SOLANO COMMUNITY COLLEGE DISTRICT
2013 FACILITIES MASTER PLAN

BOOK 5: APPENDIX

BOARD APPROVED APRIL 2, 2014
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STRUCTURAL ASSESSMENTS APPENDIX

Under Separate Cover

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Fairfield
Vacaville
Vallejo

IMPLEMENTATION ANALYSIS

OVERVIEW

What follows are the suggested implementation steps to accomplish the Facilities Master Plan for the Fairfield Campus and the first few steps for the Vallejo and Vacaville Campuses. These steps are based on the following:

- The project and campus priorities established by the District
- The swing space needs for the project
- The desire to consolidate areas under construction

Each step also identifies suggested site work and landscaping that is based on infrastructure needs and estimated construction area limits. It is likely that some of these areas might need to be sub-phased in order to maintain access to adjacent campus buildings not under construction.

Fairfield Campus

PHASING STEP 1

1A. Modernize Building 1200 Theater
This project is mostly State Funded.

1B. Building 1200 Addition

1C. Arts Quad Landscaping
See Page X for more information.

1D. North Walk
See Page X for more information.

1E. Program Re-locations
Re-locate TV Studio from 100 to Addition
Re-locate Speech from 1600 to Addition
Relocate Dance from 1700 to Addition

PHASING STEP 2

2A. New Science & Mathematics Building

2B. Renovate or Replace Building 1500

2C. Site Work / Landscaping

Science Quad between New Building & 1500
Science Service Access Road may be done before 2B depending on Construction Staging for step 2B

2D. Program Re-locations

Re-locate Mathematics to New Science/Maths
Relocate Mathematics back to 1500 after Renovation or Replacement
Re-locate Science to New Science/Maths

2E. Renovate Building 300

Maintain Access to Large Lecture Hall (308)

2F. Program Re-locations

Re-locate General Classrooms from Building 400 to Renovated Building 300

2G. Renovate Building 400 (partial)

Renovate vacated Building 400 spaces for Academic Success Center and/or Veteran's Center

PHASING STEP 3

3A. New Career Technical Ed. Building
3B. Sitework / Landscaping
3C. Program Re-locations
Re-locate Business/Computer Information Studies from 500 to New CTE
Re-locate Cosmetology from 1600 to New CTE
Re-locate Selected CTE programs from 1800 to New CTE
3D. Renovate Building 500 & 1600
3E. Program Re-locations
Re-locate IT from 100 to Renovated 500
Move some Administration programs into balance of Renovated 500
Expand Early Childhood Education/Family Studies & Child Development Center into Renovated 1600

PHASING STEP 4

4A. New Learning Resource Center

This Project is partially State Funded

4B. Site Work / Landscaping

4C. Program Re-locations

Move Library & Learning Resource Center Programs from 100 to New LRC

Move Academic Success Center Programs from 400 to New LRC

4D. Demolish Building 100

PHASING STEP 5A

5A. South Quad Sitework / Landscaping

See Page X for more information.

PHASING STEP 5B

5B. North Quad Sitework / Landscaping

See Page X for more information.

PHASING STEP 6A - 6D

6A. New Corner Iconic Building
Building becomes Swing Space for Existing Building Renovations (see Step 7)
Final Building Program to be determined

6B. Sitework / Landscaping

6C. South Parking Phase I

6D. South Parking Phase II and New South Entry Configuration

PHASING STEP 6E-6F

6E. South Parking Phase III
6F. Complete South Parking

PHASING STEP 7

7A. Renovate Building 800

Swing 800 Occupants into Corner Building from Step 6A
Renovate Building 800
Swing 800 Occupants back into 800

7B. Renovate Building 700

Swing 700 Occupants into Corner Building from Step 6A
Renovate Building 700
Build Connector between 700 and 800
Swing 700 Occupants back into 700

7C. Sitework / Landscaping

See Page X for more Information

7D. Renovate Building 1000 and Complete Horticulture Fields

PHASING STEP 8

8A. Renovate Building 1800

8B. New Maintenance and Operations Building

Move Office functions from 1900 to New M&O Building

8C. Renovate Buildling 1900

Re-configure Loading to be on South Side

8D. Sitework / Landscaping

PHASING STEP 9

9A. New Performing Arts Center
9B. New Traffic Circle / Re-configured Northern Entry & North Parking
9C. New Housing (Option 1)
Housing either at this location or Option 2
9D. New Housing (Option 2)
Housing either at this location or Option 1

Vacaville Campus

PHASING STEP 1

1A. New Solano County Education Building

1B. Sitework / Landscaping

Includes pedestrian connection between West and East Campus Sites

PHASING STEP 2

2A. New Biotech/Student Services Building
2B. Sitework / Landscaping

Vallejo Campus

PHASING STEP 1

1A. Parking Expansion
West Parking Area to be designed to allow Future Parking Deck
Tennis Courts and Green Park included

1B. New Autotech & Education Center

1C. Sitework / Landscaping
Includes Elevator/Stair Connection and Improvements to existing ramp to Upper Site

PHASING STEP 2

2A. Future Building
2B. Future Building
2C. Parking Expansion
Build a One-story Parking Deck above West Parking Area

PROCESS APPENDIX

Overview

Within this Appendix you will find the following that support the Process part of the FMP:

- Existing Campus Information Integration with Onuma
- TOPCSS Floor Plans
- Existing Space Inventory (by Program Code)
- Space Anomaly Report (for Space Inventory Update completed in September 2013)
- Existing Underground Infrastructure Digital Mapping
- Community Workshop Attendees and Feedback
- Landscape Survey Report & Exterior Campus Survey Responses
- Building Assumptions & Existing Lecture Furniture Utilization
- Site Water Strategies
- Key Presentations from the Process

Process Chapter Appendix

EXISTING CAMPUS DRAWINGS INTEGRATION WITH ONUMA

STV's approach to data capture utilizes the graphical database system, Onuma. Onuma is capable of sorting and organizing multiple data sources related to facilities planning, design, operation, and maintenance. Avoiding duplication or multiple information 'owners', we utilize Onuma's linkage to the State database system FUSION to achieve desired database outcomes.

A starting place for all desired outcomes is the development of simple 3D BIM models of each building. It is with these digital models that STV offers the vast menu of database capabilities. For starters, SCCD is able to immediately see graphical interpretation of existing room use designations, taxonomy of program coding (TOP), programmatic use, and more. Updates to this information provides our clients with updated space inventories that can easily be updated through pull-down menus.

For Solano Community College we developed 3D BIM models of each building and linked it to the Onuma System. The following pages show the TOPCSS Floor Plans that are generated from the Onuma system for each of the District Buildings/Floor plans.

Utilizing this database STV also updated the Space Inventory in September 2013 for all District facilities except Building 100, Building 1200 and the Portables, all on which are located on the Farifield Campus. These buildings were not updated due to State approved FPPs. The space inventory was updated not only by visible observation as to how rooms were used, but also to match the drawing database with respect to assigned square footages and floor plans.

The Updated Space Inventory by Program Code and the Space Anomaly Report that records what changes were made to the Space Inventory follow the TOPCSS Floor Plans.

ENHANCING FACILITIES MAINTENANCE

In addition to developing 3D BIM models for all buildings on campus, all mechanical and electrical equipment was inventoried in Onuma and QR coded. QR Coding of equipment allows for quick access to pertinent equipment data via web-enabled devices, inclusive of equipment image database.

INTEGRATED WORK TICKETING

STV utlized the same database, Onuma, to custom build a work ticketing system for Solano Community College. Work orders can be graphically defined within floor plans. TBy recognition of repeated work orders, reports can identify problem buildings, rooms, or systems. Warranty or preventative maintenance actions can utilize the work ticketing to proactively inform technicians to undertake routine actions or check on system operations before component warranties expire. Supervisors can be alerted to open tickets that require attention. As this data is compiled, SCCD's facilities and maintenance team is empowered to make data-driven decisions on setting priorities, developing annualized budgets, or informing leadership on cost-effective, corrective actions.

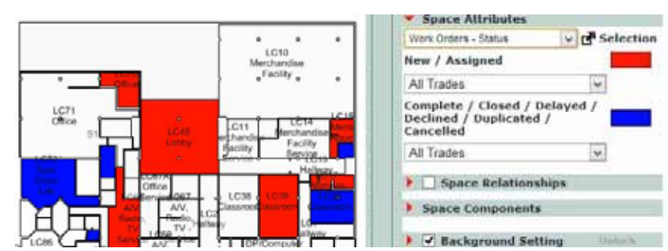
ACCESS TO ONUMA BASED INFORMATION

Access to the Onuma information requires an Onuma license, which is free (for a total of six different users) to Community College Districts, but nominal to all others. Individuals/Consultants outside of the District also have to be granted permission to view District Data via the Director of Facilities.

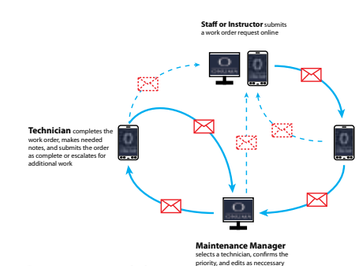
Mobile Access to all FUSION data and Floor Plan Information in a Graphical

QR Coding of equipment allows for quick access to pertinent equipment data via web-enabled devices, inclusive of equipment image database.

On all web-enabled devices



Work tickets are graphically identified in the Management System



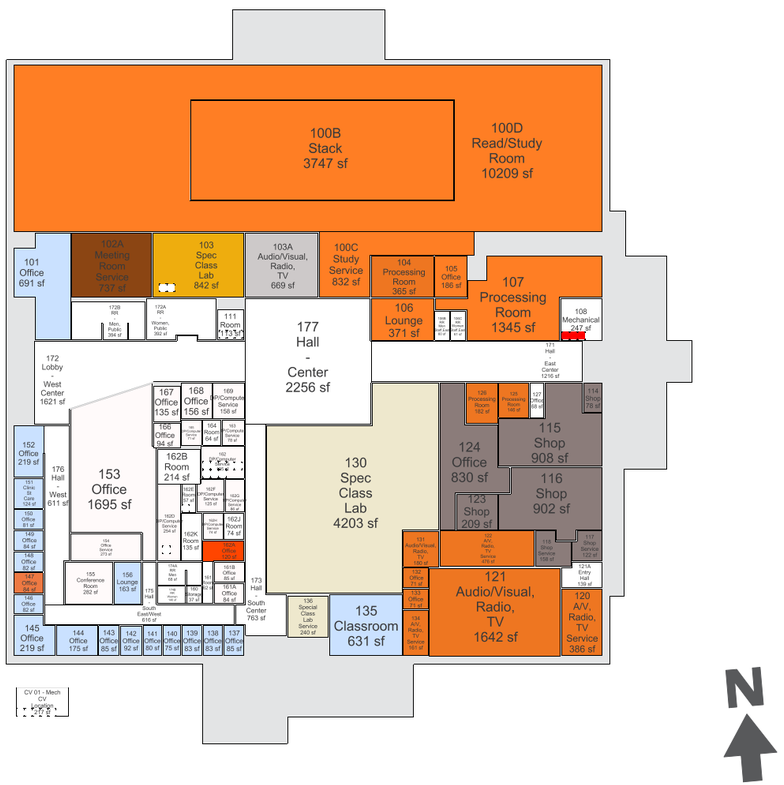
Customizable Work Ticket Routing

TOPCSS Floor Plans

- 0099 - General Assignment - **3135 SF**
- 1501 - English - **4443 SF**
- 1601 - Library Science, General - **842 SF**
- 6120 - Library - **16690 SF**
- 6130 - Media Services - **3680 SF**
- 6199 - Other Instructional Support Services - **737 SF**
- 6310 - Counseling Services - **84 SF**
- 6460 - Financial Aid - **120 SF**
- 6770 - Logistical Services - **3206 SF**
- 6780 - Management Information Services - **3844 SF**
- 6799 - Other General Institutional Support Services - **669 SF**

Building 100
Library Complex

Fairfield Campus
Solano Community College



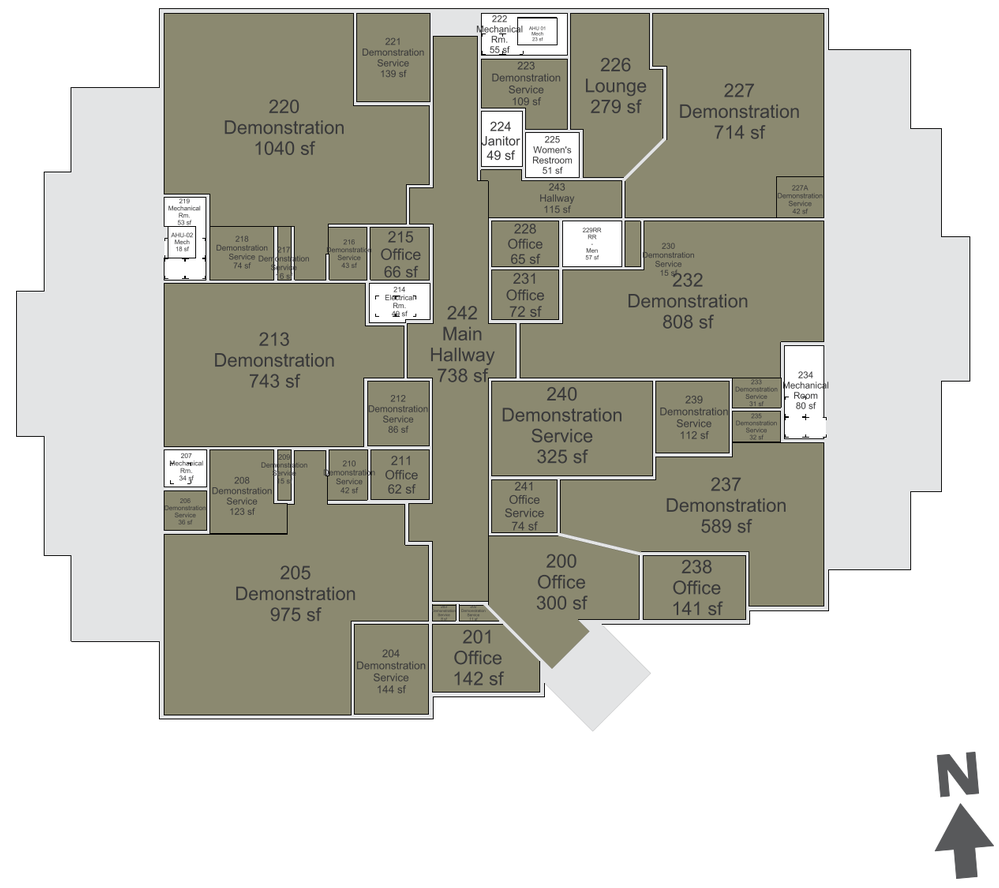
STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

1305 - Child Development/Early Care and Education - **8326 SF**

Building 200
Child Development #1

Fairfield Campus
Solano Community College



STV 100 Years | vbn

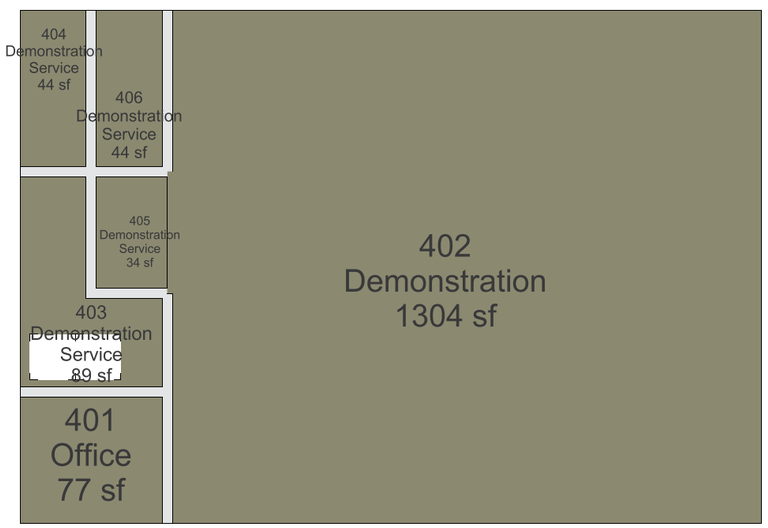
Existing Floor Plan by TOPCSS Code
Solano Community College District

1305 - Child Development/Early Care and Education - **1592 SF**

Building 201

Child Development #2

Fairfield Campus
Solano Community College



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STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

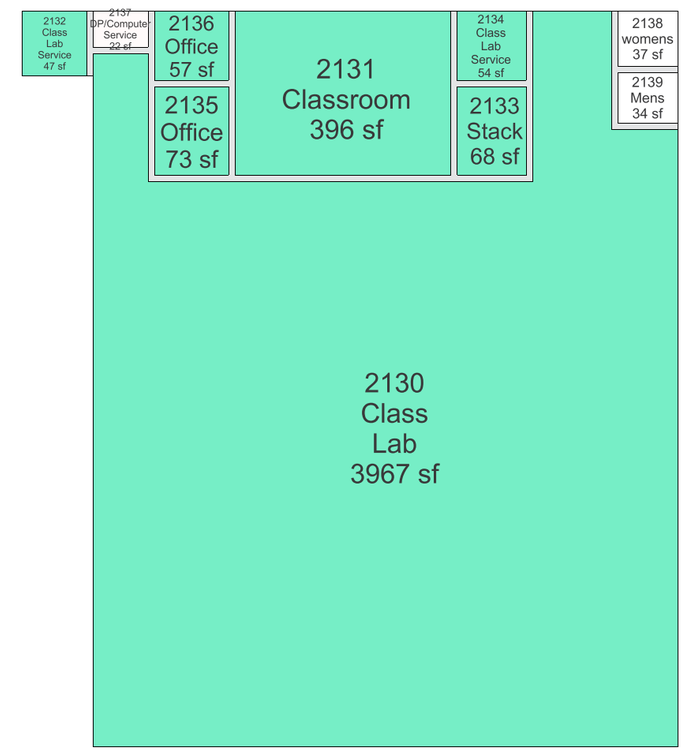
0950 - Aeronautical and Aviation Technology - **4662 SF**

6780 - Management Information Services - **22 SF**

Building 213

Nut Tree Hangar

Fairfield Campus
Solano Community College



N

STV 100 Years | vbn

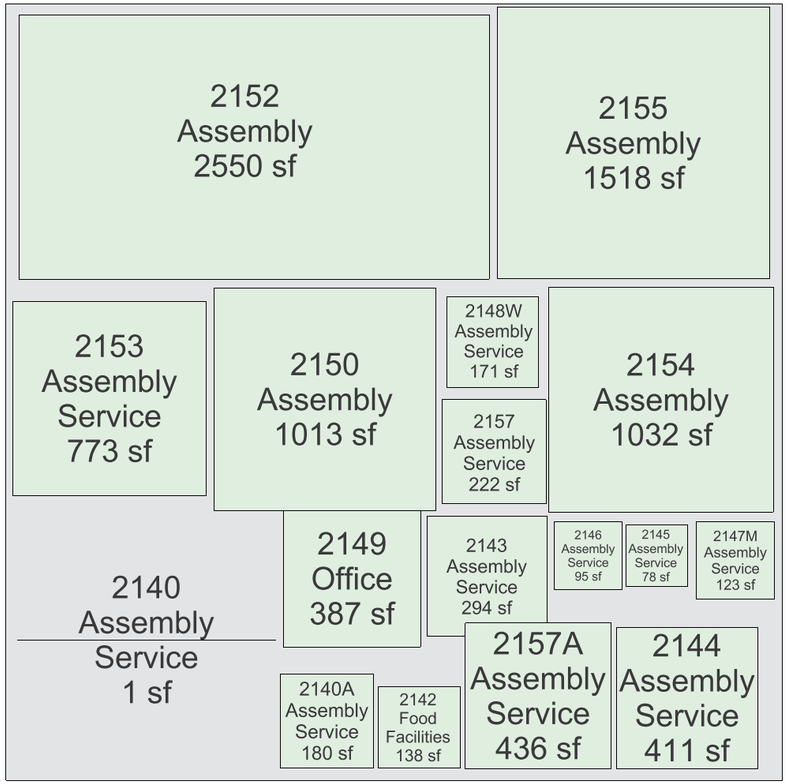
Existing Floor Plan by TOPCSS Code
Solano Community College District

1007 - Dramatic Arts - **9422 SF**

Building 214

Harbor Theatre

Fairfield Campus
Solano Community College



STV 100 Years | vbn

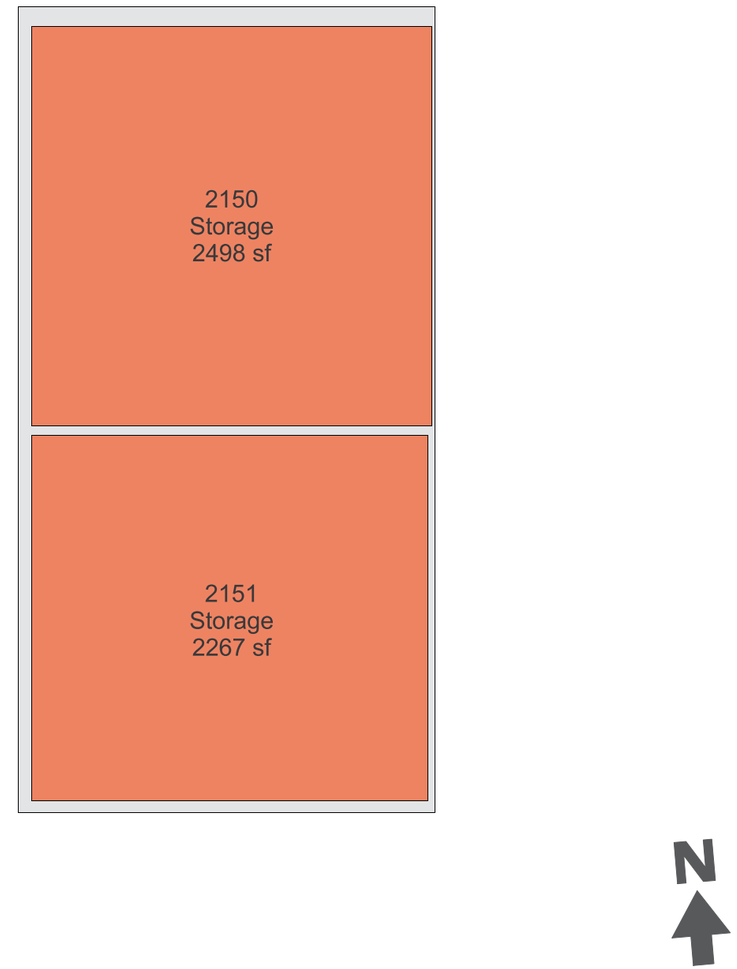
Existing Floor Plan by TOPCSS Code
Solano Community College District

6510 - Building Maintenance and Operation Support - **4765 SF**

Building 215

Chemical Storage

Fairfield Campus
Solano Community College



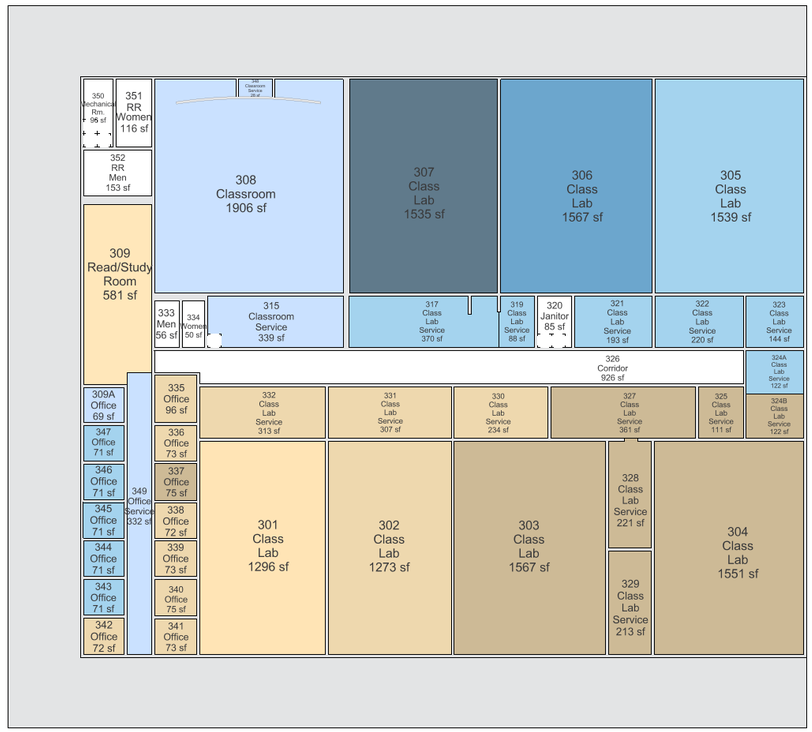
STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

- 0099 - General Assignment - **2674 SF**
- 0401 - Biology, General - **3028 SF**
- 0403 - Microbiology - **1535 SF**
- 0410 - Anatomy and Physiology - **1567 SF**
- 1901 - Physical Sciences, General - **581 SF**
- 1902 - Physics, General - **2661 SF**
- 1905 - Chemistry, General - **4221 SF**
- 1914 - Geology - **1296 SF**

Building 300
Science

Fairfield Campus
Solano Community College



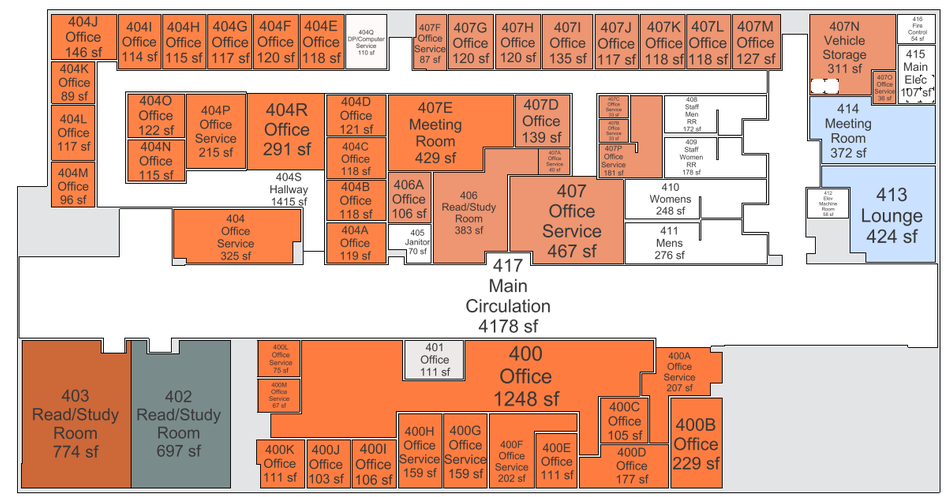
STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

- 0099 - General Assignment - **797 SF**
- 0801 - Education, General (Pre-Professional) - **402 SF**
- 6210 - Registrations, Transfers, Transcripts, Certifications - **3058 SF**
- 6300 - Counseling and Guidance - **3004 SF**
- 6320 - Placement Services - **774 SF**
- 6420 - Disabled Students Programs and Services (DSPS) - **2672 SF**
- 6780 - Management Information Services - **110 SF**
- 6791 - General Administration Services - **111 SF**

Building 400
Student Services
First Level

Fairfield Campus
Solano Community College



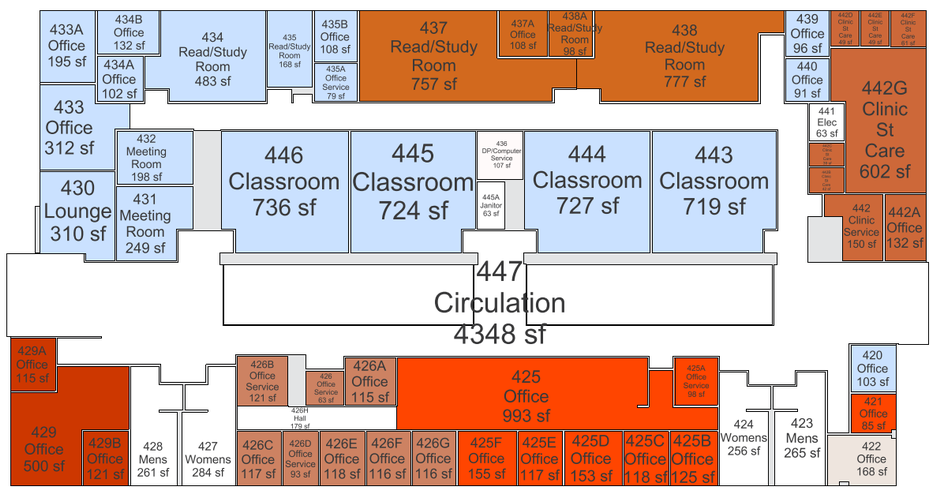
STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

- 0099 - General Assignment - **5531 SF**
- 6020 - Course and Curriculum Development - **168 SF**
- 6110 - Learning Center (Learning Resource Center) - **1739 SF**
- 6320 - Placement Services - **1125 SF**
- 6430 - Extended Opportunity Programs and Services - **859 SF**
- 6460 - Financial Aid - **1844 SF**
- 6480 - Veterans Services - **735 SF**
- 6780 - Management Information Services - **107 SF**

Building 400
Student Services
Second Level

Fairfield Campus
Solano Community College



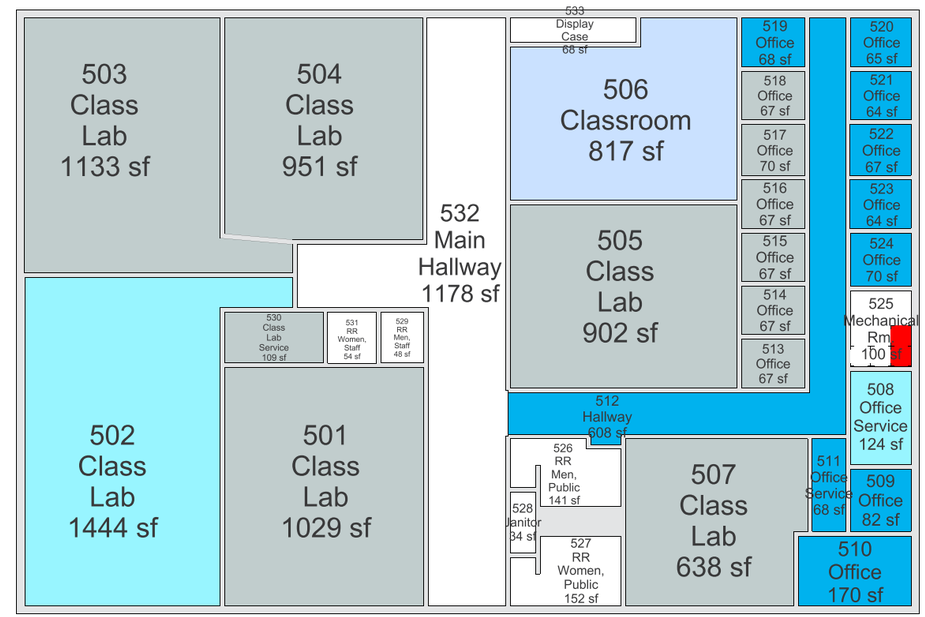
STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

- 0099 - General Assignment - **817 SF**
- 0501 - Business and Commerce, General - **1327 SF**
- 0514 - Office Technology/Office Computer Applications - **1568 SF**
- 0707 - Computer Software Development - **5168 SF**

Building 500
Business

Fairfield Campus
Solano Community College



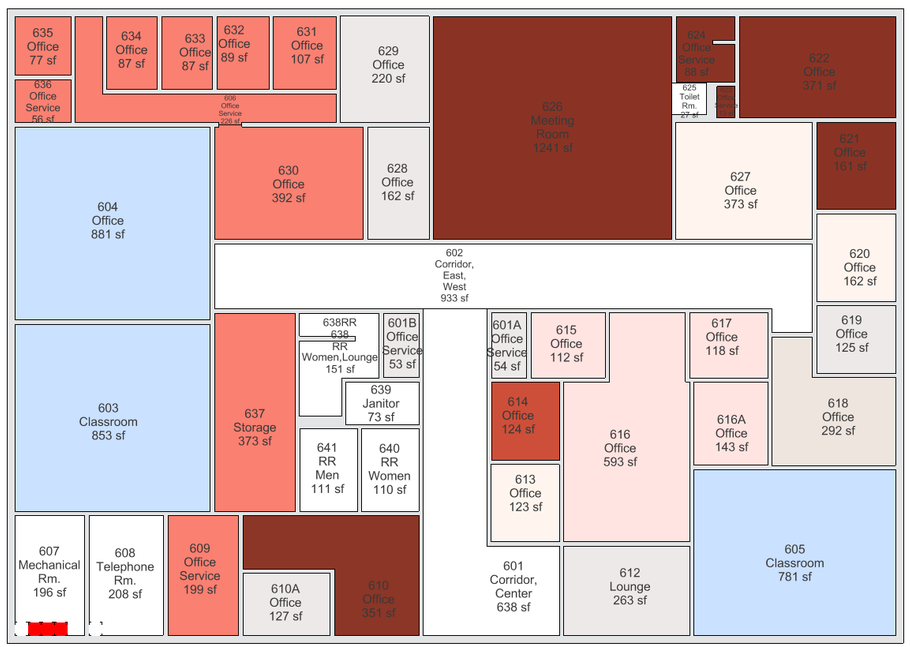
STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

- 0099 - General Assignment - **2515 SF**
- 6010 - Academic Administration - **658 SF**
- 6020 - Course and Curriculum Development - **292 SF**
- 6620 - Management Planning Functions - **3115 SF**
- 6700 - General Institutional Support Services - **124 SF**
- 6710 - Community Relations - **351 SF**
- 6720 - Fiscal Operations - **1693 SF**
- 6730 - Human Resources Management - **966 SF**
- 6791 - General Administration Services - **1004 SF**

Building 600
Administration

Fairfield Campus
Solano Community College



STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

- 0099 - General Assignment - **8708 SF**
- 1501 - English - **2110 SF**
- 2201 - Social Sciences, General - **940 SF**

Building 700
Humanities

Fairfield Campus
Solano Community College

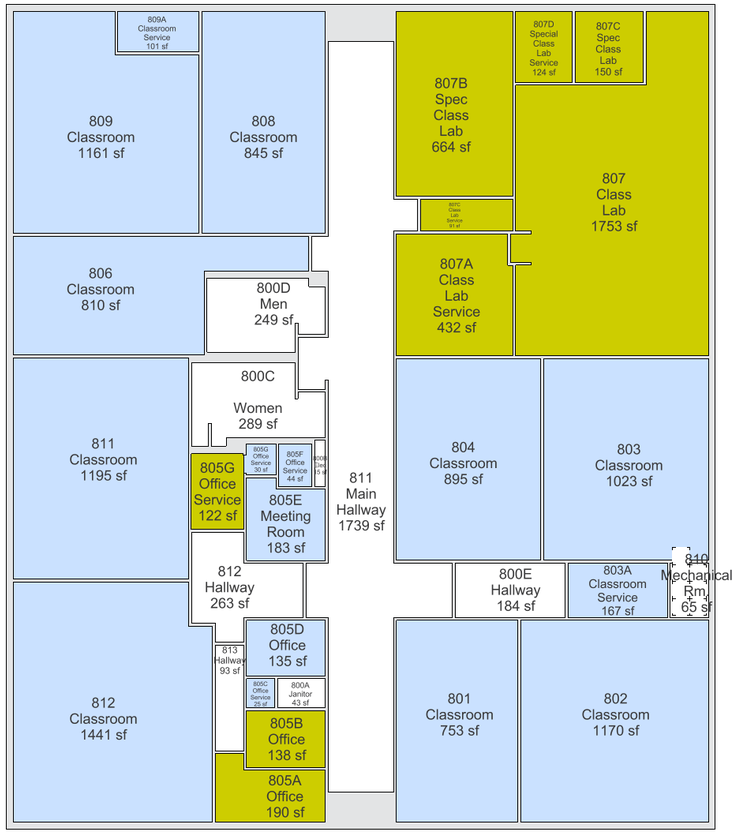
STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

0099 - General Assignment - **9978 SF**
1230 - Nursing - **3664 SF**

Building 800
Multi Discipline

Fairfield Campus
Solano Community College

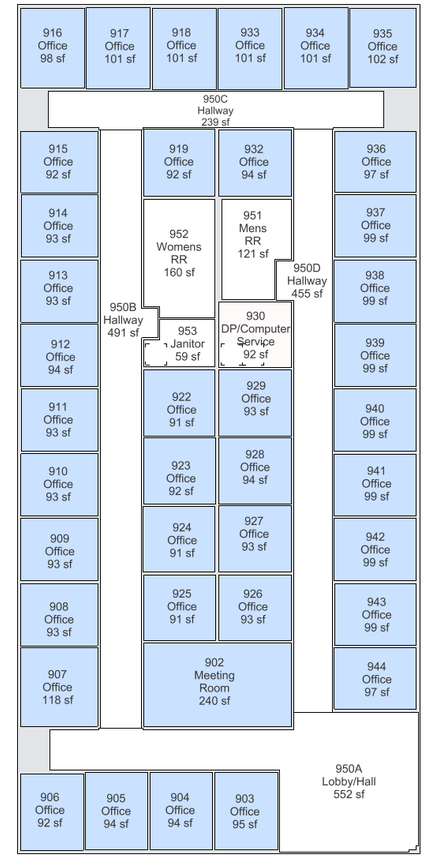


Existing Floor Plan by TOPCSS Code
Solano Community College District

0099 - General Assignment - **3892 SF**
1230 - Management Information Services - **92 SF**

Building 900
Faculty Office Building

Fairfield Campus
Solano Community College

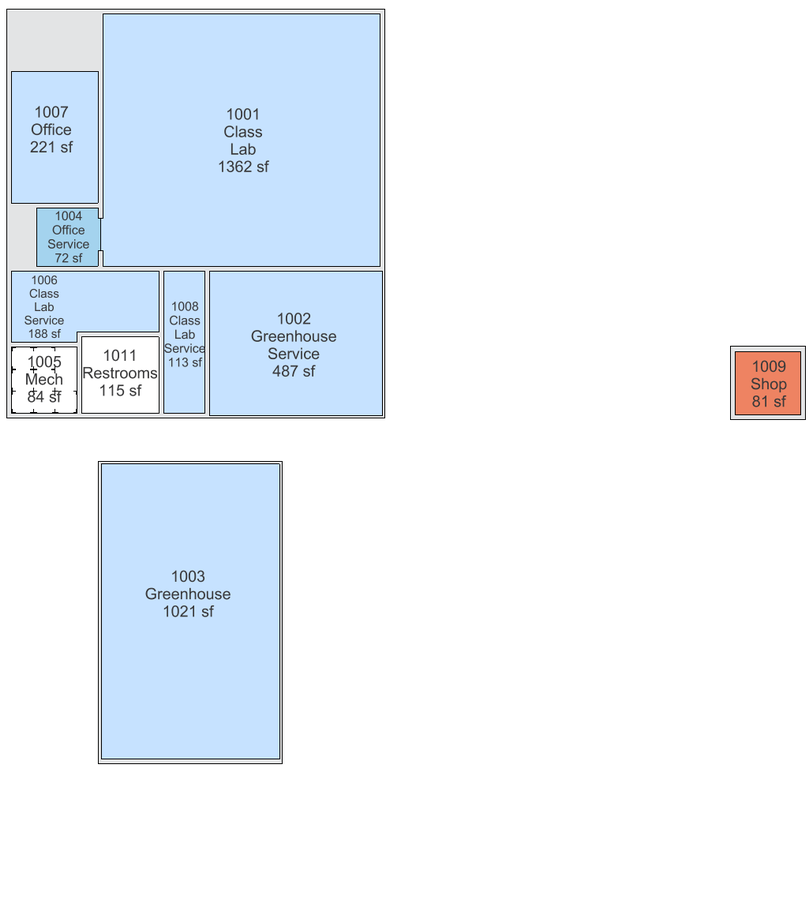


Existing Floor Plan by TOPCSS Code
Solano Community College District

0109 - Horticulture - **3392 SF**
0401 - Biology, General - **72 SF**
6510 - Building Maintenance and Operation Support - **81 SF**

Building 1000
Horticulture

Fairfield Campus
Solano Community College



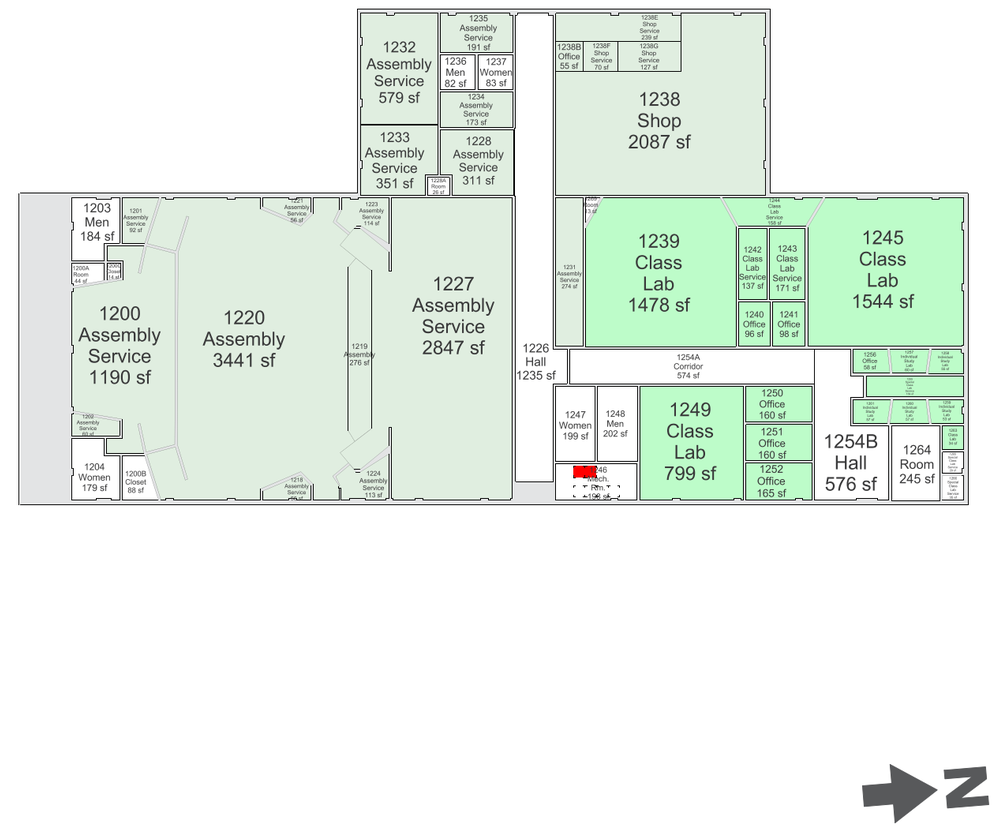
STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

1004 - Music - **5479 SF**
1007 - Dramatic Arts - **12702 SF**

Building 1200
Music Drama
First Level

Fairfield Campus
Solano Community College



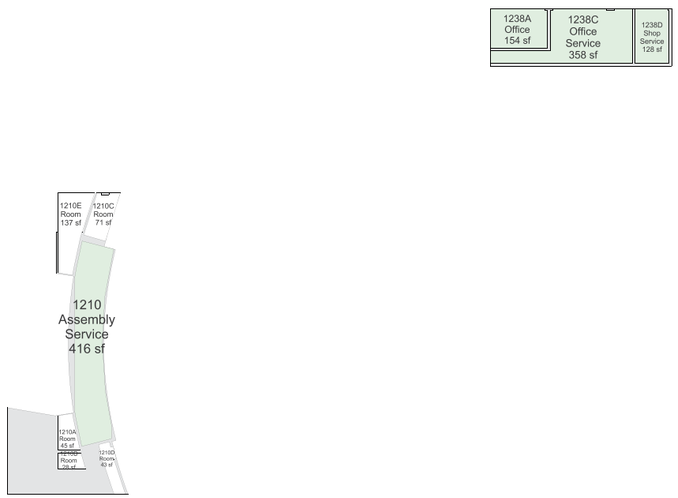
STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

1007 - Dramatic Arts - **1056 SF**

Building 1200
Music Drama
Second Level

Fairfield Campus
Solano Community College



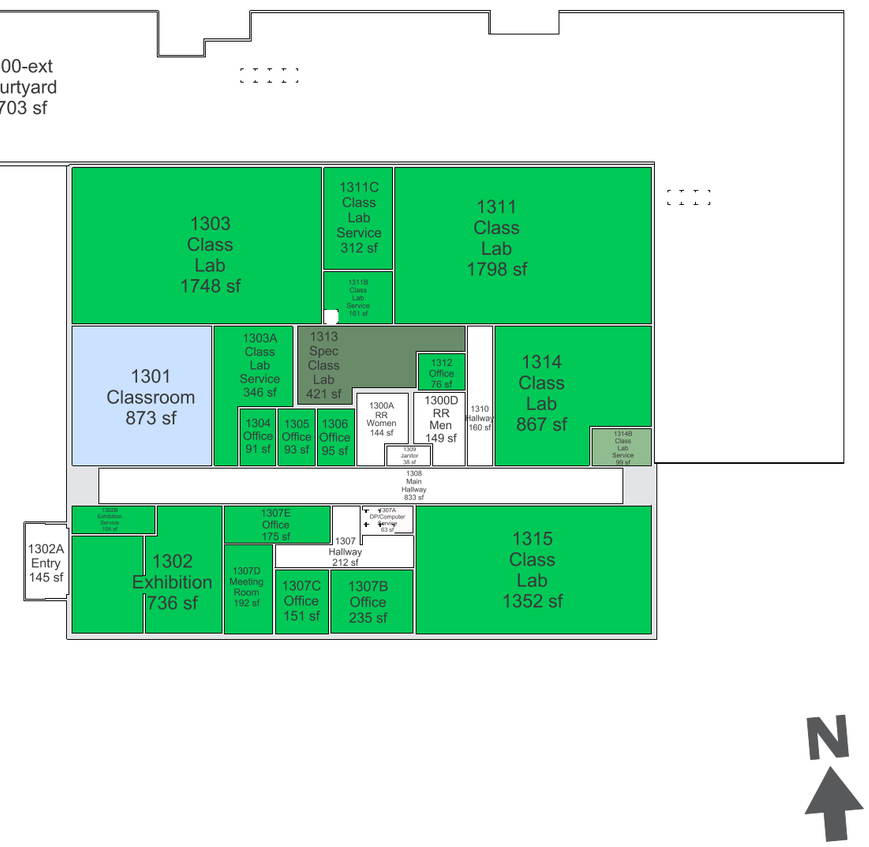
STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

0099 - General Assignment - **873 SF**
1002 - Art (Painting, Drawing and Sculpture) - **8530 SF**
1011 - Photography - **99 SF**
1099 - Other Fine and Applied Arts - **421 SF**
6780 - Management Information Services - **63 SF**

Building 1300
Fine Arts

Fairfield Campus
Solano Community College



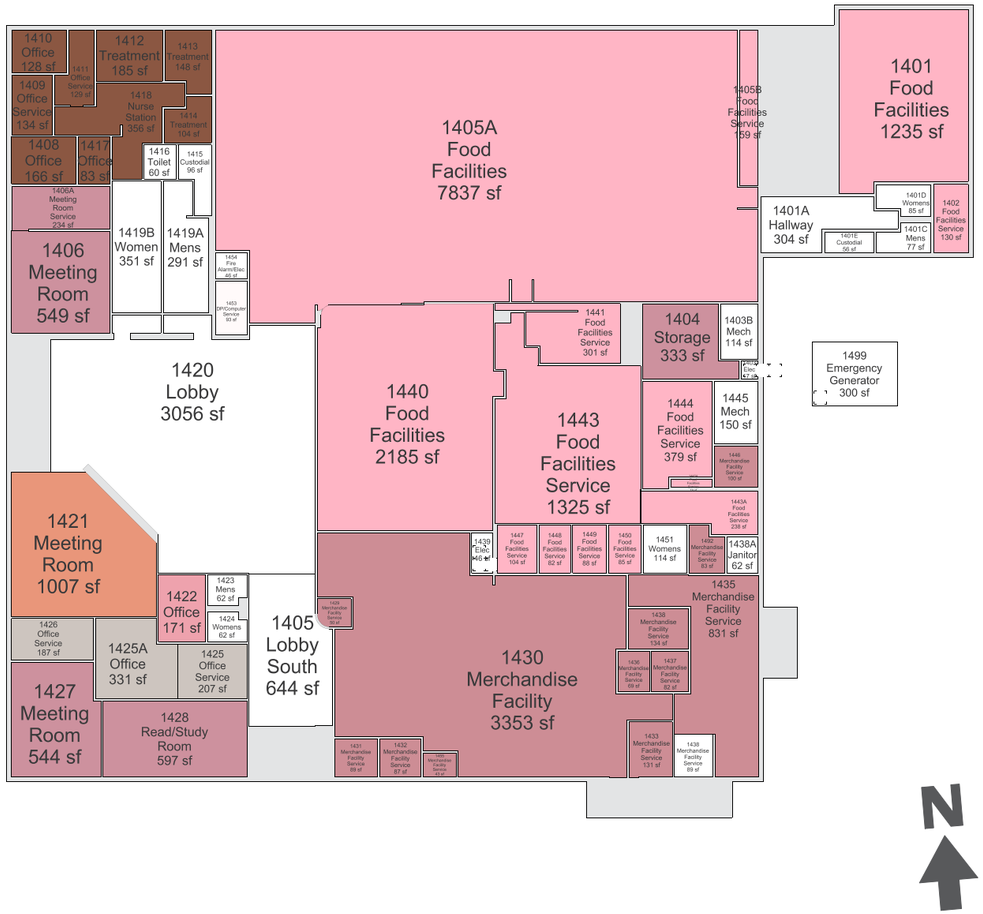
STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

- 6030 - Administrative Data Processing Activities - **725 SF**
- 6440 - Health Services - **1433 SF**
- 6499 - Other Student Services - **1007 SF**
- 6780 - Management Information Services - **93 SF**
- 6900 - Ancillary Services - **171 SF**
- 6910 - Bookstore - **5050 SF**
- 6940 - Food Services - **14168 SF**
- 6960 - Students and Cocurricular Activities - **2257 SF**

Building 1400
Student Center

Fairfield Campus
Solano Community College



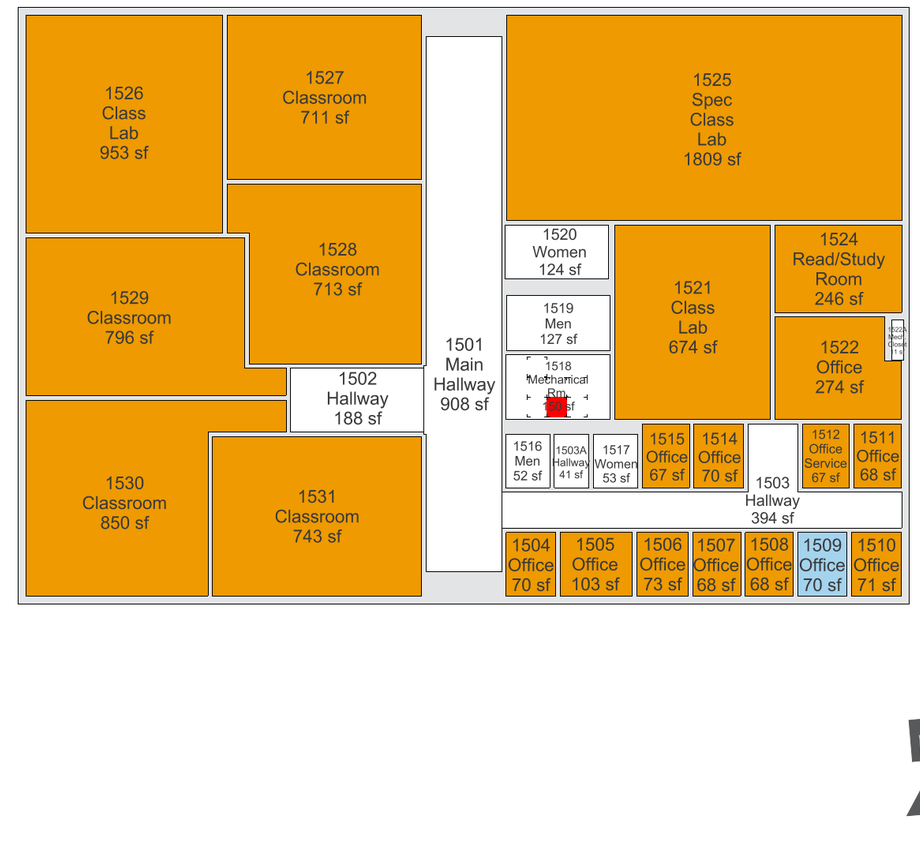
STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

- 0401 - Biology, General - **70 SF**
- 1701 - Mathematics, General - **8493 SF**

Building 1500
Mathematics

Fairfield Campus
Solano Community College



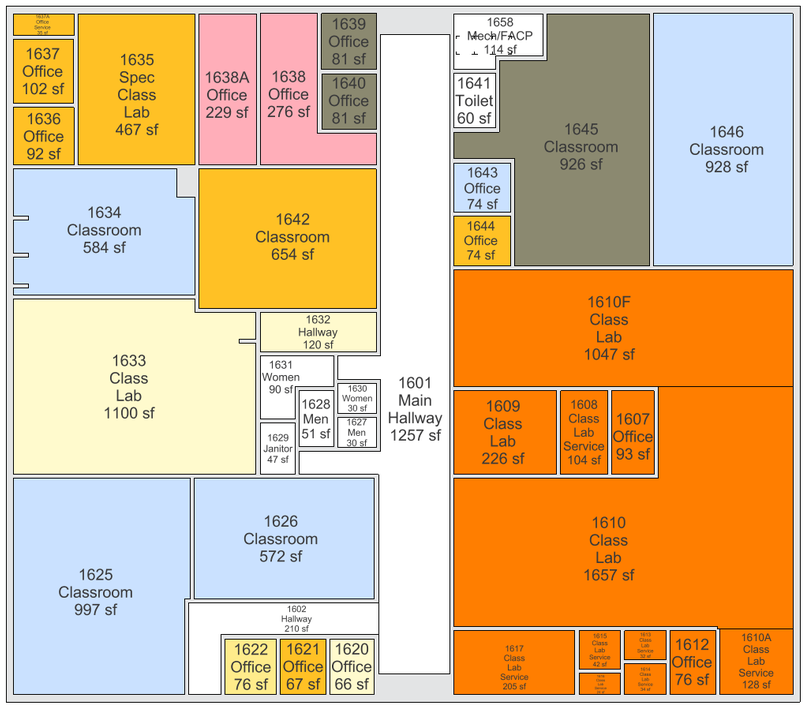
STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

- 0099 - General Assignment - **2755 SF**
- 1301 - Family and Consumer Science, General - **1286 SF**
- 1305 - Child Development/Early Care and Education - **1088 SF**
- 1306 - Nutrition, Foods, and Culinary Arts - **76 SF**
- 1506 - Speech Communication - **1424 SF**
- 3007 - Cosmetology and Barbering - **3668 SF**
- 6899 - Other Community Services - **505 SF**

Building 1600
Vocational Arts

Fairfield Campus
Solano Community College



N

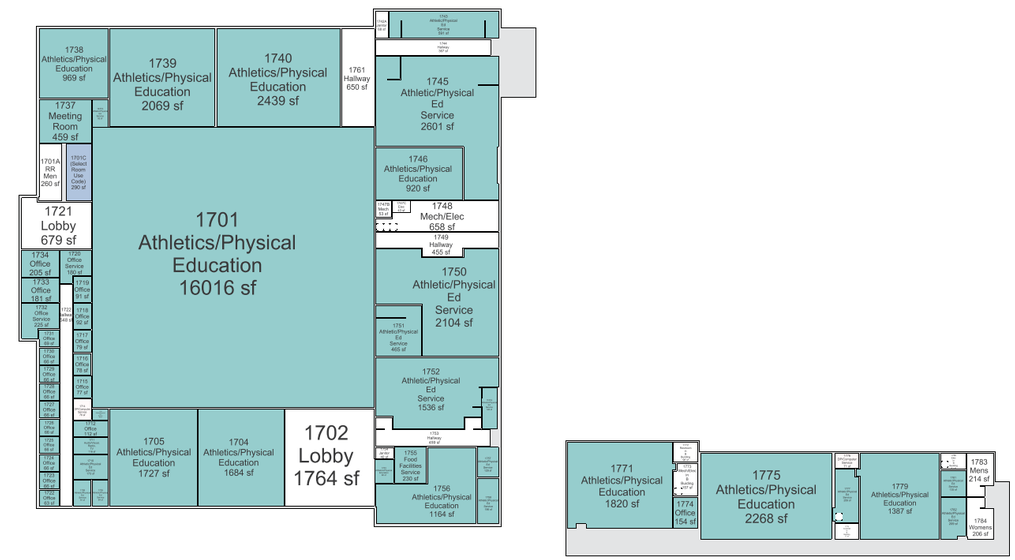
STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

- 0835 - Physical Education - **44319 SF**
- 6780 - Management Information Services - **147 SF**

Building 1700
Physical Education

Fairfield Campus
Solano Community College



N

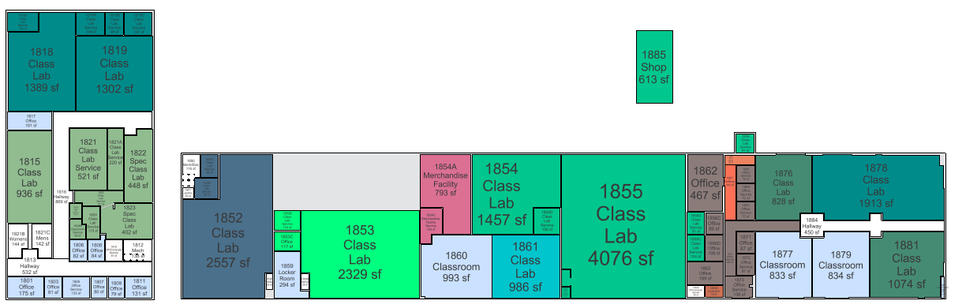
STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

