) | 0.006 | 0.008 |
| 229 | 19.08 | 0.10 | 0.022 | ( 0.161) | 0.009 | 0.013 |
| 230 | 19.17 | 0.10 | 0.022 | ( 0.160) | 0.009 | 0.013 |
| 231 | 19.25 | 0.10 | 0.022 | ( 0.160) | 0.009 | 0.013 |
| 232 | 19.33 | 0.13 | 0.029 | ( 0.159) | 0.012 | 0.017 |
| 233 | 19.42 | 0.13 | 0.029 | ( 0.158) | 0.012 | 0.017 |
| 234 | 19.50 | 0.13 | 0.029 | ( 0.158) | 0.012 | 0.017 |
| 235 | 19.58 | 0.10 | 0.022 | ( 0.157) | 0.009 | 0.013 |
| 236 | 19.67 | 0.10 | 0.022 | ( 0.156) | 0.009 | 0.013 |
| 237 | 19.75 | 0.10 | 0.022 | ( 0.155) | 0.009 | 0.013 |
| 238 | 19.83 | 0.07 | 0.014 | ( 0.155) | 0.006 | 0.008 |
| 239 | 19.92 | 0.07 | 0.014 | ( 0.154) | 0.006 | 0.008 |
| 240 | 20.00 | 0.07 | 0.014 | ( 0.153) | 0.006 | 0.008 |
| 241 | 20.08 | 0.10 | 0.022 | ( 0.153) | 0.009 | 0.013 |
| 242 | 20.17 | 0.10 | 0.022 | ( 0.152) | 0.009 | 0.013 |
| 243 | 20.25 | 0.10 | 0.022 | ( 0.151) | 0.009 | 0.013 |
| 244 | 20.33 | 0.10 | 0.022 | ( 0.151) | 0.009 | 0.013 |
| 245 | 20.42 | 0.10 | 0.022 | ( 0.150) | 0.009 | 0.013 |

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246  20.50     0.10      0.022       (  0.149)       0.009        0.013
247  20.58     0.10      0.022       (  0.149)       0.009        0.013
248  20.67     0.10      0.022       (  0.148)       0.009        0.013
249  20.75     0.10      0.022       (  0.148)       0.009        0.013
250  20.83     0.07      0.014       (  0.147)       0.006        0.008
251  20.92     0.07      0.014       (  0.146)       0.006        0.008
252  21.00     0.07      0.014       (  0.146)       0.006        0.008
253  21.08     0.10      0.022       (  0.145)       0.009        0.013
254  21.17     0.10      0.022       (  0.145)       0.009        0.013
255  21.25     0.10      0.022       (  0.144)       0.009        0.013
256  21.33     0.07      0.014       (  0.143)       0.006        0.008
257  21.42     0.07      0.014       (  0.143)       0.006        0.008
258  21.50     0.07      0.014       (  0.142)       0.006        0.008
259  21.58     0.10      0.022       (  0.142)       0.009        0.013
260  21.67     0.10      0.022       (  0.141)       0.009        0.013
261  21.75     0.10      0.022       (  0.141)       0.009        0.013
262  21.83     0.07      0.014       (  0.140)       0.006        0.008
263  21.92     0.07      0.014       (  0.140)       0.006        0.008
264  22.00     0.07      0.014       (  0.139)       0.006        0.008
265  22.08     0.10      0.022       (  0.139)       0.009        0.013
266  22.17     0.10      0.022       (  0.138)       0.009        0.013
267  22.25     0.10      0.022       (  0.138)       0.009        0.013
268  22.33     0.07      0.014       (  0.138)       0.006        0.008
269  22.42     0.07      0.014       (  0.137)       0.006        0.008
270  22.50     0.07      0.014       (  0.137)       0.006        0.008
271  22.58     0.07      0.014       (  0.136)       0.006        0.008
272  22.67     0.07      0.014       (  0.136)       0.006        0.008
273  22.75     0.07      0.014       (  0.136)       0.006        0.008
274  22.83     0.07      0.014       (  0.135)       0.006        0.008
275  22.92     0.07      0.014       (  0.135)       0.006        0.008
276  23.00     0.07      0.014       (  0.135)       0.006        0.008
277  23.08     0.07      0.014       (  0.134)       0.006        0.008
278  23.17     0.07      0.014       (  0.134)       0.006        0.008
279  23.25     0.07      0.014       (  0.134)       0.006        0.008
280  23.33     0.07      0.014       (  0.133)       0.006        0.008
281  23.42     0.07      0.014       (  0.133)       0.006        0.008
282  23.50     0.07      0.014       (  0.133)       0.006        0.008
283  23.58     0.07      0.014       (  0.133)       0.006        0.008
284  23.67     0.07      0.014       (  0.133)       0.006        0.008
285  23.75     0.07      0.014       (  0.132)       0.006        0.008
286  23.83     0.07      0.014       (  0.132)       0.006        0.008
287  23.92     0.07      0.014       (  0.132)       0.006        0.008
288  24.00     0.07      0.014       (  0.132)       0.006        0.008
              (Loss Rate Not Used)
    Sum =     100.0                                  Sum =    12.5
      Flood volume = Effective rainfall      1.04(In)
       times area       7.0(Ac.)/[(In)/(Ft.)] =       0.6(Ac.Ft)
      Total soil loss =      0.76(In)
      Total soil loss =     0.441(Ac.Ft)
      Total rainfall =      1.80(In)
      Flood volume =       26527.7 Cubic Feet
      Total soil loss =       19209.7 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      1.002(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                        24 - H O U R    S T O R M
                    R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                 Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
 Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
 ---------------------------------------------------------------------------
   0+ 5       0.0002      0.03  Q          |         |         |         |
   0+10       0.0006      0.05  Q          |         |         |         |
   0+15       0.0010      0.06  Q          |         |         |         |
   0+20       0.0015      0.08  Q          |         |         |         |
   0+25       0.0021      0.09  Q          |         |         |         |
   0+30       0.0027      0.09  Q          |         |         |         |
   0+35       0.0033      0.09  Q          |         |         |         |
   0+40       0.0040      0.09  Q          |         |         |         |
   0+45       0.0046      0.09  Q          |         |         |         |
   0+50       0.0053      0.10  Q          |         |         |         |
   0+55       0.0061      0.12  Q          |         |         |         |
   1+ 0       0.0069      0.12  Q          |         |         |         |
   1+ 5       0.0076      0.10  Q          |         |         |         |
   1+10       0.0082      0.09  Q          |         |         |         |
   1+15       0.0088      0.09  Q          |         |         |         |
   1+20       0.0094      0.09  Q          |         |         |         |
   1+25       0.0100      0.09  Q          |         |         |         |
   1+30       0.0106      0.09  Q          |         |         |         |
   1+35       0.0113      0.09  Q          |         |         |         |
   1+40       0.0119      0.09  Q          |         |         |         |
   1+45       0.0125      0.09  Q          |         |         |         |
   1+50       0.0132      0.10  Q          |         |         |         |
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1+55      0.0140      0.12  Q          |          |          |          |
2+ 0      0.0148      0.12  Q          |          |          |          |
2+ 5      0.0156      0.12  QV         |          |          |          |
2+10      0.0164      0.12  QV         |          |          |          |
2+15      0.0172      0.12  QV         |          |          |          |
2+20      0.0181      0.12  QV         |          |          |          |
2+25      0.0189      0.12  QV         |          |          |          |
2+30      0.0197      0.12  QV         |          |          |          |
2+35      0.0206      0.13  QV         |          |          |          |
2+40      0.0216      0.15  QV         |          |          |          |
2+45      0.0226      0.15  QV         |          |          |          |
2+50      0.0236      0.15  QV         |          |          |          |
2+55      0.0247      0.15  QV         |          |          |          |
3+ 0      0.0257      0.15  QV         |          |          |          |
3+ 5      0.0267      0.15  QV         |          |          |          |
3+10      0.0277      0.15  QV         |          |          |          |
3+15      0.0287      0.15  QV         |          |          |          |
3+20      0.0297      0.15  QV         |          |          |          |
3+25      0.0307      0.15  Q V        |          |          |          |
3+30      0.0318      0.15  Q V        |          |          |          |
3+35      0.0328      0.15  Q V        |          |          |          |
3+40      0.0338      0.15  Q V        |          |          |          |
3+45      0.0348      0.15  Q V        |          |          |          |
3+50      0.0359      0.16  Q V        |          |          |          |
3+55      0.0371      0.17  Q V        |          |          |          |
4+ 0      0.0384      0.18  Q V        |          |          |          |
4+ 5      0.0396      0.18  Q V        |          |          |          |
4+10      0.0408      0.18  Q V        |          |          |          |
4+15      0.0420      0.18  Q V        |          |          |          |
4+20      0.0433      0.19  Q V        |          |          |          |