- 0099 - General Assignment - **3980 SF**
- 0430 - Biotechnology and Biomedical Technology - **202 SF**
- 0602 - Journalism - **986 SF**
- 0934 - Electronics and Electric Technology - **5127 SF**
- 0948 - Automotive Technology - **6596 SF**
- 0953 - Drafting Technology - **1902 SF**
- 0956 - Manufacturing and Industrial Technology - **2570 SF**
- 1011 - Photography - **2897 SF**
- 6510 - Building Maintenance and Operation Support - **64 SF**
- 6530 - Custodial Services - **48 SF**
- 6570 - Utilities - **140 SF**
- 6770 - Logistical Services - **1673 SF**
- 6780 - Management Information Services - **129 SF**
- 6999 - Other Ancillary Services - **947 SF**

Building 1800
Vocational Complex
First Level

Fairfield Campus
Solano Community College



N

STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

- 0430 - Biotechnology and Biomedical Technology - **385 SF**
- 0948 - Automotive Technology - **709 SF**
- 0956 - Manufacturing and Industrial Technology - **723 SF**

Building 1800
Vocational Complex
Second Level

Fairfield Campus
Solano Community College

N

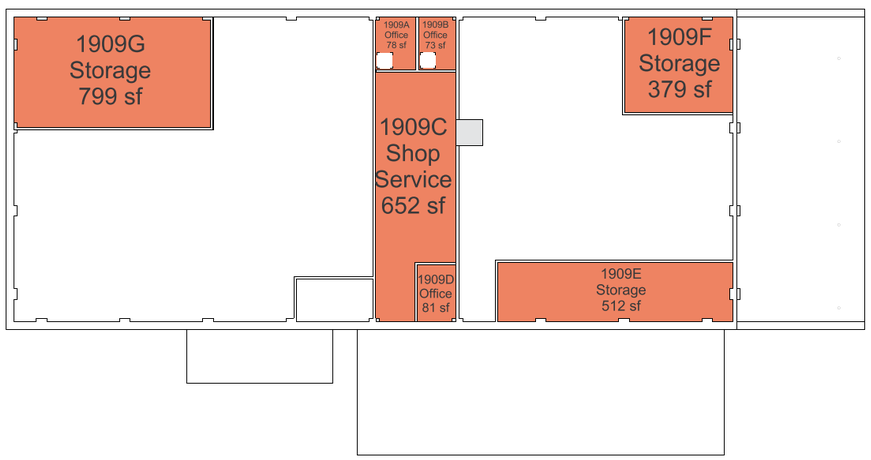
STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

6510 - Building Maintenance and Operation Support - **2574 SF**

Building 1900
Warehouse
Second Level

Fairfield Campus
Solano Community College



N

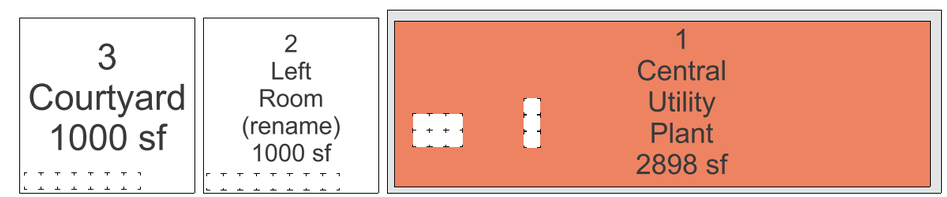
STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

6510 - Building Maintenance and Operation Support - **2898 SF**

Building 2000
Central Plant

Fairfield Campus
Solano Community College



N

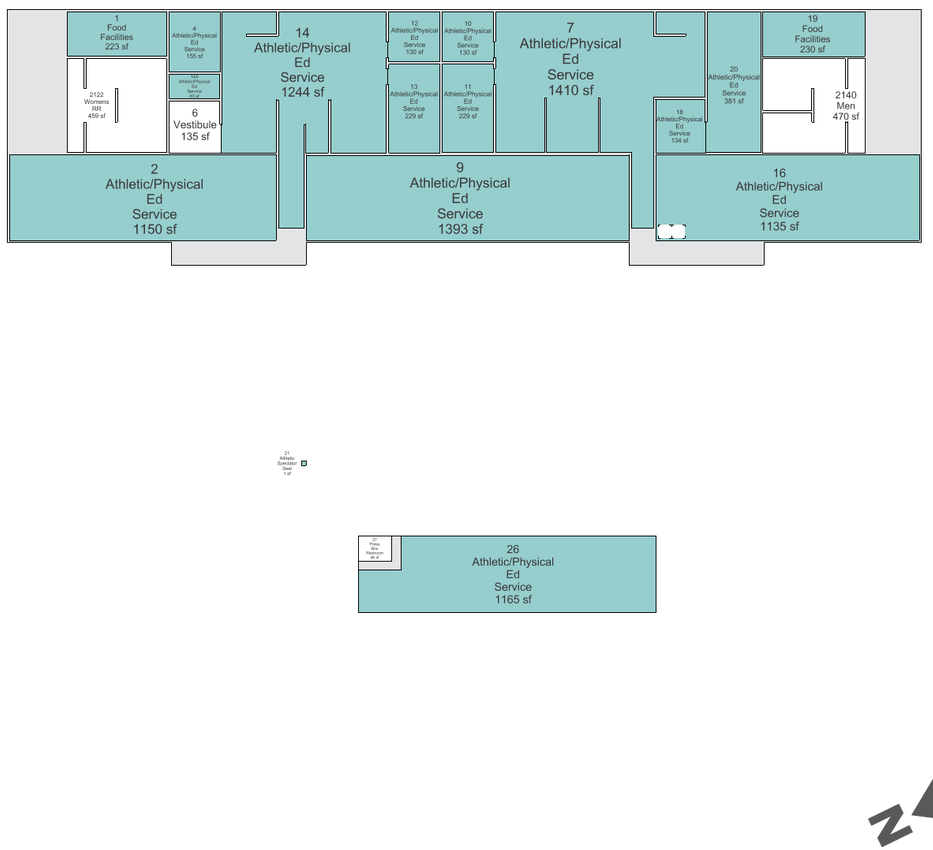
STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

0835 - Physical Education - **9402 SF**

Building 2100
Pool Mechanical

Fairfield Campus
Solano Community College



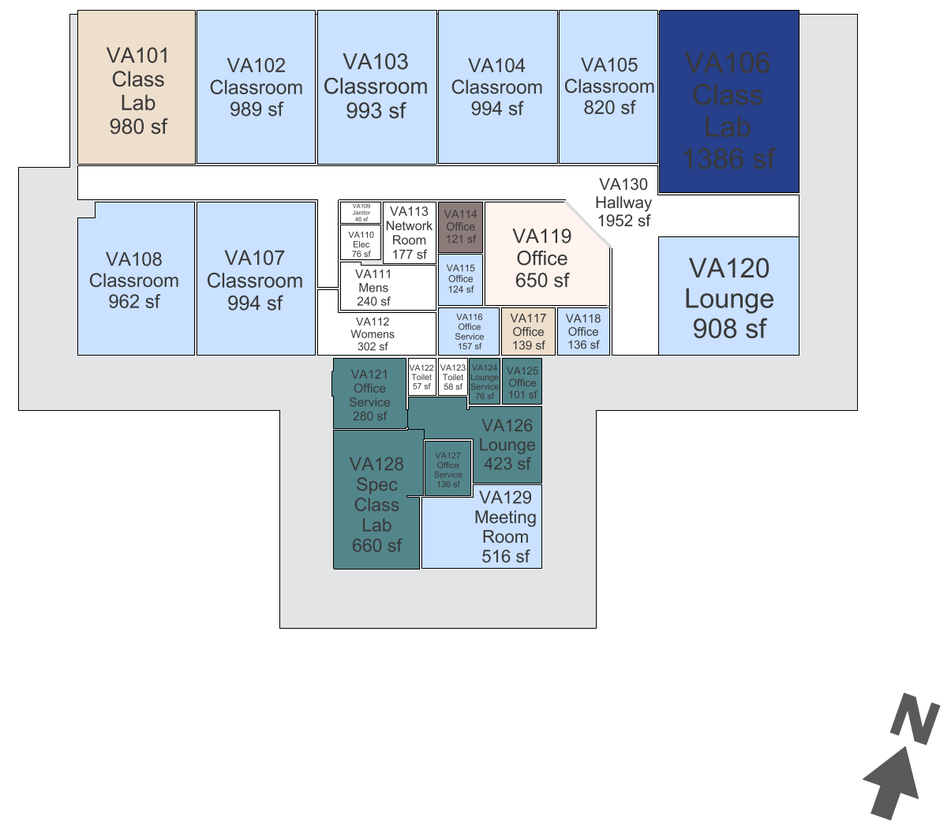
STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

0099 - General Assignment - **7593 SF**
0599 - Other Business and Management - **1676 SF**
0701 - Information Technology, General - **1386 SF**
2133 - Fire Technology - **1119 SF**
6010 - Academic Administration - **650 SF**
6770 - Logistical Services - **121 SF**

Vacaville Center I
Second Level

Vacaville Center
Solano Community College



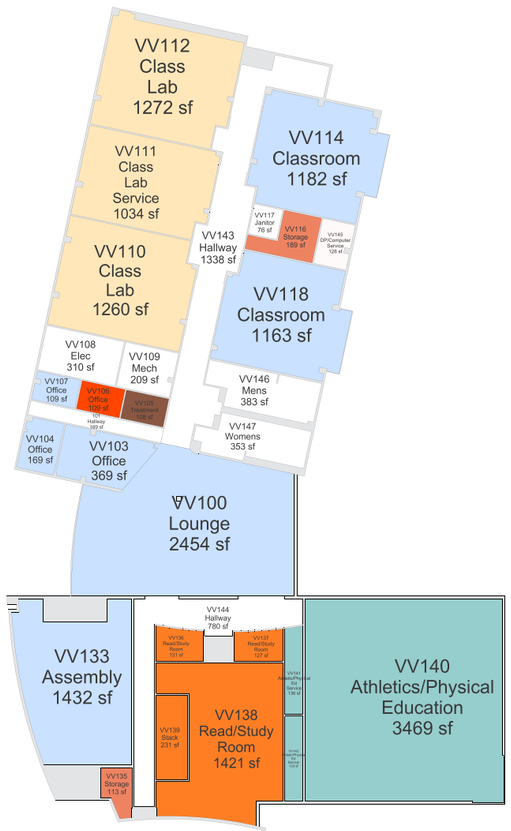
STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

Vacaville Center II
First Level

Vacaville Center
Solano Community College

- 0099 - General Assignment - **6878 SF**
- 0835 - Physical Education - **3738 SF**
- 1901 - Physical Sciences, General - **3566 SF**
- 6120 - Library - **1910 SF**
- 6440 - Health Services - **108 SF**
- 6460 - Financial Aid - **109 SF**
- 6510 - Building Maintenance and Operation Support - **302 SF**
- 6780 - Management Information Services - **128 SF**



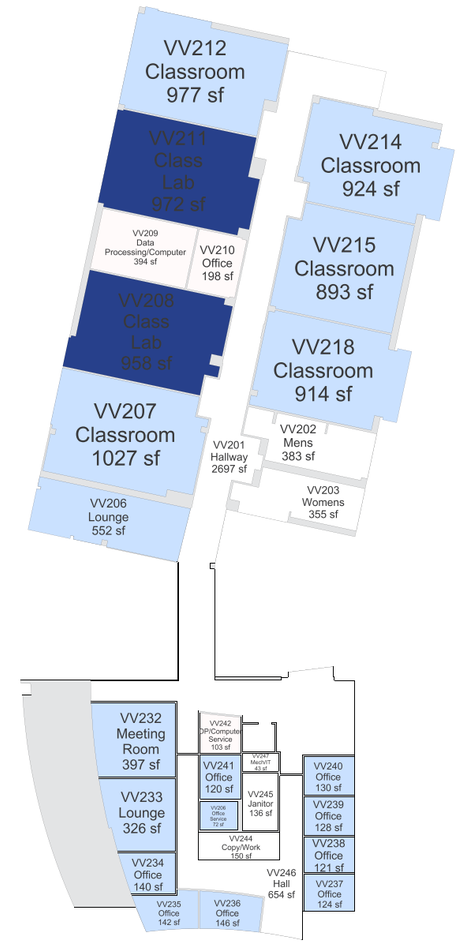
STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

Vacaville Center II
Second Level

Vacaville Center
Solano Community College

- 0099 - General Assignment - **7133 SF**
- 0701 - Information Technology, General - **1930 SF**
- 6780 - Management Information Services - **695 SF**



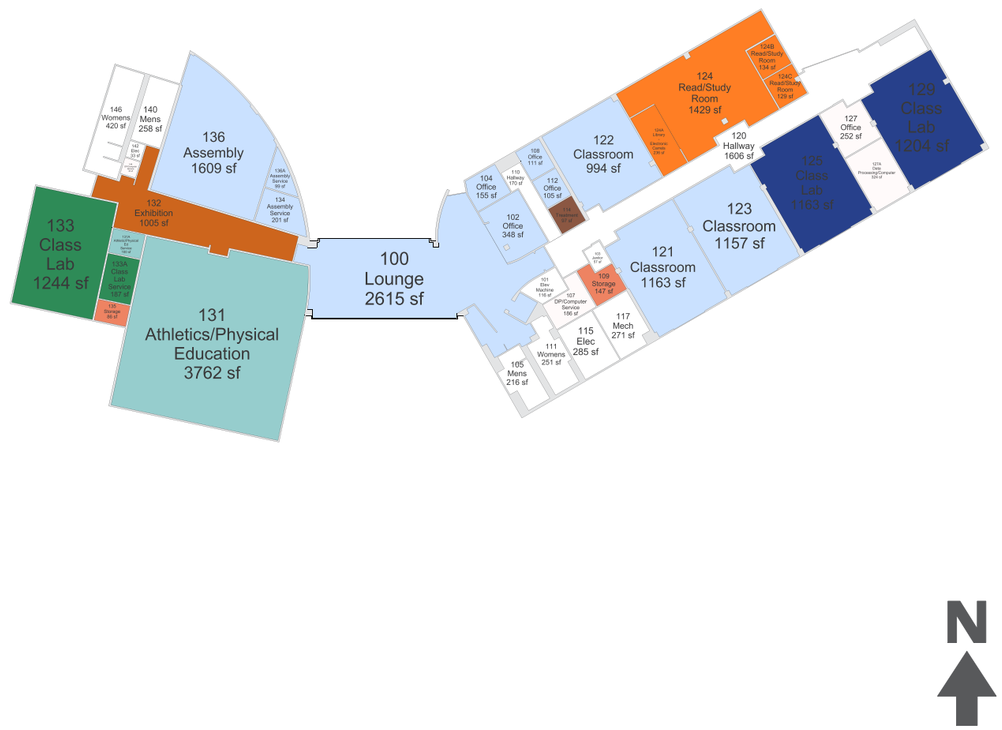
STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

Vallejo Center
First Level

Vallejo Center
Solano Community College

- 0099 - General Assignment - **6957 SF**
- 0701 - Information Technology, General - **2367 SF**
- 0835 - Physical Education - **3862 SF**
- 1001 - Fine Arts, General - **1431 SF**
- 6120 - Library - **1928 SF**
- 6140 - Museums and Galleries - **1005 SF**
- 6440 - Health Services - **27 SF**
- 6510 - Building Maintenance and Operation Services - **233 SF**
- 6780 - Management Information Services - **219 SF**



STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

Vallejo Center
Second Level

Vallejo Center
Solano Community College

- 0099 - General Assignment - **6079 SF**
- 1901 - Physical Sciences, General - **3384 SF**
- 6780 - Management Information Services - **240 SF**

STV 100 Years | vbn

Existing Floor Plan by TOPCSS Code
Solano Community College District

Existing Space Inventory

FAIRFIELD CAMPUS SUMMARY Program Categories	100	200	300	400	500	600	700	800	Totals
0000 - General	**34894**	**0**	**9733**	**651**	**145**	**2417**	**0**	**0**	**47840**
4 - PORTABLE D 1101/1103	1643	0	0	0	0	0	0	0	1643
100 - LIBRARY COMPLEX	639	0	2243	0	129	147	0	0	3158
300 - SCIENCE	2273	0	401	0	0	0	0	0	2674
400 - STUDENT SERVICES	2906	0	1218	651	0	1553	0	0	6328
500 - BUSINESS	817	0	0	0	0	0	0	0	817
600 - ADMINISTRATION	1732	0	885	0	0	0	0	0	2617
700 - HUMANITIES	8709	0	0	0	0	0	0	0	8709
800 - MULTI DISCIPLINE	9561	0	234	0	0	183	0	0	9978
900 - FACULTY OFFICE BUILDING	0	0	3652	0	0	240	0	0	3892
1300 - FINE ARTS	873	0	0	0	0	0	0	0	873
1600 - VOCATIONAL ARTS	3081	0	74	0	0	0	0	0	3155
1800 - VOCATIONAL COMPLEX	2660	0	1026	0	16	294	0	0	3996
0100 - Agriculture and Natural Resources	**0**	**1663**	**221**	**0**	**1508**	**0**	**0**	**0**	**3392**
1000 - HORTICULTURE	0	1663	221	0	1508	0	0	0	3392
0400 - Biological Sciences	**0**	**8922**	**497**	**0**	**0**	**0**	**0**	**0**	**9419**
300 - SCIENCE	0	5778	355	0	0	0	0	0	6133
1000 - HORTICULTURE	0	0	72	0	0	0	0	0	72
1500 - MATHEMATICS	0	0	70	0	0	0	0	0	70
1800 - VOCATIONAL COMPLEX	0	3144	0	0	0	0	0	0	3144
0500 - Business and Management	**0**	**1444**	**842**	**0**	**0**	**0**	**0**	**0**	**2894**
500 - BUSINESS	0	1444	842	0	0	0	0	0	2894
0600 - Media and Communications	**0**	**986**	**0**	**0**	**0**	**0**	**0**	**0**	**986**
1800 - VOCATIONAL COMPLEX	0	986	0	0	0	0	0	0	986
0700 - Information Technology Computer and Information Science	**0**	**4762**	**405**	**0**	**0**	**0**	**0**	**0**	**5167**
500 - BUSINESS	0	4762	405	0	0	0	0	0	5167
0800 - Education	**0**	**0**	**2134**	**697**	**52384**	**1142**	**0**	**0**	**56357**
400 - STUDENT SERVICES	0	0	0	697	0	0	0	0	697
1700 - PHYSICAL EDUCATION	0	0	2134	0	41496	689	0	0	44319
2100 - POOL MECHANICAL	0	0	0	0	1939	0	0	0	1939
2500 - STADIUM	0	0	0	0	8949	453	0	0	9402
0900 - Engineering and Related Industrial Technologies	**396**	**20965**	**247**	**68**	**0**	**0**	**613**	**0**	**22289**
213 - NUT TREE HANGAR	396	4068	130	68	0	0	0	0	4662
1800 - VOCATIONAL COMPLEX	0	16897	117	0	0	0	613	0	17627

FAIRFIELD CAMPUS SUMMARY Program Categories	100	200	300	400	500	600	700	800	Totals
1000 - Fine and Applied Arts	**65**	**15133**	**2399**	**0**	**0**	**22199**	**2946**	**0**	**42742**
214 - HARBOR THEATRE	0	0	387	0	0	10398	0	0	10785
1200 - MUSIC-DRAMA	0	5197	1096	0	0	10769	2946	0	20008
1300 - FINE ARTS	0	7104	916	0	0	1032	0	0	9052
1800 - VOCATIONAL COMPLEX	65	2832	0	0	0	0	0	0	2897
1200 - Health	**0**	**3214**	**450**	**0**	**0**	**0**	**0**	**0**	**3664**
800 - MULTI DISCIPLINE	0	3214	450	0	0	0	0	0	3664
1300 - Family and Consumer Sciences	**926**	**1100**	**1303**	**0**	**7787**	**279**	**0**	**0**	**12368**
200 - CHILD DEVELOPMENT #1	0	0	922	0	6272	279	0	0	8326
201 - CHILD DEVELOPMENT #2	0	0	77	0	1515	0	0	0	1592
1600 - VOCATIONAL ARTS	926	1100	304	0	0	0	0	0	2450
1500 - Humanities (Letters)	**654**	**5751**	**1615**	**0**	**0**	**0**	**0**	**0**	**8020**
100 - LIBRARY COMPLEX	0	4419	0	0	0	0	0	0	4419
700 - HUMANITIES	0	865	1245	0	0	0	0	0	2110
1600 - VOCATIONAL ARTS	654	467	370	0	0	0	0	0	1491
1600 - Library Science	**0**	**875**	**0**	**0**	**0**	**0**	**0**	**0**	**875**
100 - LIBRARY COMPLEX	0	875	0	0	0	0	0	0	875
1700 - Mathematics	**3813**	**3436**	**999**	**246**	**0**	**0**	**0**	**0**	**8494**
1500 - MATHEMATICS	3813	3436	999	246	0	0	0	0	8494
1900 - Physical Sciences	**0**	**7569**	**609**	**581**	**0**	**0**	**0**	**0**	**8759**
300 - SCIENCE	0	7569	609	581	0	0	0	0	8759
2200 - Social Sciences	**0**	**0**	**783**	**0**	**0**	**73**	**0**	**0**	**941**
700 - HUMANITIES	0	0	783	0	0	73	0	0	941
3000 - Commercial Services	**0**	**3499**	**169**	**0**	**0**	**0**	**0**	**0**	**3668**
1600 - VOCATIONAL ARTS	0	3499	169	0	0	0	0	0	3668
6000 - Instructional Administration	**0**	**0**	**1823**	**0**	**0**	**0**	**0**	**0**	**1823**
400 - STUDENT SERVICES	0	0	168	0	0	0	0	0	168
600 - ADMINISTRATION	0	0	930	0	0	0	0	0	930
1400 - STUDENT CENTER	0	0	725	0	0	0	0	0	725
6100 - Instructional Support Services	**0**	**0**	**563**	**20849**	**2851**	**1012**	**0**	**0**	**30278**
4 - PORTABLE D 1101/1103	0	0	137	0	0	0	0	0	137
5 - PORTABLE E 1102	0	0	0	1419	0	0	0	0	1419
100 - LIBRARY COMPLEX	0	0	318	17798	2851	1012	0	0	26982
400 - STUDENT SERVICES	0	0	108	1632	0	0	0	0	1740
6200 - Admissions and Records	**0**	**0**	**3059**	**0**	**0**	**0**	**0**	**0**	**3059**
400 - STUDENT SERVICES	0	0	3059	0	0	0	0	0	3059
6300 - Counseling and Guidance	**0**	**0**	**4132**	**774**	**992**	**429**	**0**	**0**	**6327**
1 - PORTABLE A 1104/1106	0	0	943	0	0	0	0	0	943
5 - PORTABLE E 1102	0	0	397	0	0	0	0	0	397
100 - LIBRARY COMPLEX	0	0	84	0	0	0	0	0	84
400 - STUDENT SERVICES	0	0	2708	774	992	429	0	0	4903
6400 - Other Student Services	**0**	**0**	**7825**	**1289**	**0**	**1007**	**311**	**793**	**11225**
1 - PORTABLE A 1104/1106	0	0	864	0	0	0	0	0	864
3 - PORTABLE C 1105/1107	0	0	726	906	0	0	0	0	1632
100 - LIBRARY COMPLEX	0	0	179	0	0	0	0	0	179
400 - STUDENT SERVICES	0	0	5416	383	0	0	311	0	6110
1400 - STUDENT CENTER	0	0	640	0	0	1007	0	793	2440
6500 - Maintenance and Operation of Plant	**0**	**0**	**992**	**0**	**0**	**244**	**18176**	**0**	**19664**
215 - CHEMICAL STORAGE	0	0	0	0	0	0	4765	0	4765
1000 - HORTICULTURE	0	0	0	0	0	0	81	0	81
1800 - VOCATIONAL COMPLEX	0	0	0	0	0	0	0	0	252
1900 - WAREHOUSE	0	0	992	0	0	244	10432	0	11668
2000 - CENTRAL PLANT	0	0	0	0	0	0	2898	0	2898
6600 - Planning and Policy Making	**0**	**0**	**627**	**0**	**0**	**1250**	**0**	**0**	**1877**
600 - ADMINISTRATION	0	0	627	0	0	1250	0	0	1877

FAIRFIELD CAMPUS SUMMARY									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
6700 - General Institutional Support Services	**0**	**0**	**9894**	**0**	**632**	**452**	**5241**	**0**	**16219**
2 - PORTABLE B 1109	0	0	704	0	0	174	0	0	878
100 - LIBRARY COMPLEX	0	0	3573	0	632	0	4097	0	8302
213 - NUT TREE HANGAR	0	0	0	0	0	0	22	0	22
400 - STUDENT SERVICES	0	0	111	0	0	0	217	0	328
600 - ADMINISTRATION	0	0	3833	0	0	278	381	0	4492
900 - FACULTY OFFICE BUILDING	0	0	0	0	0	0	92	0	92
1300 - FINE ARTS	0	0	0	0	0	0	63	0	63
1400 - STUDENT CENTER	0	0	0	0	0	0	93	0	93
1700 - PHYSICAL EDUCATION	0	0	0	0	0	0	147	0	147
1800 - VOCATIONAL COMPLEX	0	0	1673	0	0	0	129	0	1802
6800 - Community Services	**0**	**0**	**505**	**0**	**0**	**0**	**0**	**0**	**505**
1600 - VOCATIONAL ARTS	0	0	505	0	0	0	0	0	505
6900 - Ancillary Services	**0**	**0**	**171**	**597**	**0**	**21493**	**333**	**0**	**22594**
1400 - STUDENT CENTER	0	0	171	597	0	20546	333	0	21647
1800 - VOCATIONAL COMPLEX	0	0	0	0	0	947	0	0	947

1 - PORTABLE A 1104/1106									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
6310 - Counseling Services	**0**	**0**	**943**	**0**	**0**	**0**	**0**	**0**	**943**
1106A - Office			181						
1106B - Office			100						
1106C - Office Service			100						
1106D - Office			94						
1106E - Office			94						
1106F - Office Service			75						
1106G - Office			116						
1106H - Office Service			183						
6499 - Other Student Services	**0**	**0**	**864**	**0**	**0**	**0**	**0**	**0**	**864**
1104A - Office			80						
1104B - Office			165						
1104C - Office			112						
1104D - Office			112						
1104E - Office Service			172						
1104F - Office			83						
1104G - Office Service			140						

2 - PORTABLE B 1109									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
6770 - Logistical Services	**0**	**0**	**704**	**0**	**0**	**174**	**0**	**0**	**878**
1109A - Office Service			345						
1109B - Office Service			134						
1109C - Office			76						
1109D - Office Service			75						
1109E - Office Service			44						
1109F - Office Service			30						
1109G - Lounge						174			

3 - PORTABLE C 1105/1107									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
6420 - Disabled Students Programs and Services (	**0**	**0**	**726**	**906**	**0**	**0**	**0**	**0**	**1632**
1105 - Read/Study Room				906					
1107A - Office			121						
1107B - Office			121						
1107C - Office			121						
1107D - Office Service			363						

4 - PORTABLE D 1101/1103									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
0099 - General Assignment	**1643**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1643**
1101 - Classroom	891								
1103 - Classroom	545								
1103B - Classroom Service	102								
1103C - Classroom Service	105								
6110 - Learning Center (Learning Resource Cente	**0**	**0**	**137**	**0**	**0**	**0**	**0**	**0**	**137**
1103A - Office			137						

5 - PORTABLE E 1102									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
6110 - Learning Center (Learning Resource Cente	**0**	**0**	**0**	**1419**	**0**	**0**	**0**	**0**	**1419**
1102 - Read/Study Room				1419					
6310 - Counseling Services	**0**	**0**	**397**	**0**	**0**	**0**	**0**	**0**	**397**
1102A - Office			166						
1102B - Office			78						
1102C - Office			153						

100 - LIBRARY COMPLEX									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
0099 - General Assignment	**639**	**0**	**2243**	**0**	**129**	**147**	**0**	**0**	**3158**
101 - Office			709						
135 - Classroom	639								
137 - Office			84						
138 - Office			84						
139 - Office			84						
140 - Office			84						
141 - Office			84						
142 - Office			84						
143 - Office			84						
144 - Office			197						
145 - Office			216						
146 - Office			84						
148 - Office			84						
149 - Office			84						
150 - Office			84						
151 - Clinic St Care					129				
152 - Office			197						
156 - Lounge						147			
1501 - English	**0**	**4419**	**0**	**0**	**0**	**0**	**0**	**0**	**4419**
130 - Spec Class Lab		4183							
136 - Special Class Lab Service		236							
1601 - Library Science, General	**0**	**875**	**0**	**0**	**0**	**0**	**0**	**0**	**875**
103 - Spec Class Lab		875							
6120 - Library	**0**	**0**	**178**	**22132**	**0**	**324**	**0**	**0**	**22634**
100 - Read/Study Room				1087					
100A - Inactive Area				5003					
100B - Stack				3747					
100C - Study Service				832					
100D - Read/Study Room				10073					
105 - Office			178						
106 - Lounge						324			
107 - Processing Room				1390					
6130 - Media Services	**0**	**0**	**140**	**669**	**2851**	**0**	**0**	**0**	**3660**
104 - Processing Room				344					
120 - A/V, Radio, TV Service					385				
121 - Audio/Visual, Radio, TV					1645				
122 - A/V, Radio, TV Service					479				
125 - Processing Room				146					
126 - Processing Room				179					
131 - Audio/Visual, Radio, TV					182				
132 - Office			70						
133 - Office			70						
134 - A/V, Radio, TV Service					160				
6199 - Other Instructional Support Services	**0**	**0**	**0**	**0**	**0**	**688**	**0**	**0**	**688**
102A - Meeting Room Service						688			
6310 - Counseling Services	**0**	**0**	**84**	**0**	**0**	**0**	**0**	**0**	**84**
147 - Office			84						
6460 - Financial Aid	**0**	**0**	**179**	**0**	**0**	**0**	**0**	**0**	**179**
162A - Office			179						

100 - LIBRARY COMPLEX									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
6770 - Logistical Services	**0**	**0**	**909**	**0**	**0**	**0**	**2431**	**0**	**3340**
114 - Shop							84		
115 - Shop							943		
116 - Shop							912		
117 - Shop Service							98		
118 - Shop Service							185		
123 - Shop							209		
124 - Office			909						
6780 - Management Information Services	**0**	**0**	**2664**	**0**	**0**	**0**	**1666**	**0**	**4330**
153 - Office			1556						
154 - Office Service			268						
155 - Conference Room			271						
161A - Office			83						
161B - Office			81						
162 - DP/Computer Service							186		
162C - Data Processing/Computer							231		
162D - DP/Computer Service							360		
162F - DP/Computer Service							108		
162G - DP/Computer Service							105		
162H - DP/Computer Service							293		
163 - DP/Computer Service							144		
165 - DP/Computer Service							71		
166 - Office			109						
167 - Office			155						
168 - Office			141						
169 - DP/Computer Service							168		
6799 - Other General Institutional Support Servic	**0**	**0**	**0**	**0**	**632**	**0**	**0**	**0**	**632**
103A - Audio/Visual, Radio, TV					632				

200 - CHILD DEVELOPMENT #1									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
1305 - Child Development/Early Care and Educati	**0**	**0**	**1775**	**0**	**6272**	**279**	**0**	**0**	**8326**
200 - Office			300						
201 - Office			142						
202 - Demonstration Service					11				
203 - Demonstration Service					8				
204 - Demonstration Service					144				
205 - Demonstration					975				
206 - Demonstration Service					36				
208 - Demonstration Service					123				
209 - Demonstration Service					15				
210 - Demonstration Service					42				
211 - Office			62						
212 - Demonstration Service					86				
213 - Demonstration					743				
215 - Office			66						
216 - Demonstration Service					43				
217 - Demonstration Service					16				
218 - Demonstration Service					74				
220 - Demonstration					1040				
221 - Demonstration Service					139				
223 - Demonstration Service					109				
226 - Lounge						279			
227 - Demonstration					714				
227A - Demonstration Service					42				
228 - Office			65						
230 - Demonstration Service					15				
231 - Office			72						
232 - Demonstration					808				
233 - Demonstration Service					31				
235 - Demonstration Service					32				
237 - Demonstration					589				
238 - Office			141						
239 - Demonstration Service					112				
240 - Demonstration Service					325				
241 - Office Service			74						
242 - Main Hallway			738						
243 - Hallway			115						

201 - CHILD DEVELOPMENT #2									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
1305 - Child Development/Early Care and Educat	**0**	**0**	**77**	**0**	**1515**	**0**	**0**	**0**	**1592**
401 - Office			77						
402 - Demonstration					1304				
403 - Demonstration Service					89				
404 - Demonstration Service					44				
405 - Demonstration Service					34				
406 - Demonstration Service					44				

213 - NUT TREE HANGAR									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
0950 - Aeronautical and Aviation Technology	**396**	**4068**	**130**	**68**	**0**	**0**	**0**	**0**	**4662**
2130 - Class Lab		3967							
2131 - Classroom	396								
2132 - Class Lab Service		47							
2133 - Stack				68					
2134 - Class Lab Service		54							
2135 - Office			73						
2136 - Office			57						
6780 - Management Information Services	**0**	**0**	**0**	**0**	**0**	**0**	**22**	**0**	**22**
2137 - DP/Computer Service							22		

214 - HARBOR THEATRE									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
1007 - Dramatic Arts	**0**	**0**	**387**	**0**	**0**	**10398**	**0**	**0**	**10785**
2140 - Assembly Service						1364			
2140A - Assembly Service						180			
2142 - Food Facilities						138			
2143 - Assembly Service						294			
2144 - Assembly Service						411			
2145 - Assembly Service						78			
2146 - Assembly Service						95			
2147M - Assembly Service						123			
2148W - Assembly Service						171			
2149 - Office			387						
2150 - Assembly						1013			
2152 - Assembly						2550			
2153 - Assembly Service						773			
2154 - Assembly						1032			
2155 - Assembly						1518			
2157 - Assembly Service						222			
2157A - Assembly Service						436			

215 - CHEMICAL STORAGE									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
6510 - Building Maintenance and Operation Supp	**0**	**0**	**0**	**0**	**0**	**0**	**4765**	**0**	**4765**
2150 - Storage							2498		
2151 - Storage							2267		

300 - SCIENCE									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
0099 - General Assignment	**2273**	**0**	**401**	**0**	**0**	**0**	**0**	**0**	**2674**
308 - Classroom	1906								
309A - Office			69						
315 - Classroom Service	339								
348 - Classroom Service	28								
349 - Office Service			332						
0401 - Biology, General	**0**	**2676**	**355**	**0**	**0**	**0**	**0**	**0**	**3031**
305 - Class Lab		1539							
317 - Class Lab Service		370							
319 - Class Lab Service		88							
321 - Class Lab Service		193							
322 - Class Lab Service		220							
323 - Class Lab Service		144							
324A - Class Lab Service		122							
343 - Office			71						
344 - Office			71						
345 - Office			71						
346 - Office			71						
347 - Office			71						
0403 - Microbiology	**0**	**1535**	**0**	**0**	**0**	**0**	**0**	**0**	**1535**
307 - Class Lab		1535							
0410 - Anatomy and Physiology	**0**	**1567**	**0**	**0**	**0**	**0**	**0**	**0**	**1567**
306 - Class Lab		1567							
1901 - Physical Sciences, General	**0**	**0**	**0**	**581**	**0**	**0**	**0**	**0**	**581**
309 - Read/Study Room				581					
1902 - Physics, General	**0**	**2127**	**534**	**0**	**0**	**0**	**0**	**0**	**2661**
302 - Class Lab		1273							
330 - Class Lab Service		234							
331 - Class Lab Service		307							
332 - Class Lab Service		313							
335 - Office			96						
336 - Office			73						
338 - Office			72						
339 - Office			73						
340 - Office			75						
341 - Office			73						
342 - Office			72						
1905 - Chemistry, General	**0**	**4146**	**75**	**0**	**0**	**0**	**0**	**0**	**4221**
303 - Class Lab		1567							
304 - Class Lab		1551							
324B - Class Lab Service		122							
325 - Class Lab Service		111							
327 - Class Lab Service		361							
328 - Class Lab Service		221							
329 - Class Lab Service		213							
337 - Office			75						
1914 - Geology	**0**	**1296**	**0**	**0**	**0**	**0**	**0**	**0**	**1296**
301 - Class Lab		1296							

400 - STUDENT SERVICES									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
0099 - General Assignment	**2906**	**0**	**1218**	**651**	**0**	**1553**	**0**	**0**	**6328**
413 - Lounge						424			
414 - Meeting Room						372			
420 - Office			103						
430 - Lounge						310			
431 - Meeting Room						249			
432 - Meeting Room						198			
433 - Office			312						
433A - Office			195						
434 - Read/Study Room				483					
434A - Office			102						
434B - Office			132						
435 - Read/Study Room				168					
435A - Office Service			79						
435B - Office			108						
439 - Office			96						
440 - Office			91						
443 - Classroom	719								
444 - Classroom	727								
445 - Classroom	724								
446 - Classroom	736								
0801 - Education, General (Pre-Professional)(Trar	**0**	**0**	**0**	**697**	**0**	**0**	**0**	**0**	**697**
402 - Read/Study Room				697					
6020 - Course and Curriculum Development	**0**	**0**	**168**	**0**	**0**	**0**	**0**	**0**	**168**
422 - Office			168						
6110 - Learning Center (Learning Resource Cente	**0**	**0**	**108**	**1632**	**0**	**0**	**0**	**0**	**1740**
437 - Read/Study Room				757					
437A - Office			108						
438 - Read/Study Room				777					
438A - Read/Study Room				98					
6210 - Registrations, Transfers, Transcripts, Certi	**0**	**0**	**3059**	**0**	**0**	**0**	**0**	**0**	**3059**
400 - Office			1248						
400A - Office Service			207						
400B - Office			229						
400C - Office			105						
400D - Office			177						
400E - Office			111						
400F - Office Service			202						
400G - Office Service			159						
400H - Office Service			159						
400I - Office			106						
400J - Office			103						
400K - Office			111						
400L - Office Service			75						
400M - Office Service			67						
6300 - Counseling and Guidance	**0**	**0**	**2576**	**0**	**0**	**429**	**0**	**0**	**3005**
404 - Office Service			325						
404A - Office			119						
404B - Office			118						
404C - Office			118						
404D - Office			121						
404E - Office			118						
404F - Office			120						
404G - Office			117						
404H - Office			115						
404I - Office			114						
404J - Office			146						
404K - Office			89						
404L - Office			117						
404M - Office			96						
404N - Office			115						
404O - Office			122						
404P - Office Service			215						
404R - Office			291						
407E - Meeting Room						429			

400 - STUDENT SERVICES									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
6320 - Placement Services	**0**	**0**	**132**	**774**	**992**	**0**	**0**	**0**	**1898**
403 - Read/Study Room				774					
442 - Clinic Service					150				
442A - Office			132						
442B - Clinic St Care					42				
442C - Clinic St Care					39				
442D - Clinic St Care					49				
442E - Clinic St Care					49				
442F - Clinic St Care					61				
442G - Clinic St Care					602				
6420 - Disabled Students Programs and Services (	**0**	**0**	**1977**	**383**	**0**	**0**	**311**	**0**	**2671**
406 - Read/Study Room				383					
406A - Office			106						
407 - Office Service			467						
407A - Office Service			40						
407B - Office Service			33						
407C - Office Service			33						
407D - Office			139						
407F - Office Service			87						
407G - Office			120						
407H - Office			120						
407I - Office			135						
407J - Office			117						
407K - Office			118						
407L - Office			118						
407M - Office			127						
407N - Vehicle Storage							311		
407O - Office Service			36						
407P - Office Service			181						
6430 - Extended Opportunity Programs and Servi	**0**	**0**	**859**	**0**	**0**	**0**	**0**	**0**	**859**
426 - Office Service			63						
426A - Office			115						
426B - Office Service			121						
426C - Office			117						
426D - Office Service			93						
426E - Office			118						
426F - Office			116						
426G - Office			116						
6460 - Financial Aid	**0**	**0**	**1844**	**0**	**0**	**0**	**0**	**0**	**1844**
421 - Office			85						
425 - Office			993						
425A - Office Service			98						
425B - Office			125						
425C - Office			118						
425D - Office			153						
425E - Office			117						
425F - Office			155						
6480 - Veterans Services	**0**	**0**	**736**	**0**	**0**	**0**	**0**	**0**	**736**
429 - Office			500						
429A - Office			115						
429B - Office			121						
6780 - Management Information Services	**0**	**0**	**0**	**0**	**0**	**0**	**217**	**0**	**217**
404Q - DP/Computer Service							110		
436 - DP/Computer Service							107		
6791 - General Administration Services	**0**	**0**	**111**	**0**	**0**	**0**	**0**	**0**	**111**
401 - Office			111						

500 - BUSINESS									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
0099 - General Assignment	**817**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**817**
506 - Classroom	817								
0501 - Business and Commerce, General	**0**	**0**	**1326**	**0**	**0**	**0**	**0**	**0**	**1326**
509 - Office			82						
510 - Office			170						
511 - Office Service			68						
512 - Hallway			608						
519 - Office			68						
520 - Office			65						
521 - Office			64						
522 - Office			67						
523 - Office			64						
524 - Office			70						
0514 - Office Technology/Office Computer Applic	**0**	**1444**	**124**	**0**	**0**	**0**	**0**	**0**	**1568**
502 - Class Lab		1444							
508 - Office Service			124						
0707 - Computer Software Development	**0**	**4762**	**405**	**0**	**0**	**0**	**0**	**0**	**5167**
501 - Class Lab		1029							
503 - Class Lab		1133							
504 - Class Lab		951							
505 - Class Lab		902							
507 - Class Lab		638							
513 - Office			67						
514 - Office			67						
515 - Office			67						
516 - Office			67						
517 - Office			70						
518 - Office			67						
530 - Class Lab Service		109							

600 - ADMINISTRATION									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
6720 - Fiscal Operations	**0**	**0**	**1404**	**0**	**0**	**0**	**381**	**0**	**1785**
606 - Office Service			253						
609 - Office Service			240						
630 - Office			394						
631 - Office			107						
632 - Office			84						
633 - Office			84						
634 - Office			96						
635 - Office			86						
636 - Office Service			60						
637 - Storage							381		
6730 - Human Resources Management	**0**	**0**	**984**	**0**	**0**	**0**	**0**	**0**	**984**
615 - Office			121						
616 - Office			592						
616A - Office			150						
617 - Office			121						
6791 - General Administration Services	**0**	**0**	**929**	**0**	**0**	**278**	**0**	**0**	**1207**
601A - Office Service			84						
601B - Office Service			84						
610A - Office			110						
611 - Office			125						
612 - Lounge						278			
619 - Office			141						
628 - Office			166						
629 - Office			219						
0099 - General Assignment	**1732**	**0**	**885**	**0**	**0**	**0**	**0**	**0**	**2617**
603 - Classroom	868								
604 - Office			885						
605 - Classroom	864								
6010 - Academic Administration	**0**	**0**	**684**	**0**	**0**	**0**	**0**	**0**	**684**
613 - Office			121						
620 - Office			165						
627 - Office			398						
6020 - Course and Curriculum Development	**0**	**0**	**246**	**0**	**0**	**0**	**0**	**0**	**246**
618 - Office			246						
6620 - Management Planning Functions	**0**	**0**	**627**	**0**	**0**	**1250**	**0**	**0**	**1877**
621 - Office			149						
622 - Office			386						
623 - Office Service			40						
624 - Office Service			52						
626 - Meeting Room						1250			
6700 - General Institutional Support Services	**0**	**0**	**121**	**0**	**0**	**0**	**0**	**0**	**121**
614 - Office			121						
6710 - Community Relations	**0**	**0**	**395**	**0**	**0**	**0**	**0**	**0**	**395**
610 - Office			395						

700 - HUMANITIES									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
0099 - General Assignment	**8709**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8709**
701 - Classroom	619								
702 - Classroom	509								
703 - Classroom	987								
704 - Classroom	730								
705 - Classroom	999								
706 - Classroom	745								
707 - Classroom	621								
708 - Classroom	520								
710 - Classroom	555								
712 - Classroom	548								
713 - Classroom	821								
714 - Classroom	538								
736 - Classroom	517								
1501 - English	**0**	**865**	**1245**	**0**	**0**	**0**	**0**	**0**	**2110**
715 - Office Service			70						
716 - Office			71						
717 - Office			71						
718 - Office			71						
719 - Office			71						
720 - Office			69						
721 - Office			69						
725 - Office			72						
726 - Office			73						
727 - Office			72						
728 - Office Service			71						
729 - Office			102						
730 - Office			102						
731 - Office			67						
732 - Office			67						
733 - Office			66						
734 - Office			61						
743 - Class Lab		865							
2201 - Social Sciences, General	**0**	**0**	**868**	**0**	**0**	**73**	**0**	**0**	**941**
724 - Office			73						
741 - Fire Alarm			85						
744 - Lounge						73			
745 - Office			70						
746 - Office			69						
747 - Office			69						
748 - Office			96						
749 - Office			64						
750 - Office			67						
751 - Office			67						
752 - Office			68						
753 - Office			71						
754 - Office			69						

800 - MULTI DISCIPLINE									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
0099 - General Assignment	**9561**	**0**	**234**	**0**	**0**	**183**	**0**	**0**	**9978**
801 - Classroom	753								
802 - Classroom	1170								
803 - Classroom	1023								
803A - Classroom Service	167								
804 - Classroom	895								
805C - Office Service			25						
805D - Office			135						
805E - Meeting Room						183			
805F - Office Service			44						
805H - Office Service			30						
806 - Classroom	810								
808 - Classroom	845								
809 - Classroom	1161								
809A - Classroom Service	101								
811 - Classroom	1195								
812 - Classroom	1441								
1230 - Nursing	**0**	**3214**	**450**	**0**	**0**	**0**	**0**	**0**	**3664**
805A - Office			190						
805B - Office			138						
805G - Office Service			122						
807 - Class Lab		1753							
807A - Class Lab Service		432							
807B - Spec Class Lab		664							
807C - Spec Class Lab		150							
807D - Special Class Lab Service		124							
807E - Class Lab Service		91							

900 - FACULTY OFFICE BUILDING									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
0099 - General Assignment	**0**	**0**	**3652**	**0**	**0**	**240**	**0**	**0**	**3892**
902 - Meeting Room						240			
903 - Office			95						
904 - Office			94						
905 - Office			94						
906 - Office			92						
907 - Office			118						
908 - Office			93						
909 - Office			93						
910 - Office			93						
911 - Office			93						
912 - Office			94						
913 - Office			93						
914 - Office			93						
915 - Office			92						
916 - Office			98						
917 - Office			101						
918 - Office			101						
919 - Office			92						
922 - Office			91						
923 - Office			92						
924 - Office			91						
925 - Office			91						
926 - Office			93						
927 - Office			93						
928 - Office			94						
929 - Office			93						
932 - Office			94						
933 - Office			101						
934 - Office			101						
935 - Office			102						
936 - Office			97						
937 - Office			99						
938 - Office			99						
939 - Office			99						
940 - Office			99						
941 - Office			99						
942 - Office			99						
943 - Office			99						
944 - Office			97						
6780 - Management Information Services	**0**	**0**	**0**	**0**	**0**	**0**	**92**	**0**	**92**
930 - DP/Computer Service							92		

1000 - HORTICULTURE									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
0109 - Horticulture	**0**	**1663**	**221**	**0**	**1508**	**0**	**0**	**0**	**3392**
1001 - Class Lab		1362							
1002 - Greenhouse Service					487				
1003 - Greenhouse					1021				
1006 - Class Lab Service		188							
1007 - Office			221						
1008 - Class Lab Service		113							
0401 - Biology, General	**0**	**0**	**72**	**0**	**0**	**0**	**0**	**0**	**72**
1004 - Office Service			72						
6510 - Building Maintenance and Operation Supp	**0**	**0**	**0**	**0**	**0**	**0**	**81**	**0**	**81**
1009 - Shop							81		

1200 - MUSIC-DRAMA									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
1004 - Music	**0**	**5197**	**743**	**0**	**0**	**0**	**0**	**0**	**5940**
1239 - Class Lab		1504							
1240 - Office			97						
1241 - Office			98						
1242 - Class Lab Service		146							
1243 - Class Lab Service		185							
1244 - Class Lab Service		161							
1245 - Class Lab		1584							
1249 - Class Lab		804							
1250 - Office			144						
1251 - Office			149						
1252 - Office			201						
1255 - Special Class Lab Service		100							
1256 - Office			54						
1257 - Individual Study Lab		54							
1258 - Individual Study Lab		54							
1259 - Individual Study Lab		25							
1260 - Individual Study Lab		54							
1261 - Individual Study Lab		54							
1262 - Class Lab		54							
1263 - Class Lab		418							
1007 - Dramatic Arts	**0**	**0**	**353**	**0**	**0**	**10769**	**2946**	**0**	**14068**
1200 - Assembly Service						480			
1201 - Assembly Service						72			
1202 - Assembly Service						45			
1210 - Assembly Service						480			
1218 - Assembly Service						48			
1219 - Assembly						396			
1220 - Assembly						3710			
1221 - Assembly Service						48			
1223 - Assembly Service						60			
1224 - Assembly Service						60			
1227 - Assembly Service						3151			
1228 - Assembly Service						456			
1231 - Assembly Service						296			
1232 - Assembly Service						580			
1233 - Assembly Service						342			
1234 - Assembly Service						182			
1234A - Assembly Service						90			
1235 - Assembly Service						183			
1235A - Assembly Service						90			
1238 - Shop							2370		
1238A - Office			172						
1238B - Office			128						
1238C - Office Service			53						
1238D - Shop Service							336		
1238E - Shop Service							52		
1238F - Shop Service							45		
1238G - Shop Service							143		

1300 - FINE ARTS									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
0099 - General Assignment	**873**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**873**
1301 - Classroom	873								
1002 - Art (Painting, Drawing and Sculpture)	**0**	**6584**	**916**	**0**	**0**	**1032**	**0**	**0**	**8532**
1302 - Exhibition						736			
1302B - Exhibition Service						104			
1303 - Class Lab		1748							
1303A - Class Lab Service		346							
1304 - Office			91						
1305 - Office			93						
1306 - Office			95						
1307B - Office			235						
1307C - Office			151						
1307D - Meeting Room						192			
1307E - Office			175						
1311 - Class Lab		1798							
1311B - Class Lab Service		161							
1311C - Class Lab Service		312							
1312 - Office			76						
1314 - Class Lab		867							
1315 - Class Lab		1352							
1011 - Photography	**0**	**99**	**0**	**0**	**0**	**0**	**0**	**0**	**99**
1314B - Class Lab Service		99							
1099 - Other Fine and Applied Arts	**0**	**421**	**0**	**0**	**0**	**0**	**0**	**0**	**421**
1313 - Spec Class Lab		421							
6780 - Management Information Services	**0**	**0**	**0**	**0**	**0**	**0**	**63**	**0**	**63**
1307A - DP/Computer Service							63		

1400 - STUDENT CENTER									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
6030 - Administrative Data Processing Activities	**0**	**0**	**725**	**0**	**0**	**0**	**0**	**0**	**725**
1425 - Office Service			207						
1425A - Office			331						
1426 - Office Service			187						
6440 - Health Services	**0**	**0**	**640**	**0**	**0**	**0**	**0**	**793**	**1433**
1408 - Office			166						
1409 - Office Service			134						
1410 - Office			128						
1411 - Office Service			129						
1412 - Treatment								185	
1413 - Treatment								148	
1414 - Treatment								104	
1417 - Office			83						
1418 - Nurse Station								356	
6499 - Other Student Services	**0**	**0**	**0**	**0**	**0**	**1007**	**0**	**0**	**1007**
1421 - Meeting Room						1007			
6780 - Management Information Services	**0**	**0**	**0**	**0**	**0**	**0**	**93**	**0**	**93**
1453 - DP/Computer Service							93		
6900 - Ancillary Services	**0**	**0**	**171**	**0**	**0**	**0**	**0**	**0**	**171**
1422 - Office			171						
6910 - Bookstore	**0**	**0**	**0**	**0**	**0**	**5052**	**0**	**0**	**5052**
1429 - Merchandise Facility Service						50			
1430 - Merchandise Facility						3353			
1431 - Merchandise Facility Service						89			
1432 - Merchandise Facility Service						87			
1433 - Merchandise Facility Service						131			
1435 - Merchandise Facility Service						831			
1436 - Merchandise Facility Service						69			
1437 - Merchandise Facility Service						82			
1438 - Merchandise Facility Service						134			
1446 - Merchandise Facility Service						100			
1455 - Merchandise Facility Service						43			
1492 - Merchandise Facility Service						83			
6940 - Food Services	**0**	**0**	**0**	**0**	**0**	**14167**	**0**	**0**	**14167**
1401 - Food Facilities						1235			
1402 - Food Facilities Service						130			
1405A - Food Facilities						7837			
1405B - Food Facilities Service						159			
1440 - Food Facilities						2185			
1441 - Food Facilities Service						301			
1443 - Food Facilities Service						1325			
1443A - Food Facilities Service						238			
1444 - Food Facilities Service						379			
1445A - Food Facilities Service						19			
1447 - Food Facilities Service						104			
1448 - Food Facilities Service						82			
1449 - Food Facilities Service						88			
1450 - Food Facilities Service						85			
6960 - Students and Co-curricular Activities	**0**	**0**	**0**	**597**	**0**	**1327**	**333**	**0**	**2257**
1404 - Storage							333		
1406 - Meeting Room						549			

1500 - MATHEMATICS									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
0401 - Biology, General	**0**	**0**	**70**	**0**	**0**	**0**	**0**	**0**	**70**
1509 - Office			70						
1701 - Mathematics, General	**3813**	**3436**	**999**	**246**	**0**	**0**	**0**	**0**	**8494**
1504 - Office			70						
1505 - Office			103						
1506 - Office			73						
1507 - Office			68						
1508 - Office			68						
1510 - Office			71						
1511 - Office			68						
1512 - Office Service			67						
1514 - Office			70						
1515 - Office			67						
1521 - Class Lab		674							
1522 - Office			274						
1524 - Read/Study Room				246					
1525 - Spec Class Lab		1809							
1526 - Class Lab		953							
1527 - Classroom	711								
1528 - Classroom	713								
1529 - Classroom	796								
1530 - Classroom	850								
1531 - Classroom	743								

1600 - VOCATIONAL ARTS									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
0099 - General Assignment	**3081**	**0**	**74**	**0**	**0**	**0**	**0**	**0**	**3155**
1625 - Classroom	997								
1626 - Classroom	572								
1634 - Classroom	584								
1643 - Office			74						
1646 - Classroom	928								
1301 - Family and Consumer Science, General	**0**	**1100**	**186**	**0**	**0**	**0**	**0**	**0**	**1286**
1620 - Office			66						
1632 - Hallway			120						
1633 - Class Lab		1100							
1305 - Child Development/Early Care and Educat	**926**	**0**	**162**	**0**	**0**	**0**	**0**	**0**	**1088**
1639 - Office			81						
1640 - Office			81						
1645 - Classroom	926								
1306 - Nutrition, Foods, and Culinary Arts	**0**	**0**	**76**	**0**	**0**	**0**	**0**	**0**	**76**
1622 - Office			76						
1506 - Speech Communication	**654**	**467**	**370**	**0**	**0**	**0**	**0**	**0**	**1491**
1621 - Office			67						
1635 - Spec Class Lab		467							
1636 - Office			92						
1637 - Office			102						
1637A - Office Service			35						
1642 - Classroom	654								
1644 - Office			74						
3007 - Cosmetology and Barbering	**0**	**3499**	**169**	**0**	**0**	**0**	**0**	**0**	**3668**
1607 - Office			93						
1608 - Class Lab Service		104							
1609 - Class Lab		226							
1610 - Class Lab		1657							
1610A - Class Lab Service		128							
1610F - Class Lab		1047							
1612 - Office			76						
1613 - Class Lab Service		32							
1614 - Class Lab Service		34							
1615 - Class Lab Service		42							
1616 - Class Lab Service		24							
1617 - Class Lab Service		205							
6899 - Other Community Services	**0**	**0**	**505**	**0**	**0**	**0**	**0**	**0**	**505**
1638 - Office			276						
1638A - Office			229						

1700 - PHYSICAL EDUCATION									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
1743 - Athletic/Physical Ed Service					591				
1745 - Athletic/Physical Ed Service					2601				
1746 - Athletics/Physical Education					920				
1747A - Athletic/Physical Ed Service					126				
1750 - Athletic/Physical Ed Service					2104				
1751 - Athletic/Physical Ed Service					465				
1752 - Athletic/Physical Ed Service					1536				
1755 - Food Facilities Service						230			
1756 - Athletics/Physical Education					1164				
1757 - Athletic/Physical Ed Service					129				
1758 - Athletic/Physical Ed Service					196				
1771 - Athletics/Physical Education					1820				
1774 - Office			154						
1775 - Athletics/Physical Education					2268				
1777 - Athletic/Physical Ed Service					259				
1779 - Athletics/Physical Education					1387				
1781 - Athletic/Physical Ed Service					135				
1782 - Athletic/Physical Ed Service					209				
6780 - Management Information Services	**0**	**0**	**0**	**0**	**0**	**0**	**147**	**0**	**147**
1714 - DP/Computer Service							76		
1776 - DP/Computer Service							71		
0835 - Physical Education	**0**	**0**	**2134**	**0**	**41496**	**689**	**0**	**0**	**44319**
1437A - Athletic/Physical Ed Service					92				
1701 - Athletics/Physical Education					16016				
1703 - Athletics/Physical Education					90				
1704 - Athletics/Physical Education					1684				
1705 - Athletics/Physical Education					1727				
1708 - Athletic/Physical Ed Service					91				
1709 - Athletic/Physical Ed Service					84				
1710 - Athletic/Physical Ed Service					173				
1711 - Audio/Visual, Radio, TV					116				
1712 - Office			112						
1713 - Athletic/Physical Ed Service					36				
1715 - Office			77						
1716 - Office			78						
1717 - Office			79						
1718 - Office			92						
1719 - Office			91						
1720 - Office Service			180						
1722 - Office			63						
1723 - Office			66						
1724 - Office			66						
1725 - Office			66						
1726 - Office			66						
1727 - Office			66						
1728 - Office			66						
1729 - Office			66						
1730 - Office			66						
1731 - Office			69						
1732 - Office Service			225						
1733 - Office			181						
1734 - Office			205						
1737 - Meeting Room						459			
1738 - Athletics/Physical Education					969				
1739 - Athletics/Physical Education					2069				
1740 - Athletics/Physical Education					2439				

1800 - VOCATIONAL COMPLEX									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
0099 - General Assignment	**2660**	**0**	**1026**	**0**	**16**	**294**	**0**	**0**	**3996**
1801 - Office			175						
1803 - Office			81						
1805 - Office Service			133						
1806 - Office			82						
1807 - Office			80						
1808 - Office			84						
1809 - Office			79						
1811 - Office			131						
1817 - Office			181						
1859 - Locker Room						294			
1860 - Classroom	993								
1877 - Classroom	833								
1879 - Classroom	834								
1882 - Audio/Visual, Radio, TV					16				
0430 - Biotechnology and Biomedical Technology	**0**	**3144**	**0**	**0**	**0**	**0**	**0**	**0**	**3144**
1852 - Class Lab		2557							
1852A - Class Lab Service		385							
1852B - Class Lab Service		107							
1852C - Class Lab Service		95							
0602 - Journalism	**0**	**986**	**0**	**0**	**0**	**0**	**0**	**0**	**986**
1861 - Class Lab		986							
0934 - Electronics and Electric Technology	**0**	**5127**	**0**	**0**	**0**	**0**	**0**	**0**	**5127**
1818 - Class Lab		1389							
1818B - Class Lab Service		134							
1819 - Class Lab		1302							
1819A - Class Lab Service		148							
1819B - Class Lab Service		94							
1819C - Class Lab Service		147							
1878 - Class Lab		1913							
0948 - Automotive Technology	**0**	**6692**	**0**	**0**	**0**	**0**	**613**	**0**	**7305**
1854 - Class Lab		1457							
1854D - Class Lab Service		156							
1855 - Class Lab		4076							
1855A - Class Lab Service		709							
1855C - Class Lab Service		104							
1855D - Class Lab Service		87							
1855E - Class Lab Service		22							
1858 - Class Lab Service		81							
1885 - Shop							613		
0953 - Drafting Technology	**0**	**1902**	**0**	**0**	**0**	**0**	**0**	**0**	**1902**
1876 - Class Lab		828							
1881 - Class Lab		1074							
0956 - Manufacturing and Industrial Technology	**0**	**3176**	**117**	**0**	**0**	**0**	**0**	**0**	**3293**
1853 - Class Lab		2329							
1853A - Class Lab Service		723							
1853B - Class Lab Service		124							
1853C - Office			117						
1011 - Photography	**65**	**2832**	**0**	**0**	**0**	**0**	**0**	**0**	**2897**
1815 - Class Lab		936							
1821 - Class Lab Service		521							
1821A - Class Lab Service		220							
1822 - Spec Class Lab		448							
1823 - Spec Class Lab		402							
1824 - Class Lab Service		115							
1824A - Class Lab Service		39							
1824B - Classroom Service	65								

1800 - VOCATIONAL COMPLEX									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
6530 - Custodial Services	**0**	**48**	**0**	**0**	**0**	**0**	**0**	**0**	**48**
1863B - Custodial		48							
6570 - Utilities	**0**	**140**	**0**	**0**	**0**	**0**	**0**	**0**	**140**
1867 - Hallway		140							
6770 - Logistical Services	**0**	**0**	**1673**	**0**	**0**	**0**	**0**	**0**	**1673**
1856C - Office			89						
1856D - Office			106						
1862 - Office			467						
1863 - Office			189						
1868 - Office Service			72						
1869 - Office Service			72						
1870 - Office Service			72						
1871 - Office			87						
1872 - Office Service			87						
1873 - Office Service			136						
1874 - Office Service			296						
6780 - Management Information Services	**0**	**0**	**0**	**0**	**0**	**0**	**129**	**0**	**129**
1810 - DP/Computer Service							81		
1863A - DP/Computer Service							48		
6999 - Other Ancillary Services	**0**	**0**	**0**	**0**	**0**	**947**	**0**	**0**	**947**
1854A - Merchandise Facility						793			
1854C - Merchandise Facility Service						154			

1900 - WAREHOUSE									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
6510 - Building Maintenance and Operation Supp	**0**	**0**	**992**	**0**	**0**	**244**	**10432**	**0**	**11668**
1901 - Storage							3076		
1901A - Shop Service							99		
1901B - Office			99						
1901C - Office			120						
1901D - Storage							799		
1902 - Shop							2143		
1902A - Office			168						
1902B - Office			229						
1902D - Storage							235		
1902E - Lounge						244			
1903 - Office			144						
1906 - Storage							153		
1907 - Shop Service							144		
1908 - Vehicle Storage							1441		
1909A - Office			78						
1909B - Office			73						
1909C - Shop Service							652		
1909D - Office			81						
1909E - Storage							512		
1909F - Storage							379		
1909G - Storage							799		

2000 - CENTRAL PLANT									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
6510 - Building Maintenance and Operation Supp	**0**	**0**	**0**	**0**	**0**	**0**	**2898**	**0**	**2898**
1 - Central Utility Plant							2898		

2100 - POOL MECHANICAL									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
0835 - Physical Education	**0**	**0**	**0**	**0**	**1939**	**0**	**0**	**0**	**1939**
2110 - Athletic Spectator Seat					1				
2110B - Athletic/Physical Ed Service					1219				
2110C - Athletic/Physical Ed Service					106				
2110D - Athletic/Physical Ed Service					166				
2110F - Athletic/Physical Ed Service					313				
2110G - Athletic/Physical Ed Service					134				

2500 - STADIUM									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
0835 - Physical Education	**0**	**0**	**0**	**0**	**8949**	**453**	**0**	**0**	**9402**
1 - Food Facilities						223			
2 - Athletic/Physical Ed Service					1150				
4 - Athletic/Physical Ed Service					155				
7 - Athletic/Physical Ed Service					1410				
9 - Athletic/Physical Ed Service					1393				
10 - Athletic/Physical Ed Service					130				
11 - Athletic/Physical Ed Service					229				
12 - Athletic/Physical Ed Service					130				
13 - Athletic/Physical Ed Service					229				
14 - Athletic/Physical Ed Service					1244				
14A - Athletic/Physical Ed Service					63				
16 - Athletic/Physical Ed Service					1135				
18 - Athletic/Physical Ed Service					134				
19 - Food Facilities						230			
20 - Athletic/Physical Ed Service					381				
21 - Athletic Spectator Seat					1				
26 - Athletic/Physical Ed Service					1165				

VALLEJO CENTER SUMMARY									
Program Categories	**100**	**200**	**300**	**400**	**500**	**600**	**700**	**800**	**Totals**
0000 - General	**7257**	**0**	**1997**	**0**	**0**	**5383**	**0**	**0**	**14637**
3100 - VALLEJO CENTER	7257	0	1997	0	0	5383	0	0	14637
0700 - Information Technology Computer and Information Science	**0**	**2367**	**0**	**0**	**0**	**0**	**0**	**0**	**2367**
3100 - VALLEJO CENTER	0	2367	0	0	0	0	0	0	2367
0800 - Education	**0**	**0**	**0**	**0**	**3862**	**0**	**0**	**0**	**3862**
3100 - VALLEJO CENTER	0	0	0	0	3862	0	0	0	3862
1000 - Fine and Applied Arts	**0**	**1431**	**0**	**0**	**0**	**0**	**0**	**0**	**1431**
3100 - VALLEJO CENTER	0	1431	0	0	0	0	0	0	1431
1900 - Physical Sciences	**0**	**3384**	**0**	**0**	**0**	**0**	**0**	**0**	**3384**
3100 - VALLEJO CENTER	0	3384	0	0	0	0	0	0	3384
6100 - Instructional Support Services	**0**	**0**	**0**	**1928**	**0**	**1005**	**0**	**0**	**2933**
3100 - VALLEJO CENTER	0	0	0	1928	0	1005	0	0	2933
6400 - Other Student Services	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**97**	**97**
3100 - VALLEJO CENTER	0	0	0	0	0	0	0	97	97
6500 - Maintenance and Operation of Plant	**0**	**0**	**0**	**0**	**0**	**0**	**233**	**0**	**233**
3100 - VALLEJO CENTER	0	0	0	0	0	0	233	0	233
6700 - General Institutional Support Services	**0**	**0**	**252**	**0**	**0**	**0**	**631**	**0**	**883**
3100 - VALLEJO CENTER	0	0	252	0	0	0	631	0	883

3100 - VALLEJO CENTER Program Categories	100	200	300	400	500	600	700	800	Totals
0099 - General Assignment	**7257**	**0**	**1997**	**0**	**0**	**5383**	**0**	**0**	**14637**
100 - Lounge						2615			
102 - Office			348						
104 - Office			155						
108 - Office			111						
112 - Office			105						
121 - Classroom	1163								
122 - Classroom	994								
123 - Classroom	1157								
134 - Assembly Service						201			
136 - Assembly						1609			
136A - Assembly Service						99			
202 - Lounge						300			
204 - Meeting Room						559			
212 - Office			116						
213 - Classroom	964								
215 - Classroom	965								
216 - Office			148						
217 - Classroom	1011								
218 - Office			122						
220 - Office Service			93						
222 - Office			121						
224 - Office			144						
226 - Office			122						
228 - Office Service			56						
230 - Office			123						
232 - Office Service			113						
234 - Office			120						
242 - Classroom	1003								
0701 - Information Technology, General	**0**	**2367**	**0**	**0**	**0**	**0**	**0**	**0**	**2367**
125 - Class Lab		1163							
129 - Class Lab		1204							

3100 - VALLEJO CENTER Program Categories	100	200	300	400	500	600	700	800	Totals
0835 - Physical Education	**0**	**0**	**0**	**0**	**3862**	**0**	**0**	**0**	**3862**
131 - Athletics/Physical Education					3762				
131A - Athletic/Physical Ed Service					100				
1001 - Fine Arts, General	**0**	**1431**	**0**	**0**	**0**	**0**	**0**	**0**	**1431**
133 - Class Lab		1244							
133A - Class Lab Service		187							
1901 - Physical Sciences, General	**0**	**3384**	**0**	**0**	**0**	**0**	**0**	**0**	**3384**
207 - Class Lab		1210							
209 - Class Lab Service		963							
211 - Class Lab		1211							
6120 - Library	**0**	**0**	**0**	**1928**	**0**	**0**	**0**	**0**	**1928**
124 - Read/Study Room				1429					
124A - Library - Electronic Carrels				236					
124B - Read/Study Room				134					
124C - Read/Study Room				129					
6140 - Museums and Galleries	**0**	**0**	**0**	**0**	**0**	**1005**	**0**	**0**	**1005**
132 - Exhibition						1005			
6440 - Health Services	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**97**	**97**
114 - Treatment								97	
6510 - Building Maintenance and Operation Supp	**0**	**0**	**0**	**0**	**0**	**0**	**233**	**0**	**233**
109 - Storage							147		
135 - Storage							86		
6780 - Management Information Services	**0**	**0**	**252**	**0**	**0**	**0**	**631**	**0**	**883**
107 - DP/Computer Service							186		
127 - Office			252						
127A - Data Processing/Computer							324		
144 - DP/Computer Service							33		
240 - DP/Computer Service							88		

VACAVILLE CENTER SUMMARY Program Categories	100	200	300	400	500	600	700	800	Totals
0000 - General	**12833**	**0**	**2187**	**0**	**0**	**6677**	**0**	**0**	**21697**
101 - Vacaville Center II	7080	0	1770	0	0	5161	0	0	14011
214 - Vacavlle Center I	5753	0	417	0	0	1516	0	0	7686
0500 - Business and Management	**0**	**660**	**517**	**0**	**0**	**499**	**0**	**0**	**1676**
214 - Vacavlle Center I	0	660	517	0	0	499	0	0	1676
0700 - Information Technology Computer and Information Science	**0**	**3316**	**0**	**0**	**0**	**0**	**0**	**0**	**3316**
101 - Vacaville Center II	0	1930	0	0	0	0	0	0	1930
214 - Vacavlle Center I	0	1386	0	0	0	0	0	0	1386
0800 - Education	**0**	**0**	**0**	**0**	**3738**	**0**	**0**	**0**	**3738**
101 - Vacaville Center II	0	0	0	0	3738	0	0	0	3738
1900 - Physical Sciences	**0**	**3566**	**0**	**0**	**0**	**0**	**0**	**0**	**3566**
101 - Vacaville Center II	0	3566	0	0	0	0	0	0	3566
2100 - Public Affairs and Services	**0**	**980**	**139**	**0**	**0**	**0**	**0**	**0**	**1119**
214 - Vacavlle Center I	0	980	139	0	0	0	0	0	1119
6000 - Instructional Administration	**0**	**0**	**650**	**0**	**0**	**0**	**0**	**0**	**650**
214 - Vacavlle Center I	0	0	650	0	0	0	0	0	650
6100 - Instructional Support Services	**0**	**0**	**0**	**1910**	**0**	**0**	**0**	**0**	**1910**
101 - Vacaville Center II	0	0	0	1910	0	0	0	0	1910
6400 - Other Student Services	**0**	**0**	**109**	**0**	**0**	**0**	**0**	**108**	**217**
101 - Vacaville Center II	0	0	109	0	0	0	0	108	217
6500 - Maintenance and Operation of Plant	**0**	**0**	**0**	**0**	**0**	**0**	**302**	**0**	**302**
101 - Vacaville Center II	0	0	0	0	0	0	302	0	302
6700 - General Institutional Support Services	**0**	**0**	**319**	**0**	**0**	**0**	**625**	**0**	**944**
101 - Vacaville Center II	0	0	198	0	0	0	625	0	823
214 - Vacavlle Center I	0	0	121	0	0	0	0	0	121

Vacaville Center Program Categories	100	200	300	400	500	600	700	800	Totals
0099 - General Assignment	**7080**	**0**	**1770**	**0**	**0**	**5161**	**0**	**0**	**14011**
VV100 - Lounge						2454			
VV103 - Office			369						
VV104 - Office			169						
VV107 - Office			109						
VV114 - Classroom	1182								
VV118 - Classroom	1163								
VV133 - Assembly						1432			
VV206 - Lounge						552			
VV206 - Office Service			72						
VV207 - Classroom	1027								
VV212 - Classroom	977								
VV214 - Classroom	924								
VV215 - Classroom	893								
VV218 - Classroom	914								
VV232 - Meeting Room						397			
VV233 - Lounge						326			
VV234 - Office			140						
VV235 - Office			142						
VV236 - Office			146						
VV237 - Office			124						
VV238 - Office			121						
VV239 - Office			128						
VV240 - Office			130						
VV241 - Office			120						
0701 - Information Technology, General	**0**	**1930**	**0**	**0**	**0**	**0**	**0**	**0**	**1930**
VV208 - Class Lab		958							
VV211 - Class Lab		972							

Vacaville Center Program Categories	100	200	300	400	500	600	700	800	Totals
1901 - Physical Sciences, General	**0**	**3566**	**0**	**0**	**0**	**0**	**0**	**0**	**3566**
VV110 - Class Lab		1260							
VV111 - Class Lab Service		1034							
VV112 - Class Lab		1272							
6120 - Library	**0**	**0**	**0**	**1910**	**0**	**0**	**0**	**0**	**1910**
VV136 - Read/Study Room				131					
VV137 - Read/Study Room				127					
VV138 - Read/Study Room				1421					
VV139 - Stack				231					
6440 - Health Services	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**108**	**108**
VV105 - Treatment								108	
6460 - Financial Aid	**0**	**0**	**109**	**0**	**0**	**0**	**0**	**0**	**109**
VV106 - Office			109						
6510 - Building Maintenance and Operation Supp	**0**	**0**	**0**	**0**	**0**	**0**	**302**	**0**	**302**
VV116 - Storage							189		
VV135 - Storage							113		
6780 - Management Information Services	**0**	**0**	**198**	**0**	**0**	**0**	**625**	**0**	**823**
VV145 - DP/Computer Service							128		
VV209 - Data Processing/Computer							394		
VV210 - Office			198						
VV242 - DP/Computer Service							103		
0099 - General Assignment	**5753**	**0**	**417**	**0**	**0**	**1516**	**0**	**0**	**7686**
VA102 - Classroom	990								
VA103 - Classroom	993								
VA104 - Classroom	994								
VA105 - Classroom	820								
VA107 - Classroom	994								
VA108 - Classroom	962								
VA115 - Office			124						
VA116 - Office Service			157						
VA118 - Office			136						
VA120 - Lounge						1000			
VA129 - Meeting Room						516			
0599 - Other Business and Management	**0**	**660**	**517**	**0**	**0**	**499**	**0**	**0**	**1676**
VA121 - Office Service			280						
VA124 - Lounge Service						76			
VA125 - Office			101						
VA126 - Lounge						423			
VA127 - Office Service			136						
VA128 - Spec Class Lab		660							
0701 - Information Technology, General	**0**	**1386**	**0**	**0**	**0**	**0**	**0**	**0**	**1386**
VA106 - Class Lab		1386							
2133 - Fire Technology	**0**	**980**	**139**	**0**	**0**	**0**	**0**	**0**	**1119**
VA101 - Class Lab		980							
VA117 - Office			139						
6010 - Academic Administration	**0**	**0**	**650**	**0**	**0**	**0**	**0**	**0**	**650**
VA119 - Office			650						
6770 - Logistical Services	**0**	**0**	**121**	**0**	**0**	**0**	**0**	**0**	**121**
VA114 - Office			121						

Space Anomoly Report

SOLANO COMMUNITY COLLEGE SPACE ANOMALY REPORT: FUSION VERSUS ACTUAL COMPARISION

FUSION Bldg Number	FUSION Building Name	FUSION Space Number	District Room Number	FUSION PROGRAM NUMBER	PGM - Check Correct/ Incorrect	PGM - Check Comments	FUSION TOPCSS	TOP - check Correct/ Incorrect	TOP - Check Comments	FUSION Space Name	FUSION Room Use Code	Room Use - check Correct/ Incorrect	Room Use - Check Comments	FUSION Assigned Stns	Stations - check Correct/ Incorrect	Stations - Check Comments	Stations - CALC per State LAB ASF	FUSION ASF	BIM Space Area (sf)
PORTABLES - DID NOT MAKE MODIFICATIONS TO SPACE INVENTORY IN FUSION DUE TO LIBRARY FPP																			
1	PORTABLE A 1104/1106	1104A		55 - Student Support		PORTABLE TO BE DEMOLISHED	6499 - Other Student Services		REMOVE FROM SI	Office	310 - Office			1				80	80.00
1	PORTABLE A 1104/1106	1104B		55 - Student Support		PORTABLE TO BE DEMOLISHED	6499 - Other Student Services		REMOVE FROM SI	Office	310 - Office			1				165	165.00
1	PORTABLE A 1104/1106	1104C		55 - Student Support		PORTABLE TO BE DEMOLISHED	6499 - Other Student Services		REMOVE FROM SI	Office	310 - Office			1				112	112.00
1	PORTABLE A 1104/1106	1104D		55 - Student Support		PORTABLE TO BE DEMOLISHED	6499 - Other Student Services		REMOVE FROM SI	Office	310 - Office			1				112	112.00
1	PORTABLE A 1104/1106	1104E		55 - Student Support		PORTABLE TO BE DEMOLISHED	6499 - Other Student Services		REMOVE FROM SI	Office Service	315 - Office Service			0				172	172.00
1	PORTABLE A 1104/1106	1104F		55 - Student Support		PORTABLE TO BE DEMOLISHED	6499 - Other Student Services		REMOVE FROM SI	Office	310 - Office			1				83	83.00
1	PORTABLE A 1104/1106	1104G		55 - Student Support		PORTABLE TO BE DEMOLISHED	6499 - Other Student Services		REMOVE FROM SI	Office Service	315 - Office Service			0				140	140.00
1	PORTABLE A 1104/1106	1106A		53 - Counseling and Career Guidance		PORTABLE TO BE DEMOLISHED	6310 - Counseling Services		REMOVE FROM SI	Office	310 - Office			3				181	181.00
1	PORTABLE A 1104/1106	1106B		53 - Counseling and Career Guidance		PORTABLE TO BE DEMOLISHED	6310 - Counseling Services		REMOVE FROM SI	Office	310 - Office			1				100	100.00
1	PORTABLE A 1104/1106	1106C		53 - Counseling and Career Guidance		PORTABLE TO BE DEMOLISHED	6310 - Counseling Services		REMOVE FROM SI	Office Service	315 - Office Service			0				100	100.00
1	PORTABLE A 1104/1106	1106D		53 - Counseling and Career Guidance		PORTABLE TO BE DEMOLISHED	6310 - Counseling Services		REMOVE FROM SI	Office	310 - Office			1				94	94.00
1	PORTABLE A 1104/1106	1106E		53 - Counseling and Career Guidance		PORTABLE TO BE DEMOLISHED	6310 - Counseling Services		REMOVE FROM SI	Office	310 - Office			1				94	94.00
1	PORTABLE A 1104/1106	1106F		53 - Counseling and Career Guidance		PORTABLE TO BE DEMOLISHED	6310 - Counseling Services		REMOVE FROM SI	Office Service	315 - Office Service			0				75	75.00
1	PORTABLE A 1104/1106	1106G		53 - Counseling and Career Guidance		PORTABLE TO BE DEMOLISHED	6310 - Counseling Services		REMOVE FROM SI	Office	310 - Office			1				116	116.00
1	PORTABLE A 1104/1106	1106H		53 - Counseling and Career Guidance		PORTABLE TO BE DEMOLISHED	6310 - Counseling Services		REMOVE FROM SI	Office Service	315 - Office Service			0				183	183.00
2	PORTABLE B 1109	1109A		55 - Student Support		PORTABLE TO BE DEMOLISHED	6770 - Logistical Services		REMOVE FROM SI	Office Service	315 - Office Service			0				345	345.00
2	PORTABLE B 1109	1109B		55 - Student Support		PORTABLE TO BE DEMOLISHED	6770 - Logistical Services		REMOVE FROM SI	Office Service	315 - Office Service			0				134	134.00
2	PORTABLE B 1109	1109C		55 - Student Support		PORTABLE TO BE DEMOLISHED	6770 - Logistical Services		REMOVE FROM SI	Office	310 - Office			1				76	76.00
2	PORTABLE B 1109	1109D		55 - Student Support		PORTABLE TO BE DEMOLISHED	6770 - Logistical Services		REMOVE FROM SI	Office Service	315 - Office Service			0				75	75.00
2	PORTABLE B 1109	1109E		55 - Student Support		PORTABLE TO BE DEMOLISHED	6770 - Logistical Services		REMOVE FROM SI	Office Service	315 - Office Service			0				44	44.00
2	PORTABLE B 1109	1109F		55 - Student Support		PORTABLE TO BE DEMOLISHED	6770 - Logistical Services		REMOVE FROM SI	Office Service	315 - Office Service			0				30	30.00
2	PORTABLE B 1109	1109G		55 - Student Support		PORTABLE TO BE DEMOLISHED	6770 - Logistical Services		REMOVE FROM SI	Lounge	650 - Lounge			0				174	174.00
3	PORTABLE C 1105/1107	1105		55 - Student Support		PORTABLE TO BE DEMOLISHED	6420 - Disabled Students Programs and Services (DSPS)		REMOVE FROM SI	Read/Study Room	410 - Read/Study Room			24				906	906.00
3	PORTABLE C 1105/1107	1107F				PORTABLE TO BE DEMOLISHED			REMOVE FROM SI	RR - Men								0	99.00
3	PORTABLE C 1105/1107	1107G				PORTABLE TO BE DEMOLISHED			REMOVE FROM SI	RR - Women								0	99.00
3	PORTABLE C 1105/1107	1107A		55 - Student Support		PORTABLE TO BE DEMOLISHED	6420 - Disabled Students Programs and Services (DSPS)		REMOVE FROM SI	Office	310 - Office			1				121	121.00
3	PORTABLE C 1105/1107	1107B		55 - Student Support		PORTABLE TO BE DEMOLISHED	6420 - Disabled Students Programs and Services (DSPS)		REMOVE FROM SI	Office	310 - Office			1				121	121.00
3	PORTABLE C 1105/1107	1107C		55 - Student Support		PORTABLE TO BE DEMOLISHED	6420 - Disabled Students Programs and Services (DSPS)		REMOVE FROM SI	Office	310 - Office			1				121	121.00
3	PORTABLE C 1105/1107	1107D		55 - Student Support		PORTABLE TO BE DEMOLISHED	6420 - Disabled Students Programs and Services (DSPS)		REMOVE FROM SI	Office Service	315 - Office Service			0				363	363.00
3	PORTABLE C 1105/1107	1107E				PORTABLE TO BE DEMOLISHED				Hallway								0	99.00
4	PORTABLE D 1101/1103	1101		11 - General Academic Instruction		PORTABLE TO BE DEMOLISHED	0099 - General Assignment		REMOVE FROM SI	Classroom	110 - Classroom			44				891	891.00
4	PORTABLE D 1101/1103	1103		55 - Student Support		PORTABLE TO BE DEMOLISHED	0099 - General Assignment		REMOVE FROM SI	Classroom	110 - Classroom			27				545	545.00
4	PORTABLE D 1101/1103	1103A		41 - Libraries		PORTABLE TO BE DEMOLISHED	6110 - Learning Center (Learning Resource Center)		REMOVE FROM SI	Office	310 - Office			1				137	137.00
4	PORTABLE D 1101/1103	1103B		55 - Student Support		PORTABLE TO BE DEMOLISHED	0099 - General Assignment		REMOVE FROM SI	Classroom Service	115 - Classroom Service			0				102	102.00
4	PORTABLE D 1101/1103	1103C		55 - Student Support		PORTABLE TO BE DEMOLISHED	0099 - General Assignment		REMOVE FROM SI	Classroom Service	115 - Classroom Service			0				105	105.00
5	PORTABLE E 1102	1102		41 - Libraries		PORTABLE TO BE DEMOLISHED	6110 - Learning Center (Learning Resource Center)		REMOVE FROM SI	Read/Study Room	410 - Read/Study Room			35				1419	1,419.00
5	PORTABLE E 1102	1102A		53 - Counseling and Career Guidance		PORTABLE TO BE DEMOLISHED	6310 - Counseling Services		REMOVE FROM SI	Office	310 - Office			1				166	166.00
5	PORTABLE E 1102	1102B		53 - Counseling and Career Guidance		PORTABLE TO BE DEMOLISHED	6310 - Counseling Services		REMOVE FROM SI	Office	310 - Office			1				78	78.00
5	PORTABLE E 1102	1102C		53 - Counseling and Career Guidance		PORTABLE TO BE DEMOLISHED	6310 - Counseling Services		REMOVE FROM SI	Office	310 - Office			2				153	153.00
BUILDING 100 - DID NOT MAKE MODIFICATIONS TO SPACE INVENTORY IN FUSION DUE TO LIBRARY FPP																			
100	LIBRARY COMPLEX	100		41 - Libraries			6120 - Library		REMOVE FROM SI DOES NOT EXIST	Read/Study Room	410 - Read/Study Room			38				1087	0.00
100	LIBRARY COMPLEX	100A		41 - Libraries			6120 - Library		REMOVE FROM SI DOES NOT EXIST	Inactive Area	050 - Inactive Area			0				5003	0.00
100	LIBRARY COMPLEX	100B		41 - Libraries	Correct		6120 - Library	Correct		Stack	420 - Stack	Correct		0				3747	3,746.66
100	LIBRARY COMPLEX	100C	100	41 - Libraries			6120 - Library			Study Service	455 - Study Service			0				832	831.94
100	LIBRARY COMPLEX	100D		41 - Libraries			6120 - Library			Read/Study Room	410 - Read/Study Room		Looks Correct	239				10073	13,956.32
100	LIBRARY COMPLEX	101	101	11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Incorrect	meeting or classroom	18				709	691.50
100	LIBRARY COMPLEX	101A						REMOVE FROM SI DOES NOT EXIST		Room								0	0.00
100	LIBRARY COMPLEX	102A		66 - Faculty and Staff Services	Correct		6199 - Other Instructional Support Services	Correct		Meeting Room Service	685 - Meeting Room Service	Incorrect	offices	2	Correct			688	736.62
100	LIBRARY COMPLEX	102B						REMOVE FROM SI DOES NOT EXIST		Lounge								0	0.00
100	LIBRARY COMPLEX	103	103	41 - Libraries	Correct		1601 - Library Science, General	Correct		Spec Class Lab	220 - Spec Class Lab	Correct		26	Incorrect	28		875	841.84
100	LIBRARY COMPLEX	103A	104	66 - Faculty and Staff Services	Incorrect	No it's correct	6799 - Other General Institutional Support Service	Incorrect	No it's correct	Audio/Visual, Radio, TV	530 - Audio/Visual, Radio, TV	Incorrect	looks like a general computer lab	30	Incorrect	20		632	669.22
100	LIBRARY COMPLEX	104		41 - Libraries			6130 - Media Services			Processing Room	440 - Processing Room		Looks Correct	0				344	365.44
100	LIBRARY COMPLEX	105		41 - Libraries			6120 - Library			Office	310 - Office		Looks Correct	1				178	186.00
100	LIBRARY COMPLEX	106		41 - Libraries	Correct		6120 - Library	Correct		Lounge	650 - Lounge	Correct		0	Incorrect	9		324	371.33
100	LIBRARY COMPLEX	106A						REMOVE FROM SI DOES NOT EXIST		Hallway								0	0.00
100	LIBRARY COMPLEX	106B				REVISE/ADD AS UNASSIGNED				RR - Men,Staff,East								0	59.58
100	LIBRARY COMPLEX	106C				REVISE/ADD AS UNASSIGNED				RR - Women,Staff,East								0	61.42
100	LIBRARY COMPLEX	107		41 - Libraries			6120 - Library			Processing Room	440 - Processing Room		Looks Correct	3			0	1390	1,345.21
100	LIBRARY COMPLEX	107A						REMOVE FROM SI DOES NOT EXIST		Area								0	0.00
100	LIBRARY COMPLEX	107B						REMOVE FROM SI DOES NOT EXIST		Hallway								0	0.00
100	LIBRARY COMPLEX	108				REVISE/ADD AS UNASSIGNED				Mechanical								0	246.75
100	LIBRARY COMPLEX	111				REVISE/ADD AS UNASSIGNED				Room			Elec						112.52
100	LIBRARY COMPLEX	114		71 - Institutional Operations			6770 - Logistical Services			Shop	720 - Shop			0				84	77.92
100	LIBRARY COMPLEX	115		71 - Institutional Operations	Correct		6770 - Logistical Services	Correct		Shop	720 - Shop	Correct		0	Correct			943	907.67
100	LIBRARY COMPLEX	116		71 - Institutional Operations			6770 - Logistical Services			Shop	720 - Shop		Looks Correct	0				912	901.68
100	LIBRARY COMPLEX	117		71 - Institutional Operations			6770 - Logistical Services			Shop Service	725 - Shop Service		Looks Correct	0				98	121.72
100	LIBRARY COMPLEX	118		71 - Institutional Operations			6770 - Logistical Services			Shop Service	725 - Shop Service		Looks Correct	0				185	157.63
100	LIBRARY COMPLEX	120		43 - Audio/Visual Services			6130 - Media Services			A/V, Radio, TV Service	535 - A/V, Radio, TV Service			0				385	385.89
100	LIBRARY COMPLEX	120-Dupl						REMOVE FROM SI DOES NOT EXIST		A/V, Radio, TV Srv.									0.00
100	LIBRARY COMPLEX	121		43 - Audio/Visual Services			6130 - Media Services			Audio/Visual, Radio, TV	530 - Audio/Visual, Radio, TV		Looks Correct	30				1645	1,641.76
100	LIBRARY COMPLEX	121A				REVISE/ADD AS UNASSIGNED				Entry Hallway								0	138.61
100	LIBRARY COMPLEX	122		43 - Audio/Visual Services			6130 - Media Services			A/V, Radio, TV Service	535 - A/V, Radio, TV Service		Looks Correct	0				479	476.29
100	LIBRARY COMPLEX	123		71 - Institutional Operations		looks like 6780 Mgmt Info Services	6770 - Logistical Services			Shop	720 - Shop			3				209	209.25
100	LIBRARY COMPLEX	124		71 - Institutional Operations	Correct	looks like 6780 Mgmt Info Services	6770 - Logistical Services	Correct		Office	310 - Office	Correct		5				909	830.21
100	LIBRARY COMPLEX	125		43 - Audio/Visual Services			6130 - Media Services			Processing Room	440 - Processing Room			1				146	146.25
100	LIBRARY COMPLEX	125-Dupl						REMOVE FROM SI DOES NOT EXIST		A/V, Radio, TV Srv.									0.00
100	LIBRARY COMPLEX	126		43 - Audio/Visual Services			6130 - Media Services			Processing Room	440 - Processing Room		Looks like Office	1				179	181.84
100	LIBRARY COMPLEX	127								Office			Looks like Office Service						68.25
100	LIBRARY COMPLEX	127-Dupl						REMOVE FROM SI DOES NOT EXIST		Room								0	0.00
100	LIBRARY COMPLEX	128						REMOVE FROM SI DOES NOT EXIST		Room								0	0.00
100	LIBRARY COMPLEX	129						REMOVE FROM SI DOES NOT EXIST		A/V, Radio, TV								0	0.00
100	LIBRARY COMPLEX	129A						REMOVE FROM SI DOES NOT EXIST		Room								0	0.00
100	LIBRARY COMPLEX	130	130	11 - General Academic Instruction	Correct		1501 - English	Incorrect	esl	Spec Class Lab	220 - Spec Class Lab	Correct		102	Incorrect	105		4183	4,202.81
100	LIBRARY COMPLEX	130A						REMOVE FROM SI DOES NOT EXIST		Room								0	0.00
100	LIBRARY COMPLEX	131		43 - Audio/Visual Services			6130 - Media Services			Audio/Visual, Radio, TV	530 - Audio/Visual, Radio, TV			2				182	180.01

SOLANO COMMUNITY COLLEGE SPACE ANOMALY REPORT: FUSION VERSUS ACTUAL COMPARISION

FUSION Bldg Number	FUSION Building Name	FUSION Space Number	District Room Number	FUSION PROGRAM NUMBER	PGM - Check Correct/ Incorrect	PGM - Check Comments	FUSION TOPCSS	TOP - check Correct/ Incorrect	TOP - Check Comments	FUSION Space Name	FUSION Room Use Code	Room Use - check Correct/ Incorrect	Room Use - Check Comments	FUSION Assigned Stns	Stations - check Correct/ Incorrect	Stations - Check Comments	Stations - CALC per State LAB ASF	FUSION ASF	BIM Space Area (sf)
100	LIBRARY COMPLEX	132		43 - Audio/Visual Services			6130 - Media Services			Office	310 - Office		Looks like an Editing Room	1				70	71.41
100	LIBRARY COMPLEX	133		43 - Audio/Visual Services			6130 - Media Services			Office	310 - Office			1				70	70.63
100	LIBRARY COMPLEX	134		43 - Audio/Visual Services			6130 - Media Services			A/V, Radio, TV Service	535 - A/V, Radio, TV Service		Looks like Office	1				160	160.87
100	LIBRARY COMPLEX	135	135	11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		28	Incorrect	30		639	630.95
100	LIBRARY COMPLEX	136	136	11 - General Academic Instruction	Correct		1501 - English	Correct		Special Class Lab Service	225 - Special Class Lab Service	Incorrect	meeting room	6	Incorrect	8		236	240.25
100	LIBRARY COMPLEX	137		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			84	85.19
100	LIBRARY COMPLEX	138		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			84	83.44
100	LIBRARY COMPLEX	139		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			84	83.44
100	LIBRARY COMPLEX	140		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			84	75.00
100	LIBRARY COMPLEX	141		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			84	80.12
100	LIBRARY COMPLEX	142		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			84	91.88
100	LIBRARY COMPLEX	143		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			84	85.31
100	LIBRARY COMPLEX	144		11 - General Academic Instruction			0099 - General Assignment			Office	310 - Office		Looks Correct	1				197	175.31
100	LIBRARY COMPLEX	145	0808	11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			216	219.05
100	LIBRARY COMPLEX	146		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			84	81.67
100	LIBRARY COMPLEX	147		53 - Counseling and Career Guidance	Correct		6310 - Counseling Services	Correct		Office	310 - Office	Correct		1	Correct			84	84.42
100	LIBRARY COMPLEX	148		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			84	81.67
100	LIBRARY COMPLEX	149		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			84	83.50
100	LIBRARY COMPLEX	150		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			84	80.75
100	LIBRARY COMPLEX	151		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Clinic St Care	540 - Clinic St Care	Incorrect	office	1	Correct			129	123.88
100	LIBRARY COMPLEX	152		11 - General Academic Instruction			0099 - General Assignment			Office	310 - Office		Looks Correct	1				197	219.20
100	LIBRARY COMPLEX	153		71 - Institutional Operations	Correct		6780 - Management Information Services	Correct		Office	310 - Office	Correct		7	Correct			1556	1,694.74
100	LIBRARY COMPLEX	154		71 - Institutional Operations		Correct	6780 - Management Information Services		Correct	Office Service	315 - Office Service		Correct	0				268	273.06
100	LIBRARY COMPLEX	155		71 - Institutional Operations		Correct	6780 - Management Information Services		Correct	Conference Room	350 - Conference Room		Correct	16				271	281.92
100	LIBRARY COMPLEX	156		66 - Faculty and Staff Services		Correct	0099 - General Assignment		Correct	Lounge	650 - Lounge		Correct	0				147	163.02
100	LIBRARY COMPLEX	160							6770 Logistical Services	Storage								0	37.00
100	LIBRARY COMPLEX	161								Room									62.01
100	LIBRARY COMPLEX	161A		71 - Institutional Operations			6780 - Management Information Services			Office	310 - Office			1				83	83.67
100	LIBRARY COMPLEX	161B		71 - Institutional Operations			6780 - Management Information Services			Office	310 - Office			1				81	84.60
100	LIBRARY COMPLEX	162		44 - Computing Support			6780 - Management Information Services			DP/Computer Service	715 - DP/Computer Service		Correct	0				186	195.21
100	LIBRARY COMPLEX	162A		54 - Financial Aid			6460 - Financial Aid			Office	310 - Office		Office Service	4				179	120.43
100	LIBRARY COMPLEX	162B								Room			Office						213.84
100	LIBRARY COMPLEX	162C		44 - Computing Support			6780 - Management Information Services	REMOVE FROM SI DOES NOT EXIST		Data Processing/Computer	710 - Data Processing/Computer			0				231	0.00
100	LIBRARY COMPLEX	162D		44 - Computing Support			6780 - Management Information Services			DP/Computer Service	715 - DP/Computer Service			1				360	253.57
100	LIBRARY COMPLEX	162D-Dupl						REMOVE FROM SI DOES NOT EXIST		DP/Computer									0.00
100	LIBRARY COMPLEX	162E				44 Computing support			6780 Mgmt Info Services	Room			715 DP/Computer Service						57.12
100	LIBRARY COMPLEX	162F		44 - Computing Support			6780 - Management Information Services			DP/Computer Service	715 - DP/Computer Service		Looks Office	1				108	125.42
100	LIBRARY COMPLEX	162G		44 - Computing Support			6780 - Management Information Services			DP/Computer Service	715 - DP/Computer Service		Looks Office	1				105	85.61
100	LIBRARY COMPLEX	162H		44 - Computing Support			6780 - Management Information Services			DP/Computer Service	715 - DP/Computer Service			4				293	73.75
100	LIBRARY COMPLEX	162I				44 Computing support			6780 Mgmt Info Services	Room			Looks Office		Looks	1			74.46
100	LIBRARY COMPLEX	162K								Room									135.47
100	LIBRARY COMPLEX	163		44 - Computing Support			6780 - Management Information Services			DP/Computer Service	715 - DP/Computer Service		Looks Office	1				144	77.58
100	LIBRARY COMPLEX	164								Room									64.35
100	LIBRARY COMPLEX	165		44 - Computing Support			6780 - Management Information Services			DP/Computer Service	715 - DP/Computer Service			1				71	71.41
100	LIBRARY COMPLEX	166		44 - Computing Support			6780 - Management Information Services			Office	310 - Office			1				109	94.17
100	LIBRARY COMPLEX	167		44 - Computing Support			6780 - Management Information Services			Office	310 - Office			1				155	135.43
100	LIBRARY COMPLEX	168		44 - Computing Support			6780 - Management Information Services			Office	310 - Office			1				141	155.75
100	LIBRARY COMPLEX	169		44 - Computing Support			6780 - Management Information Services			DP/Computer Service	715 - DP/Computer Service		Looks Office	1				168	157.86
100	LIBRARY COMPLEX	171				REVISE/ADD AS UNASSIGNED				Hallway - East Center								0	1,216.19
100	LIBRARY COMPLEX	172				REVISE/ADD AS UNASSIGNED				Lobby - West Center								0	1,620.90
100	LIBRARY COMPLEX	172A				REVISE/ADD AS UNASSIGNED				RR - Women, Public								0	391.77
100	LIBRARY COMPLEX	172B				REVISE/ADD AS UNASSIGNED				RR - Men, Public								0	393.94
100	LIBRARY COMPLEX	173				REVISE/ADD AS UNASSIGNED				Hallway - South Center								0	762.72
100	LIBRARY COMPLEX	174A				REVISE/ADD AS UNASSIGNED				RR - Men								0	67.79
100	LIBRARY COMPLEX	174B				REVISE/ADD AS UNASSIGNED				RR - Women								0	139.89
100	LIBRARY COMPLEX	175				REVISE/ADD AS UNASSIGNED				Hallway - South East/West								0	615.71
100	LIBRARY COMPLEX	176				REVISE/ADD AS UNASSIGNED				Hallway - West								0	611.11
100	LIBRARY COMPLEX	177				REVISE/ADD AS UNASSIGNED				Hallway - Center								0	2,256.20
100	LIBRARY COMPLEX	CV 01 - Mech								CV Location									0.00

SOLANO COMMUNITY COLLEGE SPACE ANOMALY REPORT: FUSION VERSUS ACTUAL COMPARISION

FUSION Bldg Number	FUSION Building Name	FUSION Space Number	District Room Number	FUSION PROGRAM NUMBER	PGM - Check Correct/ Incorrect	PGM - Check Comments	FUSION TOPCSS	TOP - check Correct/ Incorrect	TOP - Check Comments	FUSION Space Name	FUSION Room Use Code	Room Use - check Correct/ Incorrect	Room Use - Check Comments	FUSION Assigned Stns	Stations - check Correct/ Incorrect	Stations - Check Comments	Stations - CALC per State LAB ASF	FUSION ASF	BIM Space Area (sf)
BUILDING 200 -RENAME BUILDING TO CHILD DEVELOPMENT CENTER I																			
200	CHILDCARE CENTER #1	200		11 - General Academic Instruction	Incorrect	12 Occupational and Vocational Arts	1305 - Child Development/Early Care and Educati	Correct		Office	310 - Office	Correct		1	Incorrect	3		337	299.93
200	CHILDCARE CENTER #1	201		11 - General Academic Instruction	Incorrect	12 Occupational and Vocational Arts	1305 - Child Development/Early Care and Educati	Correct		Demonstration Service	555 - Demonstration Service	Incorrect	office	6	Incorrect	1		130	142.07
200	CHILDCARE CENTER #1	202				12 Occupational and Vocational Arts			1305 Child Dev/ECE	Storage Closet			555 Demonstration Service					0	10.82
200	CHILDCARE CENTER #1	203		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Office Service	315 - Office Service	Incorrect	555 Demonstration Service	0	Correct			5	8.02
200	CHILDCARE CENTER #1	204		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Demonstration	550 - Demonstration	Incorrect	555 Demonstration Service (Lib)	0	Correct			130	143.72
200	CHILDCARE CENTER #1	205		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Demonstration	550 - Demonstration	Correct		0	Incorrect	24		753	975.49
200	CHILDCARE CENTER #1	206		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Demonstration Service	555 - Demonstration Service	Correct	Storage	0				33	35.97
200	CHILDCARE CENTER #1	207								Mechanical Rm.								0	34.38
200	CHILDCARE CENTER #1	208		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Education			Demonstration	550 - Demonstration	Incorrect	555 Demonstration Service (Kitchen)	0				70	122.87
200	CHILDCARE CENTER #1	209		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Demonstration Service	555 - Demonstration Service	Correct	Storage	0				14	14.67
200	CHILDCARE CENTER #1	210		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Demonstration Service	555 - Demonstration Service	Correct	Toilet	0				43	41.84
200	CHILDCARE CENTER #1	211		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Office	310 - Office	Correct		1	Correct			68	62.33
200	CHILDCARE CENTER #1	212		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Demonstration Service	555 - Demonstration Service	Correct	Storage	0				86	85.50
200	CHILDCARE CENTER #1	213		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Demonstration	550 - Demonstration	Correct		0	Incorrect	24		749	743
200	CHILDCARE CENTER #1	214								Electrical Rm.								0	49.33
200	CHILDCARE CENTER #1	215		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Office	310 - Office	Correct		1	Correct			66	66.44
200	CHILDCARE CENTER #1	216		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Education			Demonstration Service	555 - Demonstration Service	Correct	Toilet	0				43	42.81
200	CHILDCARE CENTER #1	217		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Education			Demonstration Service	555 - Demonstration Service	Correct	Storage	0				12	15.33
200	CHILDCARE CENTER #1	218		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Education			Demonstration Service	555 - Demonstration Service	Correct	Kitchen	0				78	73.77
200	CHILDCARE CENTER #1	219								Mechanical Rm.								0	74.51
200	CHILDCARE CENTER #1	220		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Demonstration	550 - Demonstration	Correct		0	Incorrect	30		946	1,002.18
200	CHILDCARE CENTER #1	221		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Demonstration	550 - Demonstration	Incorrect	555 Demonstration Service	13	Incorrect	0		132	138.67
200	CHILDCARE CENTER #1	222				REVISE/ADD AS UNASSIGNED				Mechanical Rm.								0	77.60
200	CHILDCARE CENTER #1	223		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Demonstration Service	555 - Demonstration Service	Correct	laundry room	0				75	109.45
200	CHILDCARE CENTER #1	224				REVISE/ADD AS UNASSIGNED				Janitor								0	48.50
200	CHILDCARE CENTER #1	225		12 - Occupational and Vocational Act	Incorrect	REVISE/ADD AS UNASSIGNED	1305 - Child Development/Early Care and Educat	Incorrect		Demonstration Service	555 - Demonstration Service	Incorrect	Womens Restroom	0				54	51.46
200	CHILDCARE CENTER #1	226		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Education			Demonstration Service	555 - Demonstration Service	Incorrect	650 Lounge	0				252	279.40
200	CHILDCARE CENTER #1	227		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Demonstration	550 - Demonstration	Correct		0	Incorrect	25		665	713.54
200	CHILDCARE CENTER #1	227A		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Education			Demonstration Service	555 - Demonstration Service	Correct	Library	1		0		42	42.00
200	CHILDCARE CENTER #1	228		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Office	310 - Office	Correct		1	Correct			80	65.15
200	CHILDCARE CENTER #1	229RR				REVISE/ADD AS UNASSIGNED				RR - Men								0	57.48
200	CHILDCARE CENTER #1	230		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Education			Demonstration Service	555 - Demonstration Service	Correct	Storage	0				14	14.91
200	CHILDCARE CENTER #1	231		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Office	310 - Office	Correct		1	Correct			70	71.70
200	CHILDCARE CENTER #1	232		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Demonstration	550 - Demonstration	Correct		0	Incorrect	30		835	808.41
200	CHILDCARE CENTER #1	233		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Demonstration Service	555 - Demonstration Service	Correct	Toilet	0				28	30.66
200	CHILDCARE CENTER #1	234		12 - Occupational and Vocational Act	Incorrect	REVISE/ADD AS UNASSIGNED	1305 - Child Development/Early Care and Educat	Incorrect		Demonstration Service	555 - Demonstration Service	Incorrect	Mechanical Room	0				1	79.72
200	CHILDCARE CENTER #1	235		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Education			Demonstration Service	555 - Demonstration Service	Correct	Toilet	0				50	32.43
200	CHILDCARE CENTER #1	237		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Demonstration	550 - Demonstration	Correct		0	Incorrect	12?		606	589.46
200	CHILDCARE CENTER #1	238		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Office	310 - Office	Correct		0	Incorrect	1		143	141.25
200	CHILDCARE CENTER #1	239		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Demonstration Service	555 - Demonstration Service	Correct	Nap Room	0	Correct		0	108	112.00
200	CHILDCARE CENTER #1	240		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Demonstration Service	555 - Demonstration Service	Correct	Kitchen	0				245	325.08
200	CHILDCARE CENTER #1	241		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Demonstration Service	555 - Demonstration Service	Incorrect	printing/kitchenette 315 Office Service	0				71	73.63
200	CHILDCARE CENTER #1	242		12 - Occupational and Vocational Act	Correct	REVISE/ADD AS UNASSIGNED	1305 - Child Development/Early Care and Educat	Correct		Demonstration Service	555 - Demonstration Service	Incorrect	Really Main Hallwayway	0				621	737.70
200	CHILDCARE CENTER #1	243		12 - Occupational and Vocational Act	Correct	REVISE/ADD AS UNASSIGNED	1305 - Child Development/Early Care and Educat	Correct		Demonstration Service	555 - Demonstration Service	Incorrect	Hallwayway	0				110	115.13
200	CHILDCARE CENTER #1	244		12 - Occupational and Vocational Action			1305 - Child Development/Early Care and Educati	REMOVE FROM SI DOES NOT EXIST		Demonstration Service	555 - Demonstration Service			0				38	0.00
200	CHILDCARE CENTER #1	245		12 - Occupational and Vocational Action			1305 - Child Development/Early Care and Educati	REMOVE FROM SI DOES NOT EXIST		Demonstration Service	555 - Demonstration Service			0				34	0.00
BUILDING 201 - RENAME BUILDING TO CHILD DEVELOPMENT CENTER II																			
201	CHILDCARE #2	401		55 - Student Support	Incorrect	12- Occupational and Vocational Action	6920 - Child Development Centers	Incorrect	1305 - Child Development Center	Office	310 - Office	Correct		1	Correct			98	98.00
201	CHILDCARE #2	402		55 - Student Support	Incorrect	12- Occupational and Vocational Action	6920 - Child Development Centers	Incorrect	1305 - Child Development Center	Merchandise Facility	660 - Merchandise Facility	Incorrect	playroom 550 Demonstration	11	Incorrect	22		440	440.08
201	CHILDCARE #2	403		55 - Student Support	Incorrect	12- Occupational and Vocational Action	6920 - Child Development Centers	Incorrect	1305 - Child Development Center	Merchandise Facility	660 - Merchandise Facility	Incorrect kitchen	555 Demonstration Service	11	Incorrect	0		440	440.00
201	CHILDCARE #2	404		55 - Student Support	Incorrect	12- Occupational and Vocational Action	6920 - Child Development Centers	Incorrect	1305 - Child Development Center	Merchandise Facility Service	665 - Merchandise Facility Ser	Incorrect	555 Demonstration Service (Toilet)	0				118	118.00
201	CHILDCARE #2	405		55 - Student Support	Incorrect	12- Occupational and Vocational Action	6920 - Child Development Centers	Incorrect	1305 - Child Development Center	Merchandise Facility Service	665 - Merchandise Facility Ser	Incorrect	555 Demonstration Service (Toilet)	0				174	174.00
201	CHILDCARE #2	406		55 - Student Support	Incorrect	12- Occupational and Vocational Action	6920 - Child Development Centers	Incorrect	1305 - Child Development Center	Merchandise Facility Service	665 - Merchandise Facility Ser	Incorrect	555 Demonstration Service (Storage)	0				66	66.00
201	CHILDCARE #2	407		55 - Student Support			6920 - Child Development Centers	REMOVE FROM SI DOES NOT EXIST		Merchandise Facility Service	665 - Merchandise Facility Service			0				14	13.99

SOLANO COMMUNITY COLLEGE SPACE ANOMALY REPORT: FUSION VERSUS ACTUAL COMPARISION

FUSION Bldg Number	FUSION Building Name	FUSION Space Number	District Room Number	FUSION PROGRAM NUMBER	PGM - Check Correct/ Incorrect	PGM - Check Comments	FUSION TOPCSS	TOP - check Correct/ Incorrect	TOP - Check Comments	FUSION Space Name	FUSION Room Use Code	Room Use - check Correct/ Incorrect	Room Use - Check Comments	FUSION Assigned Stns	Stations - check Correct/ Incorrect	Stations - Check Comments	Stations - CALC per State LAB ASF	FUSION ASF	BIM Space Area (sf)
BUILDING 213																			
213	NUT TREE HANGAR	2130		12 - Occupational and Vocational Action		Correct	0950 - Aeronautical and Aviation Technology		Correct	Class Lab	210 - Class Lab	Correct		50				6381	6,381.67
213	NUT TREE HANGAR	2131		12 - Occupational and Vocational Action		Correct	0950 - Aeronautical and Aviation Technology		Correct	Classroom	110 - Classroom	Correct		50	Incorrect	22		778	778.16
213	NUT TREE HANGAR	2132		12 - Occupational and Vocational Action		Correct	0950 - Aeronautical and Aviation Technology		Correct	Class Lab Service	215 - Class Lab Service	Correct	Tool Room	0				100	100.00
213	NUT TREE HANGAR	2133		12 - Occupational and Vocational Action		Correct	0950 - Aeronautical and Aviation Technology		Correct	Office	310 - Office	Incorrect	420 Stack	1	Incorrect	0		138	138.05
213	NUT TREE HANGAR	2134		12 - Occupational and Vocational Action		Correct	0950 - Aeronautical and Aviation Technology		Correct	Office Service	315 - Office Service	Incorrect	215 Class Lab Service	0				110	110.00
213	NUT TREE HANGAR	2135		12 - Occupational and Vocational Action		Correct	0950 - Aeronautical and Aviation Technology		Correct	Office	310 - Office			1	Incorrect	2		110	110.00
213	NUT TREE HANGAR	2136		12 - Occupational and Vocational Action		Correct	0950 - Aeronautical and Aviation Technology		Correct	Office	310 - Office			1				120	120.00
213	NUT TREE HANGAR	2137		12 - Occupational and Vocational Action		44 Computing Support	0950 - Aeronautical and Aviation Technology		6780 Mgmt Info Svcs	Office Service	315 - Office Service	Incorrect	715 Data Processing/Comp. Svc	0				42	42.01
213	NUT TREE HANGAR	2138				REVISE/ADD AS UNASSIGNED				womens								0	99.00
213	NUT TREE HANGAR	2139				REVISE/ADD AS UNASSIGNED				mens								0	99.00
BUILDING 214: NOT INVENTORIED: NOT IN SCOPE																			
214	HARBOR THEATRE	2140		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service			0				1364	1.11
214	HARBOR THEATRE	2140A		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service			0				180	180.00
214	HARBOR THEATRE	2142		11 - General Academic Instruction			1007 - Dramatic Arts			Food Facilities	630 - Food Facilities			0				138	138.00
214	HARBOR THEATRE	2143		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service			0				294	294.00
214	HARBOR THEATRE	2144		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service			0				411	411.00
214	HARBOR THEATRE	2145		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service			0				78	78.00
214	HARBOR THEATRE	2146		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service			0				95	95.00
214	HARBOR THEATRE	2147M		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service			0				123	123.00
214	HARBOR THEATRE	2148W		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service			0				171	171.00
214	HARBOR THEATRE	2149		11 - General Academic Instruction			1007 - Dramatic Arts			Office	310 - Office			4				387	387.00
214	HARBOR THEATRE	2150		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly	610 - Assembly			78				1013	1,013.00
214	HARBOR THEATRE	2152		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly	610 - Assembly			142				2550	2,550.21
214	HARBOR THEATRE	2153		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service			0				773	773.00
214	HARBOR THEATRE	2154		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly	610 - Assembly			69				1032	1,032.00
214	HARBOR THEATRE	2155		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly	610 - Assembly			101				1518	1,518.00
214	HARBOR THEATRE	2157		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service			0				222	222.00
214	HARBOR THEATRE	2157A		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service			0				436	436.00
BUILDING 215																			
215	CHEMICAL STORAGE	2151				65 Physical Plant Operations			6510 - Bldg Main & Operations	Storage			730 Storage					0	2,267.41
215	CHEMICAL STORAGE	2150		65 - Physical Plant Operations		Correct	6510 - Building Maintenance and Operation Support		Correct	Storage	730 - Storage			0				2498	2,498.00