4+25      0.0447      0.20  Q V        |          |          |          |
4+30      0.0462      0.21  Q  V       |          |          |          |
4+35      0.0476      0.21  Q  V       |          |          |          |
4+40      0.0490      0.21  Q  V       |          |          |          |
4+45      0.0504      0.21  Q  V       |          |          |          |
4+50      0.0520      0.22  Q  V       |          |          |          |
4+55      0.0536      0.23  Q  V       |          |          |          |
5+ 0      0.0552      0.24  Q  V       |          |          |          |
5+ 5      0.0566      0.20  Q  V       |          |          |          |
5+10      0.0578      0.18  Q  V       |          |          |          |
5+15      0.0591      0.18  Q  V       |          |          |          |
5+20      0.0604      0.19  Q  V       |          |          |          |
5+25      0.0618      0.20  Q   V      |          |          |          |
5+30      0.0632      0.21  Q   V      |          |          |          |
5+35      0.0647      0.22  Q   V      |          |          |          |
5+40      0.0664      0.23  Q   V      |          |          |          |
5+45      0.0680      0.24  Q   V      |          |          |          |
5+50      0.0696      0.24  Q   V      |          |          |          |
5+55      0.0712      0.24  Q   V      |          |          |          |
6+ 0      0.0729      0.24  Q   V      |          |          |          |
6+ 5      0.0746      0.25  |Q  V       |          |          |          |
6+10      0.0764      0.26  |Q   V      |          |          |          |
6+15      0.0782      0.27  |Q   V      |          |          |          |
6+20      0.0801      0.27  |Q   V      |          |          |          |
6+25      0.0819      0.27  |Q   V      |          |          |          |
6+30      0.0837      0.27  |Q   V      |          |          |          |
6+35      0.0857      0.28  |Q   V      |          |          |          |
6+40      0.0877      0.29  |Q   V      |          |          |          |
6+45      0.0897      0.29  |Q   V      |          |          |          |
6+50      0.0917      0.29  |Q    V     |          |          |          |
6+55      0.0938      0.29  |Q    V     |          |          |          |
7+ 0      0.0958      0.29  |Q    V     |          |          |          |
7+ 5      0.0978      0.29  |Q    V     |          |          |          |
7+10      0.0998      0.29  |Q    V     |          |          |          |
7+15      0.1019      0.29  |Q    V     |          |          |          |
7+20      0.1040      0.31  |Q    V     |          |          |          |
7+25      0.1062      0.32  |Q    V     |          |          |          |
7+30      0.1085      0.32  |Q     V    |          |          |          |
7+35      0.1108      0.34  |Q     V    |          |          |          |
7+40      0.1132      0.35  |Q     V    |          |          |          |
7+45      0.1157      0.35  |Q     V    |          |          |          |
7+50      0.1182      0.37  |Q     V    |          |          |          |
7+55      0.1209      0.38  |Q     V    |          |          |          |
8+ 0      0.1235      0.38  |Q      V   |          |          |          |
8+ 5      0.1264      0.42  |Q      V   |          |          |          |
8+10      0.1294      0.44  |Q      V   |          |          |          |
8+15      0.1324      0.44  |Q      V   |          |          |          |
8+20      0.1355      0.44  |Q      V   |          |          |          |
8+25      0.1385      0.44  |Q       V  |          |          |          |
8+30      0.1416      0.44  |Q       V  |          |          |          |
8+35      0.1447      0.46  |Q       V  |          |          |          |
8+40      0.1479      0.47  |Q       V  |          |          |          |
8+45      0.1512      0.47  |Q       V  |          |          |          |
8+50      0.1546      0.49  |Q        V  |          |          |          |
8+55      0.1580      0.50  |Q        V  |          |          |          |
9+ 0      0.1614      0.50  | Q       V  |          |          |          |
```

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 9+ 5       0.1651      0.53  | Q       V          |          |          |
 9+10       0.1689      0.56  | Q       |V         |          |          |
 9+15       0.1728      0.56  | Q       |V         |          |          |
 9+20       0.1768      0.58  | Q       |V         |          |          |