SOLANO COMMUNITY COLLEGE SPACE ANOMALY REPORT: FUSION VERSUS ACTUAL COMPARISION

FUSION Bldg Number	FUSION Building Name	FUSION Space Number	District Room Number	FUSION PROGRAM NUMBER	PGM - Check Correct/ Incorrect	PGM - Check Comments	FUSION TOPCSS	TOP - check Correct/ Incorrect	TOP - Check Comments	FUSION Space Name	FUSION Room Use Code	Room Use - check Correct/ Incorrect	Room Use - Check Comments	FUSION Assigned Stns	Stations - check Correct/ Incorrect	Stations - Check Comments	Stations - CALC per State LAB ASF	FUSION ASF	BIM Space Area (sf)
BUILDING 300																			
300	SCIENCE	301		11 - General Academic Instruction	Correct		1914 - Geology	Correct		Class Lab	210 - Class Lab	Correct		48	Correct		22	1299	1,296.42
300	SCIENCE	302		11 - General Academic Instruction	Correct		1902 - Physics, General	Correct		Class Lab	210 - Class Lab	Correct		48	Incorrect		21	1299	1,272.92
300	SCIENCE	303		11 - General Academic Instruction	Correct		1905 - Chemistry, General	Correct		Class Lab	210 - Class Lab	Correct		32	Correct		26	1583	1,566.67
300	SCIENCE	304		11 - General Academic Instruction	Correct		1905 - Chemistry, General	Correct		Class Lab	210 - Class Lab	Correct		32	Incorrect		26	1571	1,551.01
300	SCIENCE	305		11 - General Academic Instruction	Correct		0401 - Biology, General	Correct		Class Lab	210 - Class Lab	Correct		28	Correct		28	1571	1,539.26
300	SCIENCE	306		11 - General Academic Instruction	Correct		0401 - Biology, General	Correct	anatomy 0410	Class Lab	210 - Class Lab	Correct		30	Incorrect	24	28	1583	1,566.67
300	SCIENCE	307		11 - General Academic Instruction	Correct		0430 - Biotechnology and Biomedical Technology	Correct	microbiology 0403	Class Lab	210 - Class Lab	Correct		28	Correct		28	1583	1,535.34
300	SCIENCE	308		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Incorrect	lecture Hallway	86	Incorrect	72		1971	1,906.46
300	SCIENCE	309		11 - General Academic Instruction	Correct		1902 - Physics, General	Correct	1901 Physical Sciences, General	Spec Class Lab	220 - Spec Class Lab	Incorrect	study room 410 Reading/Study Room	2	Incorrect	20		574	580.78
300	SCIENCE	309A	348			11 - General Academic			0099 General Assignment	Office		Correct				1		0	69.00
300	SCIENCE	315		11 - General Academic Instruction	Correct		1902 - Physics, General	Incorrect	0099 General Assignment	Class Lab Service	215 - Class Lab Service	Incorrect	Stairs; 215 Classroom Service	0				326	337.06
300	SCIENCE	317		11 - General Academic Instruction	Correct		0401 - Biology, General	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			316	302.22
300	SCIENCE	318		11 - General Academic Instruction			0401 - Biology, General	REMOVE FROM SI DOES NOT EXIST		Class Lab Service	215 - Class Lab Service		Part of 317	0	Correct			63	60.44
300	SCIENCE	319		11 - General Academic Instruction	Correct		0401 - Biology, General	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			86	85.00
300	SCIENCE	320				REVISE/ADD AS UNASSIGNED				Janitor								0	85.00
300	SCIENCE	321		11 - General Academic Instruction	Correct		0401 - Biology, General	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			201	192.67
300	SCIENCE	322		11 - General Academic Instruction	Correct		0401 - Biology, General	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			224	220.06
300	SCIENCE	323		11 - General Academic Instruction	Correct		0401 - Biology, General	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			149	143.56
300	SCIENCE	324A		11 - General Academic Instruction	Correct		0401 - Biology, General	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			129	122.45
300	SCIENCE	324B		11 - General Academic Instruction	Correct		1902 - Physics, General	Incorrect	1905 Chemistry, General	Class Lab Service	215 - Class Lab Service	Correct	Chemistry Magazine	0	Correct			130	122.45
300	SCIENCE	325		11 - General Academic Instruction	Correct		1905 - Chemistry, General	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			102	111.44
300	SCIENCE	326				REVISE/ADD AS UNASSIGNED				Corridor			Hallway					0	925.89
300	SCIENCE	327		11 - General Academic Instruction	Correct		1905 - Chemistry, General	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct		0	364	360.78
300	SCIENCE	328		11 - General Academic Instruction	Correct		1905 - Chemistry, General	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct		0	223	221.29
300	SCIENCE	329		11 - General Academic Instruction	Correct		1905 - Chemistry, General	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			221	213.11
300	SCIENCE	330		11 - General Academic Instruction	Correct		1902 - Physics, General	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			236	234.22
300	SCIENCE	331		11 - General Academic Instruction	Correct		1902 - Physics, General	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			316	306.95
300	SCIENCE	332		11 - General Academic Instruction	Correct		1902 - Physics, General	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			316	312.61
300	SCIENCE	333				REVISE/ADD AS UNASSIGNED				Men			Staff Toilet					0	55.52
300	SCIENCE	334				REVISE/ADD AS UNASSIGNED				Women			Staff Toilet					0	50.40
300	SCIENCE	335		11 - General Academic Instruction	Correct		1902 - Physics, General	Correct		Office	310 - Office	Correct		1	Correct			102	96.45
300	SCIENCE	336		11 - General Academic Instruction	Correct		1902 - Physics, General	Correct		Office	310 - Office	Correct		1	Correct			76	73.11
300	SCIENCE	337		11 - General Academic Instruction	Correct		1905 - Chemistry, General	Correct		Office	310 - Office	Correct		1	Correct			76	74.67
300	SCIENCE	338		11 - General Academic Instruction	Correct		1902 - Physics, General	Correct		Office	310 - Office	Correct		1	Correct			76	71.56
300	SCIENCE	339		11 - General Academic Instruction	Correct		1902 - Physics, General	Correct		Office	310 - Office	Correct		1	Correct			76	73.11
300	SCIENCE	340		11 - General Academic Instruction	Correct		1902 - Physics, General	Correct		Office	310 - Office	Correct		1	Correct			76	74.67
300	SCIENCE	341		11 - General Academic Instruction	Correct		1902 - Physics, General	Correct		Office	310 - Office	Correct		1	Correct			76	73.11
300	SCIENCE	342		11 - General Academic Instruction	Correct		1902 - Physics, General	Correct		Office	310 - Office	Correct		1	Correct			74	72.00
300	SCIENCE	343		11 - General Academic Instruction	Correct		0401 - Biology, General	Correct		Office	310 - Office	Correct		1	Correct			73	70.50
300	SCIENCE	344		11 - General Academic Instruction	Correct		0401 - Biology, General	Correct		Office	310 - Office	Correct		1	Correct			73	70.50
300	SCIENCE	345		11 - General Academic Instruction	Correct		0401 - Biology, General	Correct		Office	310 - Office	Correct		1	Correct			73	70.50
300	SCIENCE	346		11 - General Academic Instruction	Correct		0401 - Biology, General	Correct		Office	310 - Office	Correct		1	Correct			73	70.50
300	SCIENCE	347		11 - General Academic Instruction	Correct		0401 - Biology, General	Correct		Office	310 - Office	Correct		1	Correct			73	70.50
300	SCIENCE	348		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom Service	115 - Classroom Service	Correct		0	Correct			96	28.20
300	SCIENCE	348A						REMOVE FROM SI DOES NOT EXIST		Class Lab								0	0.00
300	SCIENCE	348B						REMOVE FROM SI DOES NOT EXIST		Class Lab. Srv.								0	0.00
300	SCIENCE	348C						REMOVE FROM SI DOES NOT EXIST		Class Lab. Srv.								0	0.00
300	SCIENCE	349		11 - General Academic Instruction	Correct		0400 - Biological Sciences		0099 General Assignment	Office Service	315 - Office Service	Correct		0				279	331.56
300	SCIENCE	350				REVISE/ADD AS UNASSIGNED				Mechanical Rm.			FACP					0	96.42
300	SCIENCE	351				REVISE/ADD AS UNASSIGNED				RR - Women								0	116.20
300	SCIENCE	352				REVISE/ADD AS UNASSIGNED				RR - Men								0	152.50

SOLANO COMMUNITY COLLEGE SPACE ANOMALY REPORT: FUSION VERSUS ACTUAL COMPARISION

FUSION Bldg Number	FUSION Building Name	FUSION Space Number	District Room Number	FUSION PROGRAM NUMBER	PGM - Check Correct/ Incorrect	PGM - Check Comments	FUSION TOPCSS	TOP - check Correct/ Incorrect	TOP - Check Comments	FUSION Space Name	FUSION Room Use Code	Room Use - check Correct/ Incorrect	Room Use - Check Comments	FUSION Assigned Stns	Stations - check Correct/ Incorrect	Stations - Check Comments	Stations - CALC per State LAB ASF	FUSION ASF	BIM Space Area (sf)
BUILDING 400																			
400	STUDENT SERVICES	400		46 - Academic Administration and Pe	Correct		6210 - Registrations, Transfers, Transcripts, Certifi	Correct		Office	310 - Office	Correct		10	Incorrect	7		653	1,248.38
400	STUDENT SERVICES	400A		46 - Academic Administration and Pe	Correct		6210 - Registrations, Transfers, Transcripts, Certifi	Correct		Office	310 - Office	Incorrect	315 Office Service	0	Correct			197	206.77
400	STUDENT SERVICES	400B		46 - Academic Administration and Pe	Correct		6210 - Registrations, Transfers, Transcripts, Certifi	Correct		Meeting Room	680 - Meeting Room	Incorrect	Office	18	Incorrect	1		484	229.31
400	STUDENT SERVICES	400C		46 - Academic Administration and Pe	Correct		6210 - Registrations, Transfers, Transcripts, Certifi	Correct		Office	310 - Office	Correct		1	Correct			101	104.56
400	STUDENT SERVICES	400D		46 - Academic Administration and Pe	Correct		6210 - Registrations, Transfers, Transcripts, Certifi	Correct		Office	310 - Office	Correct		1	Correct			180	177.21
400	STUDENT SERVICES	400E		46 - Academic Administration and Pe	Correct		6210 - Registrations, Transfers, Transcripts, Certifi	Correct		Office	310 - Office	Correct		1	Correct			110	111.02
400	STUDENT SERVICES	400F		46 - Academic Administration and Pe	Correct		6210 - Registrations, Transfers, Transcripts, Certifi	Correct		Office Service	315 - Office Service	Correct	Storage	0	Correct			156	201.69
400	STUDENT SERVICES	400G		46 - Academic Administration and Pe	Correct		6210 - Registrations, Transfers, Transcripts, Certifi	Correct		Office Service	315 - Office Service	Correct	Digital Imaging	0	Correct			159	158.81
400	STUDENT SERVICES	400H		46 - Academic Administration and Pe	Correct		6210 - Registrations, Transfers, Transcripts, Certifi	Correct		Office Service	315 - Office Service	Correct	File Room	0	Correct			159	158.81
400	STUDENT SERVICES	400I		46 - Academic Administration and Pe	Correct		6210 - Registrations, Transfers, Transcripts, Certifi	Correct		Office	310 - Office	Correct		1	Correct			106	105.71
400	STUDENT SERVICES	400J		46 - Academic Administration and Pe	Correct		6210 - Registrations, Transfers, Transcripts, Certifi	Correct		Office	310 - Office	Correct		1	Correct			86	103.02
400	STUDENT SERVICES	400K		46 - Academic Administration and Pe	Correct		6210 - Registrations, Transfers, Transcripts, Certifi	Correct		Office	310 - Office	Correct		1	Correct			107	110.51
400	STUDENT SERVICES	400L		46 - Academic Administration and Pe	Correct		6210 - Registrations, Transfers, Transcripts, Certifi	Correct		Office Service	315 - Office Service	Correct	Record Review	0	Correct			76	75.16
400	STUDENT SERVICES	400M		46 - Academic Administration and Pe	Correct		6210 - Registrations, Transfers, Transcripts, Certifi	Correct		Office Service	315 - Office Service	Correct	Storage	0	Correct			112	67.45
400	STUDENT SERVICES	401		45 - Ancillary Support	Correct		0099 - General Assignment	Incorrect	6791 General Administrative Services	Office	310 - Office	Correct		1	Correct			117	110.50
400	STUDENT SERVICES	402		11 - General Academic Instruction	Incorrect	55 Student Support	0099 - General Assignment	Incorrect	0801 Education, Gen (Pre Prof)	Classroom	110 - Classroom	Incorrect	410 Read/Study	45	Incorrect	25		743	697.07
400	STUDENT SERVICES	403		11 - General Academic Instruction	Incorrect	55 Student Support	0099 - General Assignment	Incorrect	6320 Placement Services	Classroom	110 - Classroom	Incorrect	410 Reading/Study Room	45	Correct			743	774.18
400	STUDENT SERVICES	404		53 - Counseling and Career Guidance	Correct		6300 - Counseling and Guidance	Correct		Office Service	315 - Office Service	Correct		10	Incorrect	0		511	325.05
400	STUDENT SERVICES	404A		53 - Counseling and Career Guidance	Correct		6300 - Counseling and Guidance	Correct		Office	310 - Office	Correct		1				118	118.97
400	STUDENT SERVICES	404B		53 - Counseling and Career Guidance	Correct		6300 - Counseling and Guidance	Correct		Office	310 - Office	Correct		1				104	118.42
400	STUDENT SERVICES	404C		53 - Counseling and Career Guidance	Correct		6300 - Counseling and Guidance	Correct		Office	310 - Office	Correct		1				121	117.86
400	STUDENT SERVICES	404D		53 - Counseling and Career Guidance	Correct		6300 - Counseling and Guidance	Correct		Office	310 - Office	Correct		1				124	120.62
400	STUDENT SERVICES	404E		53 - Counseling and Career Guidance	Correct		6300 - Counseling and Guidance	Correct		Office	310 - Office	Correct		1				118	117.81
400	STUDENT SERVICES	404F		53 - Counseling and Career Guidance	Correct		6300 - Counseling and Guidance	Correct		Office	310 - Office	Correct		1				135	119.83
400	STUDENT SERVICES	404G		53 - Counseling and Career Guidance	Correct		6300 - Counseling and Guidance	Correct		Office	310 - Office	Correct		1				113	116.81
400	STUDENT SERVICES	404H		53 - Counseling and Career Guidance	Correct		6300 - Counseling and Guidance	Correct		Office	310 - Office	Correct		1				113	114.79
400	STUDENT SERVICES	404I		53 - Counseling and Career Guidance	Correct		6300 - Counseling and Guidance	Correct		Office	310 - Office	Correct		1				113	113.66
400	STUDENT SERVICES	404J		53 - Counseling and Career Guidance	Correct		6300 - Counseling and Guidance	Correct		Office	310 - Office	Correct	Dean	1				138	145.67
400	STUDENT SERVICES	404K		53 - Counseling and Career Guidance	Correct		6300 - Counseling and Guidance	Correct		Office	310 - Office	Correct		1				113	88.51
400	STUDENT SERVICES	404L		53 - Counseling and Career Guidance	Correct		6300 - Counseling and Guidance	Correct		Office	310 - Office	Correct		1				112	116.60
400	STUDENT SERVICES	404M		53 - Counseling and Career Guidance	Correct		6300 - Counseling and Guidance	Correct		Office	310 - Office	Correct		1				93	95.63
400	STUDENT SERVICES	404N		53 - Counseling and Career Guidance	Correct		6300 - Counseling and Guidance	Correct		Office	310 - Office	Correct		1				115	115.35
400	STUDENT SERVICES	404O		53 - Counseling and Career Guidance	Correct		6300 - Counseling and Guidance	Correct		Office	310 - Office	Correct		1				120	122.43
400	STUDENT SERVICES	404P		53 - Counseling and Career Guidance	Correct		6300 - Counseling and Guidance	Correct		Office	310 - Office	Incorrect	315 Office Service	0				219	215.05
400	STUDENT SERVICES	404Q				44 Computing Support			6780 Mgmt Info Svcs	IT Room			715 Data Processing/Computer Service					0	109.76
400	STUDENT SERVICES	404R				53 - Counseling and Career			6300 Counselling and Guildance	Open Area		Incorrect	Office			4		0	291.13
400	STUDENT SERVICES	404S				REVISE/ADD AS UNASSIGNED				404 Area Hallways			Hallway						1,415.11
400	STUDENT SERVICES	405				REVISE/ADD AS UNASSIGNED				Janitor								0	69.71
400	STUDENT SERVICES	406		55 - Student Support	Correct		6420 - Disabled Students Programs and Services (E	Correct		Read/Study Room	410 - Read/Study Room	Correct		8	Incorrect	10		338	381.49
400	STUDENT SERVICES	406A		55 - Student Support	Correct		6420 - Disabled Students Programs and Services (E	Correct		Office	310 - Office	Correct		0	Incorrect	1		119	106.15
400	STUDENT SERVICES	407		55 - Student Support	Correct		6420 - Disabled Students Programs and Services (E	Correct		Office Service	315 - Office Service	Correct		4	Incorrect	0		475	467.06
400	STUDENT SERVICES	407A		55 - Student Support	Correct		6420 - Disabled Students Programs and Services (E	Correct		Office Service	315 - Office Service	Correct		1	Incorrect	0		38	39.29
400	STUDENT SERVICES	407B		55 - Student Support	Correct		6420 - Disabled Students Programs and Services (E	Correct		Office Service	315 - Office Service	Correct		1	Incorrect	0		34	32.55
400	STUDENT SERVICES	407C		55 - Student Support	Correct		6420 - Disabled Students Programs and Services (E	Correct		Office Service	315 - Office Service	Correct		1	Incorrect	0		34	32.54
400	STUDENT SERVICES	407D		55 - Student Support	Correct		6420 - Disabled Students Programs and Services (E	Correct		Office	310 - Office	Correct		1				140	139.44
400	STUDENT SERVICES	407E		55 - Student Support	Correct		0099 - General Assignment	Incorrect	6300 Counselling and Guildance	Classroom	110 - Classroom	Incorrect	680 Meeting Room	15				468	429.38
400	STUDENT SERVICES	407F		55 - Student Support	Correct		6420 - Disabled Students Programs and Services (E	Correct		Office Service	315 - Office Service	Correct	File Storage	0				81	87.26
400	STUDENT SERVICES	407G		55 - Student Support	Correct		6420 - Disabled Students Programs and Services (E	Correct		Office	310 - Office	Correct		1				124	119.83
400	STUDENT SERVICES	407H		55 - Student Support	Correct		6420 - Disabled Students Programs and Services (E	Correct		Office	310 - Office	Correct		1				103	120.33
400	STUDENT SERVICES	407I		55 - Student Support	Correct		6420 - Disabled Students Programs and Services (E	Correct		Office	310 - Office	Correct		1	Correct			112	135.43
400	STUDENT SERVICES	407J		55 - Student Support	Correct		6420 - Disabled Students Programs and Services (E	Correct		Office	310 - Office	Correct		1	Correct			114	117.31
400	STUDENT SERVICES	407K		55 - Student Support	Correct		6420 - Disabled Students Programs and Services (E	Correct		Office	310 - Office	Correct		1	Correct			114	118.32
400	STUDENT SERVICES	407L		55 - Student Support	Correct		6420 - Disabled Students Programs and Services (E	Correct		Office	310 - Office	Correct		1	Correct			121	118.32
400	STUDENT SERVICES	407M		55 - Student Support	Correct		6420 - Disabled Students Programs and Services (E	Correct		Office	310 - Office	Correct		1	Correct			121	127.38
400	STUDENT SERVICES	407N		55 - Student Support	Correct		6420 - Disabled Students Programs and Services (E	Correct		Office Service	315 - Office Service	Incorrect	740 Vehicle Storage Facility	0				467	310.82
400	STUDENT SERVICES	407O		55 - Student Support	Correct		6420 - Disabled Students Programs and Services (E	Correct		Office Service	315 - Office Service	Correct	Storage	0				68	35.96
400	STUDENT SERVICES	407P				55 - Student Support			6420 Disabled Students Programs	Storage		Incorrect	315 Office Service					0	180.55
400	STUDENT SERVICES	408				REVISE/ADD AS UNASSIGNED				Staff Men RR								0	172.35
400	STUDENT SERVICES	409				REVISE/ADD AS UNASSIGNED				Staff Women RR								0	178.11
400	STUDENT SERVICES	410				REVISE/ADD AS UNASSIGNED				Womens								0	248.47
400	STUDENT SERVICES	411				REVISE/ADD AS UNASSIGNED				Mens								0	275.51
400	STUDENT SERVICES	412				REVISE/ADD AS UNASSIGNED				Machine			Elevator Machine Room					0	57.75
400	STUDENT SERVICES	413		66 - Faculty and Staff Services	Correct		0099 - General Assignment	Correct		Lounge	650 - Lounge	Correct		0	Incorrect	0		391	424.48
400	STUDENT SERVICES	414		45 - Ancillary Support	Correct		0099 - General Assignment	Correct		Meeting Room	680 - Meeting Room	Correct		14	Incorrect	18		378	372.02
400	STUDENT SERVICES	415				REVISE/ADD AS UNASSIGNED				Main Elec								0	106.87
400	STUDENT SERVICES	416				REVISE/ADD AS UNASSIGNED				Fire Control								0	54.19
400	STUDENT SERVICES	417				REVISE/ADD AS UNASSIGNED				Atrium			Main Circulation					0	4,327.31
400	STUDENT SERVICES	420		71 - Institutional Operations	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		0	Incorrect	1		108	102.93
400	STUDENT SERVICES	421		54 - Financial Aid	Correct		6460 - Financial Aid	Correct		Office Service	315 - Office Service	Correct	310 Office	0	Incorrect	1		80	84.70
400	STUDENT SERVICES	422		71 - Institutional Operations	Correct		0099 - General Assignment	Incorrect	6020 Course Curriculum	Office	310 - Office	Correct		0	Incorrect	1		159	168.49
400	STUDENT SERVICES	423				REVISE/ADD AS UNASSIGNED				Mens								0	265.47
400	STUDENT SERVICES	424				REVISE/ADD AS UNASSIGNED				Womens								0	256.43
400	STUDENT SERVICES	425		54 - Financial Aid	Correct		6460 - Financial Aid	Correct		Office	310 - Office	Correct		11	Correct			597	993.22
400	STUDENT SERVICES	425A		54 - Financial Aid	Correct		6460 - Financial Aid	Correct		Office Service	315 - Office Service	Correct	Really Office, but used as Storage	0	Correct			115	98.09
400	STUDENT SERVICES	425B		54 - Financial Aid	Correct		6460 - Financial Aid	Correct		Office	310 - Office	Correct		1	Correct			123	124.61
400	STUDENT SERVICES	425C		54 - Financial Aid	Correct		6460 - Financial Aid	Correct		Office	310 - Office	Correct		1	Correct			123	118.11
400	STUDENT SERVICES	425D		54 - Financial Aid	Correct		6460 - Financial Aid	Correct		Office	310 - Office	Correct		1	Correct			156	153.14
400	STUDENT SERVICES	425E		54 - Financial Aid	Correct		6460 - Financial Aid	Correct		Office	310 - Office	Correct		1	Correct			123	117.10
400	STUDENT SERVICES	425F		54 - Financial Aid	Correct		6460 - Financial Aid	Correct		Office	310 - Office	Correct		1	Correct			161	155.14
400	STUDENT SERVICES	426		55 - Student Support	Correct		6430 - Extended Opportunity Programs and Servic	Correct		Office Service	315 - Office Service	Correct		3	Incorrect	0		64	62.50
400	STUDENT SERVICES	426A		55 - Student Support	Correct		6430 - Extended Opportunity Programs and Servic	Correct		Office	310 - Office	Correct		1	Incorrect	2		119	115.45
400	STUDENT SERVICES	426B		55 - Student Support	Correct		6430 - Extended Opportunity Programs and Servic	Correct		Office Service	315 - Office Service	Correct		1	Incorrect	0		126	121.46
400	STUDENT SERVICES	426C		55 - Student Support	Correct		6430 - Extended Opportunity Programs and Servic	Correct		Office	310 - Office	Correct		1	Correct			120	116.60
400	STUDENT SERVICES	426D		55 - Student Support	Correct		6430 - Extended Opportunity Programs and Servic	Correct		Office Service	315 - Office Service	Correct		0	Correct			90	93.08
400	STUDENT SERVICES	426E		55 - Student Support	Correct		6430 - Extended Opportunity Programs and Servic	Correct		Office	310 - Office	Correct		1	Correct			117	118.11
400	STUDENT SERVICES	426F		55 - Student Support	Correct		6430 - Extended Opportunity Programs and Servic	Correct		Office	310 - Office	Correct		1	Correct			123	116.10

SOLANO COMMUNITY COLLEGE SPACE ANOMALY REPORT: FUSION VERSUS ACTUAL COMPARISION

FUSION Bldg Number	FUSION Building Name	FUSION Space Number	District Room Number	FUSION PROGRAM NUMBER	PGM - Check Correct/ Incorrect	PGM - Check Comments	FUSION TOPCSS	TOP - check Correct/ Incorrect	TOP - Check Comments	FUSION Space Name	FUSION Room Use Code	Room Use - check Correct/ Incorrect	Room Use - Check Comments	FUSION Assigned Stns	Stations - check Correct/ Incorrect	Stations - Check Comments	Stations - CALC per State LAB ASF	FUSION ASF	BIM Space Area (sf)
400	STUDENT SERVICES	426G		55 - Student Support	Correct		6430 - Extended Opportunity Programs and Servic	Correct		Office	310 - Office	Correct		1	Correct			116	116.10
400	STUDENT SERVICES	426H				REVISE/ADD AS UNASSIGNED				Hallway								0	179.11
400	STUDENT SERVICES	427				REVISE/ADD AS UNASSIGNED				Womens								0	284.00
400	STUDENT SERVICES	428				REVISE/ADD AS UNASSIGNED				Mens								0	260.82
400	STUDENT SERVICES	429		55 - Student Support	Correct		6480 - Veterans Services	Correct		Office	310 - Office	Correct		4	Incorrect	6		362	499.52
400	STUDENT SERVICES	429A		55 - Student Support	Correct		6480 - Veterans Services	Correct		Office	310 - Office	Correct		1	Correct			120	114.87
400	STUDENT SERVICES	429B		55 - Student Support	Correct		6480 - Veterans Services	Correct		Office	310 - Office	Correct		1	Correct			115	120.83
400	STUDENT SERVICES	430		66 - Faculty and Staff Services	Correct		0099 - General Assignment	Correct		Lounge	650 - Lounge	Correct		0	Correct			438	309.63
400	STUDENT SERVICES	431		66 - Faculty and Staff Services	Correct		0099 - General Assignment	Correct		Meeting Room	680 - Meeting Room	Correct		12	Correct			260	248.62
400	STUDENT SERVICES	432		66 - Faculty and Staff Services	Correct		0099 - General Assignment	Correct		Meeting Room	680 - Meeting Room	Correct		10	Correct			196	197.51
400	STUDENT SERVICES	433		55 - Student Support	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Incorrect	4		306	312.35
400	STUDENT SERVICES	433A		55 - Student Support	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1				184	194.90
400	STUDENT SERVICES	434		55 - Student Support	Correct		0099 - General Assignment	Correct	MESA	Office	310 - Office	Incorrect	410 Reading/Study Room?	1	Incorrect	23		521	483.40
400	STUDENT SERVICES	434A		55 - Student Support	Correct		0099 - General Assignment	Correct	MESA	Office	310 - Office	Correct		1	Correct			102	102.09
400	STUDENT SERVICES	434B		55 - Student Support	Correct		0099 - General Assignment	Correct	MESA	Office	310 - Office	Correct		1	Correct			130	131.54
400	STUDENT SERVICES	435		55 - Student Support	Correct		0099 - General Assignment	Correct	UMOJA	Office	310 - Office	Incorrect	410 Reading/Study Room?	1	Incorrect	8		164	168.17
400	STUDENT SERVICES	435A		55 - Student Support	Correct		0099 - General Assignment	Correct	UMOJA	Office	310 - Office	Incorrect	315 Office Service	1	Incorrect	0		83	78.72
400	STUDENT SERVICES	435B		55 - Student Support	Correct		0099 - General Assignment	Correct	UMOJA	Office	310 - Office	Correct		1	Correct			105	108.14
400	STUDENT SERVICES	436				44 Computing Support			6780 Mgmt Info Svcs	It Room			715 Data Processing/Computer Service					0	107.11
400	STUDENT SERVICES	437	437	55 - Student Support	Incorrect	41 Libraries	6320 - Placement Services	Incorrect	6110 - Learning Center	Read/Study Room	410 - Read/Study Room	Correct		15	Incorrect	45		955	756.95
400	STUDENT SERVICES	437A		55 - Student Support	Incorrect	41 Libraries	6320 - Placement Services	Incorrect	6110 - Learning Center	Office	310 - Office	Correct		1	Correct			112	107.60
400	STUDENT SERVICES	438		55 - Student Support	Incorrect	41 Libraries	0801 - Education, General (Pre-Professional)(Trar	Incorrect	6110 - Learning Center	Other	590 - Other	Incorrect	410 Reading/Study Room	12	Incorrect	24		636	776.52
400	STUDENT SERVICES	438A		55 - Student Support	Incorrect	41 Libraries	0801 - Education, General (Pre-Professional)(Trar	Incorrect	6110 - Learning Center	Office	310 - Office	Incorrect	410 Reading/Study Room?	1	Incorrect	3		111	98.28
400	STUDENT SERVICES	439		55 - Student Support	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			96	96.19
400	STUDENT SERVICES	440		55 - Student Support	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			86	90.65
400	STUDENT SERVICES	441				REVISE/ADD AS UNASSIGNED				Elec								0	63.45
400	STUDENT SERVICES	442		55 - Student Support	Correct		0099 - General Assignment	Incorrect	6320 Placement Services	Data Processing/Computer	710 - Data Processing/Compu	Incorrect	545 Clinic Student Care Service	32	Incorrect	0		551	149.77
400	STUDENT SERVICES	442A		55 - Student Support	Correct		0099 - General Assignment	Incorrect	6320 Placement Services	Data Processing/Computer	710 - Data Processing/Compu	Incorrect	310 Office	1	Correct			274	132.39
400	STUDENT SERVICES	442B		55 - Student Support	Correct		0099 - General Assignment	Incorrect	6320 Placement Services	Data Processing/Computer	710 - Data Processing/Compu	Incorrect	540 Clinic Student Care	1	Incorrect	0		42	41.65
400	STUDENT SERVICES	442C		55 - Student Support	Correct		0099 - General Assignment	Incorrect	6320 Placement Services	Data Processing/Computer	710 - Data Processing/Compu	Incorrect	540 Clinic Student Care	1	Incorrect	0		39	39.35
400	STUDENT SERVICES	442D		55 - Student Support	Correct		0099 - General Assignment	Incorrect	6320 Placement Services	Data Processing/Computer	710 - Data Processing/Compu	Incorrect	540 Clinic Student Care	1	Incorrect	0		47	49.15
400	STUDENT SERVICES	442E		55 - Student Support	Correct		0099 - General Assignment	Incorrect	6320 Placement Services	Data Processing/Computer	710 - Data Processing/Compu	Incorrect	540 Clinic Student Care	1	Incorrect	0		48	49.02
400	STUDENT SERVICES	442F		55 - Student Support	Correct		0099 - General Assignment	Incorrect	6320 Placement Services	Data Processing/Computer	710 - Data Processing/Compu	Incorrect	540 Clinic Student Care	1	Incorrect	0		45	61.44
400	STUDENT SERVICES	442G				53 Counseling & Career Guidance			6320 Placement Services	Assessment Center			540 Clinic Student Care			0		0	602.23
400	STUDENT SERVICES	443		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		45	Correct			722	719.25
400	STUDENT SERVICES	444		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		45	Incorrect	40		738	727.08
400	STUDENT SERVICES	445		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		45	Correct			739	723.75
400	STUDENT SERVICES	445A				REVISE/ADD AS UNASSIGNED				Janitor								0	63.00
400	STUDENT SERVICES	446	446	11 - General Academic Instruction	Correct		0100 - Agriculture and Natural Resources	Incorrect	general	Classroom	110 - Classroom	Correct		45	Correct			739	735.59

SOLANO COMMUNITY COLLEGE SPACE ANOMALY REPORT: FUSION VERSUS ACTUAL COMPARISION

FUSION Bldg Number	FUSION Building Name	FUSION Space Number	District Room Number	FUSION PROGRAM NUMBER	PGM - Check Correct/ Incorrect	PGM - Check Comments	FUSION TOPCSS	TOP - check Correct/ Incorrect	TOP - Check Comments	FUSION Space Name	FUSION Room Use Code	Room Use - check Correct/ Incorrect	Room Use - Check Comments	FUSION Assigned Stns	Stations - check Correct/ Incorrect	Stations - Check Comments	Stations - CALC per State LAB ASF	FUSION ASF	BIM Space Area (sf)
BUILDING 500																			
500	BUSINESS	501		12 - Occupational and Vocational Acti	Correct		0707 - Computer Software Development	Correct		Class Lab	210 - Class Lab	Correct		29	Correct		26	1040	1,029.11
500	BUSINESS	502		12 - Occupational and Vocational Acti	Correct		0514 - Office Technology/Office Computer Applica	Correct		Class Lab	210 - Class Lab	Correct		50	Incorrect	46		1426	1,444.02
500	BUSINESS	503		12 - Occupational and Vocational Acti	Correct		0707 - Computer Software Development	Correct		Class Lab	210 - Class Lab	Correct		32	Incorrect		28	1103	1,133.08
500	BUSINESS	504		12 - Occupational and Vocational Acti	Correct		0707 - Computer Software Development	Correct		Class Lab	210 - Class Lab	Correct		30	Correct		25	981	950.81
500	BUSINESS	505		12 - Occupational and Vocational Acti	Correct		0707 - Computer Software Development	Correct		Class Lab	210 - Class Lab	Correct		30	Incorrect		23	921	902.25
500	BUSINESS	506		12 - Occupational and Vocational Acti	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		48	Incorrect	50		914	816.52
500	BUSINESS	507		12 - Occupational and Vocational Acti	Correct		0707 - Computer Software Development	Correct		Class Lab	210 - Class Lab	Correct		35	Incorrect		17	662	637.82
500	BUSINESS	508		12 - Occupational and Vocational Acti	Correct		0514 - Office Technology/Office Computer Applica	Correct		Office	310 - Office	Incorrect	says office outside but looks like a printing room 315 Office Service	2			0	126	123.92
500	BUSINESS	509		12 - Occupational and Vocational Acti	Correct		0501 - Business and Commerce, General	Correct		Office	310 - Office	Correct		1	Correct			91	82.12
500	BUSINESS	510		12 - Occupational and Vocational Acti	Correct		0501 - Business and Commerce, General	Correct		Office	310 - Office	Correct		1	Correct			134	169.98
500	BUSINESS	510A	511	12 - Occupational and Vocational Acti	Correct		0501 - Business and Commerce, General	Correct		Office Service	315 - Office Service	Correct	actually room 511	0	Correct			60	67.76
500	BUSINESS	512		12 - Occupational and Vocational Action			0501 - Business and Commerce, General			Office Service	315 - Office Service	Incorrect	Hallway (serves classroom too)	0				239	608.47
500	BUSINESS	513		12 - Occupational and Vocational Acti	Correct		0707 - Computer Software Development	Correct		Office	310 - Office	Correct		1	Incorrect	2		71	67.19
500	BUSINESS	514		12 - Occupational and Vocational Acti	Correct		0707 - Computer Software Development	Correct		Office	310 - Office	Correct		1	Correct			70	67.19
500	BUSINESS	515		12 - Occupational and Vocational Acti	Correct		0707 - Computer Software Development	Correct		Office	310 - Office	Correct		1	Correct			70	67.19
500	BUSINESS	516		12 - Occupational and Vocational Acti	Correct		0707 - Computer Software Development	Correct		Office	310 - Office	Correct		1	Correct			70	67.19
500	BUSINESS	517		12 - Occupational and Vocational Acti	Correct		0707 - Computer Software Development	Correct		Office	310 - Office	Correct		1	Correct			70	70.31
500	BUSINESS	518		12 - Occupational and Vocational Acti	Correct		0707 - Computer Software Development	Correct		Office	310 - Office	Correct		1	Correct			70	67.19
500	BUSINESS	519		12 - Occupational and Vocational Acti	Correct		0501 - Business and Commerce, General	Correct		Office	310 - Office	Correct		1	Correct			70	67.97
500	BUSINESS	520		12 - Occupational and Vocational Acti	Correct		0501 - Business and Commerce, General	Correct		Office	310 - Office	Correct		1	Correct			70	64.95
500	BUSINESS	521		12 - Occupational and Vocational Acti	Correct		0501 - Business and Commerce, General	Correct		Office	310 - Office	Correct		1	Correct			70	64.20
500	BUSINESS	522		12 - Occupational and Vocational Acti	Correct		0501 - Business and Commerce, General	Correct		Office	310 - Office	Correct		1	Correct			70	67.19
500	BUSINESS	523		12 - Occupational and Vocational Acti	Correct		0501 - Business and Commerce, General	Correct		Office	310 - Office	Correct		1	Correct			70	64.20
500	BUSINESS	524		12 - Occupational and Vocational Acti	Correct		0501 - Business and Commerce, General	Correct		Office	310 - Office	Correct		1	Correct			70	70.17
500	BUSINESS	525				REVISE/ADD AS UNASSIGNED				Mechanical Rm.								0	100.04
500	BUSINESS	526				REVISE/ADD AS UNASSIGNED				RR - Men, Public								0	140.94
500	BUSINESS	527				REVISE/ADD AS UNASSIGNED				RR - Women, Public								0	151.86
500	BUSINESS	528				REVISE/ADD AS UNASSIGNED				Janitor								0	33.65
500	BUSINESS	529				REVISE/ADD AS UNASSIGNED				RR - Men, Staff								0	47.50
500	BUSINESS	530		12 - Occupational and Vocational Acti	Correct		0707 - Computer Software Development	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			86	108.75
500	BUSINESS	531				REVISE/ADD AS UNASSIGNED				RR - Women, Staff								0	53.75
500	BUSINESS	532				REVISE/ADD AS UNASSIGNED				Corridor			Hallwayway					0	1,177.74
500	BUSINESS	533				REVISE/ADD AS UNASSIGNED				Display Case								0	67.73

SOLANO COMMUNITY COLLEGE SPACE ANOMALY REPORT: FUSION VERSUS ACTUAL COMPARISION

FUSION Bldg Number	FUSION Building Name	FUSION Space Number	District Room Number	FUSION PROGRAM NUMBER	PGM - Check Correct/ Incorrect	PGM - Check Comments	FUSION TOPCSS	TOP - check Correct/ Incorrect	TOP - Check Comments	FUSION Space Name	FUSION Room Use Code	Room Use - check Correct/ Incorrect	Room Use - Check Comments	FUSION Assigned Stns	Stations - check Correct/ Incorrect	Stations - Check Comments	Stations - CALC per State LAB ASF	FUSION ASF	BIM Space Area (sf)
BUILDING 600 LEFT AS IS, ADJUST SPACE INVENTORY AFTER FINAL RENOVATION, DO NOT INPUT 360 CAMPUS LANE (TREAT AS TEMPORARY/INTERIM HOUSING)																			
600	ADMINISTRATION	601								Corridor, Center								0	638.16
600	ADMINISTRATION	601A		63 - General Administrative Services			6791 - General Administration Services			Office Service	315 - Office Service			0				84	53.72
600	ADMINISTRATION	601B		63 - General Administrative Services			6791 - General Administration Services			Office Service	315 - Office Service			0				84	53.26
600	ADMINISTRATION	**602**				REVISE/ADD AS UNASSIGNED				**Corridor, East, West**								0	932.66
600	ADMINISTRATION	603		11 - General Academic Instruction			0099 - General Assignment		DEACTIVATE?	**Classroom**	**110 - Classroom**			50				868	852.74
600	ADMINISTRATION	604		62 - Fiscal Operations			0099 - General Assignment			Office	310 - Office			4				885	880.63
600	ADMINISTRATION	605		11 - General Academic Instruction			0099 - General Assignment		DEACTIVATE?	**Classroom**	**110 - Classroom**			50				864	781.11
600	ADMINISTRATION	606		62 - Fiscal Operations			6720 - Fiscal Operations			Office Service	315 - Office Service			0				253	226.05
600	ADMINISTRATION	**607**				REVISE/ADD AS UNASSIGNED				**Mechanical Rm.**								0	195.56
600	ADMINISTRATION	**608**				REVISE/ADD AS UNASSIGNED				**Telephone Rm.**								0	207.78
600	ADMINISTRATION	609		62 - Fiscal Operations			6720 - Fiscal Operations			Office Service	315 - Office Service			0				240	198.61
600	ADMINISTRATION	610		67 - Community Relations			6710 - Community Relations			Office	310 - Office			3				395	350.72
600	ADMINISTRATION	610A		11 - General Academic Instruction			6791 - General Administration Services			Office	310 - Office			1				110	127.06
600	ADMINISTRATION	611		63 - General Administrative Services			6791 - General Administration Services			Office	310 - Office			1				125	0.00
600	ADMINISTRATION	612		63 - General Administrative Services			6791 - General Administration Services			Lounge	650 - Lounge			0				278	263.08
600	ADMINISTRATION	613		67 - Community Relations			6010 - Academic Administration			Office	310 - Office			1				121	123.26
600	ADMINISTRATION	614		67 - Community Relations			6700 - General Institutional Support Services			Office	310 - Office			2				121	124.13
600	ADMINISTRATION	615		63 - General Administrative Services			6730 - Human Resources Management			Office	310 - Office			1				121	112.39
600	ADMINISTRATION	616		63 - General Administrative Services			6730 - Human Resources Management			Office	310 - Office			1				592	592.61
600	ADMINISTRATION	616A		63 - General Administrative Services			6730 - Human Resources Management			Office	310 - Office			2				150	143.44
600	ADMINISTRATION	617		63 - General Administrative Services			6730 - Human Resources Management			Office	310 - Office			1				121	118.17
600	ADMINISTRATION	618		63 - General Administrative Services			6020 - Course and Curriculum Development			Office	310 - Office			1				246	292.34
600	ADMINISTRATION	619		63 - General Administrative Services			6791 - General Administration Services			Office	310 - Office			1				141	124.86
600	ADMINISTRATION	620		46 - Academic Administration and Personnel Development			6010 - Academic Administration			Office	310 - Office			1				165	162.12
600	ADMINISTRATION	621		63 - General Administrative Services			6620 - Management Planning Functions			Office	310 - Office			1				149	161.11
600	ADMINISTRATION	622		63 - General Administrative Services			6620 - Management Planning Functions			Office	310 - Office			1				386	370.71
600	ADMINISTRATION	623		63 - General Administrative Services			6620 - Management Planning Functions			Office Service	315 - Office Service			0				40	13.29
600	ADMINISTRATION	624		63 - General Administrative Services			6620 - Management Planning Functions			Office Service	315 - Office Service			0				52	87.74
600	ADMINISTRATION	**625**				REVISE/ADD AS UNASSIGNED				**Toilet Rm.**								0	26.95
600	ADMINISTRATION	626		63 - General Administrative Services			6620 - Management Planning Functions			Meeting Room	680 - Meeting Room			60				1250	1,241.21
600	ADMINISTRATION	627		46 - Academic Administration and Personnel Development			6010 - Academic Administration			Office	310 - Office			2				398	373.27
600	ADMINISTRATION	628		63 - General Administrative Services			6791 - General Administration Services			Office	310 - Office			1				166	161.82
600	ADMINISTRATION	629		63 - General Administrative Services			6791 - General Administration Services			Office	310 - Office			1				219	220.48
600	ADMINISTRATION	630		62 - Fiscal Operations			6720 - Fiscal Operations			Office	310 - Office			5				394	392.12
600	ADMINISTRATION	631		62 - Fiscal Operations			6720 - Fiscal Operations			Office	310 - Office			1				107	107.01
600	ADMINISTRATION	632		62 - Fiscal Operations			6720 - Fiscal Operations			Office	310 - Office			1				84	89.33
600	ADMINISTRATION	633		62 - Fiscal Operations			6720 - Fiscal Operations			Office	310 - Office			1				84	86.54
600	ADMINISTRATION	634		62 - Fiscal Operations			6720 - Fiscal Operations			Office	310 - Office			1				96	86.54
600	ADMINISTRATION	635		62 - Fiscal Operations			6720 - Fiscal Operations			Office	310 - Office			1				86	76.50
600	ADMINISTRATION	636		62 - Fiscal Operations			6720 - Fiscal Operations			Office Service	315 - Office Service			0				60	55.80
600	ADMINISTRATION	637		62 - Fiscal Operations			6720 - Fiscal Operations			Storage	730 - Storage			0				381	373.08
600	**ADMINISTRATION**	**638RR**				REVISE/ADD AS UNASSIGNED				**638 RR - Women,Lounge**								0	151.40
600	**ADMINISTRATION**	**639**				REVISE/ADD AS UNASSIGNED				**Janitor**								0	72.58
600	**ADMINISTRATION**	**640**				REVISE/ADD AS UNASSIGNED				**RR - Women**								0	110.10
600	**ADMINISTRATION**	**641**				REVISE/ADD AS UNASSIGNED				**RR - Men**								0	111.15

SOLANO COMMUNITY COLLEGE SPACE ANOMALY REPORT: FUSION VERSUS ACTUAL COMPARISION

FUSION Bldg Number	FUSION Building Name	FUSION Space Number	District Room Number	FUSION PROGRAM NUMBER	PGM - Check Correct/ Incorrect	PGM - Check Comments	FUSION TOPCSS	TOP - check Correct/ Incorrect	TOP - Check Comments	FUSION Space Name	FUSION Room Use Code	Room Use - check Correct/ Incorrect	Room Use - Check Comments	FUSION Assigned Stns	Stations - check Correct/ Incorrect	Stations - Check Comments	Stations - CALC per State LAB ASF	FUSION ASF	BIM Space (sf)
BUILDING 700																			
700	HUMANITIES	700A				REVISE/ADD AS UNASSIGNED				Corridor			Hallway					0	1,463.19
700	HUMANITIES	700B				REVISE/ADD AS UNASSIGNED				Corridor			Hallway					0	300.97
700	HUMANITIES	700C				REVISE/ADD AS UNASSIGNED				Corridor			Hallway					0	114.03
700	HUMANITIES	700D				REVISE/ADD AS UNASSIGNED				Corridor			Hallway					0	348.16
700	HUMANITIES	700E				REVISE/ADD AS UNASSIGNED				Corridor			Hallway					0	345.63
700	HUMANITIES	700F				REVISE/ADD AS UNASSIGNED				Corridor			Hallway					0	114.83
700	HUMANITIES	700G				REVISE/ADD AS UNASSIGNED				Corridor			Hallway					0	180.26
700	HUMANITIES	700H				REVISE/ADD AS UNASSIGNED				Corridor			Hallway					0	191.67
700	HUMANITIES	700I				REVISE/ADD AS UNASSIGNED				Corridor			Hallway					0	191.58
700	HUMANITIES	701	701	11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		36	Incorrect	32		624	619.28
700	HUMANITIES	702	702	11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		36	Incorrect	32		529	509.17
700	HUMANITIES	703		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		48				969	986.62
700	HUMANITIES	704		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		44	Correct			729	729.99
700	HUMANITIES	705		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		50	Correct			981	999.00
700	HUMANITIES	706		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		44	Incorrect	46		729	744.79
700	HUMANITIES	707		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		36	Correct			624	620.79
700	HUMANITIES	708		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		36	Incorrect	32		512	520.00
700	HUMANITIES	709				REVISE/ADD AS UNASSIGNED				Men								0	156.49
700	HUMANITIES	710		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		36	Incorrect	30		540	554.68
700	HUMANITIES	711				REVISE/ADD AS UNASSIGNED				Janitor								0	32.65
700	HUMANITIES	712		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		36	Incorrect	32		548	547.80
700	HUMANITIES	713		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		50	Correct			831	820.54
700	HUMANITIES	714		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		32				547	537.75
700	HUMANITIES	715		11 - General Academic Instruction	Correct		1501 - English	Correct		Office	310 - Office	Correct	Office Service (Storage)	1	Incorrect	0		70	69.84
700	HUMANITIES	716		11 - General Academic Instruction	Correct		1501 - English	Correct		Office	310 - Office	Correct		1	Correct			70	70.63
700	HUMANITIES	717		11 - General Academic Instruction	Correct		1501 - English	Correct		Office	310 - Office	Correct		1	Correct			70	71.41
700	HUMANITIES	718		11 - General Academic Instruction	Correct		1501 - English	Correct		Office	310 - Office	Correct		1	Correct			70	70.63
700	HUMANITIES	719		11 - General Academic Instruction	Correct		1501 - English	Correct		Office	310 - Office	Correct		1	Correct			70	71.41
700	HUMANITIES	720		11 - General Academic Instruction	Correct		1501 - English	Correct		Office	310 - Office	Correct		1	Correct			70	69.19
700	HUMANITIES	721		11 - General Academic Instruction	Correct		1501 - English	Correct		Office	310 - Office	Correct		1	Correct			70	69.19
700	HUMANITIES	722				REVISE/ADD AS UNASSIGNED				Men								0	44.17
700	HUMANITIES	723				REVISE/ADD AS UNASSIGNED				Women								0	51.53
700	HUMANITIES	724		11 - General Academic Instruction	Correct		2201 - Social Sciences, General	Correct		Office	310 - Office	Correct		1	Correct			70	72.67
700	HUMANITIES	725		11 - General Academic Instruction	Correct		1501 - English	Correct		Office	310 - Office	Correct		1	Correct			70	71.88
700	HUMANITIES	726		11 - General Academic Instruction	Correct		1501 - English	Correct		Office	310 - Office	Correct		1	Correct			70	72.67
700	HUMANITIES	727		11 - General Academic Instruction	Correct		1501 - English	Correct		Office Service	315 - Office Service	Correct	Office	1	Correct			70	71.88
700	HUMANITIES	728		11 - General Academic Instruction	Correct		1501 - English	Correct		Office	310 - Office	Correct	Office Service (Mail Rm)	1	Incorrect	0		70	71.08
700	HUMANITIES	729		11 - General Academic Instruction	Correct		1501 - English	Correct		Office	310 - Office	Correct		1	Correct			106	102.07
700	HUMANITIES	730		11 - General Academic Instruction	Correct		1501 - English	Correct		Office	310 - Office	Correct		1	Correct			106	102.07
700	HUMANITIES	731		11 - General Academic Instruction	Correct		1501 - English	Correct		Office	310 - Office	Correct		1	Correct			69	66.57
700	HUMANITIES	732		11 - General Academic Instruction	Correct		1501 - English	Correct		Office	310 - Office	Correct		1	Correct			70	67.31
700	HUMANITIES	733		11 - General Academic Instruction	Correct		1501 - English	Correct		Office	310 - Office	Correct		1	Correct			70	66.39
700	HUMANITIES	734		11 - General Academic Instruction	Correct		1501 - English	Correct		Office	310 - Office	Correct		1	Correct			63	61.39
700	HUMANITIES	736		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		30	Incorrect	28		548	517.23
700	HUMANITIES	736A				REVISE/ADD AS UNASSIGNED				Closet			Mechanical Closet					0	22.19
700	HUMANITIES	740				REVISE/ADD AS UNASSIGNED				Women								0	162.97
700	HUMANITIES	741		11 - General Academic Instruction	Incorrect	REVISE/ADD AS UNASSIGNED	2201 - Social Sciences, General	Incorrect		Office Service	315 - Office Service	Incorrect	Fire Alarm Control Panel	0	Correct			147	85.17
700	HUMANITIES	742				REVISE/ADD AS UNASSIGNED				Mechanical Rm.								0	140.00
700	HUMANITIES	743		11 - General Academic Instruction	Correct		1501 - English	Correct		Class Lab	210 - Class Lab	Correct		24				800	864.59
700	HUMANITIES	744	744	11 - General Academic Instruction	Correct		2201 - Social Sciences, General	Correct		Lounge	650 - Lounge	Correct		1	Incorrect	0		70	72.67
700	HUMANITIES	745		11 - General Academic Instruction	Correct		2201 - Social Sciences, General	Correct		Office	310 - Office	Correct		1	Correct			70	70.28
700	HUMANITIES	746		11 - General Academic Instruction	Correct		2201 - Social Sciences, General	Correct		Office	310 - Office	Correct		1	Correct			70	68.75
700	HUMANITIES	747		11 - General Academic Instruction	Correct		2201 - Social Sciences, General	Correct		Office	310 - Office	Correct		1	Correct			70	68.75
700	HUMANITIES	748		11 - General Academic Instruction	Correct		2201 - Social Sciences, General	Correct		Office	310 - Office	Correct		1	Correct			106	96.33
700	HUMANITIES	749		11 - General Academic Instruction	Correct		2201 - Social Sciences, General	Correct		Office	310 - Office	Correct		1	Correct			70	63.90
700	HUMANITIES	750		11 - General Academic Instruction	Correct		2201 - Social Sciences, General	Correct		Office	310 - Office	Correct		1	Correct			70	66.50
700	HUMANITIES	751		11 - General Academic Instruction	Correct		2201 - Social Sciences, General	Correct		Office	310 - Office	Correct		1	Correct			70	67.25
700	HUMANITIES	752		11 - General Academic Instruction	Correct		2201 - Social Sciences, General	Correct		Office	310 - Office	Correct		1	Correct			70	67.62
700	HUMANITIES	753		11 - General Academic Instruction	Correct		2201 - Social Sciences, General	Correct		Office	310 - Office	Correct		1	Correct			70	71.41
700	HUMANITIES	754		11 - General Academic Instruction	Correct		2201 - Social Sciences, General	Correct		Office	310 - Office	Correct		1	Correct			70	69.06

SOLANO COMMUNITY COLLEGE SPACE ANOMALY REPORT: FUSION VERSUS ACTUAL COMPARISION

FUSION Bldg Number	FUSION Building Name	FUSION Space Number	District Room Number	FUSION PROGRAM NUMBER	PGM - Check Correct/ Incorrect	PGM - Check Comments	FUSION TOPCSS	TOP - check Correct/ Incorrect	TOP - Check Comments	FUSION Space Name	FUSION Room Use Code	Room Use - check Correct/ Incorrect	Room Use - Check Comments	FUSION Assigned Stns	Stations - check Correct/ Incorrect	Stations - Check Comments	Stations - CALC per State LAB ASF	FUSION ASF	BIM Space Area (sf)
BUILDING 800																			
800	MULTI DISCIPLINE	800A				REVISE/ADD AS UNASSIGNED				Jan								0	42.78
800	MULTI DISCIPLINE	800B				REVISE/ADD AS UNASSIGNED				Elec								0	14.82
800	MULTI DISCIPLINE	800C				REVISE/ADD AS UNASSIGNED				Women								0	288.83
800	MULTI DISCIPLINE	800D				REVISE/ADD AS UNASSIGNED				Men								0	248.76
800	MULTI DISCIPLINE	800E				ADD TO SI AS Hallway (U STATUS)				Closet			Hallway					0	184.48
800	MULTI DISCIPLINE	801	801	12 - Occupational and Vocational Acc	Incorrect	11 -General Academic	0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		37	Incorrect	42		764	752.61
800	MULTI DISCIPLINE	802		12 - Occupational and Vocational Acc	Incorrect	11 -General Academic	0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		57	Correct			1173	1,169.90
800	MULTI DISCIPLINE	803		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		50	Correct			1026	1,022.87
800	MULTI DISCIPLINE	803A		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom Service	115 - Classroom Service	Correct		0	Correct			153	167.22
800	MULTI DISCIPLINE	804		12 - Occupational and Vocational Acti	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		45	Correct			893	895.12
800	MULTI DISCIPLINE	805A		12 - Occupational and Vocational Action			1230 - Nursing	Correct		Office	310 - Office	Correct		1	Correct			194	190.41
800	MULTI DISCIPLINE	805B		12 - Occupational and Vocational Action			0099 - General Assignment	Incorrect	1230 Nursing	Office	310 - Office	Correct		1	Correct			140	138.33
800	MULTI DISCIPLINE	805C		12 - Occupational and Vocational Action			0099 - General Assignment	Correct		Office Service	315 - Office Service	Correct		0				24	24.99
800	MULTI DISCIPLINE	805D		12 - Occupational and Vocational Action			0099 - General Assignment	Correct		Office	310 - Office	Correct		1				127	134.88
800	MULTI DISCIPLINE	805E		12 - Occupational and Vocational Acti	Correct		0099 - General Assignment	Correct		Meeting Room	680 - Meeting Room	Correct		10	Incorrect	5		175	183.25
800	MULTI DISCIPLINE	805F		12 - Occupational and Vocational Action			0099 - General Assignment			Office Service	315 - Office Service	Correct		0				65	43.75
800	MULTI DISCIPLINE	805G		12 - Occupational and Vocational Acti	Correct		1230 - Nursing	Correct		Office Service	315 - Office Service	Correct		0	Correct			189	121.67
800	MULTI DISCIPLINE	805G-Dup	805H			11 - General Academic			0099 General Assignment	Office Srv.		Correct	315 Office Service						30.20
800	MULTI DISCIPLINE	806		12 - Occupational and Vocational Acti	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		44	Correct			810	809.96
800	MULTI DISCIPLINE	807		12 - Occupational and Vocational Acti	Correct		1230 - Nursing	Correct		Class Lab	210 - Class Lab	Correct		40	Incorrect	30	37	1825	1,753.06
800	MULTI DISCIPLINE	807A		12 - Occupational and Vocational Acti	Correct		1230 - Nursing	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct		0	420	432.22
800	MULTI DISCIPLINE	807B		12 - Occupational and Vocational Acti	Correct		1230 - Nursing	Correct		Spec Class Lab	220 - Spec Class Lab	Correct		30	Incorrect	36		656	663.55
800	MULTI DISCIPLINE	807C		12 - Occupational and Vocational Action			1230 - Nursing	Correct		Spec Class Lab	220 - Spec Class Lab			4				146	149.86
800	MULTI DISCIPLINE	807C-Dup	807E			12 - Occupational and Vocational		Correct		Closet		Incorrect	215 Class Lab Service (Hallway)						90.73
800	MULTI DISCIPLINE	807D		12 - Occupational and Vocational Acti	Correct		1230 - Nursing	Correct		Special Class Lab Service	225 - Special Class Lab Service	Correct		0	Correct		0	225	123.85
800	MULTI DISCIPLINE	808	808	12 - Occupational and Vocational Acti	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		30	Incorrect	40		854	845.00
800	MULTI DISCIPLINE	809		12 - Occupational and Vocational Acti	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		30	Correct			1191	1,132.60
800	MULTI DISCIPLINE	809A		12 - Occupational and Vocational Acti	Correct		0099 - General Assignment	Correct		Classroom Service	115 - Classroom Service	Correct		11	Incorrect	0		80	100.94
800	MULTI DISCIPLINE	809B				Storage Closet? Confirm				Room								0	22.75
800	MULTI DISCIPLINE	810				REVISE/ADD AS UNASSIGNED				Mechanical Rm.								0	64.69
800	MULTI DISCIPLINE	811		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		68	Correct			1185	1,195.40
800	MULTI DISCIPLINE	811-Dupl	814			ADD TO SI AS 814 (U STATUS)				Corridor									1,739.03
800	MULTI DISCIPLINE	812		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		71	Incorrect	66		1465	1,441.41
800	MULTI DISCIPLINE	812-Dupl	812A			ADD TO SI AS 812A (U STATUS)				Hallway								0	262.66
800	MULTI DISCIPLINE	813				REVISE/ADD AS UNASSIGNED				Hallway								0	93.24
BUILDING 900																			
900	FACULTY OFFICE BUILDING	902	902	11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Meeting Room	680 - Meeting Room	Correct		12	Incorrect	10		236	240.18
900	FACULTY OFFICE BUILDING	903		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			89	94.84
900	FACULTY OFFICE BUILDING	904		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			89	94.50
900	FACULTY OFFICE BUILDING	905		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			89	94.50
900	FACULTY OFFICE BUILDING	906		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			89	91.85
900	FACULTY OFFICE BUILDING	907		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			110	117.91
900	FACULTY OFFICE BUILDING	908		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			89	93.05
900	FACULTY OFFICE BUILDING	909		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			89	93.28
900	FACULTY OFFICE BUILDING	910		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			89	93.05
900	FACULTY OFFICE BUILDING	911		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			89	93.28
900	FACULTY OFFICE BUILDING	912		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			89	93.95
900	FACULTY OFFICE BUILDING	913		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			89	93.05
900	FACULTY OFFICE BUILDING	914		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			89	93.28
900	FACULTY OFFICE BUILDING	915		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			89	91.71
900	FACULTY OFFICE BUILDING	916		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			94	97.95
900	FACULTY OFFICE BUILDING	917		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			94	100.66
900	FACULTY OFFICE BUILDING	918		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			94	100.66
900	FACULTY OFFICE BUILDING	919		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			90	92.46
900	FACULTY OFFICE BUILDING	922		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			90	91.11
900	FACULTY OFFICE BUILDING	923		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			90	91.94
900	FACULTY OFFICE BUILDING	924		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			90	91.32
900	FACULTY OFFICE BUILDING	925		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			90	91.11
900	FACULTY OFFICE BUILDING	926		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			90	92.80
900	FACULTY OFFICE BUILDING	927		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			90	93.01
900	FACULTY OFFICE BUILDING	928		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			90	93.65
900	FACULTY OFFICE BUILDING	929		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			90	92.80
900	FACULTY OFFICE BUILDING	930		44 - Computing Support	Correct		6780 - Management Information Services	Correct		Data Processing/Computer	710 - Data Processing/Computer		715 Data Processing/Computer Service? IT/IDF Room?	0				90	91.85
900	FACULTY OFFICE BUILDING	932		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			90	94.18
900	FACULTY OFFICE BUILDING	933		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			94	100.66
900	FACULTY OFFICE BUILDING	934		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			94	100.72
900	FACULTY OFFICE BUILDING	935		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			94	101.93
900	FACULTY OFFICE BUILDING	936		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			89	97.18
900	FACULTY OFFICE BUILDING	937		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			89	98.84
900	FACULTY OFFICE BUILDING	938		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			89	98.67
900	FACULTY OFFICE BUILDING	939		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			89	99.50
900	FACULTY OFFICE BUILDING	940		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			89	98.84
900	FACULTY OFFICE BUILDING	941		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			89	98.61
900	FACULTY OFFICE BUILDING	942		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			89	98.84
900	FACULTY OFFICE BUILDING	943		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			89	98.61
900	FACULTY OFFICE BUILDING	944		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			89	97.48
900	FACULTY OFFICE BUILDING	950A				REVISE/ADD AS UNASSIGNED				Hallway								0	551.74
900	FACULTY OFFICE BUILDING	950B				REVISE/ADD AS UNASSIGNED				Hallway								0	490.95
900	FACULTY OFFICE BUILDING	950C				REVISE/ADD AS UNASSIGNED				Hallway								0	239.04
900	FACULTY OFFICE BUILDING	950D				REVISE/ADD AS UNASSIGNED				Hallway								0	454.92
900	FACULTY OFFICE BUILDING	951				REVISE/ADD AS UNASSIGNED				Mens RR								0	121.41
900	FACULTY OFFICE BUILDING	952				REVISE/ADD AS UNASSIGNED				Womens RR								0	160.49
900	FACULTY OFFICE BUILDING	953				REVISE/ADD AS UNASSIGNED				Jan								0	59.19
BUILDING 1000																			
1000	HORTICULTURE	1001	1001	11 - General Academic Instruction	Correct		0401 - Biology, General	Correct	0109 Ornamental Horticulture	Class Lab	210 - Class Lab	Correct		25	Incorrect	24		1366	1,361.64
1000	HORTICULTURE	1002		11 - General Academic Instruction	Correct		0401 - Biology, General	Correct	0109 Ornamental Horticulture	Greenhouse Service	585 - Greenhouse Service	Correct		0	Correct			480	487.36
1000	HORTICULTURE	1003		11 - General Academic Instruction	Correct		0401 - Biology, General	Correct	0109 Ornamental Horticulture	Greenhouse	580 - Greenhouse	Correct		0	Correct			1050	1,020.54
1000	HORTICULTURE	1004		11 - General Academic Instruction	Correct		0401 - Biology, General	Correct	0109 Ornamental Horticulture	Office Service	315 - Office Service	Correct		0	Correct			64	71.52
1000	HORTICULTURE	1005				REVISE/ADD AS UNASSIGNED				Mech								0	84.49
1000	HORTICULTURE	1006		11 - General Academic Instruction	Correct		0401 - Biology, General	Correct	0109 Ornamental Horticulture	Class Lab Service	215 - Class Lab Service	Correct		0	Correct			184	187.80
1000	HORTICULTURE	1007		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct	0109 Ornamental Horticulture	Office	310 - Office	Correct		3	Correct			216	221.34
1000	HORTICULTURE	1008		11 - General Academic Instruction	Correct		0401 - Biology, General	Correct	0109 Ornamental Horticulture	Class Lab Service	215 - Class Lab Service	Correct		0	Correct			115	112.81
1000	HORTICULTURE	1009		65 - Physical Plant Operations			6510 - Building Maintenance and Operation Suppo	REMOVE FROM SI DOES NOT EXIST		Shop	720 - Shop			0				81	0.00
1000	HORTICULTURE	1011				REVISE/ADD AS UNASSIGNED				RR			Restroom					0	114.71