 9+25       0.1808      0.59  | Q       |V         |          |          |
 9+30       0.1849      0.59  | Q       | V        |          |          |
 9+35       0.1891      0.61  | Q       | V        |          |          |
 9+40       0.1933      0.62  | Q       | V        |          |          |
 9+45       0.1976      0.62  | Q       | V        |          |          |
 9+50       0.2019      0.64  | Q       |  V       |          |          |
 9+55       0.2064      0.65  | Q       |  V       |          |          |
10+ 0       0.2109      0.65  | Q       |  V       |          |          |
10+ 5       0.2145      0.53  | Q       |   V      |          |          |
10+10       0.2177      0.46  |Q        |   V      |          |          |
10+15       0.2207      0.44  |Q        |   V      |          |          |
10+20       0.2238      0.44  |Q        |   V      |          |          |
10+25       0.2268      0.44  |Q        |   V      |          |          |
10+30       0.2299      0.44  |Q        |    V     |          |          |
10+35       0.2335      0.52  | Q       |    V     |          |          |
10+40       0.2375      0.58  | Q       |    V     |          |          |
10+45       0.2415      0.59  | Q       |    V     |          |          |
10+50       0.2456      0.59  | Q       |     V    |          |          |
10+55       0.2496      0.59  | Q       |     V    |          |          |
11+ 0       0.2537      0.59  | Q       |     V    |          |          |
11+ 5       0.2576      0.57  | Q       |     V    |          |          |
11+10       0.2615      0.56  | Q       |      V   |          |          |
11+15       0.2654      0.56  | Q       |      V   |          |          |
11+20       0.2692      0.56  | Q       |      V   |          |          |
11+25       0.2731      0.56  | Q       |      V   |          |          |
11+30       0.2769      0.56  | Q       |       V  |          |          |
11+35       0.2806      0.53  | Q       |       V  |          |          |
11+40       0.2841      0.51  | Q       |       V  |          |          |
11+45       0.2875      0.50  | Q       |       V  |          |          |
11+50       0.2911      0.52  | Q       |        V |          |          |
11+55       0.2947      0.53  | Q       |        V |          |          |
12+ 0       0.2984      0.53  | Q       |        V |          |          |
12+ 5       0.3028      0.65  | Q       |        V |          |          |
12+10       0.3078      0.72  | Q       |         V          |          |
12+15       0.3129      0.74  | Q       |         V          |          |
12+20       0.3180      0.75  |  Q      |         V          |          |
12+25       0.3233      0.76  |  Q      |          V         |          |
12+30       0.3286      0.77  |  Q      |          V         |          |
12+35       0.3341      0.80  |  Q      |          V         |          |
12+40       0.3397      0.82  |  Q      |           V        |          |
12+45       0.3454      0.83  |  Q      |           V        |          |
12+50       0.3512      0.84  |  Q      |            V       |          |
12+55       0.3571      0.85  |  Q      |            V       |          |
13+ 0       0.3630      0.85  |  Q      |            V       |          |
13+ 5       0.3694      0.94  |  Q      |             V      |          |
13+10       0.3763      0.99  |  Q      |             V      |          |
13+15       0.3832      1.00  |   Q     |              V     |          |
13+20       0.3901      1.00  |   Q     |              V     |          |
13+25       0.3970      1.00  |   Q     |               V    |          |
13+30       0.4039      1.00  |   Q     |               V    |          |
13+35       0.4095      0.82  |  Q      |               V    |          |
13+40       0.4144      0.70  | Q       |                V   |          |
13+45       0.4190      0.68  | Q       |                V   |          |
13+50       0.4237      0.68  | Q       |                V   |          |
13+55       0.4284      0.68  | Q       |                 V  |          |
14+ 0       0.4330      0.68  | Q       |                 V  |          |
14+ 5       0.4382      0.74  | Q       |                 V  |          |
14+10       0.4436      0.79  |  Q      |                  V |          |
14+15       0.4491      0.80  |  Q      |                  V |          |
14+20       0.4544      0.78  |  Q      |                  V |          |