SOLANO COMMUNITY COLLEGE SPACE ANOMALY REPORT: FUSION VERSUS ACTUAL COMPARISION

FUSION Bldg Number	FUSION Building Name	FUSION Space Number	District Room Number	FUSION PROGRAM NUMBER	PGM - Check Correct/ Incorrect	PGM - Check Comments	FUSION TOPCSS	TOP - check Correct/ Incorrect	TOP - Check Comments	FUSION Space Name	FUSION Room Use Code	Room Use - check Correct/ Incorrect	Room Use - Check Comments	FUSION Assigned Stns	Stations - check Correct/ Incorrect	Stations - Check Comments	Stations - CALC per State LAB ASF	FUSION ASF	BIM Space Area (sf)
BUILDING 1200 - DID NOT MAKE MODIFICATIONS TO SPACE INVENTORY IN FUSION DUE TO THEATER FPP																			
1200	MUSIC-DRAMA	1200		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service		Incorrect - Lobby	0				480	1,088.85
1200	MUSIC-DRAMA	1200A								Room								0	44.08
1200	MUSIC-DRAMA	1200B				REVISE/ADD AS UNASSIGNED				Closet			Janitor					0	86.57
1200	MUSIC-DRAMA	1200C								Closet								0	14.43
1200	MUSIC-DRAMA	1201		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service		Incorrect - Stair/Hallway	0				72	90.15
1200	MUSIC-DRAMA	1202		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service		Correct	1				45	60.35
1200	MUSIC-DRAMA	1203				REVISE/ADD AS UNASSIGNED				Men								0	184.23
1200	MUSIC-DRAMA	1204				REVISE/ADD AS UNASSIGNED				Women								0	179.33
1200	MUSIC-DRAMA	1210		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service		Correct	0				480	449.33
1200	MUSIC-DRAMA	1210A				REVISE/ADD AS UNASSIGNED				Room			Hallway/Stair					0	44.77
1200	MUSIC-DRAMA	1210B				11			1007 Dramatic Arts	Room			615 Assembly Service					0	27.70
1200	MUSIC-DRAMA	1210C				11			1007 Dramatic Arts	Room			615 Assembly Service					0	70.56
1200	MUSIC-DRAMA	1210D				11			1007 Dramatic Arts	Room			615 Assembly Service					0	42.92
1200	MUSIC-DRAMA	1210E				REVISE/ADD AS UNASSIGNED				Room			Hallway/Stair					0	135.15
1200	MUSIC-DRAMA	1218		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service		Correct	0				48	52.68
1200	MUSIC-DRAMA	1219		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly	610 - Assembly		Correct	0				396	395.54
1200	MUSIC-DRAMA	1220		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly	610 - Assembly		Correct	363				3710	3,437.45
1200	MUSIC-DRAMA	1220A						REMOVE FROM SI DOES NOT EXIST		Room								0	0.00
1200	MUSIC-DRAMA	1220B						REMOVE FROM SI DOES NOT EXIST		Entry Hallway								0	0.00
1200	MUSIC-DRAMA	1220C						REMOVE FROM SI DOES NOT EXIST		Room								0	0.00
1200	MUSIC-DRAMA	1220D						REMOVE FROM SI DOES NOT EXIST		Entry Hallway								0	0.00
1200	MUSIC-DRAMA	1221		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service		Correct	0				48	52.68
1200	MUSIC-DRAMA	1223		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service			0				60	106.60
1200	MUSIC-DRAMA	1224		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service			0				60	105.58
1200	MUSIC-DRAMA	1226				REVISE/ADD AS UNASSIGNED				Hallway								0	1,235.25
1200	MUSIC-DRAMA	1227		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service			0				3151	2,868.50
1200	MUSIC-DRAMA	1227A						REMOVE FROM SI DOES NOT EXIST		Room								0	0.00
1200	MUSIC-DRAMA	1227B						REMOVE FROM SI DOES NOT EXIST		Room								0	0.00
1200	MUSIC-DRAMA	1228		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service		Correct	0				456	311.06
1200	MUSIC-DRAMA	1228A								Room								0	25.59
1200	MUSIC-DRAMA	1231		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service			4				296	273.89
1200	MUSIC-DRAMA	1232	1232	11 - General Academic Instruction	Correct		1007 - Dramatic Arts	Correct		Assembly Service	615 - Assembly Service	Correct		30	Incorrect	34		580	579.42
1200	MUSIC-DRAMA	1232A						REMOVE FROM SI DOES NOT EXIST		Room								0	0.00
1200	MUSIC-DRAMA	1232B						REMOVE FROM SI DOES NOT EXIST		Room								0	0.00
1200	MUSIC-DRAMA	1233		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service			0				342	350.57
1200	MUSIC-DRAMA	1234		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service			0				182	173.40
1200	MUSIC-DRAMA	1234A		11 - General Academic Instruction			1007 - Dramatic Arts	REMOVE FROM SI DOES NOT EXIST		Assembly Service	615 - Assembly Service			0				90	0.00
1200	MUSIC-DRAMA	1235		11 - General Academic Instruction			1007 - Dramatic Arts			Assembly Service	615 - Assembly Service		Correct	0				183	190.90
1200	MUSIC-DRAMA	1235A		11 - General Academic Instruction			1007 - Dramatic Arts	REMOVE FROM SI DOES NOT EXIST		Assembly Service	615 - Assembly Service			0				90	0.00
1200	MUSIC-DRAMA	1236				REVISE/ADD AS UNASSIGNED				Men								0	81.75
1200	MUSIC-DRAMA	1237				REVISE/ADD AS UNASSIGNED				Women								0	82.50
1200	MUSIC-DRAMA	1238		11 - General Academic Instruction	Correct		1007 - Dramatic Arts	Correct		Shop	720 - Shop	Correct		0	Correct			2370	2,086.90
1200	MUSIC-DRAMA	1238A		11 - General Academic Instruction			1007 - Dramatic Arts			Office	310 - Office			1				172	153.81
1200	MUSIC-DRAMA	1238B		11 - General Academic Instruction			1007 - Dramatic Arts			Office	310 - Office			1				128	54.60
1200	MUSIC-DRAMA	1238C		11 - General Academic Instruction			1007 - Dramatic Arts			Office Service	315 - Office Service		Looks like Office	0				53	357.58
1200	MUSIC-DRAMA	1238D		11 - General Academic Instruction			1007 - Dramatic Arts			Shop Service	725 - Shop Service		Looks More Mechanical	0				336	127.64
1200	MUSIC-DRAMA	1238E		11 - General Academic Instruction			1007 - Dramatic Arts			Shop Service	725 - Shop Service		Correct	0				52	238.71
1200	MUSIC-DRAMA	1238F		11 - General Academic Instruction			1007 - Dramatic Arts			Shop Service	725 - Shop Service			0				45	70.02
1200	MUSIC-DRAMA	1238G		11 - General Academic Instruction			1007 - Dramatic Arts			Shop Service	725 - Shop Service			0				143	127.19
1200	MUSIC-DRAMA	1239	1239	11 - General Academic Instruction	Correct		1004 - Music	Correct		Class Lab	210 - Class Lab	Correct		80	Incorrect	72		1504	1,477.52
1200	MUSIC-DRAMA	1240	1240	11 - General Academic Instruction	Correct		1004 - Music	Correct		Office	310 - Office	Correct		1	Correct			97	95.56
1200	MUSIC-DRAMA	1241	1241	11 - General Academic Instruction	Correct		1004 - Music	Correct		Office	310 - Office	Correct		1	Correct			98	98.00
1200	MUSIC-DRAMA	1242		11 - General Academic Instruction			1004 - Music			Class Lab Service	215 - Class Lab Service			0				146	136.59
1200	MUSIC-DRAMA	1243		11 - General Academic Instruction			1004 - Music			Class Lab Service	215 - Class Lab Service			0				185	171.16
1200	MUSIC-DRAMA	1244		11 - General Academic Instruction			1004 - Music			Class Lab Service	215 - Class Lab Service			0				161	158.40
1200	MUSIC-DRAMA	1245	1245	11 - General Academic Instruction	Correct		1004 - Music	Correct		Class Lab	210 - Class Lab	Correct		41	Incorrect	60		1584	1,543.70
1200	MUSIC-DRAMA	1246				REVISE/ADD AS UNASSIGNED				Mech. Rm.								0	198.32
1200	MUSIC-DRAMA	1246A						REMOVE FROM SI DOES NOT EXIST		Jan								0	0.00
1200	MUSIC-DRAMA	1247				REVISE/ADD AS UNASSIGNED				Women								0	199.10
1200	MUSIC-DRAMA	1248				REVISE/ADD AS UNASSIGNED				Men								0	202.36
1200	MUSIC-DRAMA	1249	1249	11 - General Academic Instruction	Correct		1004 - Music	Correct		Class Lab	210 - Class Lab	Correct		16	Incorrect	28		804	799.00
1200	MUSIC-DRAMA	1250	1250	11 - General Academic Instruction	Correct		1004 - Music	Correct		Office	310 - Office	Correct		1	Correct			144	160.22
1200	MUSIC-DRAMA	1251	1251	11 - General Academic Instruction	Correct		1004 - Music	Correct		Office	310 - Office	Correct		0	Correct			149	160.22
1200	MUSIC-DRAMA	1252	1252	11 - General Academic Instruction	Correct		1004 - Music	Correct		Office	310 - Office	Correct		8	Incorrect	1		201	164.95
1200	MUSIC-DRAMA	1254A				REVISE/ADD AS UNASSIGNED				Corridor								0	573.75
1200	MUSIC-DRAMA	1254B				REVISE/ADD AS UNASSIGNED				Hallway								0	576.09
1200	MUSIC-DRAMA	1255		11 - General Academic Instruction			1004 - Music			Special Class Lab Service	225 - Special Class Lab Service		Correct	0				100	139.33
1200	MUSIC-DRAMA	1256		11 - General Academic Instruction			1004 - Music			Office	310 - Office			1				54	58.04
1200	MUSIC-DRAMA	1257		11 - General Academic Instruction			1004 - Music			Individual Study Lab	230 - Individual Study Lab		Correct	1				54	59.77
1200	MUSIC-DRAMA	1258		11 - General Academic Instruction			1004 - Music			Individual Study Lab	230 - Individual Study Lab		Correct	1				54	54.74
1200	MUSIC-DRAMA	1259		11 - General Academic Instruction			1004 - Music			Individual Study Lab	230 - Individual Study Lab		Correct	1				25	53.16
1200	MUSIC-DRAMA	1260		11 - General Academic Instruction			1004 - Music			Individual Study Lab	230 - Individual Study Lab		Correct	1				54	57.18
1200	MUSIC-DRAMA	1261		11 - General Academic Instruction			1004 - Music			Individual Study Lab	230 - Individual Study Lab		Correct	1				54	57.14
1200	MUSIC-DRAMA	1262	1262	11 - General Academic Instruction	Correct		1004 - Music	Correct		Class Lab	210 - Class Lab	Correct		15	Incorrect	12		54	0.00
1200	MUSIC-DRAMA	1263		11 - General Academic Instruction			1004 - Music			Class Lab	210 - Class Lab		Correct	21				418	33.88
1200	MUSIC-DRAMA	1264								Room									244.77
1200	MUSIC-DRAMA	1265								Special Class Lab Service									29.17
1200	MUSIC-DRAMA	1266								Special Class Lab Service									35.26
1200	MUSIC-DRAMA	1269								Room									12.51

SOLANO COMMUNITY COLLEGE SPACE ANOMALY REPORT: FUSION VERSUS ACTUAL COMPARISION

FUSION Bldg Number	FUSION Building Name	FUSION Space Number	District Room Number	FUSION PROGRAM NUMBER	PGM - Check Correct/ Incorrect	PGM - Check Comments	FUSION TOPCSS	TOP - check Correct/ Incorrect	TOP - Check Comments	FUSION Space Name	FUSION Room Use Code	Room Use - check Correct/ Incorrect	Room Use - Check Comments	FUSION Assigned Stns	Stations - check Correct/ Incorrect	Stations - Check Comments	Stations - CALC per State LAB ASF	FUSION ASF	BIM Space Area (sf)
BUILDING 1300																			
1300	FINE ARTS	1300	1307A			44 - Computer Support			6780 Managemant Info Services	Electrical Rm.		Incorrect	715 Data Processing/Computer Service					0	62.71
1300	FINE ARTS	1300A			Incorrect	REVISE/ADD AS UNASSIGNED		Incorrect	women's restroom	RR - Women								0	144.13
1300	FINE ARTS	1300B		11 - General Academic Instruction			1002 - Art (Painting, Drawing and Sculpture)	REMOVE FROM SI DOES NOT EXIST		Audio/Visual, Radio, TV	530 - Audio/Visual, Radio, TV			0				85	0.00
1300	FINE ARTS	1300C	1309			REVISE/ADD AS UNASSIGNED			janitors closet	Janitor								0	37.85
1300	FINE ARTS	1300D				REVISE/ADD AS UNASSIGNED			men's restroom	RR - Men								0	148.74
1300	FINE ARTS	1301	1301	11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		60	Incorrect	48		835	872.71
1300	FINE ARTS	1302	1307E	11 - General Academic Instruction	Correct		1002 - Art (Painting, Drawing and Sculpture)	Correct		Office	310 - Office	Correct		10	Incorrect	3		1093	174.95
1300	FINE ARTS	1302A	1307D	11 - General Academic Instruction	Correct		1002 - Art (Painting, Drawing and Sculpture)	Correct		Meeting Room	680 - Meeting Room	Correct		6	Incorrect	8		146	192.19
1300	FINE ARTS	1302B	1307B	11 - General Academic Instruction	Correct	receptionist office	1002 - Art (Painting, Drawing and Sculpture)	Correct		Office Service	315 - Office Service	Incorrect	Office	0	Incorrect	3		102	234.79
1300	FINE ARTS	1302C	1307C	11 - General Academic Instruction	Correct		1002 - Art (Painting, Drawing and Sculpture)	Correct		Office	310 - Office	Correct		1	Correct			102	150.94
1300	FINE ARTS	1302C-2	1302			REVISE/ADD AS UNASSIGNED				ENTRY									145.13
1300	FINE ARTS	1302D	1302B		Incorrect	11 - General Academic		Incorrect	1002 - Art	A/V Storage		Incorrect	625 Exhibition Service		Correct			0	103.54
1300	FINE ARTS	1303	1303	11 - General Academic Instruction	Correct		1002 - Art (Painting, Drawing and Sculpture)	Correct		Class Lab	210 - Class Lab	Correct		30	Incorrect		29	1749	1,747.91
1300	FINE ARTS	1303A	1303A	11 - General Academic Instruction	Correct		1002 - Art (Painting, Drawing and Sculpture)	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			332	345.83
1300	FINE ARTS	1304	1302	11 - General Academic Instruction	Incorrect	Correct	1002 - Art (Painting, Drawing and Sculpture)	Correct		Exhibition	620 - Exhibition	Correct		0	Correct			739	735.98
1300	FINE ARTS	1305	1315	11 - General Academic Instruction	Correct		1002 - Art (Painting, Drawing and Sculpture)	Correct		Class Lab	210 - Class Lab	Correct		24	Incorrect		23	1539	1,351.92
1300	FINE ARTS	1306	1311	11 - General Academic Instruction	Correct		1002 - Art (Painting, Drawing and Sculpture)	Correct		Class Lab	210 - Class Lab	Correct		30	Correct		30	1967	1,797.53
1300	FINE ARTS	1306A	1311C	11 - General Academic Instruction	Correct		1002 - Art (Painting, Drawing and Sculpture)	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			310	311.75
1300	FINE ARTS	1306B	1311B	11 - General Academic Instruction	Correct		1002 - Art (Painting, Drawing and Sculpture)	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			282	160.71
1300	FINE ARTS	1307	1314	11 - General Academic Instruction	Correct		1002 - Art (Painting, Drawing and Sculpture)	Correct		Class Lab	210 - Class Lab	Correct		20	Incorrect		14	931	866.93
1300	FINE ARTS	1307A	1314B	11 - General Academic Instruction	Correct		1002 - Art (Painting, Drawing and Sculpture)	Incorrect	darkroom supporting printmaking lab. photo or art? 1011 - Photography	Class Lab Service	215 - Class Lab Service	Correct		0	Correct			96	98.57
1300	FINE ARTS	1308	1313		Incorrect	11 - General Academic		Incorrect	wood shop, misc equipment, some storage. lab service 1099 - Other Fine and Applied Arts	WOOD SHOP LAB #5		Incorrect	220 Special Class Lab		Incorrect		7		420.77
1300	FINE ARTS	1310	1304			11 - General Academic			faculty office arts, 1002 - Art	FACULTY OFFICE			Office			1			91.00
1300	FINE ARTS	1310-2	1308			REVISE/ADD AS UNASSIGNED				Corridor,East/West			Hallway					0	832.50
1300	FINE ARTS	1311	1305		Incorrect	11 - General Academic		Incorrect	arts faculty office, 1002 - Art	FACULTY OFFICE		Incorrect	Office		Incorrect	1			93.00
1300	FINE ARTS	1311-2	1307			REVISE/ADD AS UNASSIGNED				Corridor, South			Hallway					0	212.18
1300	FINE ARTS	1312	1306			11 - General Academic			arts faculty office, 1002 - Art	FACULTY OFFICE			Office			1			95.00
1300	FINE ARTS	1317	1310			REVISE/ADD AS UNASSIGNED				Hallway									159.79
1300	FINE ARTS	1318	1312			11 - General Academic			1002 - Art	OFFICE			Office			2			76.21

SOLANO COMMUNITY COLLEGE SPACE ANOMALY REPORT: FUSION VERSUS ACTUAL COMPARISION

FUSION Bldg Number	FUSION Building Name	FUSION Space Number	District Room Number	FUSION PROGRAM NUMBER	PGM - Check Correct/ Incorrect	PGM - Check Comments	FUSION TOPCSS	TOP - check Correct/ Incorrect	TOP - Check Comments	FUSION Space Name	FUSION Room Use Code	Room Use - check Correct/ Incorrect	Room Use - Check Comments	FUSION Assigned Stns	Stations - check Correct/ Incorrect	Stations - Check Comments	Stations - CALC per State LAB ASF	FUSION ASF	BIM Space Area (sf)
BUILDING 1400																			
1400	STUDENT CENTER	1400	1420						Correct	Lobby, West								0	3,078.68
1400	STUDENT CENTER	1401	1401	66 - Faculty and Staff Services		Faculty and Staff Dining	6940 - Food Services			Lounge	650 - Lounge	Incorrect	630 Food Facilities	0				1280	1,235.44
1400	STUDENT CENTER	1401A	1402			REVISE/ADD AS UNASSIGNED			6940 - Food Services	CORRIDOR									303.59
1400	STUDENT CENTER	1401B				66 Faculty and Staff Services			6940 - Food Services	KITCHENETTE			635 Food Facilities Service						129.81
1400	STUDENT CENTER	1401C				66 Faculty and Staff Services			6940 - Food Services	MEN'S RESTROOM									77.27
1400	STUDENT CENTER	1401D				66 Faculty and Staff Services			6940 - Food Services	WOMEN'S RESTRROM									84.60
1400	STUDENT CENTER	1401E				REVISE/ADD AS UNASSIGNED				CUSTODIAL									56.13
1400	STUDENT CENTER	1402	1405						Lobby	Lobby, South								0	644.73
1400	STUDENT CENTER	1403A	1403			REVISE/ADD AS UNASSIGNED				Room			Elec					0	114.10
1400	STUDENT CENTER	1403B				REVISE/ADD AS UNASSIGNED				Room			Mech					0	17.00
1400	STUDENT CENTER	1403C						REMOVE FROM SI DOES NOT EXIST		Room								0	0.00
1400	STUDENT CENTER	1404		45 - Ancillary Support	Incorrect	55- Student Support	6999 - Other Ancillary Services		6960 - students and Co-curricular Activities	Meeting Room Service	685 - Meeting Room Service		730 Storage	30	Incorrect	0		338	332.65
1400	STUDENT CENTER	1405A		45 - Ancillary Support	Correct		6940 - Food Services	Correct		Food Facilities Service	635 - Food Facilities Service	Incorrect	630 Food Facilities	0				8064	7,874.15
1400	STUDENT CENTER	1405B		45 - Ancillary Support	Correct		6999 - Other Ancillary Services	Incorrect	6940 - Food Services	Food Facilities Service	635 - Food Facilities Service	Correct		3	Incorrect	0		126	159.47
1400	STUDENT CENTER	1406		55 - Student Support	Correct		6960 - Students and Co-curricular Activities	Correct		Recreation	670 - Recreation	Incorrect	680 Meeting Room (ASSC)	0	Incorrect	20		475	548.86
1400	STUDENT CENTER	1407	1406A	55 - Student Support	Correct		6960 - Students and Co-curricular Activities	Correct		Recreation Service	675 - Recreation Service	Incorrect	685 Meeting Room Service	0				222	233.93
1400	STUDENT CENTER	1407A						REMOVE FROM SI DOES NOT EXIST		Office								0	0.00
1400	STUDENT CENTER	1407B						REMOVE FROM SI DOES NOT EXIST		Room								0	0.00
1400	STUDENT CENTER	1407C						REMOVE FROM SI DOES NOT EXIST		Room								0	0.00
1400	STUDENT CENTER	1408		55 - Student Support	Correct		6440 - Health Services		Correct	Office Service	315 - Office Service	Incorrect	310 Office	3	Incorrect	1		168	166.05
1400	STUDENT CENTER	1409		55 - Student Support	Correct		6440 - Health Services		Correct	Office Service	315 - Office Service	Correct		0				160	134.17
1400	STUDENT CENTER	1410		55 - Student Support	Correct		6440 - Health Services		Correct	Office	310 - Office	Correct		2	Correct			160	128.33
1400	STUDENT CENTER	1410B	1419A			REVISE/ADD AS UNASSIGNED				Men								0	290.69
1400	STUDENT CENTER	1411	1419B			REVISE/ADD AS UNASSIGNED				Women								0	350.96
1400	STUDENT CENTER	1412		55 - Student Support	Correct		6440 - Health Services	Correct		Treatment	850 - Treatment	Correct		0				192	184.71
1400	STUDENT CENTER	1413		55 - Student Support	Correct		6440 - Health Services	Correct		Treatment	850 - Treatment	Correct		0				99	147.82
1400	STUDENT CENTER	1414		55 - Student Support	Correct		6440 - Health Services	Correct		Treatment	850 - Treatment	Correct		30	Incorrect	0		168	103.85
1400	STUDENT CENTER	1415				REVISE/ADD AS UNASSIGNED				Room			Custodial					0	95.60
1400	STUDENT CENTER	1416				REVISE/ADD AS UNASSIGNED				Room			Toilet					0	59.99
1400	STUDENT CENTER	1417		55 - Student Support	Correct		6440 - Health Services	Correct		Treatment	850 - Treatment	Incorrect	310 Office	0	Incorrect	1		80	82.57
1400	STUDENT CENTER	1418		55 - Student Support	Correct		6440 - Health Services	Correct		Nurse Station	830 - Nurse Station	Correct		0				328	356.52
1400	STUDENT CENTER	1418B	1411			55- Student Support			6440- Health Services	Room			315 - Office Service						129.18
1400	STUDENT CENTER	1419	1424			REVISE/ADD AS UNASSIGNED				Women								0	61.85
1400	STUDENT CENTER	1420	1423			REVISE/ADD AS UNASSIGNED				Men								0	62.02
1400	STUDENT CENTER	1421	1421	55 - Student Support	Correct		6499 - Other Student Services	Correct		Meeting Room	680 - Meeting Room	Correct		0	Incorrect	25		960	1,007.47
1400	STUDENT CENTER	1422		55 - Student Support	Correct		6900 - Ancillary Services	Correct		Office	310 - Office	Correct		1	Correct			128	171.42
1400	STUDENT CENTER	1422A	1454			REVISE/ADD AS UNASSIGNED				Elec			Elec, FACP					0	45.74
1400	STUDENT CENTER	1425		55 - Student Support	Incorrect	46 - Academic Administration etc	6900 - Ancillary Services	Incorrect	6030 Admin	Office Service	315 - Office Service	Correct		537	Incorrect	0		171	207.47
1400	STUDENT CENTER	1425A				46 - Academic Administration etc			6030 Admin	ADMINISTRATION			310 Office			4			330.86
1400	STUDENT CENTER	1426		55 - Student Support		46 - Academic Administration etc	6900 - Ancillary Services		6030 Admin	Office Service	315 - Office Service	Correct		302	Incorrect	0		192	186.88
1400	STUDENT CENTER	1427		55 - Student Support	Correct		6960 - Students and Co-curricular Activities	Correct		Recreation	670 - Recreation	Incorrect	680 Meeting Room (ICC)	0	Incorrect	20		480	543.77
1400	STUDENT CENTER	1428		55 - Student Support	Correct		6960 - Students and Co-curricular Activities	Correct		Read/Study Room	410 - Read/Study Room	Correct	ASSC	0	Incorrect	25		528	527.33
1400	STUDENT CENTER	1428A						REMOVE FROM SI DOES NOT EXIST		Storage								0	19.46
1400	STUDENT CENTER	1428B						REMOVE FROM SI DOES NOT EXIST		Storage								0	21.49
1400	STUDENT CENTER	1428C						REMOVE FROM SI DOES NOT EXIST		Storage								0	17.00
1400	STUDENT CENTER		1429			45 - Ancillary Support			6910 - Bookstore				665 - Merchandise Facility Svc	0				4792	50
1400	STUDENT CENTER	1429	1430	45 - Ancillary Support	Correct		6910 - Bookstore	Correct		Merchandise Facility	660 - Merchandise Facility	Correct		0				4792	3353
1400	STUDENT CENTER	1430	1445			REVISE/ADD AS UNASSIGNED				Mech. Rm., Outside		Correct						0	150.01
1400	STUDENT CENTER		1431			45 - Ancillary Support			6910 - Bookstore				665 - Merchandise Facility Svc						89
1400	STUDENT CENTER		1432			45 - Ancillary Support			6910 - Bookstore				665 - Merchandise Facility Svc						87
1400	STUDENT CENTER		1433			45 - Ancillary Support			6910 - Bookstore				665 - Merchandise Facility Svc						131
1400	STUDENT CENTER	1432	1435			45 - Ancillary Support			6910 - Bookstore	Loading Area			665 - Merchandise Facility Svc					0	831
1400	STUDENT CENTER		1436			45 - Ancillary Support			6910 - Bookstore				665 - Merchandise Facility Svc						69
1400	STUDENT CENTER		1437			45 - Ancillary Support			6910 - Bookstore				665 - Merchandise Facility Svc						82
1400	STUDENT CENTER		1438			45 - Ancillary Support			6910 - Bookstore				665 - Merchandise Facility Svc						134
1400	STUDENT CENTER	1438	1438A			REVISE/ADD AS UNASSIGNED				Room			Janitor					0	62
1400	STUDENT CENTER		1439			REVISE/ADD AS UNASSIGNED							Elec						46
1400	STUDENT CENTER	1440		45 - Ancillary Support	Correct		6940 - Food Services	Correct		Food Facilities	630 - Food Facilities	Correct		0				3025	2185
1400	STUDENT CENTER	1441		45 - Ancillary Support	Correct		6940 - Food Services	Correct		Food Facilities Service	635 - Food Facilities Service	Correct		0				291	302.32
			1443			45 - Ancillary Support			6940 - Food Services				635 - Food Facilities Service						1325
1400	STUDENT CENTER	1443	1443A	45 - Ancillary Support	Correct		6940 - Food Services	Correct		Food Facilities Service	635 - Food Facilities Service	Correct		1	Incorrect	0		294	285.68
1400	STUDENT CENTER	1444		45 - Ancillary Support	Correct		6940 - Food Services	Correct		Food Facilities Service	635 - Food Facilities Service	Correct		2	Incorrect	0		369	377.42
1400	STUDENT CENTER	1445	1445A			45 - Ancillary Support			6940 - Food Services	Room			635 - Food Facilities Service					0	19.17
1400	STUDENT CENTER	1445A						REMOVE FROM SI DOES NOT EXIST		Toilet Rm.								0	0.00
1400	STUDENT CENTER	1446		45 - Ancillary Support	Correct		6940 - Food Services	Incorrect	6910 - Bookstore	Storage	730 - Storage	Incorrect	665 - Merchandise Facility Svc	0				108	100.30
1400	STUDENT CENTER		1447			45 - Ancillary Support			6940 - Food Services				635 - Food Facilities Service					0	19.17
1400	STUDENT CENTER		1448			45 - Ancillary Support			6940 - Food Services				635 - Food Facilities Service					0	19.17
1400	STUDENT CENTER		1449			45 - Ancillary Support			6940 - Food Services				635 - Food Facilities Service					0	19.17
1400	STUDENT CENTER	1450		45 - Ancillary Support	Correct		6940 - Food Services	Correct		Food Facilities Service	635 - Food Facilities Service	Correct		1	Incorrect	0		88	84.68
1400	STUDENT CENTER	1451				REVISE/ADD AS UNASSIGNED				Women's Toilet									114.46
1400	STUDENT CENTER	1452		45 - Ancillary Support	Correct		6940 - Food Services	Incorrect	6910 - Bookstore	Food Facilities Service	635 - Food Facilities Service	Incorrect	665 - Merchandise Facility Svc	0				162	149.24
1400	STUDENT CENTER	1453				44- Computing Support			6780 Managemant Info Services	DATA ROOM			715 Data Processing/Computer Service						89.62
1400	STUDENT CENTER		1455			45 - Ancillary Support			6910 - Bookstore	Room			665 - Merchandise Facility Svc					0	43

SOLANO COMMUNITY COLLEGE SPACE ANOMALY REPORT: FUSION VERSUS ACTUAL COMPARISION

FUSION Bldg Number	FUSION Building Name	FUSION Space Number	District Room Number	FUSION PROGRAM NUMBER	PGM - Check Correct/ Incorrect	PGM - Check Comments	FUSION TOPCSS	TOP - check Correct/ Incorrect	TOP - Check Comments	FUSION Space Name	FUSION Room Use Code	Room Use - check Correct/ Incorrect	Room Use - Check Comments	FUSION Assigned Stns	Stations - check Correct/ Incorrect	Stations - Check Comments	Stations - CALC per State LAB ASF	FUSION ASF	BIM Space Area (sf)
BUILDING 1500																			
1500	MATHEMATICS	1501				REVISE/ADD AS UNASSIGNED				Corridor								0	908.17
1500	MATHEMATICS	1502				REVISE/ADD AS UNASSIGNED				Corridor West								0	188.42
1500	MATHEMATICS	1503				REVISE/ADD AS UNASSIGNED				Hallway								0	393.63
1500	MATHEMATICS	1503A				REVISE/ADD AS UNASSIGNED				Hallway								0	41.33
1500	MATHEMATICS	1504		11 - General Academic Instruction	Correct		1701 - Mathematics, General	Correct		Office	310 - Office	Correct		1	Correct			66	69.67
1500	MATHEMATICS	1505		11 - General Academic Instruction	Correct		1701 - Mathematics, General	Correct		Office	310 - Office	Correct		1	Correct			108	102.92
1500	MATHEMATICS	1506		11 - General Academic Instruction	Correct		1701 - Mathematics, General	Correct		Office	310 - Office	Correct		1	Correct			80	72.83
1500	MATHEMATICS	1507		11 - General Academic Instruction	Correct		1701 - Mathematics, General	Correct		Office	310 - Office	Correct		1	Correct			80	68.08
1500	MATHEMATICS	1508		12 - Occupational and Vocational Act	Incorrect	11- General Assignment	1701 - Mathematics, General	Correct		Office	310 - Office	Correct		1	Correct			80	68.08
1500	MATHEMATICS	1509		12 - Occupational and Vocational Act	Incorrect	11- General Assignment	1701 - Mathematics, General	Incorrect	biology, 0401 Biology	Office	310 - Office	Correct		1	Correct			80	69.67
1500	MATHEMATICS	1510		12 - Occupational and Vocational Act	Incorrect	11- General Assignment	1305 - Child Development/Early Care and Educat	Incorrect	math, 1701 Mathematics	Office	310 - Office	Correct		1	Correct			86	71.25
1500	MATHEMATICS	1511		11 - General Academic Instruction	Correct		1701 - Mathematics, General	Correct		Office	310 - Office	Correct		2	Incorrect	1		71	68.08
1500	MATHEMATICS	1512	1512	11 - General Academic Instruction	Correct		1701 - Mathematics, General	Correct		Office	310 - Office	Incorrect	office, but also mail room 315 Office Service	1	Correct	0		80	66.50
1500	MATHEMATICS	1513						REMOVE FROM SI DOES NOT EXIST		Office								0	0.00
1500	MATHEMATICS	1514		11 - General Academic Instruction	Correct		1701 - Mathematics, General	Correct		Office	310 - Office	Correct		1	Correct			80	70.46
1500	MATHEMATICS	1515		11 - General Academic Instruction	Correct		1701 - Mathematics, General	Correct		Office	310 - Office	Correct		1	Correct			80	66.50
1500	MATHEMATICS	1516				REVISE/ADD AS UNASSIGNED				Men								0	52.00
1500	MATHEMATICS	1517				REVISE/ADD AS UNASSIGNED				Women								0	53.33
1500	MATHEMATICS	1518				REVISE/ADD AS UNASSIGNED				Mechanical Rm.								0	149.83
1500	MATHEMATICS	1519				REVISE/ADD AS UNASSIGNED				Men								0	126.58
1500	MATHEMATICS	1520				REVISE/ADD AS UNASSIGNED				Women								0	124.00
1500	MATHEMATICS	1521	1521	12 - Occupational and Vocational Act	Incorrect	11- General Assignment	1701 - Mathematics, General	Correct		Classroom	110 - Classroom	Incorrect	210 Class Lab	32	Correct		19	693	674.25
1500	MATHEMATICS	1522	1522	12 - Occupational and Vocational Act	Incorrect	repurposed to office for interim dean 11 - General Assignment	1701 - Mathematics, General	Correct		Class Lab Service	215 - Class Lab Service	Incorrect	repurposed to office	0	Incorrect	1		298	273.60
1500	MATHEMATICS	1522A				REVISE/ADD AS UNASSIGNED				Closet			Mechanical Closet					0	10.83
1500	MATHEMATICS	1523	1524	12 - Occupational and Vocational Act	Incorrect	11- General Assignment	0099 - General Assignment	Incorrect	math area 1701 Mathematics, General	Meeting Room	680 - Meeting Room	Incorrect	looks like study space, also laptop storage 410 Reading/Study Room	0	Incorrect	8		225	245.92
1500	MATHEMATICS	1525	1525	12 - Occupational and Vocational Act	Incorrect	maybe? math activities center 11- General Assignment	1701 - Mathematics, General	Correct		Spec Class Lab	220 - Spec Class Lab	Correct		97	Incorrect	98		1852	1,809.34
1500	MATHEMATICS	1526	1526	11 - General Academic Instruction	Correct		1701 - Mathematics, General	Correct		Classroom	110 - Classroom	Incorrect	lab class, 210 Class Lab	25	Incorrect	47	27	965	953.34
1500	MATHEMATICS	1526A						REMOVE FROM SI DOES NOT EXIST		Lab								0	0.00
1500	MATHEMATICS	1527	1527	11 - General Academic Instruction	Correct		1701 - Mathematics, General	Correct		Classroom	110 - Classroom	Correct		39	Correct			712	710.50
1500	MATHEMATICS	1528	1528	11 - General Academic Instruction	Correct		1701 - Mathematics, General	Correct		Classroom	110 - Classroom	Correct		31	Incorrect	33		713	713.17
1500	MATHEMATICS	1529	1529	11 - General Academic Instruction	Correct		0099 - General Assignment	Incorrect	math, 1701 Mathematics	Classroom	110 - Classroom	Correct		46	Incorrect	42		809	795.57
1500	MATHEMATICS	1530	1530	11 - General Academic Instruction	Correct		0099 - General Assignment	Incorrect	math, 1701 Mathematics	Classroom	110 - Classroom	Correct		42	Incorrect	44		851	850.05
1500	MATHEMATICS	1531	1531	11 - General Academic Instruction	Correct		0099 - General Assignment	Incorrect	math, 1701 Mathematics	Classroom	110 - Classroom	Correct		41	Incorrect	42		764	742.81
BUILDING 1600																			
1600	VOCATIONAL ARTS	1601				REVISE/ADD AS UNASSIGNED				Corridor			Hallway					0	1,256.53
1600	VOCATIONAL ARTS	1602				REVISE/ADD AS UNASSIGNED				Hallway								0	210.49
1600	VOCATIONAL ARTS	1607		12 - Occupational and Vocational Acti	Correct		3007 - Cosmetology and Barbering	Correct		Office	310 - Office	Correct		1	Incorrect	3		124	92.82
1600	VOCATIONAL ARTS	1608		12 - Occupational and Vocational Acti	Correct		3007 - Cosmetology and Barbering	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			112	104.14
1600	VOCATIONAL ARTS	1609		12 - Occupational and Vocational Acti	Correct		3007 - Cosmetology and Barbering	Correct		Class Lab	210 - Class Lab	Correct		8	Correct			299	226.39
1600	VOCATIONAL ARTS	1610A		12 - Occupational and Vocational Acti	Correct		3007 - Cosmetology and Barbering	Correct		Class Lab	210 - Class Lab	Incorrect	receptionist, 215 Class Lab Service	2	Incorrect	0		192	128.03
1600	VOCATIONAL ARTS	1610F	1610F	12 - Occupational and Vocational Acti	Correct		3007 - Cosmetology and Barbering	Correct		Class Lab	210 - Class Lab	Correct		26	Incorrect	28 salon chairs	21	1073	1,046.50
1600	VOCATIONAL ARTS	1610S	1610	12 - Occupational and Vocational Acti	Correct		3007 - Cosmetology and Barbering	Correct		Class Lab	210 - Class Lab	Correct		34	Incorrect	55, including b	33	1661	1,656.52
1600	VOCATIONAL ARTS	1612		12 - Occupational and Vocational Acti	Correct		3007 - Cosmetology and Barbering	Correct		Office	310 - Office	Correct		1	Incorrect	2		93	76.39
1600	VOCATIONAL ARTS	1613		12 - Occupational and Vocational Acti	Correct		3007 - Cosmetology and Barbering	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			33	32.06
1600	VOCATIONAL ARTS	1614		12 - Occupational and Vocational Acti	Correct		3007 - Cosmetology and Barbering	Correct		Class Lab Service	215 - Class Lab Service	Correct	client restroom	0				33	33.75
1600	VOCATIONAL ARTS	1615		12 - Occupational and Vocational Acti	Correct		3007 - Cosmetology and Barbering	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			39	42.19
1600	VOCATIONAL ARTS	1616		12 - Occupational and Vocational Acti	Correct		3007 - Cosmetology and Barbering	Correct		Class Lab Service	215 - Class Lab Service	Correct	staff restroom and POS location	0				26	23.63
1600	VOCATIONAL ARTS	1617	1617	12 - Occupational and Vocational Acti	Correct		3007 - Cosmetology and Barbering	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			210	204.86
1600	VOCATIONAL ARTS	1620		12 - Occupational and Vocational Acti	Correct		1301 - Family and Consumer Science, General	Correct		Office	310 - Office	Correct		1	Correct			78	65.85
1600	VOCATIONAL ARTS	1621		12 - Occupational and Vocational Act	Incorrect	11- General Assignment	1305 - Child Development/Early Care and Educat	Incorrect	communications,1506 Speech	Office	310 - Office	Correct		1	Correct			70	66.61
1600	VOCATIONAL ARTS	1622		12 - Occupational and Vocational Act	Incorrect	11- General Assignment	1305 - Child Development/Early Care and Educat	Incorrect	nutrition, 1306 Nutrition	Office	310 - Office	Correct		1	Correct			70	75.69
1600	VOCATIONAL ARTS	1625	1625	12 - Occupational and Vocational Act	Incorrect	11- General Assignment	0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		49	Incorrect	48		989	996.60
1600	VOCATIONAL ARTS	1626	1526	12 - Occupational and Vocational Act	Incorrect	11- General Assignment	0099 - General Assignment	Incorrect	math	Classroom	110 - Classroom	Correct		28	Incorrect	37		570	572.39
1600	VOCATIONAL ARTS	1627				REVISE/ADD AS UNASSIGNED				Men			Staff					0	30.41
1600	VOCATIONAL ARTS	1628				REVISE/ADD AS UNASSIGNED				Men								0	51.48
1600	VOCATIONAL ARTS	1629				REVISE/ADD AS UNASSIGNED				Janitor								0	47.30
1600	VOCATIONAL ARTS	1630				REVISE/ADD AS UNASSIGNED				Women			Staff					0	30.32
1600	VOCATIONAL ARTS	1631				REVISE/ADD AS UNASSIGNED				Women								0	89.63
1600	VOCATIONAL ARTS	1632		12 - Occupational and Vocational Acti	Incorrect	REVISE/ADD AS UNASSIGNED	1301 - Family and Consumer Science, General	Incorrect		Class Lab Service	215 - Class Lab Service	Incorrect		0	Correct			120	119.81
1600	VOCATIONAL ARTS	1633	1633	12 - Occupational and Vocational Acti	Incorrect	Both Correct	1301 - Family and Consumer Science, General	Incorrect	has cooking space, interior design paraphanelia	Class Lab	210 - Class Lab	Correct		58	Incorrect	32	18	1003	1,100.03
1600	VOCATIONAL ARTS	1634	1634	12 - Occupational and Vocational Act	Incorrect	11- General Assignment	0099 - General Assignment	Incorrect	Correct	Classroom	110 - Classroom	Correct		34	Incorrect	35		583	583.94
1600	VOCATIONAL ARTS	1635	1635	53 - Counseling and Career Guidance	Incorrect	11- General Assignment	6310 - Counseling Services	Incorrect	1506 Speech Communication	Data Processing/Computer	710 - Data Processing/Compu	Incorrect	220 Special Class Lab	12	Incorrect	9		343	412.37
1600	VOCATIONAL ARTS	1635A	1635A	53 - Counseling and Career Guidance	Incorrect		6310 - Counseling Services	REMOVE FROM SI DOES NOT EXIST		Office Service	315 - Office Service	Incorrect		1	Incorrect			55	54.89
1600	VOCATIONAL ARTS	1636		53 - Counseling and Career Guidance	Incorrect	11- General Assignment	6310 - Counseling Services	Incorrect	1506 Speech Communication	DP/Computer Service	715 - DP/Computer Service	Incorrect	office/storage 310 Office	1	Correct			93	91.78
1600	VOCATIONAL ARTS	1637		53 - Counseling and Career Guidance	Incorrect	11- General Assignment	6310 - Counseling Services	Incorrect	1506 Speech Communication	Office	310 - Office	Correct		1	Correct			105	101.98
1600	VOCATIONAL ARTS	1637A		53 - Counseling and Career Guidance	Incorrect	11- General Assignment	6310 - Counseling Services	Incorrect	1506 Speech Communication	Office Service	315 - Office Service	Correct		0	Correct			35	34.86
1600	VOCATIONAL ARTS	1638		63 - General Administrative Services	Correct	32 Community Services	6610 - Institutional Research	Incorrect	community svs 6899 Community Services	Office	310 - Office	Correct		1	Incorrect	2		314	276.11
1600	VOCATIONAL ARTS	1638A		63 - General Administrative Services		32 Community Services	6610 - Institutional Research		community services 6899 Community	Office	310 - Office			1				257	229.45
1600	VOCATIONAL ARTS	1639		12 - Occupational and Vocational Action			1305 - Child Development/Early Care and Education			Office	310 - Office	Correct		1	Correct			94	80.99
1600	VOCATIONAL ARTS	1640		12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Office	310 - Office	Correct		1	Correct			98	80.99
1600	VOCATIONAL ARTS	1641				REVISE/ADD AS UNASSIGNED				Toilet								0	60.19
1600	VOCATIONAL ARTS	1642	1642	12 - Occupational and Vocational Act	Incorrect	instruction 11 - General Assignment	1305 - Child Development/Early Care and Educat	Incorrect	communications 1506 Speech Comm	Classroom	110 - Classroom	Correct		31	Incorrect	38		631	653.56
1600	VOCATIONAL ARTS	1643		12 - Occupational and Vocational Action		11- General Assignment	1305 - Child Development/Early Care and Education		0099 General Assignment	Office	310 - Office	Correct		1				90	74.00
1600	VOCATIONAL ARTS	1644		12 - Occupational and Vocational Act	Correct	11- General Assignment	1305 - Child Development/Early Care and Educat	Incorrect	speech papers in office 1506 Speech Comm	Office	310 - Office	Correct		1	Correct			86	74.13
1600	VOCATIONAL ARTS	1645	1645	12 - Occupational and Vocational Acti	Correct		1305 - Child Development/Early Care and Educati	Correct		Classroom	110 - Classroom	Correct		46	Incorrect	56		931	925.68
1600	VOCATIONAL ARTS	1646	1646	12 - Occupational and Vocational Act	Correct	11- General Assignment	1305 - Child Development/Early Care and Educat	Incorrect	mixed 0099 General Ass	Classroom	110 - Classroom	Correct		46	Incorrect	50		933	927.76
1600	VOCATIONAL ARTS	1658				REVISE/ADD AS UNASSIGNED				Mech			Fire Alarm Control Panel					0	114.35

SOLANO COMMUNITY COLLEGE SPACE ANOMALY REPORT: FUSION VERSUS ACTUAL COMPARISION

BUILDING 1700: SPLIT INTO 1700A AND 1700B

FUSION Bldg Number	FUSION Building Name	FUSION Space Number	District Room Number	FUSION PROGRAM NUMBER	PGM - Check Correct/ Incorrect	PGM - Check Comments	FUSION TOPCSS	TOP - check Correct/ Incorrect	TOP - Check Comments	FUSION Space Name	FUSION Room Use Code	Room Use - check Correct/ Incorrect	Room Use - Check Comments	FUSION Assigned Stns	Stations - check Correct/ Incorrect	Stations - Check Comments	Stations - CALC per State LAB ASF	FUSION ASF	BIM Space Area (sf)
1700	PHYSICAL EDUCATION	1701		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletic Spectator Seat	523 - Athletic Spectator Seat	Incorrect	520 Athletic/PE	1730				15847	16,015.92
1700	PHYSICAL EDUCATION	1701-Dupl	1721			REVISE/ADD AS UNASSIGNED				Lobby								0	678.82
1700	PHYSICAL EDUCATION	1701A				REVISE/ADD AS UNASSIGNED				RR - Men								0	259.95
1700	PHYSICAL EDUCATION	1701B						REMOVE FROM SI DOES NOT EXIST		RR - Men Lounge								0	0.00
1700	PHYSICAL EDUCATION	1701C				REVISE/ADD AS UNASSIGNED				RR - Women								0	290.06
1700	PHYSICAL EDUCATION	1701D						REMOVE FROM SI DOES NOT EXIST		RR - Women Lounge								0	0.00
1700	PHYSICAL EDUCATION	1702				REVISE/ADD AS UNASSIGNED				Lobby								0	1,764.47
1700	PHYSICAL EDUCATION	1703		55 - Student Support			0835 - Physical Education			Athletics/Physical Education	520 - Athletics/Physical Education		630 Food Facilities	0				80	89.78
1700	PHYSICAL EDUCATION	1703-Dupl						REMOVE FROM SI DOES NOT EXIST		Hallway									0.00
1700	PHYSICAL EDUCATION	1704	1704	11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletics/Physical Education	520 - Athletics/Physical Educa	Correct		30	Incorrect	38		1681	1,684.38
1700	PHYSICAL EDUCATION	1705		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletics/Physical Education	520 - Athletics/Physical Educa	Correct		30	Correct			1791	1,726.87
1700	PHYSICAL EDUCATION	1705-Dupl						REMOVE FROM SI DOES NOT EXIST		Offfice								0	0.00
1700	PHYSICAL EDUCATION	1708				REVISE/ADD AS UNASSIGNED				Mens Staff Locker								0	91.04
1700	PHYSICAL EDUCATION	1709				REVISE/ADD AS UNASSIGNED				Mens Staff RR								0	84.33
1700	PHYSICAL EDUCATION	1710				REVISE/ADD AS UNASSIGNED				Womens RR								0	173.25
1700	PHYSICAL EDUCATION	1711		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Office Service	315 - Office Service	Incorrect	530 AV/TV	6	Incorrect	0		108	116.07
1700	PHYSICAL EDUCATION	1712		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Office	310 - Office	Correct		1	Correct			105	112.13
1700	PHYSICAL EDUCATION	1713		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Office Service	315 - Office Service	Incorrect	525 Atheltic/PE Service	1	Incorrect	0		20	36.39
1700	PHYSICAL EDUCATION	1714				44 Computing Support			6780 Info Management Systems	IDF			715 DP Processing						75.73
1700	PHYSICAL EDUCATION	1714-Dupl		11 - General Academic Instruction			0835 - Physical Education	REMOVE FROM SI DOES NOT EXIST		Office	310 - Office			1				75	0.00
1700	PHYSICAL EDUCATION	1715		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Office	310 - Office	Correct		1	Correct			76	77.06
1700	PHYSICAL EDUCATION	1715A						REMOVE FROM SI DOES NOT EXIST		Room								0	0.00
1700	PHYSICAL EDUCATION	1715B						REMOVE FROM SI DOES NOT EXIST		Room								0	0.00
1700	PHYSICAL EDUCATION	1716		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Office	310 - Office	Correct		1	Correct			76	77.72
1700	PHYSICAL EDUCATION	1716A						REMOVE FROM SI DOES NOT EXIST		Room								0	0.00
1700	PHYSICAL EDUCATION	1716B						REMOVE FROM SI DOES NOT EXIST		Room								0	0.00
1700	PHYSICAL EDUCATION	1717		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletics/Physical Education	520 - Athletics/Physical Educa	Incorrect	310 Office	1	Correct			76	79.05
1700	PHYSICAL EDUCATION	1718		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Office	310 - Office	Correct		1	Correct			89	92.33
1700	PHYSICAL EDUCATION	1719		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Office	310 - Office	Correct		1	Correct			89	91.01
1700	PHYSICAL EDUCATION	1720		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Office	310 - Office	Incorrect	315 Office Service	0				89	179.92
1700	PHYSICAL EDUCATION	1722		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Office	310 - Office	Correct		1	Correct			63	62.77
1700	PHYSICAL EDUCATION	1722-Dupl	1706			REVISE/ADD AS UNASSIGNED				Hallway								0	547.71
1700	PHYSICAL EDUCATION	1723		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Office	310 - Office	Correct		1	Correct			69	66.47
1700	PHYSICAL EDUCATION	1724		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Office	310 - Office	Correct		1	Correct			69	66.47
1700	PHYSICAL EDUCATION	1725		11 - General Academic Instruction	Correct		0099 - General Assignment	Incorrect	0835 Physical Education	Office	310 - Office	Correct		1	Correct			69	66.47
1700	PHYSICAL EDUCATION	1726		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Office	310 - Office	Correct		1	Correct			69	66.47
1700	PHYSICAL EDUCATION	1727		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Office	310 - Office	Correct		1	Correct			69	66.47
1700	PHYSICAL EDUCATION	1727-Dupl						REMOVE FROM SI DOES NOT EXIST		Hallway								0	0.00
1700	PHYSICAL EDUCATION	1728		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Office	310 - Office	Correct		1	Correct			69	66.47
1700	PHYSICAL EDUCATION	1729		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Office	310 - Office	Correct		1	Correct			69	66.47
1700	PHYSICAL EDUCATION	1730		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Office	310 - Office	Correct		1	Correct			69	66.47
1700	PHYSICAL EDUCATION	1731		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Office	310 - Office	Correct		1	Correct			69	68.65
1700	PHYSICAL EDUCATION	1732		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Office Service	315 - Office Service	Correct		0	Correct			225	224.90
1700	PHYSICAL EDUCATION	1733		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Office	310 - Office	Correct		1	Correct			198	181.27
1700	PHYSICAL EDUCATION	1734		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Office	310 - Office	Correct		0	Incorrect	2		196	205.16
1700	PHYSICAL EDUCATION	1737	1737	11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Meeting Room	680 - Meeting Room	Correct		20	Incorrect	16		456	458.89
1700	PHYSICAL EDUCATION	1737A				REVISE/ADD AS UNASSIGNED				Hallway									91.91
1700	PHYSICAL EDUCATION	1737-Dupl						REMOVE FROM SI DOES NOT EXIST		Hallway								0	0.00
1700	PHYSICAL EDUCATION	1738	1738	11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletics/Physical Education	520 - Athletics/Physical Educa	Correct		44	Incorrect	49		969	969.42
1700	PHYSICAL EDUCATION	1739	1739	11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletics/Physical Education	520 - Athletics/Physical Educa	Correct		40	Correct	large, open space.		2064	2,069.00
1700	PHYSICAL EDUCATION	1740	1740	11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletics/Physical Education	520 - Athletics/Physical Educa	Correct		60	Correct			2408	2,438.63
1700	PHYSICAL EDUCATION	1742A				REVISE/ADD AS UNASSIGNED				Room			Janitor					0	67.93
1700	PHYSICAL EDUCATION	1743		11 - General Academic Instruction			0835 - Physical Education	Correct		Athletic/Physical Ed Service	525 - Athletic/Physical Ed Serv	Correct	Women's Team Lockers	20	Incorrect	0		597	591.46
1700	PHYSICAL EDUCATION	1744				REVISE/ADD AS UNASSIGNED				Hallway								0	367.15
1700	PHYSICAL EDUCATION	1745		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletic/Physical Ed Service	525 - Athletic/Physical Ed Serv	Correct	Women's Lockers	0				2578	2,484.01
1700	PHYSICAL EDUCATION	1746	1746	11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletic/Physical Ed Service	525 - Athletic/Physical Ed Ser	Incorrect	520 PE Lecture/Team Room	35	Incorrect	36		927	920.42
1700	PHYSICAL EDUCATION	1748				REVISE/ADD AS UNASSIGNED							Mech/Elec/Laundry					0	700.84
1700	PHYSICAL EDUCATION	1745-Dupl	1749			REVISE/ADD AS UNASSIGNED				Hallway									40.42
1700	PHYSICAL EDUCATION	1750		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Storage	730 - Storage	Incorrect	525 - Atheltic Service (Equipment/FACP)	0				2113	2,104.29
1700	PHYSICAL EDUCATION	1751		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletic/Physical Ed Service	525 - Athletic/Physical Ed Serv	Correct	Men's Team Lockers	0				460	464.80
1700	PHYSICAL EDUCATION	1752		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletic/Physical Ed Service	525 - Athletic/Physical Ed Serv	Correct	Men's Lockers	0				1672	1,535.95
1700	PHYSICAL EDUCATION	1754				REVISE/ADD AS UNASSIGNED				Janitor								0	458.65
1700	PHYSICAL EDUCATION	1755		11 - General Academic Instruction	Incorrect	55 Student Support	0835 - Physical Education	Correct		Athletic/Physical Ed Service	525 - Athletic/Physical Ed Ser	Incorrect	635 Food Facilities Service	0				198	230.38
1700	PHYSICAL EDUCATION	1756		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletics/Physical Education	520 - Athletics/Physical Educa	Correct		2				1164	1,164.23
1700	PHYSICAL EDUCATION	1757		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletic/Physical Ed Service	525 - Athletic/Physical Ed Serv	Correct		0				132	129.38
1700	PHYSICAL EDUCATION	1758		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletic/Physical Ed Service	525 - Athletic/Physical Ed Serv	Correct		0				195	195.66
1700	PHYSICAL EDUCATION	1761				REVISE/ADD AS UNASSIGNED				Hallway								0	649.81
1700	PHYSICAL EDUCATION	1771	1771	11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletics/Physical Education	520 - Athletics/Physical Educa	Correct		25	Correct			1920	1,819.76
1700	PHYSICAL EDUCATION	AHU 1772	1772			REVISE/ADD AS UNASSIGNED				Restroom									98.08
1700	PHYSICAL EDUCATION	1773			Incorrect	REVISE/ADD AS UNASSIGNED				Storage		Incorrect	Mechanical/Electrical						156.62
1700	PHYSICAL EDUCATION	1774		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Office	310 - Office	Correct		1	Correct			154	153.80
1700	PHYSICAL EDUCATION	1775	1775	11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletics/Physical Education	520 - Athletics/Physical Educa	Correct		30	Correct			2088	2,268.45
1700	PHYSICAL EDUCATION	1776				44 Computing Support			6780 Managemant Info Services	IT Room			715 Data Processing etc						71.32
1700	PHYSICAL EDUCATION	1777		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletic/Physical Ed Service	525 - Athletic/Physical Ed Serv	Correct		0				264	258.86
1700	PHYSICAL EDUCATION	1778				REVISE/ADD AS UNASSIGNED				Custodial Room									76.74
1700	PHYSICAL EDUCATION	1779	1779	11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletics/Physical Education	520 - Athletics/Physical Educa	Correct		27	Correct			1400	1,386.54
1700	PHYSICAL EDUCATION	1780				REVISE/ADD AS UNASSIGNED							Elec						81.04
1700	PHYSICAL EDUCATION	1781		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletic/Physical Ed Service	525 - Athletic/Physical Ed Serv	Correct		0				89	135.40
1700	PHYSICAL EDUCATION	1782		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletic/Physical Ed Service	525 - Athletic/Physical Ed Serv	Correct		0				198	208.56
1700	PHYSICAL EDUCATION	1783				REVISE/ADD AS UNASSIGNED				Men's Restroom									213.74
1700	PHYSICAL EDUCATION	1784				REVISE/ADD AS UNASSIGNED				Women's Restroom									205.77

SOLANO COMMUNITY COLLEGE SPACE ANOMALY REPORT: FUSION VERSUS ACTUAL COMPARISION

FUSION Bldg Number	FUSION Building Name	FUSION Space Number	District Room Number	FUSION PROGRAM NUMBER	PGM - Check Correct/ Incorrect	PGM - Check Comments	FUSION TOPCSS	TOP - check Correct/ Incorrect	TOP - Check Comments	FUSION Space Name	FUSION Room Use Code	Room Use - check Correct/ Incorrect	Room Use - Check Comments	FUSION Assigned Stns	Stations - check Correct/ Incorrect	Stations - Check Comments	Stations - CALC per State LAB ASF	FUSION ASF	BIM Space Area (sf)
BUILDING 1800: SPLIT INTO 1800A AND 1800B																			
1800	VOCATIONAL COMPLEX	1801		12 - Occupational and Vocational Action			0956 - Manufacturing and Industrial Technology	Incorrect	0099 General Assignment	Office	310 - Office	Correct		1	Correct			190	175.48
1800	VOCATIONAL COMPLEX	1803		12 - Occupational and Vocational Action			0953 - Drafting Technology	Incorrect	0099 General Assignment	Office	310 - Office	Correct		1	Correct			89	81.43
1800	VOCATIONAL COMPLEX	1804		12 - Occupational and Vocational Action			0934 - Electronics and Electric Technology	REMOVE FROM SI DOES NOT EXIST		Office	310 - Office	Correct		1				89	0.00
1800	VOCATIONAL COMPLEX	1805		12 - Occupational and Vocational Action			0953 - Drafting Technology	Incorrect	0099 General Assignment	Storage	730 - Storage	Incorrect	315 - Office Service	1	Incorrect	0		105	133.18
1800	VOCATIONAL COMPLEX	1806				12- Occupational and Vocational			0099 General Assignment	Office			310 - Office			1		0	81.67
1800	VOCATIONAL COMPLEX	1807		12 - Occupational and Vocational Action			0953 - Drafting Technology	Incorrect	0099 General Assignment	Office	310 - Office	Correct		1				89	79.74
1800	VOCATIONAL COMPLEX	1808		12 - Occupational and Vocational Action			0956 - Manufacturing and Industrial Technology	Incorrect	0099 General Assignment	Office	310 - Office	Correct		1				89	84.10
1800	VOCATIONAL COMPLEX	1809		12 - Occupational and Vocational Action			1011 - Photography	Incorrect	0099 General Assignment	Office	310 - Office	Correct		1				89	78.89
1800	VOCATIONAL COMPLEX	1810		12 - Occupational and Vocational Action		44 Computing Support	0953 - Drafting Technology		6780 Managemant Info Services	DP/Computer Service	715 - DP/Computer Service		715 Data Processing etc	1				89	80.83
1800	VOCATIONAL COMPLEX	1811		12 - Occupational and Vocational Action			0953 - Drafting Technology	Incorrect	0099 General Assignment	Office	310 - Office		Work Experience	1				89	130.75
1800	VOCATIONAL COMPLEX	1812				REVISE/ADD AS UNASSIGNED				Room			Mechanical					0	137.50
1800	VOCATIONAL COMPLEX	1813				REVISE/ADD AS UNASSIGNED				Hallway, South								0	532.18
1800	VOCATIONAL COMPLEX	1815	1815	12 - Occupational and Vocational Acti	Correct		1011 - Photography	Correct		Class Lab	210 - Class Lab	Correct		25	Incorrect		16	914	935.64
1800	VOCATIONAL COMPLEX	1816				REVISE/ADD AS UNASSIGNED				Hallway, Center								0	869.29
1800	VOCATIONAL COMPLEX	1817		12 - Occupational and Vocational Acti	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		20	Incorrect	1		178	180.91
1800	VOCATIONAL COMPLEX	1818	1818	12 - Occupational and Vocational Acti	Correct		0934 - Electronics and Electric Technology	Correct		Class Lab	210 - Class Lab	Correct		25	Incorrect	24 workstation	19	1544	1,388.92
1800	VOCATIONAL COMPLEX	1818A		12 - Occupational and Vocational Action			0934 - Electronics and Electric Technology	REMOVE FROM SI DOES NOT EXIST		Class Lab Service	215 - Class Lab Service			0				150	0.00
1800	VOCATIONAL COMPLEX	1818B		12 - Occupational and Vocational Acti	Correct		0934 - Electronics and Electric Technology	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			157	133.62
1800	VOCATIONAL COMPLEX	1819	1819	12 - Occupational and Vocational Acti	Correct		0934 - Electronics and Electric Technology	Correct		Class Lab	210 - Class Lab	Correct		25	Incorrect		17	1292	1,302.25
1800	VOCATIONAL COMPLEX	1819A		12 - Occupational and Vocational Acti	Correct		0934 - Electronics and Electric Technology	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			163	147.58
1800	VOCATIONAL COMPLEX	1819B		12 - Occupational and Vocational Acti	Correct		0934 - Electronics and Electric Technology	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			105	94.42
1800	VOCATIONAL COMPLEX	1819C		12 - Occupational and Vocational Acti	Correct		0934 - Electronics and Electric Technology	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			163	146.67
1800	VOCATIONAL COMPLEX	1820		12 - Occupational and Vocational Action			1011 - Photography	REMOVE FROM SI DOES NOT EXIST		Class Lab Service	215 - Class Lab Service			0				35	0.00
1800	VOCATIONAL COMPLEX	1821		12 - Occupational and Vocational Acti	Correct		1011 - Photography	Correct		Class Lab	210 - Class Lab	Incorrect	215 Class Lab Service	0	Correct			501	520.50
1800	VOCATIONAL COMPLEX	1821A				12- Occupational and Vocational			1011-Photography	Class Lab Service		Correct							220.38
1800	VOCATIONAL COMPLEX	1821B				REVISE/ADD AS UNASSIGNED				Women's Restroom									144.20
1800	VOCATIONAL COMPLEX	1821C				REVISE/ADD AS UNASSIGNED				Men's Restroom									141.89
1800	VOCATIONAL COMPLEX	1822	1822	12 - Occupational and Vocational Acti	Correct		1011 - Photography	Correct		Spec Class Lab	220 - Spec Class Lab	Correct		0	Incorrect		7	463	448.50
1800	VOCATIONAL COMPLEX	1823	1823	12 - Occupational and Vocational Acti	Correct		1011 - Photography	Correct		Spec Class Lab	220 - Spec Class Lab	Correct	darkroom	0	Incorrect		7	411	401.64
1800	VOCATIONAL COMPLEX	1824		12 - Occupational and Vocational Acti	Correct		1011 - Photography	Correct		Class Lab Service	215 - Class Lab Service	Correct		0				125	114.90
1800	VOCATIONAL COMPLEX	1824A		12 - Occupational and Vocational Acti	Correct		1011 - Photography	Correct		Class Lab Service	215 - Class Lab Service	Correct		0				35	39.08
1800	VOCATIONAL COMPLEX	1824B		12 - Occupational and Vocational Acti	Correct		1011 - Photography	Correct		Classroom Service	115 - Classroom Service	Correct		0				69	65.15
1800	VOCATIONAL COMPLEX	1825		12 - Occupational and Vocational Acti	Correct		1011 - Photography	Correct		Class Lab Service	215 - Class Lab Service	Correct		0				35	151.47
1800	VOCATIONAL COMPLEX	1826		12 - Occupational and Vocational Action			1011 - Photography	REMOVE FROM SI DOES NOT EXIST		Class Lab Service	215 - Class Lab Service			0				28	0.00
1800	VOCATIONAL COMPLEX	1827		12 - Occupational and Vocational Action			1011 - Photography	REMOVE FROM SI DOES NOT EXIST		Class Lab	210 - Class Lab			15				289	0.00
1800	VOCATIONAL COMPLEX	1827A		12 - Occupational and Vocational Action			1011 - Photography	REMOVE FROM SI DOES NOT EXIST		Class Lab Service	215 - Class Lab Service			0				62	0.00
1800	VOCATIONAL COMPLEX	1827B		12 - Occupational and Vocational Action			1011 - Photography	REMOVE FROM SI DOES NOT EXIST		Class Lab Service	215 - Class Lab Service			0				24	0.00
1800	VOCATIONAL COMPLEX	1827C		12 - Occupational and Vocational Action			1011 - Photography	REMOVE FROM SI DOES NOT EXIST		Class Lab Service	215 - Class Lab Service			0				24	0.00
1800	VOCATIONAL COMPLEX	1827D		12 - Occupational and Vocational Action			1011 - Photography	REMOVE FROM SI DOES NOT EXIST		Class Lab Service	215 - Class Lab Service			0				40	0.00
1800	VOCATIONAL COMPLEX	1827E		12 - Occupational and Vocational Action			1011 - Photography	REMOVE FROM SI DOES NOT EXIST		Class Lab	210 - Class Lab			4				136	0.00
1800	VOCATIONAL COMPLEX	1828		12 - Occupational and Vocational Action			1011 - Photography	REMOVE FROM SI DOES NOT EXIST		Class Lab Service	215 - Class Lab Service			0				48	0.00
1800	VOCATIONAL COMPLEX	1829		12 - Occupational and Vocational Action			1011 - Photography	REMOVE FROM SI DOES NOT EXIST		Class Lab Service	215 - Class Lab Service			20				349	0.00
1800	VOCATIONAL COMPLEX	1829A						REMOVE FROM SI DOES NOT EXIST		Hallway								0	0.00
1800	VOCATIONAL COMPLEX	1830		12 - Occupational and Vocational Action			1011 - Photography	REMOVE FROM SI DOES NOT EXIST		Class Lab Service	215 - Class Lab Service			0				48	0.00
1800	VOCATIONAL COMPLEX	1831						REMOVE FROM SI DOES NOT EXIST		Class Lab. Srv.								0	0.00
1800	VOCATIONAL COMPLEX	1832						REMOVE FROM SI DOES NOT EXIST		Class Lab. Srv.								0	0.00
1800	VOCATIONAL COMPLEX	1833						REMOVE FROM SI DOES NOT EXIST		Hallway								0	0.00
1800	VOCATIONAL COMPLEX	1850				REVISE/ADD AS UNASSIGNED				Room			Mech/Elec					0	115.67
1800	VOCATIONAL COMPLEX	1851				REVISE/ADD AS UNASSIGNED				Janitor								0	28.88
1800	VOCATIONAL COMPLEX	1852		11 - General Academic Instruction	Correct		0430 - Biotechnology and Biomedical Technology	Correct		Class Lab	210 - Class Lab	Correct		24	Correct		46	2532	2,557.35
1800	VOCATIONAL COMPLEX	1852A		11 - General Academic Instruction	Correct		0430 - Biotechnology and Biomedical Technology	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			211	384.96
1800	VOCATIONAL COMPLEX	1852B		11 - General Academic Instruction	Correct		0430 - Biotechnology and Biomedical Technology	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			360	106.88
1800	VOCATIONAL COMPLEX	1852C		11 - General Academic Instruction	Correct		0430 - Biotechnology and Biomedical Technology	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			237	95.09
1800	VOCATIONAL COMPLEX	1853	1853	12 - Occupational and Vocational Acti	Correct		0956 - Manufacturing and Industrial Technology	Correct		Class Lab	210 - Class Lab	Correct		25	Correct		26	2415	2,328.66
1800	VOCATIONAL COMPLEX	1853A	1853A	12 - Occupational and Vocational Acti	Correct		0956 - Manufacturing and Industrial Technology	Correct		Class Lab	210 - Class Lab	Incorrect	215 Class Lab Service	0	Correct	32 desks	6	522	521.83
1800	VOCATIONAL COMPLEX	1853B		12 - Occupational and Vocational Acti	Correct		0956 - Manufacturing and Industrial Technology	Correct		Class Lab Service	215 - Class Lab Service	Correct		0				125	123.61
1800	VOCATIONAL COMPLEX	1853C		12 - Occupational and Vocational Acti	Correct		0956 - Manufacturing and Industrial Technology	Correct		Class Lab Service	215 - Class Lab Service	Incorrect	310 - Office	0	Incorrect	1		125	117.40
1800	VOCATIONAL COMPLEX	1853D						REMOVE FROM SI DOES NOT EXIST		Class Lab. Srv.								0	201.66
1800	VOCATIONAL COMPLEX	1854	1854	12 - Occupational and Vocational Acc	Correct		0948 - Automotive Technology	Correct		Alter/Conversion Area	060 - Alter/Conversion Area	Incorrect	210 Class Lab	25			11	2285	2,269.31
1800	VOCATIONAL COMPLEX	1854A		12 - Occupational and Vocational Acc	Incorrect	72 - Outside Agencies	0948 - Automotive Technology	Incorrect	6999 Other Ancillary Services	Alter/Conversion Area	060 - Alter/Conversion Area	Incorrect	660 - Merchandising Facility	0				146	0.00
1800	VOCATIONAL COMPLEX	1854B		12 - Occupational and Vocational Action			0948 - Automotive Technology	REMOVE FROM SI DOES NOT EXIST		Alter/Conversion Area	060 - Alter/Conversion Area			0				126	0.00
1800	VOCATIONAL COMPLEX	1854C				72 - Outside Agencies			6999 Other Ancillary Services	Class Lab. Srv.			665 - Merchandising Facility Service					0	154.38
1800	VOCATIONAL COMPLEX	1854D				12 - Occupational and Vocational Action			0948 - Automotive Technology	Class Lab. Srv.		Correct						0	156.25
1800	VOCATIONAL COMPLEX	1854F						REMOVE FROM SI DOES NOT EXIST		Room								0	0.00
1800	VOCATIONAL COMPLEX	1855	1855	12 - Occupational and Vocational Acti	Correct		0948 - Automotive Technology	Correct		Class Lab	210 - Class Lab	Correct		25	Correct	can't tell, so ma	20	4140	4,076.33
1800	VOCATIONAL COMPLEX	1855A		12 - Occupational and Vocational Acti	Correct		0948 - Automotive Technology	Correct		Class Lab Service	215 - Class Lab Service	Correct		0				420	420.47
1800	VOCATIONAL COMPLEX	1855B		12 - Occupational and Vocational Action			0948 - Automotive Technology	REMOVE FROM SI DOES NOT EXIST		Class Lab Service	215 - Class Lab Service			23				708	738.34
1800	VOCATIONAL COMPLEX	1855C		12 - Occupational and Vocational Acti	Correct		0948 - Automotive Technology	Correct		Class Lab Service	215 - Class Lab Service	Correct		0				117	104.20
1800	VOCATIONAL COMPLEX	1855D		12 - Occupational and Vocational Acti	Correct		0948 - Automotive Technology	Correct		Class Lab Service	215 - Class Lab Service	Correct		0				99	86.97
1800	VOCATIONAL COMPLEX	1855E				12 - Occupational and Vocational Action			0948 - Automotive Technology	Paint Booth			215 Class Lab Service					0	21.88
1800	VOCATIONAL COMPLEX	1856		11 - General Academic Instruction			0099 - General Assignment	REMOVE FROM SI DOES NOT EXIST		Office	310 - Office			1				84	0.00
1800	VOCATIONAL COMPLEX	1856C				64 - Logistical Services			6770 - Logistical Services	Office			310 Office			1		0	88.69
1800	VOCATIONAL COMPLEX	1856D				64 - Logistical Services			6770 - Logistical Services	Class Lab. Srv.		Incorrect	310 Office			1		0	106.26
1800	VOCATIONAL COMPLEX	1856F						REMOVE FROM SI DOES NOT EXIST		Class Lab. Srv.								0	0.00
1800	VOCATIONAL COMPLEX	1856G						REMOVE FROM SI DOES NOT EXIST		Class Lab. Srv.								0	0.00
1800	VOCATIONAL COMPLEX	1856H						REMOVE FROM SI DOES NOT EXIST		Class Lab. Srv.								0	0.00
1800	VOCATIONAL COMPLEX	1856I						REMOVE FROM SI DOES NOT EXIST		Office								0	0.00
1800	VOCATIONAL COMPLEX	1857		11 - General Academic Instruction			0099 - General Assignment	REMOVE FROM SI DOES NOT EXIST		Office	310 - Office			1				81	0.00
1800	VOCATIONAL COMPLEX	1857B						REMOVE FROM SI DOES NOT EXIST		Office								0	0.00
1800	VOCATIONAL COMPLEX	1858				12 - Occupational and Vocational Action			0948 - Automotive Technology	Class Lab. Srv.		Correct	215 Class Lab Service					0	0.00
1800	VOCATIONAL COMPLEX	1859				12 - Occupational and Vocational Action			0099 General Assignment	Locker Rm.			690 Locker					0	294.41
1800	VOCATIONAL COMPLEX	1859A				REVISE/ADD AS UNASSIGNED				Room			Vestibule					0	24.38
1800	VOCATIONAL COMPLEX	1859B				REVISE/ADD AS UNASSIGNED				Room			Vestibule					0	26.25
1800	VOCATIONAL COMPLEX	1860	1860	11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		49	Incorrect	47		979	993.17
1800	VOCATIONAL COMPLEX	1860A						REMOVE FROM SI DOES NOT EXIST		Room								0	0.00

SOLANO COMMUNITY COLLEGE SPACE ANOMALY REPORT: FUSION VERSUS ACTUAL COMPARISION

FUSION Bldg Number	FUSION Building Name	FUSION Space Number	District Room Number	FUSION PROGRAM NUMBER	PGM - Check Correct/ Incorrect	PGM - Check Comments	FUSION TOPCSS	TOP - check Correct/ Incorrect	TOP - Check Comments	FUSION Space Name	FUSION Room Use Code	Room Use - check Correct/ Incorrect	Room Use - Check Comments	FUSION Assigned Stns	Stations - check Correct/ Incorrect	Stations - Check Comments	Stations - CALC per State LAB ASF	FUSION ASF	BIM Space Area (sf)
1800	VOCATIONAL COMPLEX	1861	1861	11 - General Academic Instruction	Correct		0602 - Journalism	Correct		Class Lab	210 - Class Lab	Correct		15	Correct			979	986.16
1800	VOCATIONAL COMPLEX	1862		11 - General Academic Instruction	Incorrect	64 - Logistical Services	0099 - General Assignment	Incorrect	6770 - Logistical Services	Office	310 - Office	Correct		5	Incorrect	6		451	466.98
1800	VOCATIONAL COMPLEX	1863		11 - General Academic Instruction	Incorrect	64 - Logistical Services	0099 - General Assignment	Incorrect	6770 - Logistical Services	Office	310 - Office	Correct		3	Incorrect	1		227	188.67
1800	VOCATIONAL COMPLEX	1863A		44 - Computing Support	Correct		6799 - Other General Institutional Support Services		6780 - Management Info Services	DP/Computer Service	715 - DP/Computer Service	Correct		0				40	47.86
1800	VOCATIONAL COMPLEX	1863B		65 - Physical Plant Operations		REVISE/ADD AS UNASSIGNED	6530 - Custodial Services			Storage	730 - Storage	Incorrect	Janitor	0				40	48.39
1800	VOCATIONAL COMPLEX	1865						REMOVE FROM SI DOES NOT EXIST		Mechanical									0.00
1800	VOCATIONAL COMPLEX	1866		65 - Physical Plant Operations		REVISE/ADD AS UNASSIGNED	6510 - Building Maintenance and Operation Support			Storage	730 - Storage	Incorrect	Fire Alarm	0				86	64.18
1800	VOCATIONAL COMPLEX	1867		65 - Physical Plant Operations	Incorrect	64 - Logistical Services	6570 - Utilities	Incorrect	6770 - Logistical Services	Storage	730 - Storage	Incorrect	315 - Office Service	0				66	140.15
1800	VOCATIONAL COMPLEX	1868		11 - General Academic Instruction	Incorrect	64 - Logistical Services	0099 - General Assignment	Incorrect	6770 - Logistical Services	Office	310 - Office	Incorrect	315 - Office Service	1	Incorrect	0		81	72.42
1800	VOCATIONAL COMPLEX	1869		11 - General Academic Instruction	Incorrect	64 - Logistical Services	0099 - General Assignment	Incorrect	6770 - Logistical Services	Office	310 - Office	Incorrect	315 - Office Service	1	Incorrect	0		81	72.42
1800	VOCATIONAL COMPLEX	1870		11 - General Academic Instruction	Incorrect	64 - Logistical Services	0099 - General Assignment	Incorrect	6770 - Logistical Services	Office	310 - Office	Incorrect	315 - Office Service	1	Incorrect	0		81	72.42
1800	VOCATIONAL COMPLEX	1871		11 - General Academic Instruction	Incorrect	64 - Logistical Services	0099 - General Assignment	Incorrect	6770 - Logistical Services	Office	310 - Office	Correct		1	Correct			81	86.74
1800	VOCATIONAL COMPLEX	1872		12 - Occupational and Vocational Ac	Incorrect	64 - Logistical Services	0099 - General Assignment	Incorrect	6770 - Logistical Services	Office	310 - Office	Incorrect	315 - Office Service	1	Incorrect	0		84	86.74
1800	VOCATIONAL COMPLEX	1873		11 - General Academic Instruction	Incorrect	64 - Logistical Services	0099 - General Assignment	Incorrect	6770 - Logistical Services	Office Service	315 - Office Service	Correct		1	Incorrect	0		147	136.19
1800	VOCATIONAL COMPLEX	1874		11 - General Academic Instruction	Incorrect	64 - Logistical Services	0099 - General Assignment	Incorrect	6770 - Logistical Services	Office Service	315 - Office Service	Correct		0				322	295.61
1800	VOCATIONAL COMPLEX	1876	1876	11 - General Academic Instruction	Incorrect	12- Occupational and Vocational	0099 - General Assignment	Incorrect	0953 Drafting Technology	Classroom	110 - Classroom	Correct	210 Class Lab	42	Incorrect	23	11	833	827.88
1800	VOCATIONAL COMPLEX	1877	1877	11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		42	Incorrect	44, 9 non-desk chairs included		833	833.47
1800	VOCATIONAL COMPLEX	1878	1878	11 - General Academic Instruction	Correct		0099 - General Assignment	Incorrect	0934 - Electronics and Electric Technology	Classroom	110 - Classroom	Incorrect	210 Class Lab	42	Incorrect		25	833	1913
1800	VOCATIONAL COMPLEX	1879	1879	11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		42	Incorrect	56 (including 5	49	833	834.00
1800	VOCATIONAL COMPLEX	1880	1880	11 - General Academic Instruction			0799 - Other Information Technology	REMOVE FROM SI DOES NOT EXIST ANYMORE		Class Lab	210 - Class Lab			55				1092	0.00
1800	VOCATIONAL COMPLEX	1881	1881	11 - General Academic Instruction	Incorrect	12- Occupational and Vocational	0799 - Other Information Technology	Incorrect	0953 Drafting Technology	Class Lab	210 - Class Lab	Correct		55	Incorrect	22	14	1092	1,074.24
1800	VOCATIONAL COMPLEX	1882		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Audio/Visual, Radio, TV	530 - Audio/Visual, Radio, TV	Correct		0				40	15.97
1800	VOCATIONAL COMPLEX	1883						REMOVE FROM SI DOES NOT EXIST		Hallway								0	0.00
1800	VOCATIONAL COMPLEX	1884				REVISE/ADD AS UNASSIGNED				Hallway								0	450.03
1800	VOCATIONAL COMPLEX		1885			12 - Occupational and Vocational Action			0948 - Automotive Technology				215 - Class Lab Service						

SOLANO COMMUNITY COLLEGE SPACE ANOMALY REPORT: FUSION VERSUS ACTUAL COMPARISION

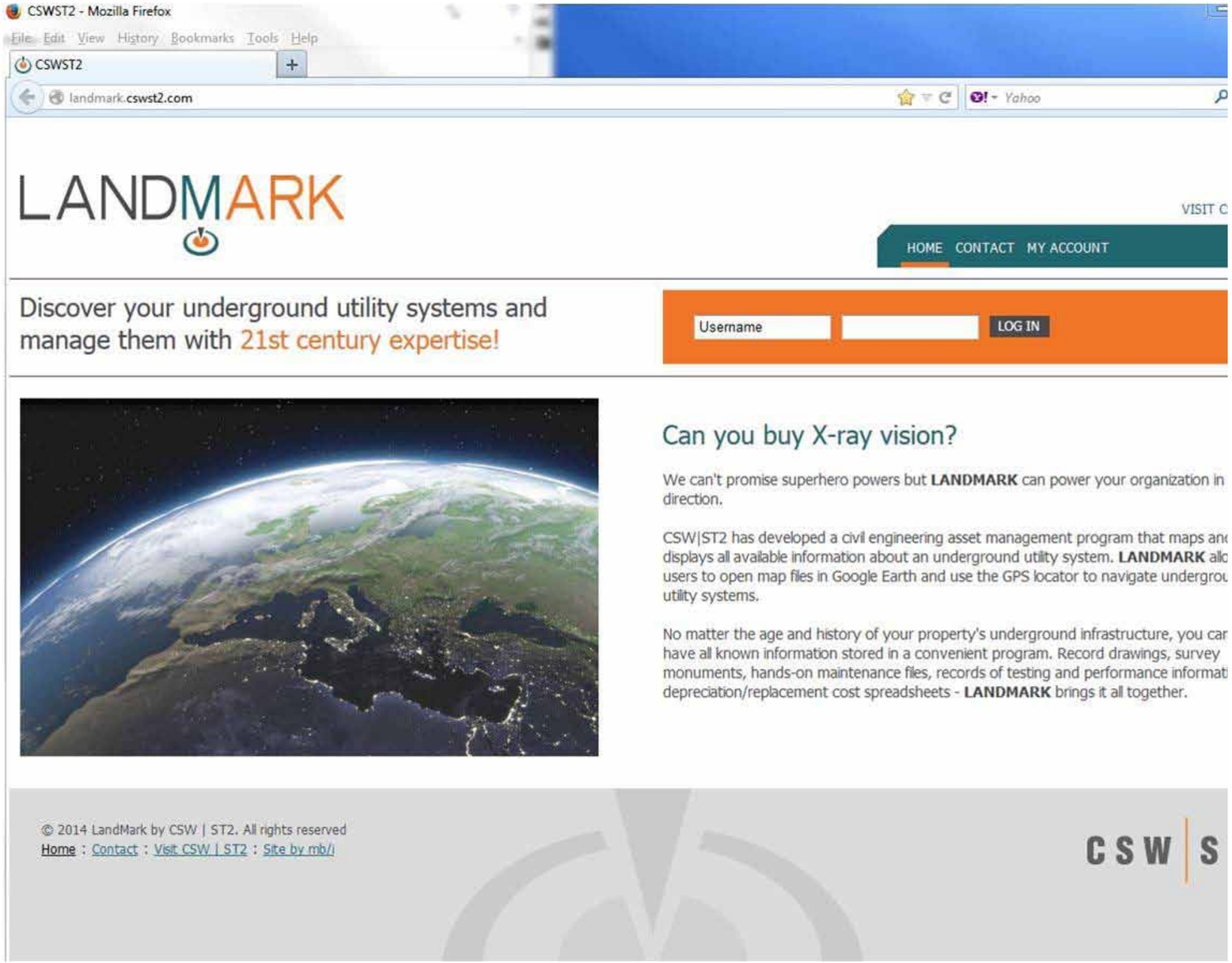
FUSION Bldg Number	FUSION Building Name	FUSION Space Number	District Room Number	FUSION PROGRAM NUMBER	PGM - Check Correct/ Incorrect	PGM - Check Comments	FUSION TOPCSS	TOP - check Correct/ Incorrect	TOP - Check Comments	FUSION Space Name	FUSION Room Use Code	Room Use - check Correct/ Incorrect	Room Use - Check Comments	FUSION Assigned Stns	Stations - check Correct/ Incorrect	Stations - Check Comments	Stations - CALC per State LAB ASF	FUSION ASF	BIM Space Area (sf)
BUILDING 1900																			
1900	WAREHOUSE	1901		65 - Physical Plant Operations	Correct		6780 - Management Information Services	Incorrect	6510 Building Maintenance and Operations	Storage	730 - Storage	Correct		0	Correct			3814	3076
1900	WAREHOUSE	1901A				65 - Physical Plant Operations			6510 Building Maintenance and Operations	Office			725 Shop Service			0		0	98.71
1900	WAREHOUSE	1901B				65 - Physical Plant Operations			6510 Building Maintenance and Operations	Office			310 Office			1		0	98.89
1900	WAREHOUSE		1901C			65 - Physical Plant Operations			6510 Building Maintenance and Operations	Office			310 Office			1		0	120
1900	WAREHOUSE		1901D			65 - Physical Plant Operations			6510 Building Maintenance and Operations	Office			730 Storage			0		0	799
1900	WAREHOUSE	1902		65 - Physical Plant Operations	Correct		6510 - Building Maintenance and Operation Suppo	Correct		Shop	720 - Shop	Correct		0	Correct			2566	2,141.72
1900	WAREHOUSE	1902A		65 - Physical Plant Operations	Correct		6510 - Building Maintenance and Operation Suppo	Correct		Office	310 - Office	Correct		1	Correct			153	167.92
1900	WAREHOUSE	1902B		65 - Physical Plant Operations	Correct		6510 - Building Maintenance and Operation Suppo	Correct		Office	310 - Office	Correct		1	Correct			238	228.92
1900	WAREHOUSE	1902C						REMOVE FROM SI DOES NOT EXIST		Elec								0	0.00
1900	WAREHOUSE	1902D		65 - Physical Plant Operations	Correct		6510 - Building Maintenance and Operation Suppo	Correct		Storage	730 - Storage	Correct		0	Correct			272	235.08
1900	WAREHOUSE	1902E		65 - Physical Plant Operations	Correct		6510 - Building Maintenance and Operation Supp	Correct		Office	310 - Office	Incorrect	650- Lounge	3	Incorrect	0		374	244.42
1900	WAREHOUSE	1903		65 - Physical Plant Operations	Correct		6510 - Building Maintenance and Operation Suppo	Correct		Office	310 - Office	Correct		1	Correct			165	144.45
1900	WAREHOUSE	1904				REVISE/ADD AS UNASSIGNED				Hallway								0	66.83
1900	WAREHOUSE	1905				REVISE/ADD AS UNASSIGNED				Toilet								0	123.13
1900	WAREHOUSE	1906		65 - Physical Plant Operations	Correct		6510 - Building Maintenance and Operation Suppo	Correct		Storage	730 - Storage	Correct		0	Correct			168	154.50
1900	WAREHOUSE	1907		65 - Physical Plant Operations	Correct		6510 - Building Maintenance and Operation Suppo	Correct		Shop	720 - Shop	Incorrect	725 - Shop Service	0	Correct			156	144.23
1900	WAREHOUSE	1908		65 - Physical Plant Operations	Correct		6510 - Building Maintenance and Operation Suppo	Correct		Vehicle Storage	740 - Vehicle Storage	Correct		0	Correct			1440	1,441.50
1900	WAREHOUSE	1909A		65 - Physical Plant Operations	Correct		6510 - Building Maintenance and Operation Suppo	Correct		Office	310 - Office	Correct		1	Correct			83	78.29
1900	WAREHOUSE	1909B		65 - Physical Plant Operations	Correct		6510 - Building Maintenance and Operation Suppo	Correct		Office	310 - Office	Correct		1	Correct			83	73.21
1900	WAREHOUSE	1909C		65 - Physical Plant Operations	Correct		6510 - Building Maintenance and Operation Supp	Correct		Storage	730 - Storage	Incorrect	310 Office	0	Incorrect	4		849	652
1900	WAREHOUSE	1909D				65 - Physical Plant Operations			6510 Building Maintenance and Operations	Office			310 Office			1		0	81
1900	WAREHOUSE	1910	1901E			65 - Physical Plant Operations			6510 Building Maintenance and Operations	Mez Storage			730- Storage					0	512
1900	WAREHOUSE		1901F			65 - Physical Plant Operations			6510 Building Maintenance and Operations	Mez Storage			730- Storage					0	379
1900	WAREHOUSE		1901G			65 - Physical Plant Operations			6510 Building Maintenance and Operations	Mez Storage			730- Storage					0	799
BUILDING 2000																			
2000	CENTRAL PLANT	1		65 - Physical Plant Operations	Correct		6510 - Building Maintenance and Operation Support			Central Utility Plant	770 - Central Utility Plant		Correct	0				2898	2,897.63
BUILDING 2100 NEEDS TO BE CONFIRMED																			
2100	POOL MECHANICAL	2110B		65 - Physical Plant Operations	Correct		6510 - Building Maintenance and Operation Supp	Incorrect	0835 Physical Education	Shop	720 - Shop	Incorrect	525 - Athletic/Physical Ed Service	0				411	411.06
2100	POOL MECHANICAL	2110C		65 - Physical Plant Operations	Correct		6510 - Building Maintenance and Operation Supp	Incorrect	0835 Physical Education	Storage	730 - Storage	Incorrect	525 - Athletic/Physical Ed Service	0				108	108.02
2100	POOL MECHANICAL	2110D		65 - Physical Plant Operations	Correct		6510 - Building Maintenance and Operation Supp	Incorrect	0835 Physical Education	Shop	720 - Shop	Incorrect	525 - Athletic/Physical Ed Service	2	Incorrect	0		117	117.00
2100	POOL MECHANICAL	2110E		11 - General Academic Instruction			0835 - Physical Education	REMOVE FROM SI DOES NOT EXIST		Athletic/Physical Ed Service	525 - Athletic/Physical Ed Service			0				356	356.00
2100	POOL MECHANICAL	2110F		11 - General Academic Instruction	Correct		0835 - Physical Education			Athletic/Physical Ed Service	525 - Athletic/Physical Ed Service			0				299	299.02
2100	POOL MECHANICAL	2110G		11 - General Academic Instruction	Correct		0835 - Physical Education			Athletic/Physical Ed Service	525 - Athletic/Physical Ed Service			0				64	64.03
BUILDING 2500 NEEDS TO BE CONFIRMED																			
2500	STADIUM	1		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Food Facilities	630 - Food Facilities	Correct		0				240	0.00
2500	STADIUM	2		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Storage	730 - Storage	Incorrect	525 - Atheltic/PE Service	0				1265	1,149.77
2500	STADIUM	3		11 - General Academic Instruction			0835 - Physical Education	REMOVE FROM SI DOES NOT EXIST		Athletic/Physical Ed Service	525 - Athletic/Physical Ed Service			0				460	0.00
2500	STADIUM	4		11 - General Academic Instruction			0835 - Physical Education			Storage	730 - Storage	Incorrect	525 - Atheltic/PE Service	0				1071	0.00
2500	STADIUM	5		11 - General Academic Instruction			0835 - Physical Education	REMOVE FROM SI DOES NOT EXIST		Storage	730 - Storage			0				55	0.00
2500	STADIUM	6		11 - General Academic Instruction	Incorrect	CHANGE TO SI (U STATUS)	0835 - Physical Education	Incorrect		Athletic/Physical Ed Service	525 - Athletic/Physical Ed Servi	Incorrect	Restroom Vestibule	0				121	0.00
2500	STADIUM	7		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletic/Physical Ed Service	525 - Athletic/Physical Ed Serv	Correct		0				1225	1,549.84
2500	STADIUM	9		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Storage	730 - Storage	Incorrect	525 - Atheltic/PE Service	0				1260	1,393.18
2500	STADIUM	10		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletic/Physical Ed Service	525 - Athletic/Physical Ed Serv	Correct		0				115	130.25
2500	STADIUM	11		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletic/Physical Ed Service	525 - Athletic/Physical Ed Serv	Correct		0				218	229.38
2500	STADIUM	12		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletic/Physical Ed Service	525 - Athletic/Physical Ed Serv	Correct		0				115	130.25
2500	STADIUM	13		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletic/Physical Ed Service	525 - Athletic/Physical Ed Serv	Correct		0				218	229.38
2500	STADIUM	14		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletic/Physical Ed Service	525 - Athletic/Physical Ed Serv	Correct		0				1366	1,244.32
			14A			11 - General Academic Instruction			0835 - Physical Education				525 - Athletic/Physical Ed Service						63
2500	STADIUM	16		11 - General Academic Instruction			0835 - Physical Education			Storage	730 - Storage	Incorrect	525 - Atheltic/PE Service	0				1080	1,135.36
2500	STADIUM	17		11 - General Academic Instruction			0835 - Physical Education	REMOVE FROM SI DOES NOT EXIST		Storage	730 - Storage			0				525	0.00
2500	STADIUM	18		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletic/Physical Ed Service	525 - Athletic/Physical Ed Serv	Correct		0				126	0.00
2500	STADIUM	19		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Food Facilities	630 - Food Facilities	Correct		0				525	0.00
2500	STADIUM	20		11 - General Academic Instruction	Correct		0835 - Physical Education	Correct		Athletic/Physical Ed Service	525 - Athletic/Physical Ed Serv	Correct		0				379	0.00
2500	STADIUM		24			11 - General Academic Instruction			0835 - Physical Education				525 - Athletic/Physical Ed Service	0					0.00
2500	STADIUM		27										Press Box Restroom	0					
2500	STADIUM	2122				REVISE/ADD AS UNASSIGNED				Womens RR								0	459.30
2500	STADIUM	2140				REVISE/ADD AS UNASSIGNED				Men								0	469.64

SOLANO COMMUNITY COLLEGE SPACE ANOMALY REPORT: FUSION VERSUS ACTUAL COMPARISION

FUSION Bldg Number	FUSION Building Name	FUSION Space Number	District Room Number	FUSION PROGRAM NUMBER	PGM - Check Correct/ Incorrect	PGM - Check Comments	FUSION TOPCSS	TOP - check Correct/ Incorrect	TOP - Check Comments	FUSION Space Name	FUSION Room Use Code	Room Use - check Correct/ Incorrect	Room Use - Check Comments	FUSION Assigned Stns	Stations - check Correct/ Incorrect	Stations - Check Comments	Stations - CALC per State LAB ASF	FUSION ASF	BIM Space Area (sf)
VALLEJO CENTER																			
3100	VALLEJO CENTER	100		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Lounge	650 - Lounge	Correct		10	Incorrect	0		1857	2,614.83
3100	VALLEJO CENTER	101				REVISE/ADD AS UNASSIGNED				Machine			Elev. Machine Room					0	115.54
3100	VALLEJO CENTER	102		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		6	Incorrect	4		398	347.97
3100	VALLEJO CENTER	103				REVISE/ADD AS UNASSIGNED				Jan								0	57.37
3100	VALLEJO CENTER	104		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			150	154.69
3100	VALLEJO CENTER	105				REVISE/ADD AS UNASSIGNED				Mens								0	216.19
3100	VALLEJO CENTER	107				REVISE/ADD AS UNASSIGNED				Storage			Data Room					0	185.66
3100	VALLEJO CENTER	108		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			107	111.37
3100	VALLEJO CENTER	109		65 - Physical Plant Operations			6510 - Building Maintenance and Operation Support		Correct	Storage	730 - Storage			0				185	146.54
3100	VALLEJO CENTER	110				REVISE/ADD AS UNASSIGNED				Hallway								0	169.96
3100	VALLEJO CENTER	111				REVISE/ADD AS UNASSIGNED				Womens								0	251.03
3100	VALLEJO CENTER	112		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			102	105.45
3100	VALLEJO CENTER	114		55 - Student Support	Correct		6440 - Health Services	Correct		Treatment	850 - Treatment	Correct		1	Correct			97	96.64
3100	VALLEJO CENTER	115				REVISE/ADD AS UNASSIGNED				Elec								0	285.28
3100	VALLEJO CENTER	117				REVISE/ADD AS UNASSIGNED				Mech								0	270.63
3100	VALLEJO CENTER	120				REVISE/ADD AS UNASSIGNED				Hallway								0	1,606.23
3100	VALLEJO CENTER	121		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		63	Incorrect	60		1155	1,162.97
3100	VALLEJO CENTER	122		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		49	Correct			975	993.92
3100	VALLEJO CENTER	123		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		62	Incorrect	60		1143	1,156.98
3100	VALLEJO CENTER	124		41 - Libraries	Correct		6120 - Library	Correct		Read/Study Room	410 - Read/Study Room	Correct		90	Incorrect	57		1414	1,429.09
3100	VALLEJO CENTER	124A		41 - Libraries	Correct		6120 - Library	Correct		Library - Electronic Carrels	430 - Library - Electronic Carre	Correct		10	Incorrect	12		232	236.14
3100	VALLEJO CENTER	124B		41 - Libraries	Correct		6120 - Library	Correct		Read/Study Room	410 - Read/Study Room	Correct		6	Incorrect	5		133	134.29
3100	VALLEJO CENTER	124C		41 - Libraries	Correct		6120 - Library	Correct		Read/Study Room	410 - Read/Study Room	Correct		6	Incorrect	7		127	129.37
3100	VALLEJO CENTER	125		11 - General Academic Instruction	Correct		0701 - Information Technology, General	Correct		Class Lab	210 - Class Lab	Correct		40	Correct		29	1143	1,163.30
3100	VALLEJO CENTER	127		44 - Computing Support	Correct		6780 - Management Information Services	Correct		Office	310 - Office	Correct		2	Correct			250	251.78
3100	VALLEJO CENTER	127A		41 - Libraries	Incorrect	44 - Computing Support	6780 - Management Information Services		Correct	Data Processing/Computer	710 - Data Processing/Computer			0				323	324.5
3100	VALLEJO CENTER	129	129	11 - General Academic Instruction	Correct		0701 - Information Technology, General	Correct		Class Lab	210 - Class Lab	Correct		40	Correct		30	1189	1,203.56
3100	VALLEJO CENTER	131		11 - General Academic Instruction	Incorrect		0099 - General Assignment	Incorrect	0835 Athletics/PE	Meeting Room	680 - Meeting Room	Incorrect	520 Atheltics/PE	200	Incorrect	seems high	50	3727	3,762.14
3100	VALLEJO CENTER	131A		11 - General Academic Instruction			0099 - General Assignment		0835 Athletics/PE	Meeting Room Service	685 - Meeting Room Service		525 Athletics/PE Service	0				99	99.55
3100	VALLEJO CENTER	132		42 - Museums and Galleries			6140 - Museums and Galleries		Correct	Exhibition	620 - Exhibition			0				932	1,004.85
3100	VALLEJO CENTER	133		11 - General Academic Instruction	Correct		1001 - Fine Arts, General	Correct		Class Lab	210 - Class Lab	Correct		32	Correct		21	1232	1,244.38
3100	VALLEJO CENTER	133A		11 - General Academic Instruction			1001 - Fine Arts, General			Class Lab Service	215 - Class Lab Service		Correct	0				185	187.25
3100	VALLEJO CENTER	134		11 - General Academic Instruction	Correct	Furniture Storage. has roof access	0099 - General Assignment	Correct		Assembly Service	615 - Assembly Service	Correct		0	Correct			177	200.9
3100	VALLEJO CENTER	135		65 - Physical Plant Operations			6510 - Building Maintenance and Operation Support			Storage	730 - Storage		Correct	0				88	86.45
3100	VALLEJO CENTER	136		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Assembly	610 - Assembly	Correct		75	Correct			1584	1,608.83
3100	VALLEJO CENTER	136A		11 - General Academic Instruction			0099 - General Assignment			Assembly Service	615 - Assembly Service		Correct	0				113	99.34
3100	VALLEJO CENTER	140				REVISE/ADD AS UNASSIGNED				Men								0	258.47
3100	VALLEJO CENTER	142				REVISE/ADD AS UNASSIGNED				Elec								0	33.1
3100	VALLEJO CENTER	144				REVISE/ADD AS UNASSIGNED				Data			Data Room					0	33.14
3100	VALLEJO CENTER	146				REVISE/ADD AS UNASSIGNED				Womens								0	419.97
3100	VALLEJO CENTER	200				REVISE/ADD AS UNASSIGNED		Correct		Lobby								0	822.18
3100	VALLEJO CENTER	201				REVISE/ADD AS UNASSIGNED		Correct		Mens								0	217.45
3100	VALLEJO CENTER	202		66 - Faculty and Staff Services	Correct		0099 - General Assignment	Correct		Lounge	650 - Lounge	Correct		0	Incorrect	13		290	299.89
3100	VALLEJO CENTER	203				REVISE/ADD AS UNASSIGNED				Womens RR								0	249.32
3100	VALLEJO CENTER	204		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Meeting Room	680 - Meeting Room	Correct		25	Correct			560	559.29
3100	VALLEJO CENTER	205				REVISE/ADD AS UNASSIGNED				Hallway								0	1,796.59
3100	VALLEJO CENTER	206				REVISE/ADD AS UNASSIGNED				Jan								0	41.56
3100	VALLEJO CENTER	207		11 - General Academic Instruction	Correct		1901 - Physical Sciences, General	Correct		Class Lab	210 - Class Lab	Correct		24	Correct		20	1200	1,209.80
3100	VALLEJO CENTER	209		11 - General Academic Instruction	Correct		1901 - Physical Sciences, General	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct			949	962.81
3100	VALLEJO CENTER	211		11 - General Academic Instruction	Correct		1901 - Physical Sciences, General	Correct		Class Lab	210 - Class Lab	Incorrect correct		24	Correct		20	1204	1,211.33
3100	VALLEJO CENTER	212		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			120	115.8
3100	VALLEJO CENTER	213		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		48	Incorrect	49		962	964.44
3100	VALLEJO CENTER	215		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		47	Incorrect	48		953	965.1
3100	VALLEJO CENTER	216		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			121	148.16
3100	VALLEJO CENTER	217		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		48	Incorrect	49		989	1,010.63
3100	VALLEJO CENTER	218		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			115	122.22
3100	VALLEJO CENTER	220		11 - General Academic Instruction			0099 - General Assignment			Office Service	315 - Office Service		Correct	0				80	92.79
3100	VALLEJO CENTER	222		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			120	120.53
3100	VALLEJO CENTER	224		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Incorrect	2		145	143.99
3100	VALLEJO CENTER	226		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			120	121.58
3100	VALLEJO CENTER	228		11 - General Academic Instruction			0099 - General Assignment			Office Service	315 - Office Service		Correct, Staff Toilet	0				57	56.25
3100	VALLEJO CENTER	230		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			90	122.52
3100	VALLEJO CENTER	232		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office Service	315 - Office Service	Correct		0	Correct			115	112.99
3100	VALLEJO CENTER	234		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct			121	119.91
3100	VALLEJO CENTER	242		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		49	Correct			999	1,002.97
3100	VALLEJO CENTER	244	214			REVISE/ADD AS UNASSIGNED				Elec								0	49.62
3100	VALLEJO CENTER	246	240			REVISE/ADD AS UNASSIGNED				Data								0	88.26

SOLANO COMMUNITY COLLEGE SPACE ANOMALY REPORT: FUSION VERSUS ACTUAL COMPARISION

FUSION Bldg Number	FUSION Building Name	FUSION Space Number	District Room Number	FUSION PROGRAM NUMBER	PGM - Check Correct/ Incorrect	PGM - Check Comments	FUSION TOPCSS	TOP - check Correct/ Incorrect	TOP - Check Comments	FUSION Space Name	FUSION Room Use Code	Room Use - check Correct/ Incorrect	Room Use - Check Comments	FUSION Assigned Stns	Stations - check Correct/ Incorrect	Stations - Check Comments	Stations - CALC per State LAB ASF	FUSION ASF	BIM Space Area (sf)
VACAVILLE CENTER I																			
100	VACAVILLE CENTER I	Riser				REVISE/ADD AS UNASSIGNED				Room			Riser Closet					0	11.6
100	VACAVILLE CENTER I	VA101				11 General Academic Instruction			2133 Fire Control Technology	Fire Academy			210 Class Lab			37	20	0	979.81
100	VACAVILLE CENTER I	VA102				11 General Academic Instruction			0099 General Assignment	General Lecture			110 Classroom			49		0	989.08
100	VACAVILLE CENTER I	VA103				11 General Academic Instruction			0099 General Assignment	General Lecture			110 Classroom			49		0	993.29
100	VACAVILLE CENTER I	VA104				11 General Academic Instruction			0099 General Assignment	General Lecture			110 Classroom			49		0	993.8
100	VACAVILLE CENTER I	VA105				11 General Academic Instruction			0099 General Assignment	General Lecture			110 Classroom			40		0	819.59
100	VACAVILLE CENTER I	VA106				11 General Academic Instruction			0701 - Information Technology, General	Computer Science			210 Class Lab			40		0	1386.16
100	VACAVILLE CENTER I	VA107				11 General Academic Instruction			0099 General Assignment	General Lecture			110 Classroom			49		0	993.64
100	VACAVILLE CENTER I	VA108				11 General Academic Instruction			0099 General Assignment	P.E./Lecture			110 Classroom			47		0	962
100	VACAVILLE CENTER I	VA109				REVISE/ADD AS UNASSIGNED				Janitor								0	46.32
100	VACAVILLE CENTER I	VA110				REVISE/ADD AS UNASSIGNED				Elec								0	76.09
100	VACAVILLE CENTER I	VA111				REVISE/ADD AS UNASSIGNED				Mens Toilet								0	239.7
100	VACAVILLE CENTER I	VA112				REVISE/ADD AS UNASSIGNED				Womens Toilet								0	301.79
100	VACAVILLE CENTER I	VV114				64 - Logistical Services			6770 Logistical Services	Police Office			310 Office			2		0	121.45
100	VACAVILLE CENTER I	VA115				11 General Academic Instruction			0099 General Assignment	Adjunct Staff			310 Office			2		0	123.77
100	VACAVILLE CENTER I	VA116				11 General Academic Instruction			0099 General Assignment	Copy/Break Room			315 Office Service					0	157.25
100	VACAVILLE CENTER I	VA117				11 General Academic Instruction			2133 Fire Control Technology	Fire Academy			310 Office			2		0	139.35
100	VACAVILLE CENTER I	VA118				11 General Academic Instruction			0099 General Assignment	Adjunct Staff			310 Office			2		0	136.27
100	VACAVILLE CENTER I	VA119				63 General Administrative Svcs			6010 Academic Administration	Student Admin			310 Office			4		0	649.98
100	VACAVILLE CENTER I	VA120				55 Student Support			6499 Other Student Services	Student Lounge			650 Lounge					0	908
100	VACAVILLE CENTER I	VA121				67 Community Relations			0599 Other Business Mgmt	Reception			315 Office Service			3		0	279.9
100	VACAVILLE CENTER I	VA122				REVISE/ADD AS UNASSIGNED				Toilet								0	56.77
100	VACAVILLE CENTER I	VA123				REVISE/ADD AS UNASSIGNED				Toilet								0	58.17
100	VACAVILLE CENTER I	VA124				67 Community Relations			0599 Other Business Mgmt	Storage			655 Lounge Service					0	76.46
100	VACAVILLE CENTER I	VA125				67 Community Relations			0599 Other Business Mgmt	Office			310 Office			1		0	100.59
100	VACAVILLE CENTER I	VA126				67 Community Relations			0599 Other Business Mgmt	Conference/Lounge			650 Lounge					0	423.35
100	VACAVILLE CENTER I	VA127				67 Community Relations			0099 General Assignment	Copy Room			315 Office Service					0	135.85
100	VACAVILLE CENTER I	VA128				67 Community Relations			0599 Other Business Mgmt	Corporate Training			220 Special Class Lab			20	17	0	660.19
100	VACAVILLE CENTER I	VA129				11 General Academic Instruction			0099 General Assignment	Formal Conference			680 Meeting Room			20		0	516.07
100	VACAVILLE CENTER I	VA130				REVISE/ADD AS UNASSIGNED							Hallway					0	1951
VACAVILLE CENTER II																			
101	VACAVILLE CENTER II	101				REVISE/ADD AS UNASSIGNED				Entry			Hallway				-	0	168.86
101	VACAVILLE CENTER II	VV100		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Lounge	650 - Lounge	Correct		25	Incorrect	0	-	2428	2453.69
101	VACAVILLE CENTER II	VV103		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		6	Correct		-	392	368.61
101	VACAVILLE CENTER II	VV104		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct		-	169	168.84
101	VACAVILLE CENTER II	VV105		11 - General Academic Instruction	Incorrect	55- Student Support	0099 - General Assignment	Incorrect	6440- Health Services	Office	310 - Office	Incorrect	850 - Treatment	1	Incorrect	0	-	108	108.01
101	VACAVILLE CENTER II	VV106		11 - General Academic Instruction	Correct		0099 - General Assignment	Incorrect	6460 Financial Aid	Office	310 - Office	Correct		1	Correct		-	109	109.4
101	VACAVILLE CENTER II	VV107		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct		-	108	108.57
101	VACAVILLE CENTER II	VV108				REVISE/ADD AS UNASSIGNED				Elec							-	0	309.56
101	VACAVILLE CENTER II	VV109				REVISE/ADD AS UNASSIGNED				Mech							-	0	209.3
101	VACAVILLE CENTER II	VV110		11 - General Academic Instruction	Correct		1901 - Physical Sciences, General	Correct		Class Lab	210 - Class Lab	Correct		24	Correct		21	1260	1260.26
101	VACAVILLE CENTER II	VV111		11 - General Academic Instruction	Correct		1901 - Physical Sciences, General	Correct		Class Lab Service	215 - Class Lab Service	Correct		0	Correct		-	1034	1034.46
101	VACAVILLE CENTER II	VV112		11 - General Academic Instruction	Correct		1901 - Physical Sciences, General	Correct		Class Lab	210 - Class Lab	Correct		24	Correct		21	1271	1272.01
101	VACAVILLE CENTER II	VV114		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		48	Incorrect	52	-	1181	1182.25
101	VACAVILLE CENTER II	VV116		65 - Physical Plant Operations	Correct		6510 - Building Maintenance and Operation Suppo	Correct		Storage	730 - Storage	Correct		0	Correct		-	189	188.67
101	VACAVILLE CENTER II	VV117				REVISE/ADD AS UNASSIGNED				Jan							-	0	76.2
101	VACAVILLE CENTER II	VV118		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		49	Incorrect	52	-	1163	1163.27
101	VACAVILLE CENTER II	VV133		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Assembly	610 - Assembly	Correct		75	Correct		-	1439	1431.75
101	VACAVILLE CENTER II	VV135				65 - Physical Plant Operations			6510 - Building Maintenance and Operation Supp	Storage			730 - Storage				-	0	112.66
101	VACAVILLE CENTER II	VV136		11 - General Academic Instruction	Correct		6120 - Library	Correct		Read/Study Room	410 - Read/Study Room	Correct		6	Correct		-	131	130.64
101	VACAVILLE CENTER II	VV137		41 - Libraries	Correct		6120 - Library	Correct		Read/Study Room	410 - Read/Study Room	Correct		6	Correct		-	127	127.41
101	VACAVILLE CENTER II	VV138		41 - Libraries	Correct		6120 - Library	Correct		Read/Study Room	410 - Read/Study Room	Correct		50	Correct		-	1422	1420.59
101	VACAVILLE CENTER II	VV139				41- Libraries			6120 - Library	REF			420 - Stack				-	0	231.47
101	VACAVILLE CENTER II	VV140		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct	0835 Athletics/PE	Meeting Room	680 - Meeting Room	Incorrect	520 - Athletic/PE	200	Incorrect	50	-	3476	3468.67
101	VACAVILLE CENTER II	VV141				11- General Academic Instruction			0835 Athletics/PE	Hallway 1			525 - Athletic/PE Service				-	0	135.98
101	VACAVILLE CENTER II	VV142				11- General Academic Instruction			0835 Athletics/PE	Hallway 2			525 - Athletic/PE Service				-	0	132.72
101	VACAVILLE CENTER II	VV143				REVISE/ADD AS UNASSIGNED				Hallway 3							-	0	1338.07
101	VACAVILLE CENTER II	VV144				REVISE/ADD AS UNASSIGNED				Hallway 4							-	0	780.33
101	VACAVILLE CENTER II	VV145				44 - Computing Support			6780 Management Info Services	IT			715 Computer Processing				-	0	128.11
101	VACAVILLE CENTER II	VV146				REVISE/ADD AS UNASSIGNED				Mens							-	0	382.78
101	VACAVILLE CENTER II	VV147				REVISE/ADD AS UNASSIGNED				Women							-	0	353.07
101	VACAVILLE CENTER II	VV201				REVISE/ADD AS UNASSIGNED				Hallway 1							-	0	2696.84
101	VACAVILLE CENTER II	VV202				REVISE/ADD AS UNASSIGNED				Mens							-	0	382.79
101	VACAVILLE CENTER II	VV203				REVISE/ADD AS UNASSIGNED				Womens							-	0	354.53
101	VACAVILLE CENTER II	VV206		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Lounge	650 - Lounge	Correct		10	Incorrect	0	-	567	552.48
101	VACAVILLE CENTER II	VV206B				REVISE/ADD AS UNASSIGNED				Staff RR							-	0	72.4
101	VACAVILLE CENTER II	VV207			Incorrect	11- General Academic Instruction		Incorrect	0099 General Assignment	Classroom		Incorrect	110 - Classroom		Incorrect	49	-	0	1027
101	VACAVILLE CENTER II	VV208		11 - General Academic Instruction	Correct		0701 - Information Technology, General	Correct		Class Lab	210 - Class Lab	Correct		40	Incorrect	40	23	978	957.77
101	VACAVILLE CENTER II	VV209				44 - Computing Support			6780 Management Info Services	IT			710 Data Processing/Computer				-	0	393.77
101	VACAVILLE CENTER II	VV210		44 - Computing Support	Incorrect	11- General Academic Instruction	6780 - Management Information Services	Correct		Office	310 - Office	Correct		2			-	198	197.57
101	VACAVILLE CENTER II	VV211		11 - General Academic Instruction	Correct		0701 - Information Technology, General	Correct		Class Lab	210 - Class Lab	Correct		40	Correct		24	966	971.93
101	VACAVILLE CENTER II	VV212		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		48	Correct		-	968	976.58
101	VACAVILLE CENTER II	VV214		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		48	Incorrect	45	-	949	924.26
101	VACAVILLE CENTER II	VV215		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		48	Correct		-	937	893.22
101	VACAVILLE CENTER II	VV218		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Classroom	110 - Classroom	Correct		48	Incorrect	42	-	920	913.85
101	VACAVILLE CENTER II	VV232		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Meeting Room	680 - Meeting Room	Correct		25	Incorrect	18	-	396	396.98
101	VACAVILLE CENTER II	VV233		66 - Faculty and Staff Services	Correct		0099 - General Assignment	Correct		Lounge	650 - Lounge	Correct		0	Correct		-	326	325.96
101	VACAVILLE CENTER II	VV234		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Incorrect	2	-	141	139.81
101	VACAVILLE CENTER II	VV235		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Incorrect	3	-	143	142
101	VACAVILLE CENTER II	VV236		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Incorrect	2	-	147	146.42
101	VACAVILLE CENTER II	VV237		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Corerct		-	128	124.37
101	VACAVILLE CENTER II	VV238		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct		-	124	120.56
101	VACAVILLE CENTER II	VV239		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct		-	131	127.77
101	VACAVILLE CENTER II	VV240		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct		-	133	129.65
101	VACAVILLE CENTER II	VV241		11 - General Academic Instruction	Correct		0099 - General Assignment	Correct		Office	310 - Office	Correct		1	Correct		-	120	119.54
101	VACAVILLE CENTER II	VV242				44 - Computing Support			6780 Management Info Services	Data			715 Computer Processing				-	0	102.79
101	VACAVILLE CENTER II	VV245				REVISE/ADD AS UNASSIGNED				Jan							-	0	135.68
101	VACAVILLE CENTER II	VV247				REVISE/ADD AS UNASSIGNED				Mech/IT							-	0	43.09



Digital Mapping

CSW|ST2 created a Digital Map of all the Underground Utilities across all three District Campus/Centers in their signature program called LANDMARK. The advantage of this database system is that it digitally stores and organizes all facilities information, eliminating the need for maintaining rolls of drawings on facilities department shelves or in drawers. In addition, it eliminates the need to have to figure out which project shows the continuity of a particular utility system.