14+25       0.4597      0.77  |  Q      |                   V          |
14+30       0.4650      0.77  |  Q      |                   V          |
14+35       0.4703      0.77  |  Q      |                   V          |
14+40       0.4756      0.77  |  Q      |                    V         |
14+45       0.4808      0.77  |  Q      |                    V         |
14+50       0.4860      0.75  | Q       |                    V         |
14+55       0.4911      0.74  | Q       |                     V        |
15+ 0       0.4962      0.74  | Q       |                     V        |
15+ 5       0.5011      0.72  | Q       |                     V        |
15+10       0.5060      0.71  | Q       |                      V       |
15+15       0.5109      0.71  | Q       |                      V       |
15+20       0.5156      0.69  | Q       |                      V       |
15+25       0.5203      0.68  | Q       |                       V      |
15+30       0.5250      0.68  | Q       |                       V      |
15+35       0.5292      0.61  | Q       |                       V      |
15+40       0.5331      0.57  | Q       |                        V     |
15+45       0.5370      0.56  | Q       |                        V     |
15+50       0.5408      0.56  | Q       |                        V     |
15+55       0.5447      0.56  | Q       |                        V     |
16+ 0       0.5486      0.56  | Q       |                         V    |
16+ 5       0.5507      0.31  |Q        |                         V    |
16+10       0.5517      0.15  Q         |                         V    |
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16+15       0.5525      0.12  Q        |          |          |      V   |
16+20       0.5534      0.12  Q        |          |          |      V   |
16+25       0.5542      0.12  Q        |          |          |      V   |
16+30       0.5550      0.12  Q        |          |          |      V   |
16+35       0.5557      0.10  Q        |          |          |      V   |
16+40       0.5563      0.09  Q        |          |          |      V   |
16+45       0.5569      0.09  Q        |          |          |      V   |
16+50       0.5575      0.09  Q        |          |          |      V   |
16+55       0.5581      0.09  Q        |          |          |      V   |
17+ 0       0.5587      0.09  Q        |          |          |      V   |
17+ 5       0.5596      0.12  Q        |          |          |      V   |
17+10       0.5606      0.14  Q        |          |          |      V   |
17+15       0.5616      0.15  Q        |          |          |      V   |
17+20       0.5626      0.15  Q        |          |          |      V   |
17+25       0.5636      0.15  Q        |          |          |       V  |
17+30       0.5646      0.15  Q        |          |          |       V  |
17+35       0.5656      0.15  Q        |          |          |       V  |
17+40       0.5667      0.15  Q        |          |          |       V  |
17+45       0.5677      0.15  Q        |          |          |       V  |
17+50       0.5686      0.13  Q        |          |          |       V  |
17+55       0.5694      0.12  Q        |          |          |       V  |
18+ 0       0.5702      0.12  Q        |          |          |       V  |
18+ 5       0.5710      0.12  Q        |          |          |       V  |
18+10       0.5718      0.12  Q        |          |          |       V  |
18+15       0.5726      0.12  Q        |          |          |       V  |
18+20       0.5735      0.12  Q        |          |          |       V  |
18+25       0.5743      0.12  Q        |          |          |       V  |
18+30       0.5751      0.12  Q        |          |          |       V  |
18+35       0.5758      0.10  Q        |          |          |       V  |
18+40       0.5764      0.09  Q        |          |          |       V  |
18+45       0.5770      0.09  Q        |          |          |       V  |
18+50       0.5775      0.07  Q        |          |          |       V  |
18+55       0.5779      0.06  Q        |          |          |       V  |
19+ 0       0.5783      0.06  Q        |          |          |       V  |
19+ 5       0.5789      0.08  Q        |          |          |        V |
19+10       0.5794      0.09  Q        |          |          |        V |
19+15       0.5801      0.09  Q        |          |          |        V |
19+20       0.5808      0.10  Q        |          |          |        V |