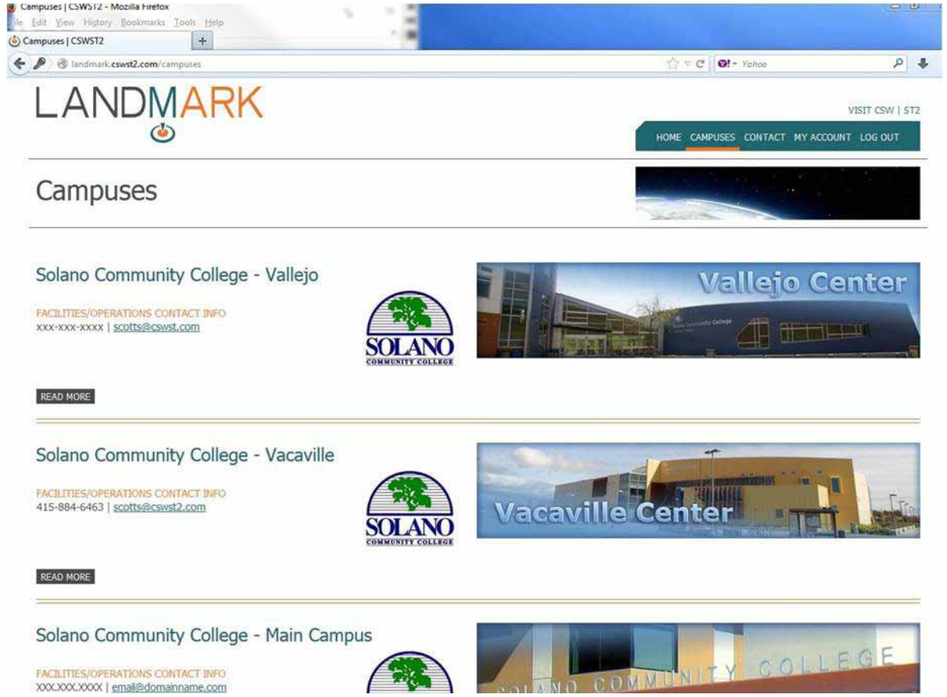
A few key aspects of this program are:

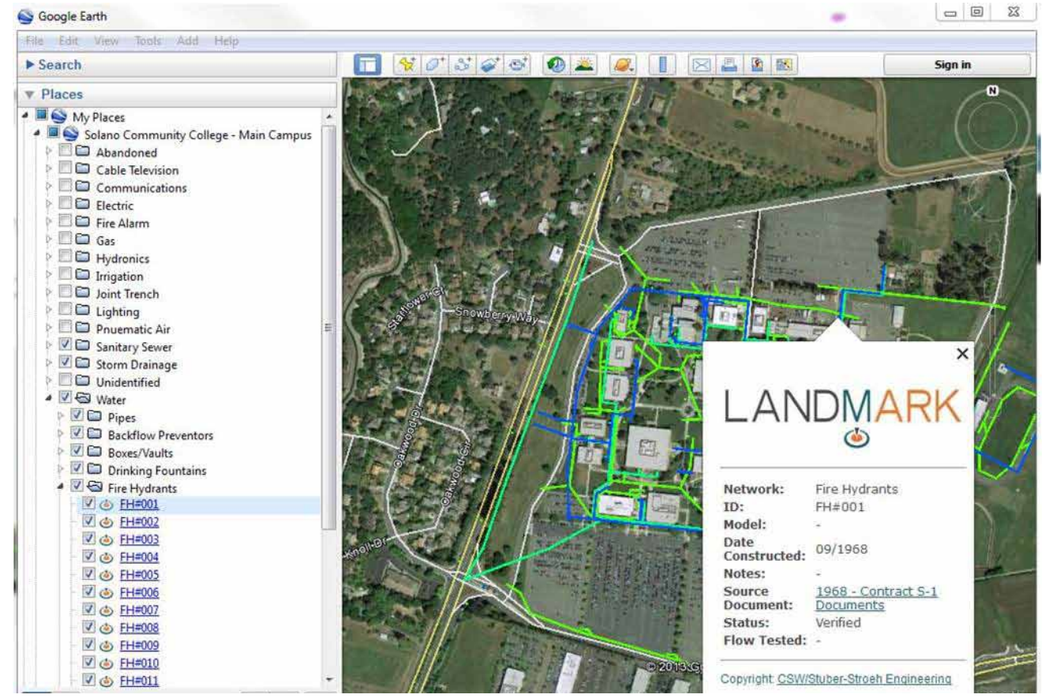
- Web based accessible anywhere Google Earth (free version) is installed
- Combined Infrastructure Data such as Water, Electrical, Storm, Sewer, Irrigation etc.
- Each utility can be turned on/off
- Vertical data for utilities included
- If utilities were field verified, this is identified
- Source of utility information provided and links to actual scanned drawings for particular projects included

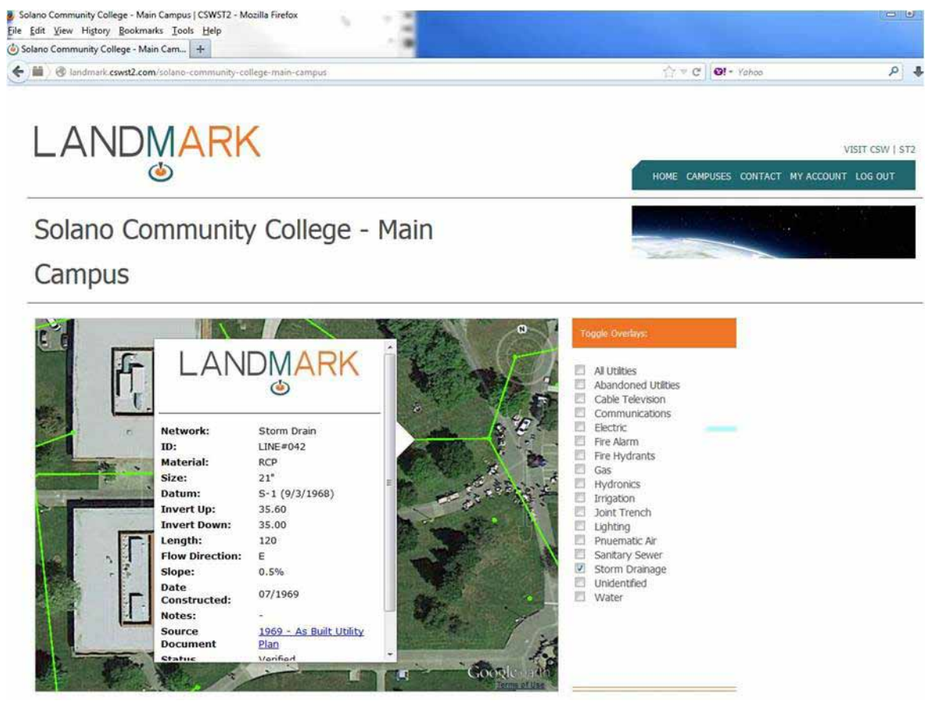
The following page shows a few screen captures from LANDMARK.

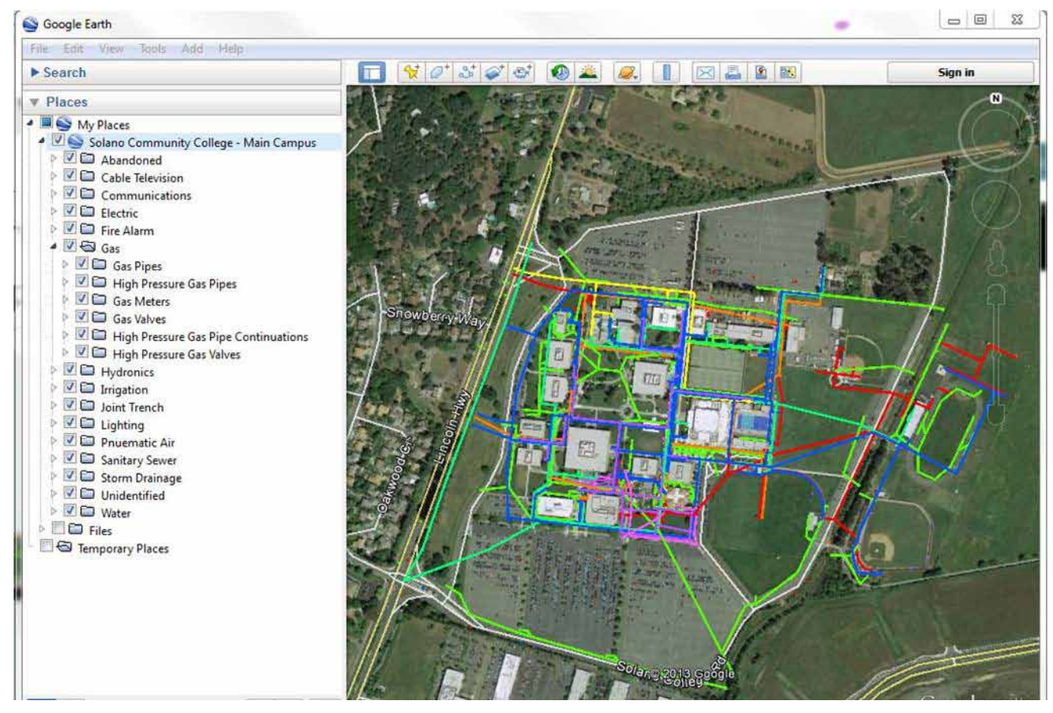
ACCESS TO LANDMARK INFORMATION

Access to the LANDMARK system requires a user name and password set up by CSW|ST2. District is free to share this user name & password as they see fit, to both individuals within the District and Consultants outside of the District.


Campuses | CSWST2 - Mozilla Firefox
LANDMARK
VISIT CSW | ST2
HOME CAMPUSES CONTACT MY ACCOUNT LOG OUT
Campuses
Solano Community College - Vallejo
FACILITIES/OPERATIONS CONTACT INFO
xxx-xxx-xxxx | scotts@cswst.com
Vallejo Center
READ MORE
Solano Community College - Vacaville
FACILITIES/OPERATIONS CONTACT INFO
415-884-6463 | scotts@cswst2.com
Vacaville Center
READ MORE
Solano Community College - Main Campus
FACILITIES/OPERATIONS CONTACT INFO
XXX.XXX.XXXX | email@domainname.com


Google Earth
Search
Sign in
Places
My Places
Solano Community College - Main Campus
Abandoned
Cable Television
Communications
Electric
Fire Alarm
Gas
Hydronics
Irrigation
Joint Trench
Lighting
Pnuematic Air
Sanitary Sewer
Storm Drainage
Unidentified
Water
Pipes
Backflow Preventors
Boxes/Vaults
Drinking Fountains
Fire Hydrants
FH#001
FH#002
FH#003
FH#004
FH#005
FH#006
FH#007
FH#008
FH#009
FH#010
FH#011
LANDMARK
Network: Fire Hydrants
ID: FH#001
Model: -
Date Constructed: 09/1968
Notes: -
Source Document: 1968 - Contract S-1 Documents
Status: Verified
Flow Tested: -
Copyright CSW/Stuber-Stroeh Engineering


Solano Community College - Main Campus | CSWST2 - Mozilla Firefox
LANDMARK
VISIT CSW | ST2
HOME CAMPUSES CONTACT MY ACCOUNT LOG OUT
Solano Community College - Main Campus
LANDMARK
Network: Storm Drain
ID: LINE#042
Material: RCP
Size: 21"
Datum: S-1 (9/3/1968)
Invert Up: 35.60
Invert Down: 35.00
Length: 120
Flow Direction: E
Slope: 0.5%
Date Constructed: 07/1969
Notes: -
Source Document 1969 - As Built Utility Plan
Toggle Overlays:
All Utilities
Abandoned Utilities
Cable Television
Communications
Electric
Fire Alarm
Fire Hydrants
Gas
Hydronics
Irrigation
Joint Trench
Lighting
Pnuematic Air
Sanitary Sewer
Storm Drainage
Unidentified
Water


Google Earth
Search
Sign in
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My Places
Solano Community College - Main Campus
Abandoned
Cable Television
Communications
Electric
Fire Alarm
Gas
Gas Pipes
High Pressure Gas Pipes
Gas Meters
Gas Valves
High Pressure Gas Pipe Continuations
High Pressure Gas Valves
Hydronics
Irrigation
Joint Trench
Lighting
Pnuematic Air
Sanitary Sewer
Storm Drainage
Unidentified
Water
Files
Temporary Places
Snowberry Way
Lincoln Hwy
Oakwood Dr

Solano Workshop Attendees

2012 SOLANOCOLLEGE FACILITIES MASTERPLAN WORKSHOP — May 16, 2012 11:30 am-2:00 pm

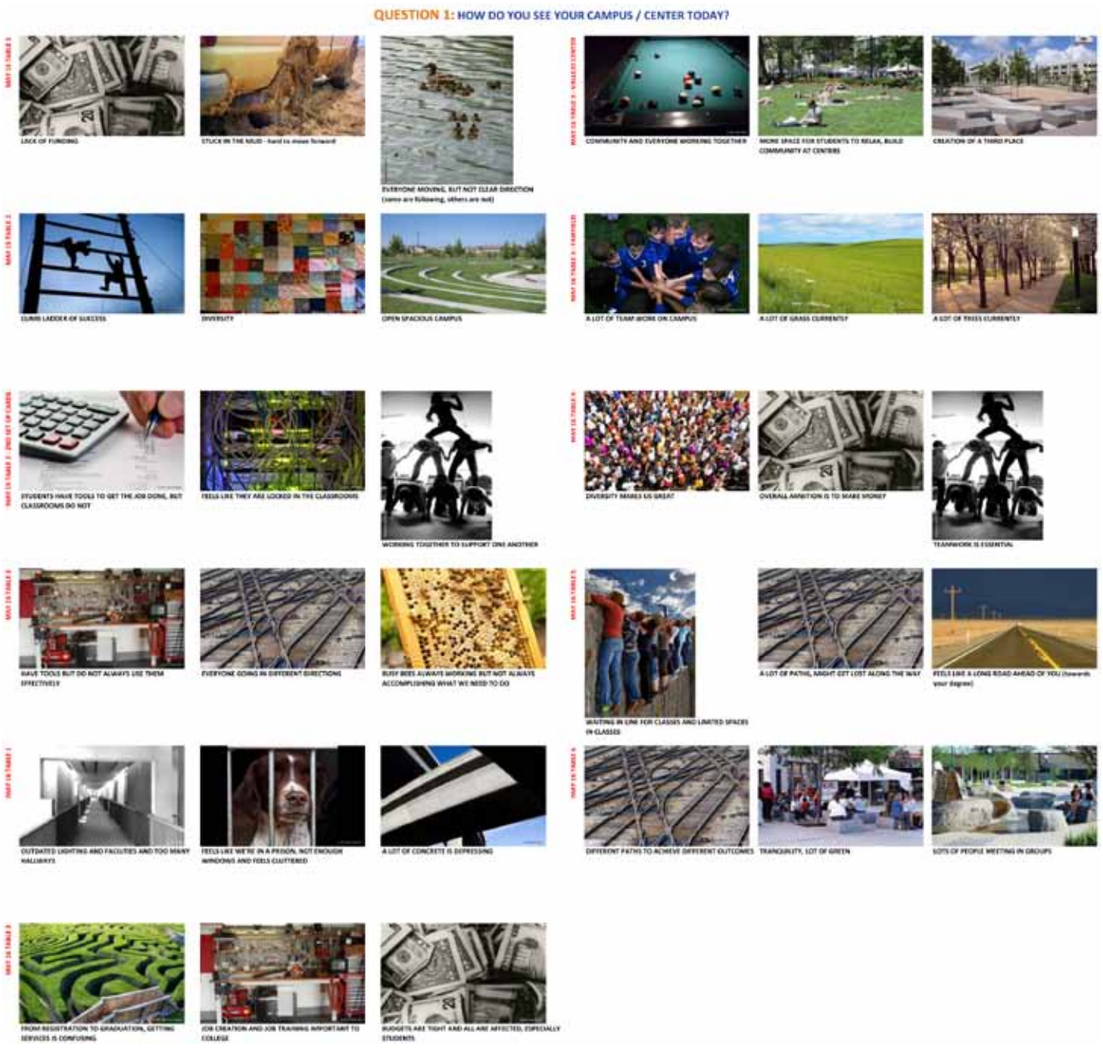
Name	Representing: (Student, Staff, Faculty etc.)	(Optional) Email Address:
Laura Scott	Staff	
Amanda Lim	STAFF	
D. Moss-Tefft	"	
Rick Ernst	CBOC	JFERNST@ Aol. COM
Bernardita Dagcuta	Fiscal staff	
Robert Chambonem	CBOC (measure G oversite com)	
Jerry Kea	Vallejo Center	thomas.Kea@solano.edu
Earl Wylie	Faculty	EARL.Wylie@Solano.Edu
Laura Duran-Gomez	Student / staff	Lauradgldg@hotmail.com
Andrew Campbell	Student	andrew.isaiah.c@yahoo.com
Zackery Sperow	Student - Assc Treasurer	zack.Sperow@gmail.com
Davis Mark Martinez	Student - Assc Academic Curriculum Senator	davismark822@sbcglobal.net
LaShaundra Ward	Student	
Kevin Anderson	Faculty	
Heather George	Student	
Justin Sales	Student	
Abdiel Rocha	student	
Paulina Angel	Student	
Asya Goss	STUDENT	ABBJ88@GMAIL.COM
Blanca Ruiz	student	blanca707@sbcglobal.net
Charo Albarran	Staff	Charo.albarran@solano.edu
Samantha Galan	student	SAMANTHAGALAN@GMAIL.COM

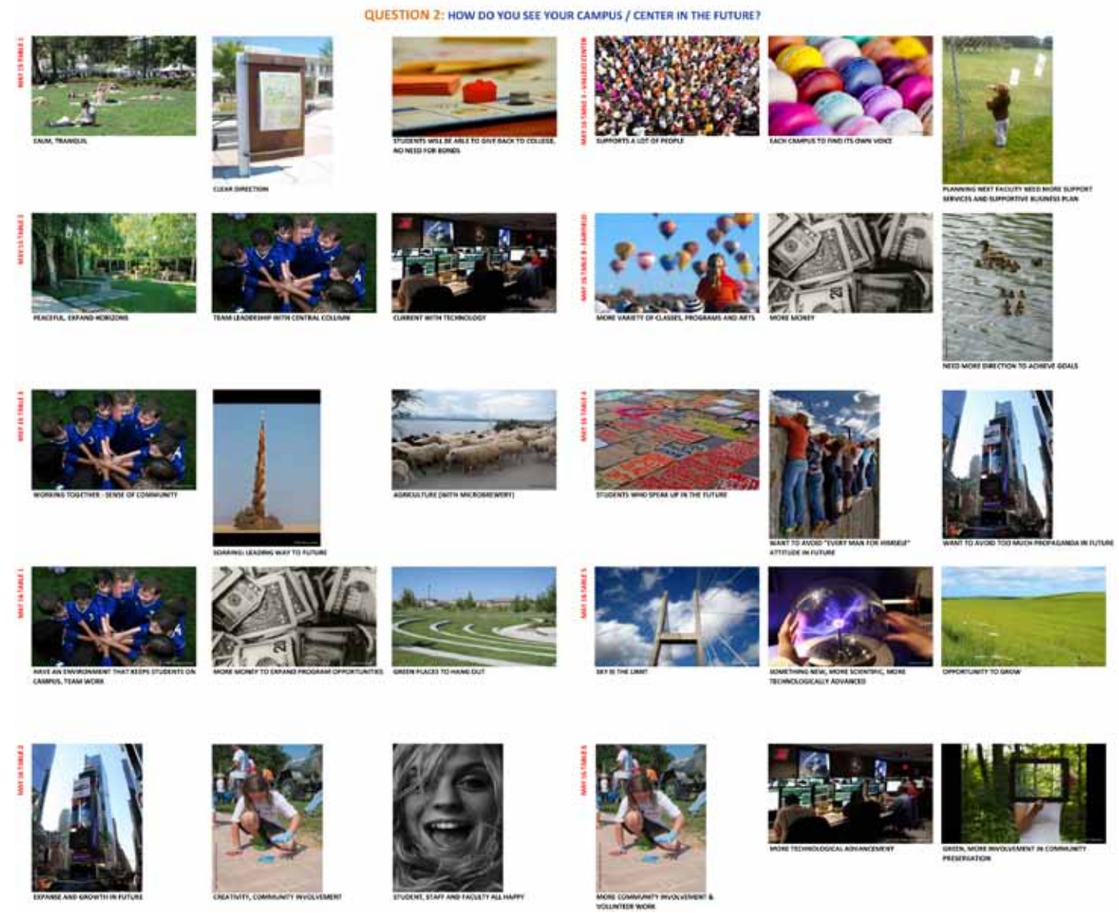
2012 SOLANOCOLLEGE FACILITIES MASTERPLAN WORKSHOP — May 15, 2012 4:30-7:00 pm

Name	Representing: (Student, Staff, Faculty etc.)	(Optional) Email Address:
John Glidden	Student The Tempest	
PETER BOSTIC	staff Foundation	Peter.bostic@solano.edu
LESTER YOUNG	KITCHELL CEM	lyoung@kitchell.com
Dave Froehlich	Facilities	david.froehlich@solano.edu
Arturo A. Castillo	ASSC	Castillo.8604@gmail.com
PHIL McCAFFREY JR.	ASSC	camophil@hotmail.com
Susanna Gunthe	Academic Senate	susanna.gunther@solano.edu
Julia May	Students / Staff	Julia May1@mac.com
Peitin Van't Hul	Research & Planning	PVANTHUL@solano.edu
Peter Cammish	Research & Planning	pcammish@solano.edu
Maire Morinec	CTE + Business	maire.morinec@solano.edu
LILY E. ESPINOZA	SCHOOL OF HUMAN PERF. + DEVELOPMENT	lily.espinoza@SOLANO.EDU
Robin Darcangelo	Financial AID + Veterans	robin.Darcangelo@solano.edu
Jeff Laub	SLA	jeffrey.laub@solano.edu
Jim DeLoe	Faculty	James.dekloe@solano.edu
Jeff Lehfeldt	Local 39	
Janet Leary	Financial Admin	jleary@solano.edu
Joseph Zapantis	ASSC	iZAPANTIS@gmail.com
Jerome Staudinger	Student	jstaudin@yahoo.com
Andrea Cantó	student	
Arthur Jackson	Student	gates.arthur19@gmail.com
John Urrutia	Faculty	
THOM WATKINS	FACULTY	
LES HUBBARD	FACULTY	
Kiran Singh	Student	
Anthony Lee	Student	
Nicholas Sherman	Student	
Anser El Muhammed	Student	

Workshop Exploration 1

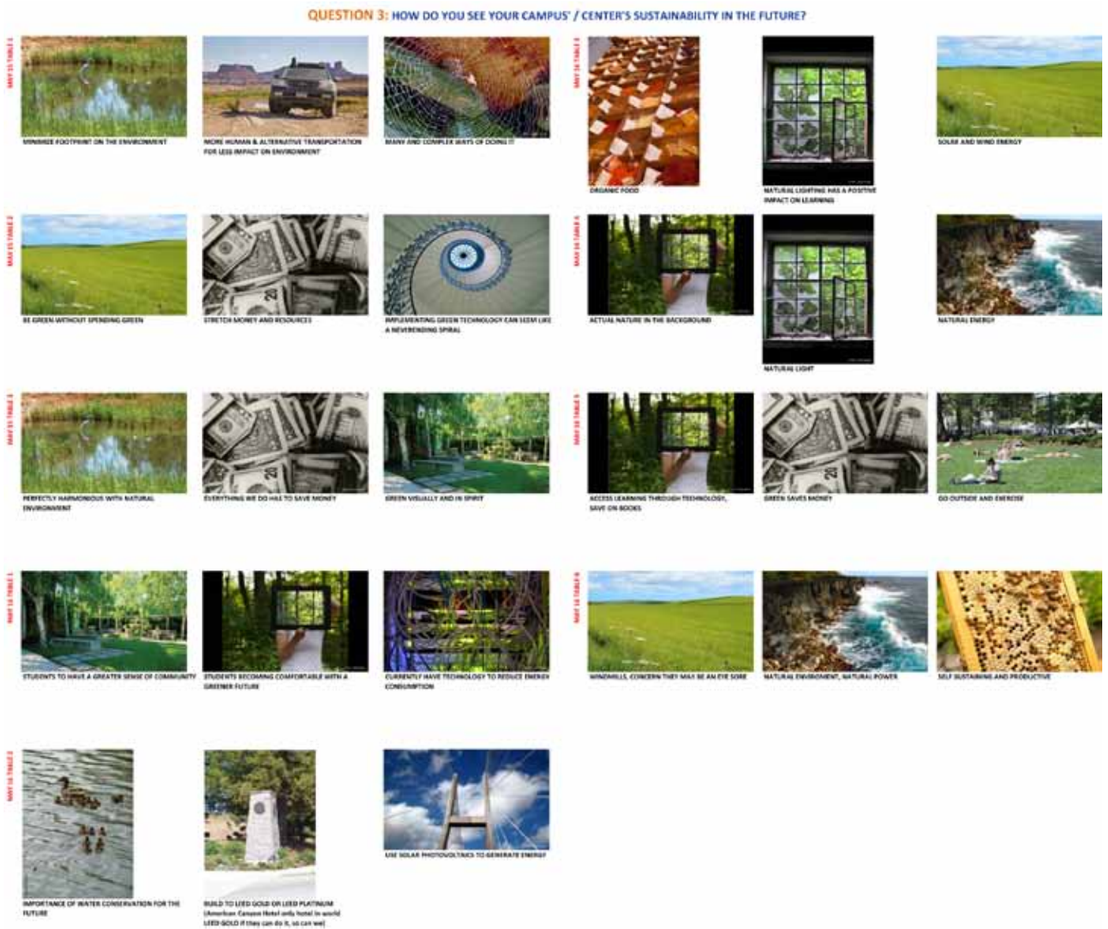
Workshop Attendees were asked to select 3 photos that captured how they felt about their campus today, how they hope to feel about their campus in the future and how they hope to feel about their campus sustainability in the future.





Workshop Exploration 2

Workshop Attendees were asked to identify the facilities needs that are not being met in their community (in black below).



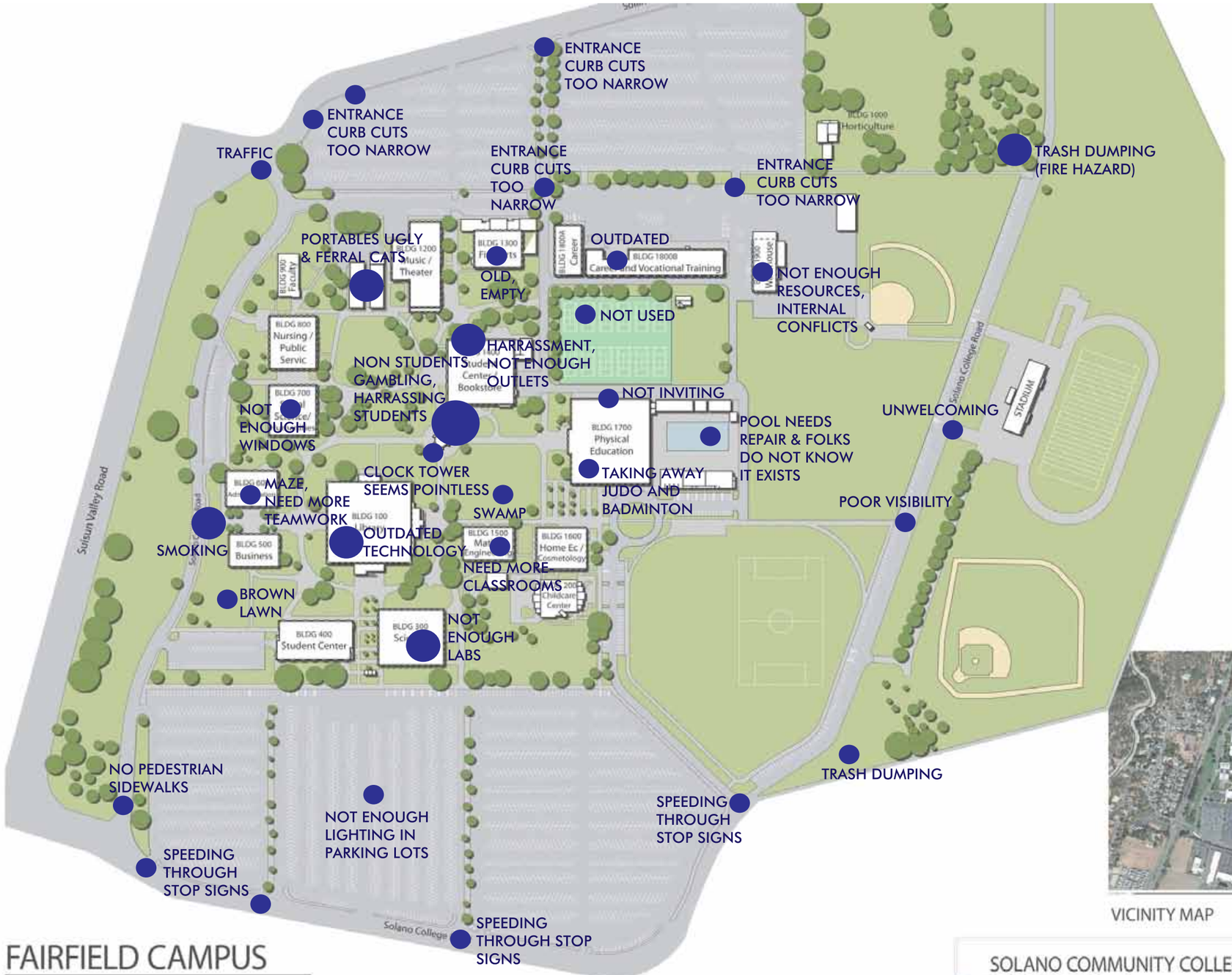
WHAT DO YOU FIND LACKING IN YOUR COMMUNITY?

CATEGORY	WORKSHOP COMMENTS
PROGRAMS	AUTOMOTIVE PROGRAM - CONNECTION TO COLLEGE AND INDUSTRY
	VIRTUAL ENTERPRISE (ABOUT TO BEGIN AT SCCD)
	ART /CRAFTS PROGRAMS OPEN TO COMMUNITY
	CULINARY PROGRAM
FACILITIES	LARGER MEETING VENUE (500 plus) - FOR COMMUNITY GROUPS AS WELL FOR THERE IS NOTHING LOCAL SHOWCASE LOCAL INDUSTRY (e.g. Center at Cerritos College was paid by a Car Dealership)
	LARGER CLASSROOMS (FOR VIRTUAL ENTERPRISE, AS WELL AS OTHER PROGRAMS)
	MULTI-USE SMART COMPUTER LABS (not just learning labs, but for Students and Community Use as well)
	A NON-QUIET SPACE WHERE STUDENTS CAN ACCESS INTERNET AND BE SOCIAL AND INTERACTIVE, SIMLAR TO DEAD BIRD ROOM IN BLDG 300
	AT CENTERS NO CONVENIENT PLACE TO EAT: FOOD CARTS
	FITNESS/STUDY WORKSTATIONS SIMILAR TO OHLONE
	A 24/7 FACILITY FOR STUDENTS TO STUDY, WITH RESOURCES AND SUPPORT SERVICES - WOULD CREATE A GREAT SENSE OF COMMUNITY: STARBUCKS ENVIRONMENT ON CAMPUS
	YOUTH CENTER THAT PROVIDES INFORMATION / ACCESS TO EDUCATION
JOINT USES	SOCCER FIELD - SHARED WITH COMMUNITY
	OPEN ATHLETIC FACILITIES / SPORTS COMPLEX / FITNESS CENTER FOR COMMUNITY USE OPEN TILL MIDNIGHT, LIKE SONOMA STATE
	COULD USE THEATER TO SCREEN MOVIES
	OBSERVATORY / PLANETARIUM TO BRING IN COMMUNITY AS WELL
	SCCD LIBRARY TO PICK UP COMMUNITY NEED (lack of funding)
	HOTLINK AREAS FOR STUDENTS AND COMMUNITY
	THEATER ON CAMPUS AND HARBOR THEATER NEED FUNDING TO CONTINUE COMMUNITY ENJOYED PROGRAMS
SERVICES	BETTER TRANSPORTATION BETWEEN CENTERS & FAIRFIELD CAMPUS
	BETTER RECYCLING PROGRAM ON CAMPUS AND INVOLVE COMMUNITY
	EXTENDED CHILDCARE (right now only till 3 pm and not on weekends) ALSO REQUIRED AT CENTERS DROP-IN CHILD CARE FOR THOSE COMING TO STUDENT SERVICES FOR 1-2 HOURS
	SOLANO COUNTY BASED MENTORSHIP PROGRAM
	BETTER SECURITY AND SAFETY
	SERVICES/ PROGRAMS TO ASSIST THOSE IN COMMUNITY WHO ARE INTIMIDATED BY TECHNOLOGY AND NOT COMFORTABLE APPROACHING EDUCATION
OTHER	FARMER'S MARKET, BUT SEVERAL IN COMMUNITY
	LACK OF NETWORKING AND COMMUNICATION
	LACK OF RESPECT IN COMMUNITY

Workshop Exploration 3

Workshop Attendees were asked to place dots per the following:

- Red Dot for their Campus/Center Main Entrance
- Green Dot for their Campus/Center Heart
- Blue Dot for their Campus/Center Social Places
- Yellow Dot for their Campus/Center Study Places
- Orange Dot for their Campus/Center Favorite Places
- Purple Dot for their Campus/Center Problem Places

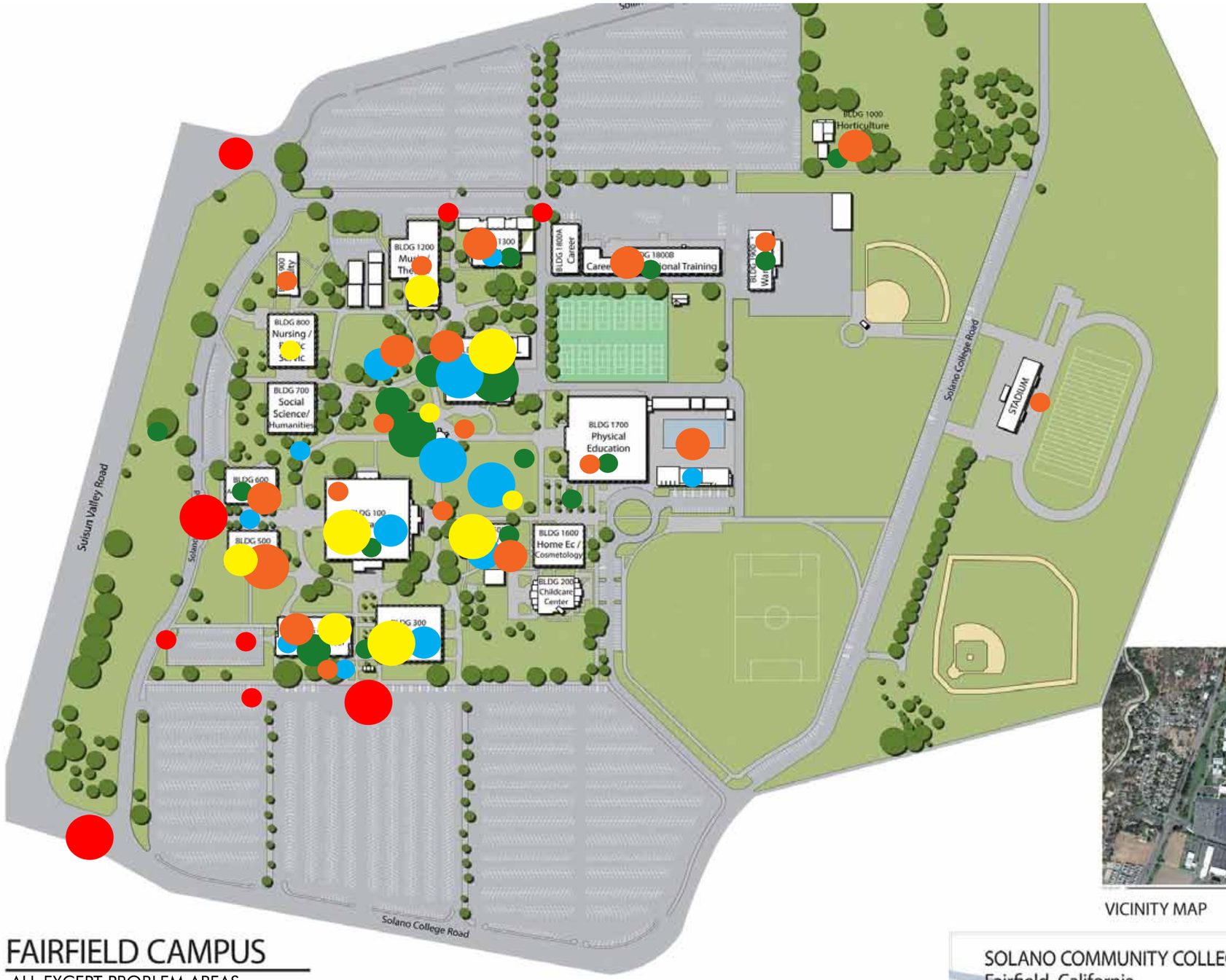


FAIRFIELD CAMPUS

PURPLE ARE PROBLEM AREAS

VICINITY MAP

SOLANO COMMUNITY COLLEGE
Fairfield, California



FAIRFIELD CAMPUS

ALL EXCEPT PROBLEM AREAS

VICINITY MAP

SOLANO COMMUNITY COLLEGE
Fairfield, California

SOLANO COMMUNITY COLLEGE

FAIRFIELD CAMPUS SURVEY

SUMMARY REPORT

MAY 2013

GATES +ASSOCIATES
LANDSCAPE ARCHITECTURE

Landscape Survey Responses

OVERVIEW

Solano Community College is working to create a Master Plan for the Fairfield campus. In order to best address the needs and wants of the campus Gates + Associates developed an online survey.

The survey was presented to the Student Forum before it was released campus-wide. The Student Forum participants helped to circulate the survey to students, faculty and community members. The interface included multiple choice questions as well as short answer.. The survey was live on for one month beginning on April 23rd. During that time nearly two hundred responses were collected.

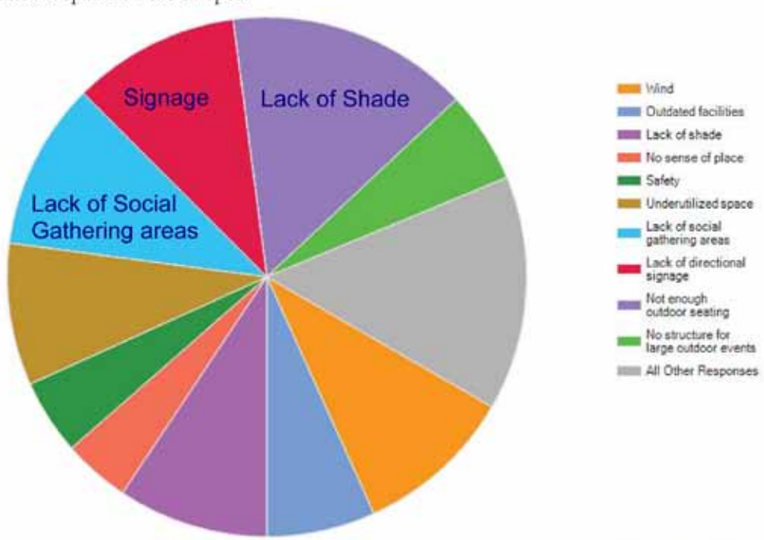
The purpose of the survey was to collect input on the current use of the campus. The survey also aimed to gather opinion on how what campus should look in the future.

The following pages of this report show the questions asked in the survey as well as the breakdown of responses received.

SURVEY SUMMARY

QUESTION 1

Above is a "Campus Site Analysis" diagram of the Solano Community College Fairfield Campus that shows what is there now. The existing campus has large shade trees, vast open lawn spaces but limited intimate outdoor areas. What do you find to be a problem with the exterior spaces on the campus?



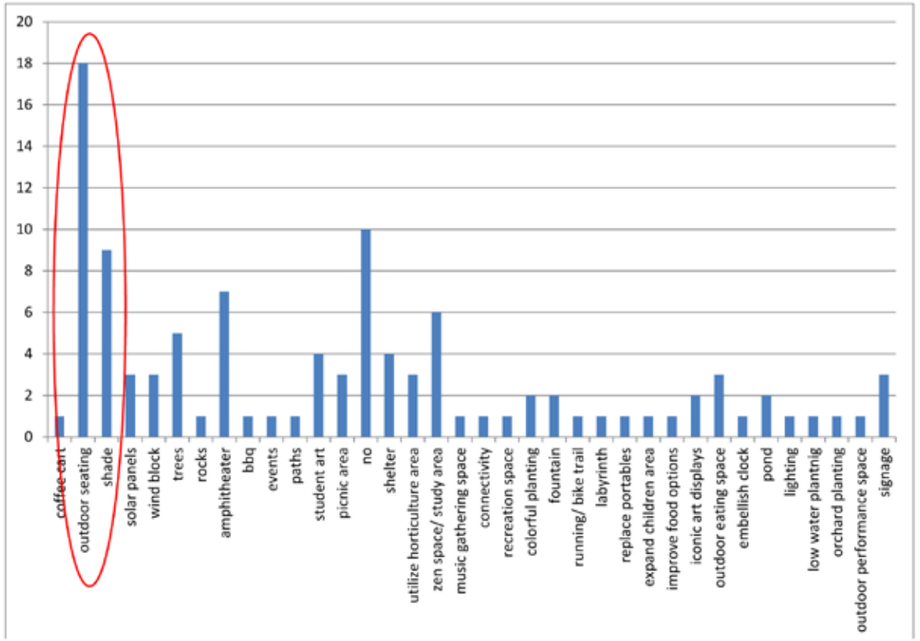
SURVEY SUMMARY

QUESTION 1 "OTHER" RESPONSES

- wind, outdated facilities, lack of shade, lack of social gathering areas and SIGNAGE!
- wind, lack of shade, no sense of place, underutlized space, lack of social gathering areas, lack of directional signage, no outdoor seating, no structure for large outdoor events
- how do you mark several answer choices????
- Safety and lack of directional signage. Our entry ways into the college and design of the streets with turns into campus and into parking lots needs to be changed. Dangerous and not functional. i.e. the cars have a stop at main entrance while cars entering campus come straight through. Also when you get on campus no signage to know where to go. The parking lot space is not utilized and there is too much parking.
- The exterior spaces are perfectly fine. Please replace the Pyracantha bushes that were all cut down all along the length of building 300.
- none
- All areas with outdoor seating available should be shaded.
- outdoor space and grass is nice. could use more plants.
- A shaded area protected from the sun and rain.
- all the above
- Not enough lighting at night esp. back of theatre.
- Long walking distance from parking lot
- Wind. No shade for benches and tables. Very few bike parking areas.
- Parking lots are poorly distributed and sometimes hard to navigate (esp for new students). 2. Any new structures should be 2 stories. Building replacements/additions are highly infrequent and costly. In the meantime, the campus enrollment will likely drastically increase. By designing buildings in advance with multiple floors, future needs will be accomodated. 3. There's no area to facilitate non-student vendors. Their current site (in/around the 1400 bldg) congests student traffic and degrades the atmosphere. 4. There are virtually no areas for cyclists to park, some resort to parking in building hallways or locking their bicycles to tables.
- No covered area for clients to have a designated smoking area for the smoking students and clients..... we serve the public and there are many clients that are here for many hours so a non-smoking campus does NOT serve the public.....All public places have an area within walking distance to service these clients...then we wouldn't have people sneeking and littering and smoking at all the doorways....like in the winter.....also a break areas around every building where the students can study.....
- Outdated facilities, need for shaded outdoor seating
- Too much grass and in the rainy season too many worms. I have a phobia and it makes it hard to get to school.
- The campus should have a pond with ducks and fish, like at the Fairfield City Hall Library.
- Money should be used to update classroom facilities, not outdoor spaces!
- Need more metal picnic tables near nursing building for students
- Many of the above items are correct. More seating areas with both shade potential. WInd will always be an issue. Attempt not to cut any mature trees anywhere on campus. It takes a very long time for them to grow on the compacted soil of the campus. In the parking lots keep the olive trees and harvest them each year for campus olive oil used for sale and promotion.
- lack of recycling bins
- no picnic tables where groups of students sit across from each other with notebooks or iPads to discuss course issues or to socialize
- gateway entrance to the north end of bldg 800 is always dirty with outdated, filthy and unssanitary garbage receptacles.
- most of the above (can't select specific choices - survey limits to one)
- safety in the parking area, and night lighting
- intimate courtyards where one can have their lunch

QUESTION 2

Is there anywhere outdoors on the campus that you feel should be used differently? If so, where and how should it be used? Example: Large expanses of lawn near the Student Center could be used to display student art.



RESPONSES

- The area behind the library should be cleaned up and made into an intimate courtyard, with comfortable outdoor seating, shade, and maybe a coffee cart?
- Place solar paneled covering over parking lots. This would provide shade, decrease wind and provide green energy to the campus.
- The circle of trees, rocks, and tables in zone F should have some shade. I wouldn't like to see a huge tent over it though, i like the grass.
- Zone F, I would spend more time in this area if there were designated shaded spot to sit and socialize with others.
- An outdoor sitting area would be nice for the students.
- not enough out door seating or shade
- Students, faculty, and staff wanted an amphitheater in that expanse of lawn near the Student Center, when surveyed a few years ago.
- events, bbq on occasion,
- Quad should have paths and shaded table areas. We need more shade trees.
- Horticulture area should be updated and available to community.
- I like the idea of student art being displayed in more areas other than the new gallery. However, I do not

QUESTION 2 RESPONSES CONTINUED

want to see any trees removed and feel we do not have enough of them now.

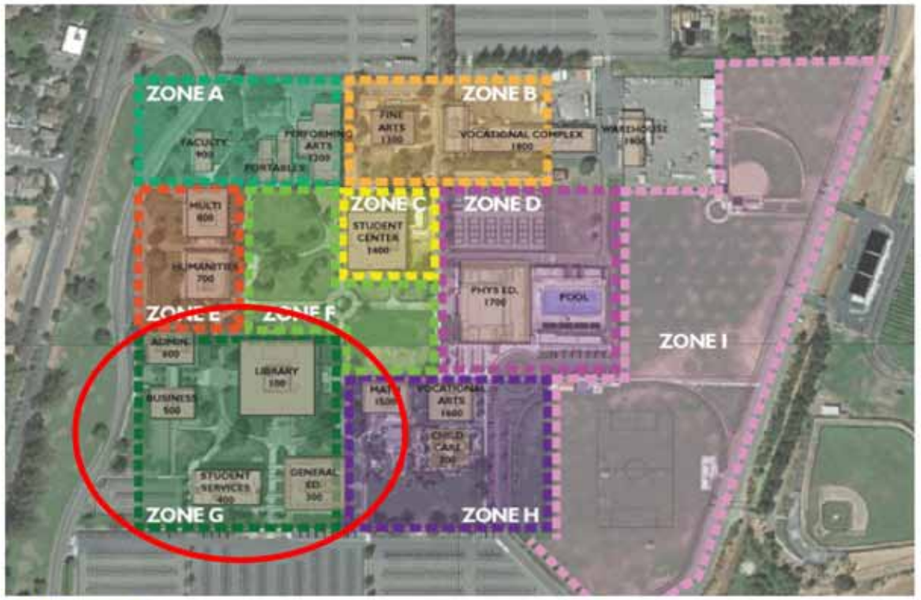
- A central Amphitheater would be a great addition!
- Some of the lawn area should be a picnic area or tables of some sort. Sometimes it's better to study outside than the library or sitting in your car.
- The lawn in front of the student center could use chairs/ outdoor seating areas (especially ones that provide shade/shelter for hot/rainy days)
- Zone F should have more benches and a gathering area.
- Picnic tables or small tables and chairs for lunch in grassy area outside of the 300 building.
- need shade, directional signs, no place for outdoor events... everything I couldn't check above in #1.
- Zone F could have sheltered picnic tables for outdoor activities.
- Central clock area near Student Center should be expanded for gatherings and displays.
- The patio behind the Library
- No.
- Horticulture area is underutilized. Students could grow more food. Use it to instruct students in hardscape techniques. Used for Community gardens. Developed as a quiet space with trees, waterfalls - Zen like atmosphere
- No.
- no
- The shaded area between the Student Center and Fine Arts buildings can be used for outdoor seating.
- sitting areas are needed around campus
- Covered areas with student's work for student's eat and meet with each other.
- none
- There should be a gathering and or practice area for music student near the music department. Every other college I have attended provided a social area for music students to share. There is no place to gather btween classes in the music department.
- There should be many seating/rest areas throughout the campus. It is a large campus and you have to walk to classes and it would be nice to have somewhere to sit. Yes, there are some benches here and there but they are on the main pathway and it is not comfortable to sit at them. Perhaps they can be off the beaten path a bit so that you can have a little privacy away from the crowds. This is a beautiful campus, and I would like to be able to sit and take it all in once in a while.
- Perhaps an area outdoor that has a "wind stop" of some kind.
- The large grassy area in the front of the school that aren't used for anything
- Nope.
- more seating in zone B
- there should be a criss/cross side walk in the large grass area outside the bookstore along with seating and SHADE!
- The lawn area near the student center is a great space for studying or activities such as frisbee. However, many students avoid the grass area, preferring the cement pathways. I think having events such as club fairs and occasionally displaying students' artwork and photography on the lawn may compel students to utilize the space.
- Plant life, colorful flowers . There is no color on campus
- Zone F: It's just a bunch of open grass and most of the campus passes through it. Its a perfect place to put an outdoor feature like an fountain with lots of shade and seating. Zone H: there is another huge empty grass lawn that can be turned into an outdoor theater. You can hold events and do outdoor movies in summer for the community.
- Define a space, for which the college can designate as a common ground for the students to use a social gathering area.