19+25       0.5816      0.12  Q        |          |          |        V |
19+30       0.5824      0.12  Q        |          |          |        V |
19+35       0.5831      0.10  Q        |          |          |        V |
19+40       0.5837      0.09  Q        |          |          |        V |
19+45       0.5843      0.09  Q        |          |          |        V |
19+50       0.5848      0.07  Q        |          |          |        V |
19+55       0.5852      0.06  Q        |          |          |        V |
20+ 0       0.5856      0.06  Q        |          |          |        V |
20+ 5       0.5862      0.08  Q        |          |          |        V |
20+10       0.5868      0.09  Q        |          |          |        V |
20+15       0.5874      0.09  Q        |          |          |        V |
20+20       0.5880      0.09  Q        |          |          |        V |
20+25       0.5886      0.09  Q        |          |          |        V |
20+30       0.5892      0.09  Q        |          |          |        V |
20+35       0.5898      0.09  Q        |          |          |        V |
20+40       0.5904      0.09  Q        |          |          |        V |
20+45       0.5910      0.09  Q        |          |          |        V |
20+50       0.5915      0.07  Q        |          |          |        V |
20+55       0.5919      0.06  Q        |          |          |        V |
21+ 0       0.5923      0.06  Q        |          |          |        V |
21+ 5       0.5929      0.08  Q        |          |          |        V |
21+10       0.5935      0.09  Q        |          |          |        V |
21+15       0.5941      0.09  Q        |          |          |         V|
21+20       0.5946      0.07  Q        |          |          |         V|
21+25       0.5950      0.06  Q        |          |          |         V|
21+30       0.5954      0.06  Q        |          |          |         V|
21+35       0.5959      0.08  Q        |          |          |         V|
21+40       0.5965      0.09  Q        |          |          |         V|
21+45       0.5971      0.09  Q        |          |          |         V|
21+50       0.5976      0.07  Q        |          |          |         V|
21+55       0.5980      0.06  Q        |          |          |         V|
22+ 0       0.5984      0.06  Q        |          |          |         V|
22+ 5       0.5989      0.08  Q        |          |          |         V|
22+10       0.5995      0.09  Q        |          |          |         V|
22+15       0.6002      0.09  Q        |          |          |         V|
22+20       0.6007      0.07  Q        |          |          |         V|
22+25       0.6011      0.06  Q        |          |          |         V|
22+30       0.6015      0.06  Q        |          |          |         V|
22+35       0.6019      0.06  Q        |          |          |         V|
22+40       0.6023      0.06  Q        |          |          |         V|
22+45       0.6027      0.06  Q        |          |          |         V|
22+50       0.6031      0.06  Q        |          |          |         V|
22+55       0.6035      0.06  Q        |          |          |         V|
23+ 0       0.6039      0.06  Q        |          |          |         V|
23+ 5       0.6043      0.06  Q        |          |          |         V|
23+10       0.6047      0.06  Q        |          |          |         V|
23+15       0.6051      0.06  Q        |          |          |         V|
23+20       0.6055      0.06  Q        |          |          |         V|
```

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   23+25       0.6059      0.06  Q         |         |         |         v|
   23+30       0.6063      0.06  Q         |         |         |         v|
   23+35       0.6068      0.06  Q         |         |         |         v|
   23+40       0.6072      0.06  Q         |         |         |         v|
   23+45       0.6076      0.06  Q         |         |         |         v|
   23+50       0.6080      0.06  Q         |         |         |         v|
   23+55       0.6084      0.06  Q         |         |         |         v|
   24+ 0       0.6088      0.06  Q         |         |         |         v|
   24+ 5       0.6090      0.03  Q         |         |         |         v|
   24+10       0.6090      0.00  Q         |         |         |         v|
-------------------------------------------------------------------------
```

# Section 3

## Riverside County Plates