QUESTION 2 RESPONSES CONTINUED

- Some type of shade (another tree?) in the middle of the large expanse of lawn would help so we could have more space to sit under because the middle of the lawn is unusable without shade.
- The quads should be used for those who want to study or eat on the grass.
- It's fine how it is.
- More outdoor seating and shade please! And more student "study areas" with wifi and/or running/bike trail like UC Davis. This area could be used by the community and would improve the campus aesthetic and hopefully health of the community!
- The front of the business building is an eyesore and it's one of the first things many visitors see when visiting the campus. There is a cement pad approx 12" under the surface, which causes landscaping challenges unless you use appropriate succulents like sedums. There is no shade or place to sit and relax. I've been trying to figure out how to improve it for years and have considered a labyrinth because it is an international symbol for quiet time and meditation.
- The areas are all segregated, they do not flow together. Zone F between C and E might be a nice area for a large reflecting water element with tables, seating, shade; a nice area for students to gather. Check out the pond area at Cosumnes River College in front of the Library.
- The portables could be replaced with a permanent structure (2 stories to facilitate both excess theatre storage and performing arts classes. This would make available space in the 1200 building for stage events, rehearsals, seminars, etc.).
- There should be more vegetation on campus to make the air quality better.
- I feel that students should have a wall which they can decorate and show their creative sides. A place where students can leave a part of themselves.
- The center quad area as a convenient break area....with a cover
- More ways to keep students present and connected to the campus.
- Children's area needs to be expanded so children can run and ride bicycles and kick balls.
- we could benefit from having a subway or other choice of food other than the cafeteria on campus
- Outdoor shaded lunch areas and iconic art displays like they have at uc davis with the large eggheads.
- The clock in the middle of the yard should be used as a center of activities.
- Yes, like the Fairfield Branch Library in Solano County, we should have a pond with ducks and fish. It should also have lots of tables and seating for student gatherings to make it enjoyable to be outside.
- More gathering areas with shade.
- More places to store and lock bicycles securely.
- large expanses of lawn could be divided up to create more direct walking paths between buildings, I often cut through grass.
- N/a
- Many large spaces of land that are only grass should be considered to be developed more into something the students and/or faculty members can utilize. For example, yes, more seating areas so students can study outdoors when the weather is appropriate or even have more buildings used for that purpose.
- fountains, sculpture, amphitheatre
- Yes this is a great idea. A sculpture zone would be terrific that can can have pieces that change from term to term or year to year. 2d work or photos are very tricky to display out doors for long periods of time.
- More trees in Zone F would give the center of the school a more sophisticated look. Also it would help with shade.
- Appears fine.
- Why are we talking about grand designs when we can't manage to maintain the painted lines the parking lot? It is a free-for-all out there.
- Zone F benches and chairs with more trees for students to study/gather/relax. maybe with a rock fountain and more lighting

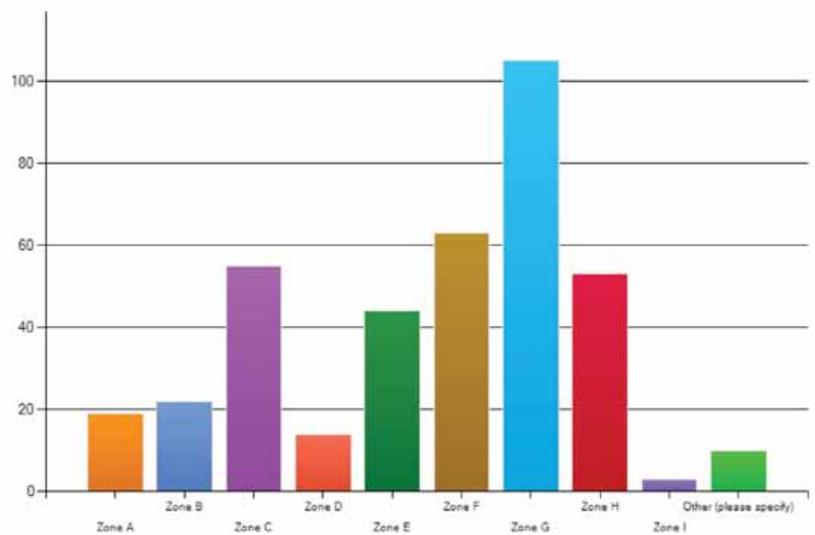
QUESTION 2 RESPONSES CONTINUED

- Zone 1 should be turfed to eliminate maintenance and to offer the community turfed soccer fields to rent. It would also provide dry outdoor spaces for classes and athletic practices on wet days. Zone F should be a horticulture project and art project to create a scenic and beautiful outdoor space. Put a giant pavilion where we have the white tent now
- More shaded areas to sit, as well as possibly additional open air areas to study. There is also nothing for open air events like concerts or plays, etc.
- I feel it's sorely lacking an amphitheater for concerts or plays near 1500, 500 or 200.
- Too much lawn. Lawn could be converted to plaza like areas with shade where students could gather. It would save $ in the long run. Lawns are expensive and environmentally use up a lot of resources. Change the lawns into an arboretum with drought resistent California flora. The horticulture department could help design this.
- If the vast expanses of lawn were partitioned into more intimate, semi-open spaces, more students would congregate outside, yet be able to stay out of the wind.
- I believe that we should use the parking lot for Solar Panels, it is a huge space and we should use it to it's full potential. It would also provide shade.
- No
- The addition of a fully-functional outdoor amphitheater would be quite useful to the school at large: graduation ceremonies, events, gatherings both formal and informal would be possible. Ideally, this would be in the lawn area in Zone F, closest to the Performing Arts building. Outdoor theatrical productions are also possible, hence the phrase, "fully-functional": It would need to have every technological capability that an indoor theatre space has (except for rigging and a flyspace), so as to be truly useful. It should be so useful that it could even be rented to outside parties. For an example of how to do it BADLY and USELESSLY, take a look at Las Positas College's utterly unusable outdoor amphitheater: no electricity, poorly designed, no way to actually use it for much more than a place to sit and eat lunch, if that. More indigenous trees, please, all over campus: Redwood, Oak, Bay, etc. Take a look at the trees in Bishop Ranch in San Ramon: truly lovely, they create a remarkable experience, just driving through. However, along with indigenous trees, please plant fruit trees. These can be maintained by the Horticulture students. Fruit trees everywhere, and specific areas on campus reserved for agriculture, could help transform this bland and architecturally dead place. Specifically, take a look at what Disney does in TomorrowLand, planting edible plants everywhere instead of inedible plants. Again, all of these could be tended by the Horticulture students. Why keep them shoved off to the side? Let's make their study central to keeping the campus lovely. Imagine a campus redolent with orange blossom, lemon blossom, jasmine, wisteria, roses ... this could be lovely. Our vast, deadly seas of black asphalt are screaming for solar panels. This is as obvious as the sun in the sky.
- tables and seating in zone A on the grassy area west of the parking lot and across from the vehicle entrances. Seating on the large concrete area that exist between bldg 800 and 900 with a shade structure. large seating area in the lawn quadrangle in zone f with shrubs and small trees
- There is a large area outside the 500 building that is not used for anything. It would be an ideal spot for outside seating or an area to hold events if upgraded from just grass and gravel.
- A better space for outdoor music - live or DJ'd - could draw more students into the center of campus...
- Additional outdoor tables for social gathering or outdoor classroom/meeting space.
- It is pretty much the whole campus that needs to be evaluated.
- More advertisement of student events..especially athletic events. Scrolling signage that is current
- The area behind the theater could be an enclosed patio for receptions etc. The entrance to the lobby should be wind protected for patrons waiting to buy tickets.
- N/A
- add seating/patios
- The lawn with the current big large white tent rarely has anyone walk on it. A small area was crudely created near the 1500 building, but more of it could be utilized.



QUESTION 3

Please refer to the "Campus Zones" diagram above. In which zone are you most likely to spend time on campus? Choose all that apply.



QUESTION 3 "OTHER" RESPONSES

- No zone for Horticulture??
- None. I only go to the campus to go to my classes and go straight home.
- Outdoor seating in the shade
- zones: math lab/gym/student center bldg/library
- why is the greenhouse / hort area not even on the map???
- Horticulture area - upper right outside diagram
- none
- Center areas away from parking lots.
- In Class!!
- baseball stadium

Existing Solano Community College Fairfield Campus Activities

1. Vet Spouses Group
2. Registered Nursing Information
3. Workshops
4. Peace Walk and Peace Summit
5. Earth Day
6. Veterans Seminar
7. 3rd Annual Career Education Fair
8. Financial Aid Awareness Events
9. Jobs and Internship Fair
10. Cinco De Mayo, food and music
11. Sonoma State University Info Session
12. 5k Walk To Save Lives
13. "Know Your Rights"
14. Genealogy Workshop
15. Al-Mutanabbi Street Project
16. Mini CS/UC Transfer Fair
17. Health and Community Faire
18. Solano Choral Society
19. 5th Annual Foreign Language Night
20. Solano Daze Multicultural Week

SURVEY SUMMARY

QUESTION 4

Above the "Campus Activities" diagram begins to catalogue campus activities and the locations in which they are held. Which campus activities are you involved in? Where on the campus are they held? Example: Poetry Reading - Student Center

- 3. Workshops and 15 Al-Mutanabbi Street Project.
- 9 &16
- None.
- Speech night, theatre
- Early Childhood Education workshop - which I don't see on the list. It is usually held in the Student Center.
- none right now
- Phi Theta Kappa Honor Society Induction Ceremony - Student Center; Asian Pacific Islander Club activities - Student Center
- none
- 5
- I will list the numbers 2,5,7,8 and 9
- Theatre Performances - 1200 Performing Arts
- None.
- computer class
- Earth Day- Student Center Health and Community Faire
- 16,17,9,3,7
- N/A
- Not involved in any of those activities
- Earth Day, Horticultural activities, Workshops
- 7: Career Educational Fair - Student Center & surrounding area 9: Jobs and Internship Fair - Student Center

SURVEY SUMMARY

QUESTION 4 RESPONSES CONTINUED

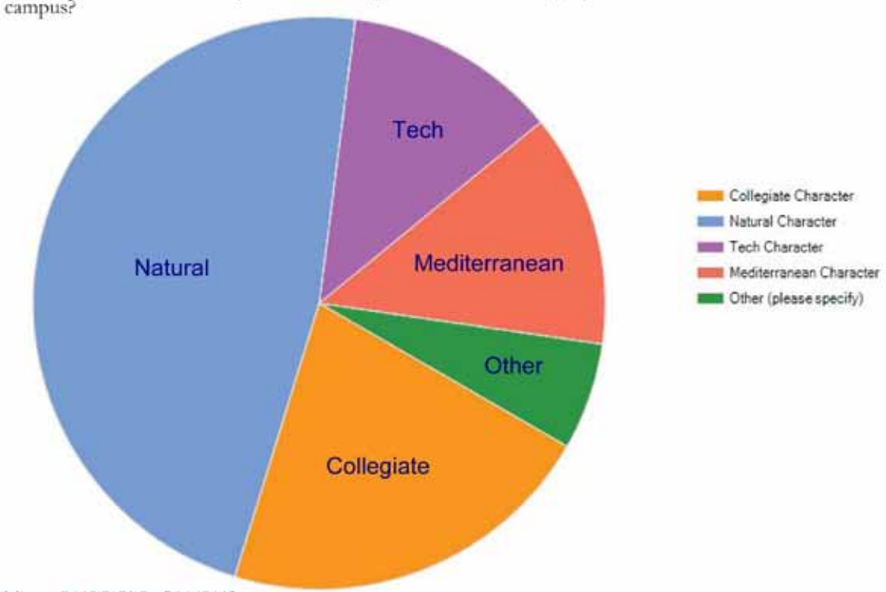
- 15
- none
- I spend my free time on campus studying in bird room
- student center
- None.
- 5th Annual Foreign Language Night - Student Center
- None
- SVR - Humanities and Library
- For the last 27 years, the ECE Department has had an annual ECE conferences with several community partners each Fall semester and we have used the cafeteria, buildings 200, 1600, 1300, 1400, 700 and 800. We have over 200 people participate each year. We are not on your list!
- NA
- 10
- 5,7,9,10,12,16,20,
- I am a student worker in the Athletic building.
- 5,
- none
- poetry- library 15
- n/a
- None
- Cosmetology- building 1600
- Mini CS/ UC Transfer Fair - Student Center
- Veterens activities-student services
- Career fair and CSU transfer fair-both in the student center
- Earth Day, Job and Internship, and Ciino De Mayo, food and music
- none
- Solano Daze Multicultural week-Student center
- none
- None, I prefer a quiet campus. Campus Activities are nice, however, they are a distraction when in class.
- 6
- 16
- You left out performing arts and the tennis courts. Duh.
- E
- NONE
- Career fair (1800 bldg); bunko tournament (1400 bldg); veteran seminar (1400 bldg); peace walk (varies-multiple); theater performances(audience-1200 bldg); misc. fundraisers (consumer-1400 bldg); ethnic studies seminars (periodically-audience-600 bldg)
- NN/A
- None they are all at class time..none after 2:00 p.m
- Cinco de Mayo, Poetry Reading, Foreign Language night, Plays,
- na
- sorry,none.
- None

QUESTION 4 RESPONSES CONTINUED

- Career Fairs
- 3,8,10
- N/A
- None
- various events in cafeteria and surrounding.
- N/A
- LAB-MATH 1500, LIBRARY 100
- Mostly anything that goes on in the Student Center as I study there.
- Studying - Library
- 5 and 17 Student Center
- not sure what is meant by activities for nursing.
- Most of my activities are held in either 1300, 1400, 100, 600, or 1700.
- Registered Nursing Information - Student Center
- None.
- Earth Day-student center
- 3rd Annual Career Education Fair.
- None, mostly on Vacaville Campus.
- 2
- Career Education Fair - Vocational Complex
- Annual Career Education Fair - Vocational Complex
- Everything seems to be held in the 1400 Building
- None
- Theatre Club: Campus Mainstage Original Theatre Workshop: Campus Mainstage (in planning stages right now)
- Career Faire in building 500
- Student Services/Resources (career, financial aid, transfer, health) - Student Center
- Early childhood education - children's program
- Pretty much alof them.
- Multi
- Boosters club
- Theater productions-Performing arts building
- 5 and 20 at the Student Center 1400.
- Everything - Student Center . Seriously ASSC helps with a lot of events

QUESTION 5

Which collection of landscape character images best reflects the style you would like to see on the Fairfield campus?

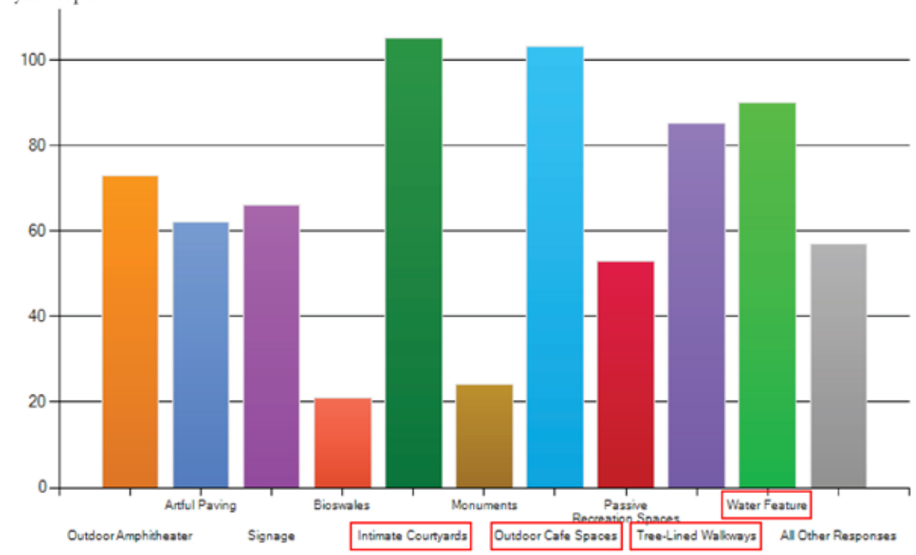


QUESTION 5 "OTHER" RESPONSES

- Celebrate nature and its stress relieving powers
- Not sure without seeing examples
- natural Suisun Valley - reflecting Solano County
- Please don't waste taxpayers money with massive landscaping schemes.
- the way it is is fine
- water wise, in tune with natural environ, low-energy use
- current is fine
- The current 'park-like' landscape is ideal. It's openness is conducive to a stress-free academic experience and makes it easier for students to navigate. By contrast, Contra Costa College has a large volume of trees and other natural features (like a campground)--when I matriculated there, I found it very easy to get lost and disoriented.
- Can't see it to vote
- need to acknowledge local Native American tribes!!!!
- I do not think it is easy to say one or the other....natural is my preference but aspects of all the other three can be included especially collegiate...please no tech....way too corporate!

QUESTION 6

Which landscape features demonstrated below would you like to see on the Fairfield campus? Please Choose your top 5.



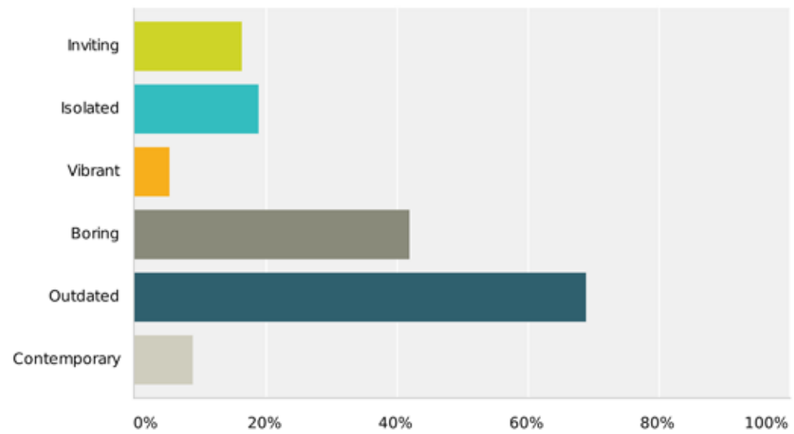
QUESTION 6 "OTHER" RESPONSES

- please be sure there is adequate lighting for safety
- Why isn't the horticulture area shown on any picture? Why isn't the expansion of horticulture that is seen in the master facility plan not shown???
- Again not sure without seeing examples
- None. It is fine as it is.
- the way it is is fine
- keep existing trees; open spaces are great; new features should be damage resistant and easy to maintain over the years
- Keep as many existing mature trees as possible! keep grass, not asphalt
- More CA native and low water plant species, particularly those that attract native pollinators
- obviously, you have too much money to spend frivolously
- We need walkways that make it easier to cross campus. There is a huge drainage issue - the center of most of the green spaces is too muddy to use in any way.
- Cosmetology has NO signage anywhere and we were told over 2 years ago we would be added to the signs and we have not and we serve the public....maps so people can find us.....PLEASE
- A pond with ducks and fish, some art displays from students that can be easily changed from time to time, to give room for artists to display their work.
- picnic tables, both covered and uncovered, edible landscaping
- Water features must use recycled water. These are great and will require maintenance, which I support to expand.
- plaza
- Save the trees many were planted for retired faculty

Exterior Campus Survey Responses

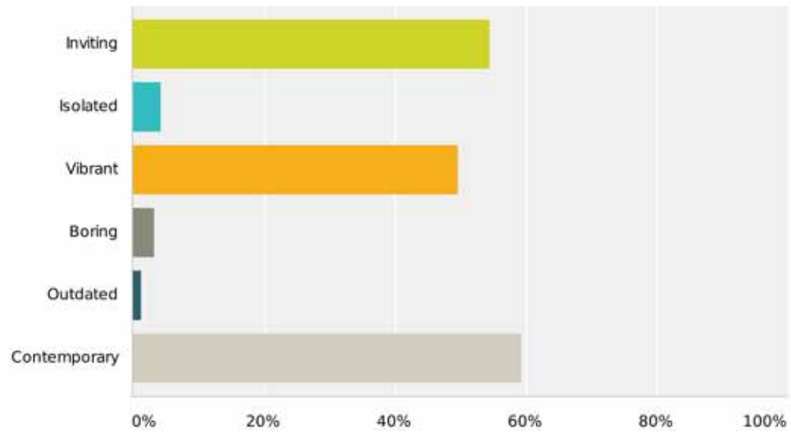
Q1 How would you categorize the architecture (the buildings) of the Fairfield Campus (note you can select more than one):

Answered: 508 Skipped: 36



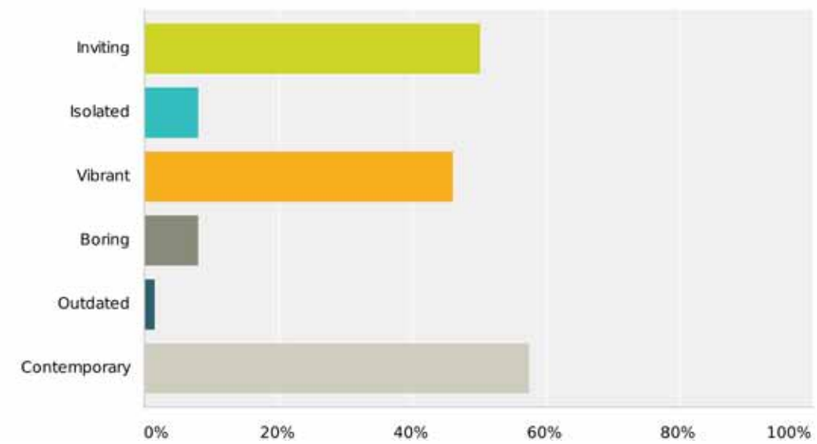
Q2 How would you categorize the architecture (the buildings) of the Vallejo Center (note you can select more than one):

Answered: 498 Skipped: 46



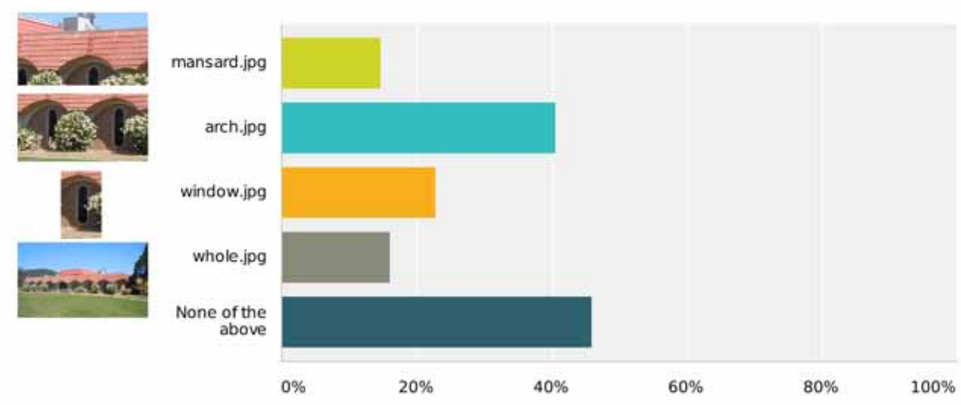
Q3 How would you categorize the architecture (the buildings) of the Vacaville Center (note you can select more than one):

Answered: 492 Skipped: 52



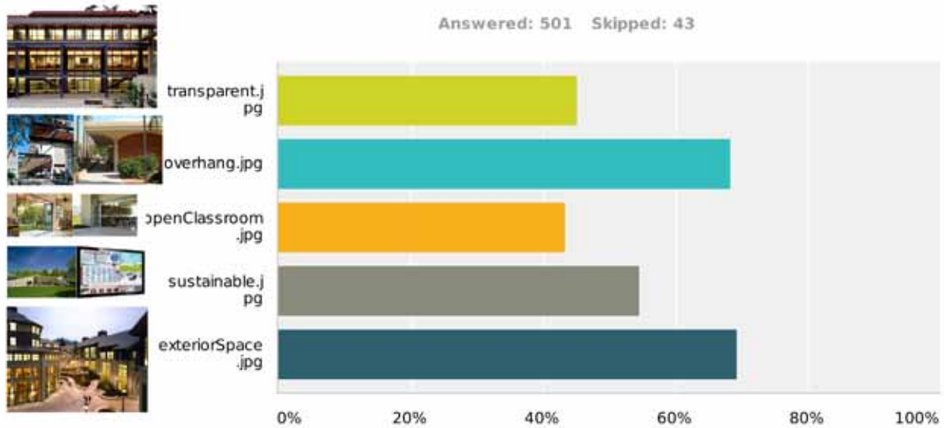
Q4 What elements of the Fairfield Buildings do you like (note you can select more than one)?

Answered: 502 Skipped: 42



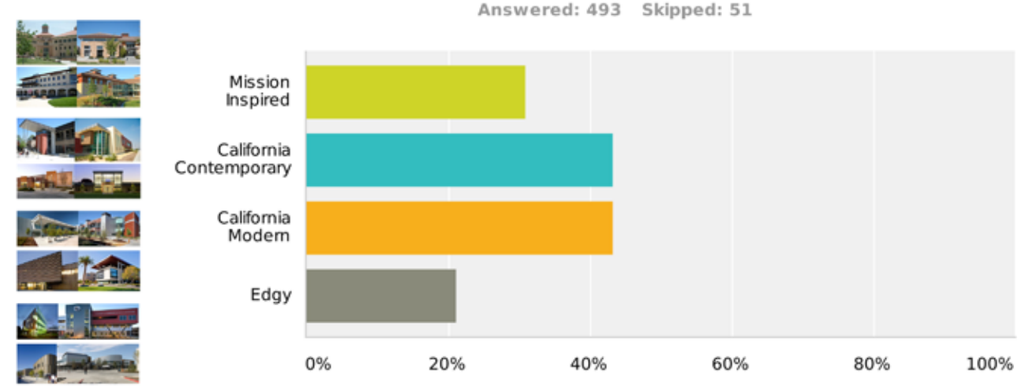
Q5 Which of the following aspects would you like to see for the Buildings on the Campus and the Centers:

Answered: 501 Skipped: 43



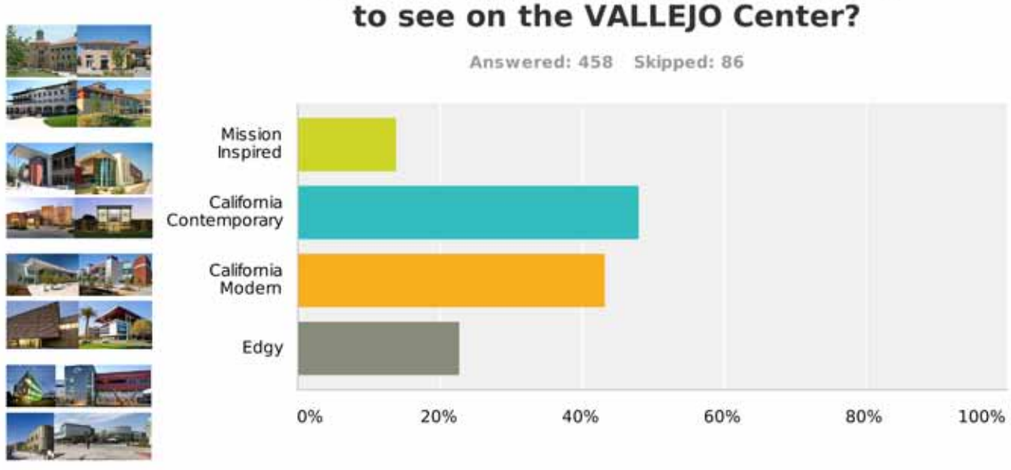
Q6 Which collection of architectural character images best reflects the style/materials/look you would like to see on the FAIRFIELD Campus ?

Answered: 493 Skipped: 51



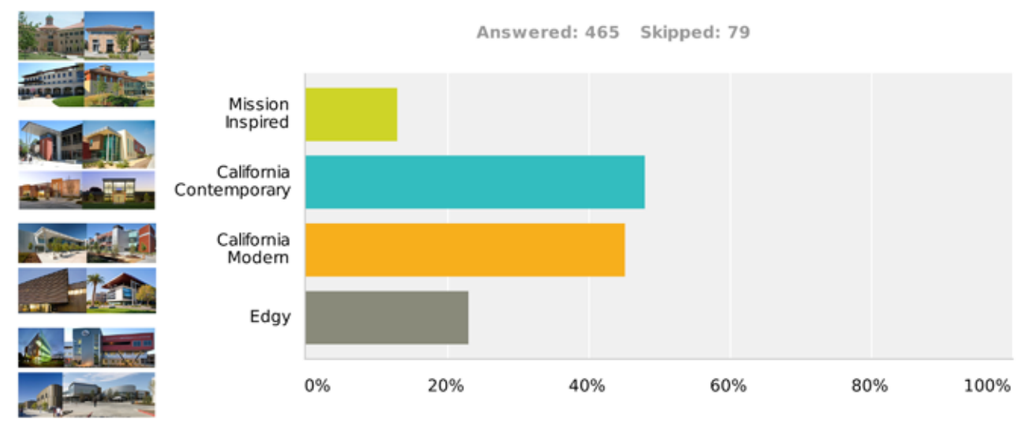
Q7 Which collection of architectural character images best reflects the style/materials/look you would like to see on the VALLEJO Center?

Answered: 458 Skipped: 86



Q8 Which collection of architectural character images best reflects the style/materials/look you would like to see on the VACAVILLE Center?

Answered: 465 Skipped: 79



Building Assumptions

The following documents the Building Assumptions made for the August 2013 version of the Facilities Master Plan.

SOLANO COMMUNITY COLLEGE DISTRICT 2013 FACILITIES MASTERPLAN:
BUILDING SUMMARY

BUILDING 100 - NEW LIBRARY LEARNING RESOURCE CENTER:

● Building 100 is demolished and replaced with a new Library Learning Resource Center. This was the basis for the FPP done in 2009 and was confirmed through a FMP Stakeholder process in 2012 .
● The location of the new LLRC was revised from the 2009 FPP location during the 2012-2013 Stakeholder process for FMP, and was corrected in the submitted FPP in June 2013.
● The 2009 LLRC FPP identified the ASF/GSF and departments to be housed in this building. The buildng to house Library, Learning Resource Center, Academic Success Center, I.T. and TV Studio. See below breakdown of spaces from the 2009 FPP JCAF 31. *Note that STV VBN guessed department assignments based on the Floor Plans included in the FPP.*
● **The 2009 FPP identifies building to be 44,439 ASF and 59,252 GSF.**
● During the 2012-2013 Stakeholder Process the Veteran's Center indicated strong desire to be located in the new LLRC (with Building 500 being a second choice).
● The process also indicated that I.T. might be accommodated in renovated Building 500. Depending on scheduling of projects, if Building 500 renovation was done prior to LLRC then it might be feasilble to remove the I.T. from the new LLRC and replace it with the Veteran's Center.
● The FCI in FUSION is 94.99.
● Facilities Assessments concluded that although there have been some upgrades in last 5 years, the building systems remain in poor condition and building has inadequate structural connections/anchorage between walls and roof. See full report for details.
● **New LLRC Replacement Project has a very High Priority, however its timeline is tied to State Funding availability.**
● See next page for 2009 LLRC FPP Program.

BUILDING SUMMARY

FROM 07/18/09 LIBRARY/LRC BUILDING 100 REPLACEMENT FPP JCAF31

Room Type	No. of Rooms	4 Digit TOP	Name of Space	Project ASF	STV VBN DEPARTMENT GUESS
210	1	6120	Bibliographic Instruct. Lab	1,425	LIBRARY
215	1	6120	Biblographic Instruct. Lab Service	95	LIBRARY
310	1	6130	Technology Services Manager	110	IT DEPARTMENT
310	4	6130	T.S. Programmer/Analyst	400	IT DEPARTMENT
310	1	6130	Web Designer	140	IT DEPARTMENT
310	3	6130	Network Technicians	300	IT DEPARTMENT
310	1	6130	Customer Support Technician	100	IT DEPARTMENT
310	1	6120	LRC Special Services Staff	110	LRC DEPARTMENT
315	1	6100	Tech Serv. Walk-up Counter	212	IT DEPARTMENT
310	2	6120	Library/LRC Admin Offices	270	LIBRARY
310	3	6120	Lib/LRC Staff Work Area	240	LIBRARY/LRC
310	1	6130	Technology Services Director	120	IT DEPARTMENT
310	2	603	Faculty Offices	200	TV STUDIO
310	1	1700	Math Tutoring Director Office	120	LRC
310	5	4900	LRC Faculty Offices	600	LRC
310	7	4900	Tutoring Offices	490	LRC
350	1	4900	Faculty Collaboration Room	626	ACADEMIC SUCCESS CENTER
410	6	6120	Group Study Rooms	720	LIBRARY
410	1	6120	Quiet Study Area	900	LIBRARY
410	1	6120	Reference Stacks	600	LIBRARY
410	1	6110	LRC Special Services Support	180	LRC
410	1	6110	Group Tutoring	242	LRC
420	1	6120	Study/Reading/ Stacks/ Display	15,385	LIBRARY
430	1	6120	Electronic Printing Stations	200	LIBRARY
430	1	6120	Electronic Checkout Stations	100	LIBRARY
430	1	6110	Electronic Tutoring Check In	202	LRC
440	1	6120	Reference Desk	208	LIBRARY
440	1	6120	Circulation Desk/Service	580	LIBRARY
440	1	6110	Tutoring Processing	120	LRC
440	1	6120	Support/Archive/Processing	3,949	LIBRARY
410	1	6110	Teaching and Learning Center	459	ACADEMIC SUCCESS CENTER
410	1	6110	Reading/Writing/ESL Study Room	2,726	LRC
410	1	6110	Developmental Math Study	1,358	LRC
410	1	6110	Faculty/Staff Training Center	954	ACADEMIC SUCCESS CENTER
410	1	6110	1 on 1 Elect. Tutoring Carrels	992	LRC
430	1	6120	Reference Electronic Carrels	732	LIBRARY
430	1	6120	Shared Electronic Commons	2,032	LIBRARY COMMONS
535	1	6130	T.V. Studio	1,610	TV STUDIO DEPARTMENT
535	1	6130	Control Room	460	TV STUDIO DEPARTMENT
535	1	6130	Editing	227	TV STUDIO DEPARTMENT
535	1	6130	Property Storage/Preparation	381	TV STUDIO DEPARTMENT
650	1	6110	Staff Lounge	465	SHARED
680	1	6110	Meeting Room	1,145	SHARED
710	1	6780	Data Network/Server Room	1,034	IT DEPARTMENT
715	1	6780	Network Suport/Service	599	IT DEPARTMENT
715	1	6780	Media Services Support	321	IT DEPARTMENT
			Total Primary ASF	**44,439**	
			Total Primary GSF	**60,000**	***59,252 GSF IN REST OF FPP***

FAIRFIELD BLDG 100 NEW LIBRARY LEARNING RESOURCE CENTER

BUILDING 200 - CHILD DEVELOPMENT CENTER:

- **Building 200 and 201 would remain UNCHANGED in use/size as Child Development Center.**
- The FCI in FUSION is 3.08 and 3.74 respectively.
- Facilities Assessment concluded that Building 200 is in good condition (see full report for details). Building 201 was not assessed.
- **No project identified.**

SOLANO COMMUNITY COLLEGE DISTRICT 2013 FACILITIES MASTERPLAN:
BUILDING SUMMARY

BUILDING 300 - PHYSCIAL SCIENCES ASSUMPTIONS:

- The Existing Building houses all the Sciences.
- Biology and Chemistry departments would move out to a New Science Building because the existing Building 300 is inadequate for size, configuration, ventilation and other system issues.
- Original 2012 assumption was that all Sciences would move to New Building, but during the 2013 Stakeholder Process the Astronomy/Geology/Geography/Physics/Engineering department opted to stay in Building 300 in lieu of being located in a new Science and Mathematics Building.
- Their vision is to convert Building 300 into a PHYSICAL SCIENCES building to house these departments and other related departments such as Waste Water Management in the spaces vacated by Biology and Chemistry.
- ***Note: Nursing could also be located here, to be confirmed by new Dean/Faculty/Staff.***
- Astronomy desired a planetarium on the rooftop of Building 300, however the existing structure may not make this feasible.
- Although Geology and Physics did NOT want modifications to their existing Laboratories, the flooring in these rooms will need to be replaced.
- **Building ASF/GSF would remain UNCHANGED, however the building would undergo MAJOR renovations and some use change.**
- The FCI in FUSION is 70.01.
- Facilities Assessments concluded that although there have been some upgrades in last 5 years, the building systems remain in poor condition and building has inadequate structural connections/anchorage between walls and roof. See full report for details.
- **The Building 300 Physical Sciences Project has a Mid Priority and would follow the building of the New Science and Mathematics Building.**
- Our assumption is that Biology and Chemistry would move permanently to new Science Building, but that Geology, Physics and Engineering would need swing space during the renovation/reconfiguration of Building 300.
- See next page for One Science Faculty/Staff Suggestion.

ONE SCIENCE USER SUGGESTION (VIA EMAIL 04/24/13):	STV VBN comments
Room 301: to remain as the main classroom/labroom for Geology & Geography.	Flooring has to be addressed.
Room 302: to remain as the main classroom/labroom for Physics and Engn'ring.	Flooring has to be addressed.
Rooms 303-306 (to be vacated by Chemistry & Biology): to be used as lecture space by Nursing.	May be feasible. Combining these spaces with smaller space adjacent would give Nursing almost half of Bldg 300, the total of which is larger than the existing Nursing Space in Bldg 800. According to previous Dean Morniec, Nursing needs Skill Lab next to a working ICU; EMT needs a separate lab (which could relocate to Vacaville Fire Academy), access to Lecture Spaces and access to a 50 person Computer Lab nearby. EMP ideintified expanding Nursing Program to include Home Health Care and Senior Care.
Room 307 (vacated by Biology): to be used by Wastewater.	May be feasible to share?
Room 308 (large lecture hall, vacated by Biology): to be used by Astronomy.	Will need to be shared by all of Science, there are no tiered Lecture Spaces planned in New Science and Mathematics Building.

NEW SCIENCE AND MATHEMATICS ASSUMPTIONS:

● Biology and Chemistry departments would move from Building 300 to this New Building.
● Mathematics would move from 1500 to this New Building and there is a desire to connect these buildings (wings) with common spaces (e.g. MESA, study lounges etc).
● Existing Building 1500 would be demolished for this New Building.
● Original 2012 assumption of 27,000 ASF/36,000 GSF was based on District provided list. Through Stakeholder Process in 2013 it became evident that this would not be sufficient for both Science and Mathematics needs, even with Physical Sciences staying in Building 300. **Based on user provided information we guess-estimate this building to be closer to 45,000 ASF / 62,000 GSF.**
● Below is the list of spaces that Mathematics Identified (sent to us 05/02/13). We have estimated size of spaces based on existing spaces and what was built at a new Mathematics Facility at Los Medanos.
● Biology and Chemistry gave us a written brief that identified only key spaces, without identifying sizes for these key spaces. We used the De Anza Science Center Program (also Biology and Chemistry Building with similar Credit FTES) as the basis for our assumptions on space sizes and other required spaces.
● ***NOTE: current building does not house Nursing, should Nursing be located here the building will need to grow.***
● **The New Science and Mathematics Building has TOP (a very High) Priority, however its timeline is subject to swing space for Building 1500, unless the project was done in (2) phases.**

BIOLOGY/CHEMISTRY ASSUMPTIONS: Black items by Science Faculty in 02/2013, Red items are STV VBN assumptions based on De Anza Science:

Biology Labs	4	1800	One Lab dedicated to Anatomy	Proper Ventilation for Anatomy Top Priority, but Proper Ventilation for entire Facility equally important	7,200	
Biology Lab/Instrument Support				Needs to be properly sized	3,720	
Chemistry Labs	3	2000	One Lab dedicated Organic Chem	Proper Ventilation for 14 fumehoods in Org. Chem	6,000	
Chemistry Stock Room				Needs to be properly sized	2,000	
Chemistry Comp. Lab					720	
Chemistry Balance Rm	2	360			720	
Chemistry Instrument Room					800	
Offices / Student Study				Bird Room Model	4,800	
Receiving/Loading					300	
TOTAL BIOLOGY/CHEMISTRY ASF					**26,260**	ASF
Mathematics and MESA ASF (see next page)					**18,740**	ASF
TOTAL GSF					**62,000**	GSF

● See next page for information provided by Mathematics Faculty/Staff.

MATH BUILDING OF THE FUTURE (received 05/02/13)						STV VBN ASF GUESS	
Room Type	Number	Computers	Desks/Tables	COMMENTS			
Offices	20	1 each		Twenty offices would allow for most of the math faculty, math administrative assistant, and the MAC director to be located together. At least two offices should be reservable for adjunct use.	*	4,800	Suite includes Astericked Items; Modelled after the Bird Room; desired to be a Campus Standard in all Buildings
Dean's Office-Conference Room	1	1			*	INCLUDED IN ABOVE	
WorkArea/MailRoom/PrinterRoom/Stor.	1				*	INCLUDED IN ABOVE	
Mechanical Room	1					in GSF	
Classrooms	10	1 each	9 classrooms with 40 seats; 1 classroom with 30 seats for math 310/ 320/012/040.	With the Measure G remodel, math lost the use of 1101 and never gained a different classroom. Ten classrooms would give us back the one we lost and allow for growth with two additional classrooms.		8,800	
MAC Computer Lab/Classroom	1	40		This room could be reserved for class use or used for drop-in MAC assignments when not reserved.		1,400	
MAC Small Group Study Rooms	2		10 each	This would be an increase of one study room. One could be reserved for review sessions or make-up exams.		240	
MAC	1	30	100			2,100	
Staff Restroom				Four unisex restrooms with sinks. Between classes there is often a wait to use the toilet.		in GSF	
Men's Restroom				Ten toilets?		in GSF	
Women's Restroom				Ten toilets?		in GSF	
Hallways/Student Gathering Area			30	Students need tables and chairs or benches to sit between classes. Currently students sit on the floor and obstruct traffic flow.	*	INCLUDED IN ABOVE	
Additions by emails There should be a good-sized MESA center in either the math building or the science building (or the common area in between the two buildings?) that includes about 800 square feet for a study room/computer lab and at least three offices (100 square feet each) for the MESA director, administrative help, and the MESA counselor and maybe some smaller group study/tutoring rooms too.						1,400	
TOTAL MATHEMATICS AND MESA ASF						**18,740**	ASF

BUILDING 400 - STUDENT SERVICES:

- Building 400 was built in 2008 and houses the Student Services including the Veteran's Center and Foundation.
- Both the Veteran's Center (about 746 ASF) and the Foundation (not sure how big) are expected to move out of Building 400.
- Foundation would like to move to Building 600 Administration for functional synergies. If they can not fit in Building 600 they could fit in the renovated Building 500 (Administration Expansion).
- Veteran's Center would like to move to new LLRC or Building 500 (Administration Expansion) for size requirements and ideal adjacencies to Building 400, parking and main entry to campus.
- **No program for these vacated spaces in building 400 has been identified as of yet.**
- **Building ASF/GSF and use would remain UNCHANGED.**
- The FCI in FUSION is 00.00.
- Facilities Assessments concluded that building is in good condition.
- **Backfilling vacated spaces is minor and Low Priority.**

NEW BUSINESS EDUCATION ASSUMPTIONS:

● This project originated out of a solution for the Building 600 project. The existing Building 600 offers no Adminstration growth opportunities, which are already occuring. Given the location of Building 600 Current Administration Building and Building 400 Current Student Services Building, it seemed appropriate to convert Building 500 into the Administration growth building. Doing so displaces Business/Computer Information Systems.

● The EMP identified the following for Business, Banking and Finance Programs: "projected growth in Business and Finance occupations, general increases in enrollment and FTES, and lack of competitive educational providers suggests the potential for program expansion."

●The EMP identified the following for Computer Information Studies: "growth in the industry, increased use of technology in the workplace, and expansion into new areas (Mechatronics and Nanotechnology) could potentially increase program enrollment. Program expansion may require continued upgrades to learning equipment and facilities."

● The EMP identified the following for Office Technology: "Projected high growth needs in Office and Administrative occupations as well as general growth in the healthcare sector suggest the potential for program expansion."

● The 2012 FMP had identified a Corporate Training Center for the Fairfield Site, which was then re-located to the Vacaville site per District direction. The ability to provide Business Enterpreneurship Classes that may be short-term/contract based (to generate revenue that can be spent on program access and diversity) is still highly desired.

● There is still a strong desire to have a Middle College on the Fairfield Campus, and with the Fairfield Suisun Unified School District's recent purchase of the property on the NW corner of Solano College, this building is seen as the one that can welcome the high school students in their initial semester on campus (High School teachers would teach the students in classrooms located in this building during the first semester, but the following semesters the students would take College classes across campus).

● If this project were built early, it could serve as swing space for other critical projects (e.g. it could house Mathematics so that 1500 could be demolished for the Science and Mathematics Facility). After swing space needs were met, the Business/CIS programs could expand as the EMP suggests and the Middle College and Business Enterpreneurship spaces could be accommodated.

● **We have currently assumed the building will be about 15,440 ASF and 22,000 GSF** to allow both Business/CIS and Mathematics to move into this building at the same time (both existing Business and Mathematics are 11,616 GSF each). This ASF/GSF has to be verified, for it may be larger than what a Business Expansion/Middle College etc would warrant.

● **This Project has TOP Priority (a very HIgh Priority) for it provides swing space for other Critical Projects.**

BUILDING 500 - ADMINISTRATION PHASE 2 ASSUMPTIONS:

● This building is expected to be converted from Business/CIS to Administration Expansion once a replacement New Business/Computer Information Services Building is Built.
● **Building ASF/GSF would remain UNCHANGED, but the use will change.**
● Final Occupants for this project have NOT been confirmed.
● However, there has been conversations on having the I.T. housed here in lieu of the new LLRC, if feasible.
● If the LLRC project would occur prior to the Building 500 Project, then I.T. would relocate from Building 100 to the LLRC as previously planned in the 2009 LLRC FPP, and the Veteran's Center would be housed here in Building 500.
● Unless there are any other plans for either of these departments, it is safe to assume that one of these two departments would end up in Building 500.
● The FCI in FUSION is 68.92.
● Facilities Assessments concluded that although there have been some upgrades in last 5 years, the building systems remain in poor condition and building has inadequate structural connections/anchorage between walls and roof. See full report for details.
● **This project has a High Priority given that the existing Building 600 renovation can not accommodate the growth in Administration that is already identified.**

IF I.T. MOVES HERE THEN WE ASSUME THEY NEED (FROM 07/18/09 LIBRARY/LRC BUILDING 100 REPLACEMENT FPP JCAF31):

310	1	6130	Technology Services Manager	110	IT DEPARTMENT
310	4	6130	T.S. Programmer/Analyst	400	IT DEPARTMENT
310	1	6130	Web Designer	140	IT DEPARTMENT
310	3	6130	Network Technicians	300	IT DEPARTMENT
310	1	6130	Customer Support Technician	100	IT DEPARTMENT
315	1	6100	Tech Serv. Walk-up Counter	212	IT DEPARTMENT
310	1	6130	Technology Services Director	120	IT DEPARTMENT
710	1	6780	Data Network/Server Room	1,034	IT DEPARTMENT
715	1	6780	Network Suport/Service	599	IT DEPARTMENT
715	1	6780	Media Services Support	321	IT DEPARTMENT
				3,336	**ASF**

Note: the above is an assumption based on our guess of what seems to have been allocated to IT in the 2009 FPP.
In addition we would expect them to need access to shared items (best guess below):

Access to Shared Staff Toilets (Men's and Women's)	**300**	*size depends on how many share*
Access to Shared Staff Lounge	**200**	*size depends on how many share*
Access to Meeting Room	**400**	*size depends on how many share*

● See next page for Veteran's Center needs.

IF VETERAN'S CENTER MOVES HERE, WE ASSUME THEY NEED (BASED ON 05/08/13 MEETING):
Waiting Area with Front Desk
(4)-(5) Enclosed Offices, one with a private entrance for Vet Center Readjustment Office
Open cubicles for (4) employees
(1) Walk-in Storage Closet
(1) Restroom Unisex
(1) Sink/Refrigerator or Break Room Close by
One Study Area with 10 Computers
One lounge with additional 10 computers and TV for entertainment/gaming. Would like it enclosed with retractable wall so that Study Area and Lounge can be used for events/functions/celebrations etc
Display/Information for Heritage Information on Military Branches
Veterans Resource Center Signage
Memorial for Veterans right outside, e.g. 5' tall granite piece
We estimated the total identified above required about 2,600-3000 ASF.
Note: Veteran's Staff was going to tour other facilities and may have revisions to the above.

BUILDING 600 - ADMINISTRATION (PHASE 1):

- This building is under design and funded by Measure G. The program below was supplied by the Architects HA+A.
- Building is programmed as Administration and includes a small addition for Board Room related spaces.
- The project is underway and is expected to be complete Fall 2014.

Department	Name	Area
ACADEMIC AFFAIRS	WORK RM.	172
ACADEMIC AFFAIRS	CURRICULUM OFFICE	199
ACADEMIC AFFAIRS	CURRICULUM ANALYST	97
ACADEMIC AFFAIRS	VICE PRESIDENT EXEC. ASSIST.	218
ACADEMIC AFFAIRS	VICE PRESIDENT ACADEMIC AFFAIRS	238
BOARD ROOM	BOARD ROOM	2,494
BOARD ROOM	STORAGE	43
BOARD ROOM	COAT CLOSET	30
BOARD ROOM	AV	33
BOARD ROOM	STORAGE	121
BOARD ROOM	PRES. CONF. ROOM	237
BREAK ROOM	(N) BREAK ROOM	367
BUSINESS - FISCAL SERVICES	(E) VAULT	196
BUSINESS - FISCAL SERVICES	PAYROLL	105
BUSINESS - FISCAL SERVICES	PAYROLL	103
BUSINESS - FISCAL SERVICES	STOR.	49
BUSINESS - FISCAL SERVICES	VP FINANCE ADMIN.	345
BUSINESS - FISCAL SERVICES	EXEC. ASST.	123
BUSINESS - FISCAL SERVICES	DIR. FIS. SERVICES	123
BUSINESS - FISCAL SERVICES	BUSINESS - FISCAL RECEPTION / OPEN OFFICE	789
BUSINESS - FISCAL SERVICES	CONFERENCE	256
BUSINESS - FISCAL SERVICES	CHECK WRITING	85
BUSINESS - FISCAL SERVICES	WK. #5	97
BUSINESS - FISCAL SERVICES	ASST. MANAGER	114
BUSINESS - FISCAL SERVICES	COPY	31
BUSINESS - FISCAL SERVICES	WK. #4	79
BUSINESS - FISCAL SERVICES	WK. #1	79
BUSINESS - FISCAL SERVICES	WK. #2	54
BUSINESS - FISCAL SERVICES	WK. #3	57
BUSINESS - FISCAL SERVICES	OFFICE	86
BUSINESS - FISCAL SERVICES	OFFICE	86

- Continued on next page

FAIRFIELD BLDG 600 ADMINISTRATION

HUMAN RESOURCES	RECRUITER	101	
HUMAN RESOURCES	ASSOC. VP HR	222	
HUMAN RESOURCES	HR DIRECTOR	128	
HUMAN RESOURCES	COPY / FILES	257	
HUMAN RESOURCES	HR OFFICE	98	
HUMAN RESOURCES	HR OFFICE	107	
HUMAN RESOURCES	TEST	78	
HUMAN RESOURCES	STUDENT ASST. / HR TECH.	85	
HUMAN RESOURCES	HUMAN RESOURCES RECEPTION	240	
HUMAN RESOURCES	HR ANALYST	105	
PRESIDENT / SUPERINTENDENT	VESTIBULE	36	
PRESIDENT / SUPERINTENDENT	TOILET	81	
PRESIDENT / SUPERINTENDENT	PRESIDENT / SUPERINTENDENT	390	
PRESIDENT / SUPERINTENDENT	SPECIAL ASSISTANT	281	
PRESIDENT / SUPERINTENDENT	PRESIDENT - SUPERINTENDENT WAITING	246	
PRESIDENT / SUPERINTENDENT	STOR.	66	
RESEARCH & PLANNING	OFFICE	142	
RESEARCH & PLANNING	OFFICE	141	
RESEARCH & PLANNING	RESEARCH + PLANNING RECEPTION	111	
RESEARCH & PLANNING	OFFICE	122	
RESEARCH & PLANNING	RESEARCH	114	
RESEARCH & PLANNING	WK. STATION	30	
RESEARCH & PLANNING	RESEARCH	85	
STUDENT SENATE	ACADEMIC SENATE	106	
		10,478	ASF
AUXILIARY SPACE	CUSTODIAL	115	
AUXILIARY SPACE	MEN'S RESTROOM	215	
AUXILIARY SPACE	WOMEN'S RESTROOM	232	
AUXILIARY SPACE	CLOSET	39	
AUXILIARY SPACE	(E) TELECOM	211	
AUXILIARY SPACE	(E) MECH	217	
CIRCULATION	CORRIDOR	489	
CIRCULATION	CORRIDOR	848	
CIRCULATION	CORRIDOR	191	
		2,557	NON ASF
Approximate GSF (still in design)		**14,500**	GSF

FAIRFIELD BLDG 600 ADMINISTRATION

BUILDING 700 - INTERNATIONAL STUDIES ASSUMPTIONS:

● The building currently houses the Humanities (Social Sciences and English to be specific). The intent of this project is to join Building 700 and Building 800 together to form a Humanities complex, whereby International related Studies (Foreign Languages, International Relations etc.) would be located in this building and other Humanities in 800.
● **Building ASF/GSF would remain UNCHANGED, however the building would undergo MAJOR renovations.**
● **An Addition of about 4,400 GSF joining 700 and 800 would house Student Study Space and some Offices on the Bird Room Model.**
● The FCI in FUSION is 68.92.
● Facilities Assessments concluded that although there have been some upgrades in last 5 years, the building systems remain in poor condition and building has inadequate structural connections/anchorage between walls and roof. In addition excessive surface water was observed on the west side of this building, near the building foundation, which needs to be rectified. See full report for details.
● **The Building 700 International House Project has a Low Priority.**

SOLANO COMMUNITY COLLEGE DISTRICT 2013 FACILITIES MASTERPLAN:
BUILDING SUMMARY

BUILDING 800 HUMANITIES ASSUMPTIONS:

● The building currently houses the Humanities and Nursing. The intent of this project is to join Building 800 and Building 700 together to form a Humanities complex. The expectation is that Nursing will be relocated (location being determined).
● **Building ASF/GSF would remain UNCHANGED, however the building would undergo MAJOR renovations.**
● **An Addition of about 4,400 GSF joining 800 and 700 would house Student Study Space and some Offices on the Bird Room Model.**
● The FCI in FUSION is 39.44.
● Facilities Assessments concluded that although there have been some upgrades in last 5 years, the building systems remain in poor condition and building has inadequate structural connections/anchorage between walls and roof. In addition excessive surface water was observed on the west side of this building, near the building foundation, which needs to be rectified. See full report for details.
● **The Building 800 Humanities Project has a Low Priority and can only be done once Nursing is re-located.**

BUILDING 900 FACULTY OFFICES:

- The building houses Faculty offices and was built in 2007.
- **Building ASF/GSF and use would remain UNCHANGED.**
- The FCI in FUSION is 00.00.
- Facilities Assessments concluded that building is in good condition.
- **No project identified.**

SOLANO COMMUNITY COLLEGE DISTRICT 2013 FACILITIES MASTERPLAN:
BUILDING SUMMARY

BUILDING 1000 HORTICULTURE:

- The building currently houses Horticulture and is not expected to change. However, the building does need renovations to the Interior and the Buildings Systems.
- **Building ASF/GSF would remain UNCHANGED, however the building would undergo SOME renovations.**
- The Horticulture Department has secured private funding to restore the growing gardens and build auxillary structures. We believe that this project is underway, or will be shortly.
- The FCI in FUSION is 43.40.
- Facilities Assessments concluded that the building systems are in poor condition. See full report for details.
- **The Building 1000 Horticulture Project has a Low Priority.**

BUILDING 1200 MUSIC DRAMA:

● The building currently houses Music and Dramatic Arts.
● The State recently approved the Modernization Project for this Building. It is our understanding that no additional square footage will be added to this building as a result of this State Funded Project.
● We recently heard through the Executive Bond Manager that the TV Studio (currently housed in Building 100) is being considered for this project. If this program does move to Building 1200, it will need to be adjusted out of the New Library LRC project when that gets funded.
● **Building ASF/GSF would remain UNCHANGED, however the building would undergo MAJOR renovations.**
● The FCI in FUSION is 98.63.
● Facilities Assessments concluded that the building and the building systems remain in poor condition. Building has inadequate structural connections/anchorage between walls and roof. See full report for details. In addition, the discontinuity between the high roof and the lower roof portions of this building adds further structural concerns for this building and we advise the District to have this building evaluated more thoroughly with regards to necessary structural upgrades.
● **The Building 1200 Project is already underway.**

NEW PERFORMING ARTS BUILDING ASSUMPTIONS:

● This project was initially considered in 2012 and tabled until it resurfaced in 2013.
● The primary objective of this project, as we understand it, is to add a larger theater space for both Academic and Community use.
● There is also a desire to collocate the creative arts in ths facility adjacent to the Theater. These programs include Dance, Film and Television.
● Previous District list identified a 9,000 ASF/12,000 GSF Theater Shop/Storage facility for the Fairfield Campus. It is unlikely that the existing 1200 Building can be renovated to accommodate this, so in all likelihood this would have to be captured within this New Facility.
● No one has specified the seating capacity of a new theater(s) or the size for this facility. Some have mentioned the Three Stages at Lake Folsom College as an example for what the combined 1200 Music and Drama Building and this new Performing Arts Center could be. The Lake Folsom College Facility is sized at 80,000 GSF.
● **We assumed the New Performing Arts Center would be about 45,800 GSF**. Combined with the 1200 Building (which is 25,231 GSF) the total would be about 71,000 GSF.
● **This Project has a Low Priority.**

SOLANO COMMUNITY COLLEGE DISTRICT 2013 FACILITIES MASTERPLAN:
BUILDING SUMMARY

BUILDING 1300 FINE ARTS:

- This building houses the Fine Arts and was recently renovated (2013).
- **Building ASF/GSF and use would remain UNCHANGED.**
- The FCI in FUSION is 00.00.
- No Facilities Assessments were done since the building was under construction.
- **No project identified.**

SOLANO COMMUNITY COLLEGE DISTRICT 2013 FACILITIES MASTERPLAN:
BUILDING SUMMARY

BUILDING 1400 STUDENT CENTER:

- This building houses the Cafeteria and Bookstore and was renovated/added to under Measure G.
- The College President would like this facility to be more on par with facilities like the San Mateo College Food Services and the American River College. We believe this would entail an interior renovation project.
- We have also heard that the Kitchen was designed and sized to accommodate a possible future Culinary Program. The Educational Master Plan identified too many Culinary Programs in the vicinity that would make a program at Solano College less viable. Alternate uses for this space have not been identified, although it might be feasible to be used by a Nutrition Program (see EMP page 6-12).
- **Building ASF/GSF and use would remain UNCHANGED.**
- The FCI in FUSION is 70.42.
- The Facilities Assessments identfied Mechanical/Plumbing systems are beyond their useful life and need replacement. The other building systems are in fair condition.
- **Interior Renovation of the Cafeteria is a Low Priority.**

NEW FORUM BUILDING ASSUMPTIONS:

● This buiding aims to provide students, faculty and staff with a place to get coffee/light lunches on the go while transversing the campus, and/or an alternate place to hang out and study where food and coffee is provided.
● The buiding project came out of Workshops and Stakeholder meetings where students/faculty and staff expressed a desire to have such a facility readily avaialble on campus. The facility is not intended to be in conflict with the Student Cafeteria, but rather augment the choices available on campus.
● If designed appropriately it should be feasible to have the indoor seating area for the "Forum Cafe" flexible such that walls can be retracted and the space used for special events such as a podium for graduation etc.
● **We have currently assumed the building will be about 2,552 GSF.**
● **This Project has no Priority other than it would be nice to have as soon as possible.**

SOLANO COMMUNITY COLLEGE DISTRICT 2013 FACILITIES MASTERPLAN:
BUILDING SUMMARY

BUILDING 1500 TO BE DEMOLISHED ASSUMPTIONS:

● The Building currently houses Mathematics, which is slated to move into a New Science and Mathematics Building, where it will have the additional classrooms required (see New Science and Mathematics page for more details). The New Science and Mathematics Building will be located on the current 1500 site, hence Building 1500 is slated for Demolition.
● **Building ASF/GSF will be removed.**
● The FCI in FUSION is 69.08
● Facilities Assessments concluded that the building systems remain in poor condition and building has inadequate structural connections/anchorage between walls and roof. See full report for details.
● **Project is a TOP Priority but requires swing space for Mathematics to occur.**

BUILDING 1600 EARLY CHILDHOOD DEVELOPMENT/FAMILY STUDIES ASSUMPTIONS:

● The building currently houses Cosmetology and Early Childhood Development/Family Services.
● The colocation of these programs is ill-suited given the chemicals used by Cosmetology and the public/car traffic to Cosmetology. Furthermore the Cosmetology Department is outdated and constrained in size, as such Cosmetology is proposed to move to a separate New Cosmetology Building. The vacated space is expected to be used by Early Childhood Development / Family Studies.
● Please see page 6-11 in the 2012 EMP for expectations on Early Child Development and Family Services.
● The possibility of moving the previously planned 202 (Child Devleopment Center Expansion) into Building 1600 were recently discussed at the District.
● **Building ASF/GSF would remain UNCHANGED, however the building would undergo MAJOR renovations and some change in use.**
● The FCI in FUSION is 81.59.
● Facilities Assessments concluded that although there have been some upgrades in the last 5 years, the building systems remain in poor condition and building has inadequate structural connections/anchorage between walls and roof. In addition, dry rot was observed in several wood members of the canopy structure. Damaged wood components should be replaced and prevented from further rot or removed. See full report for details.
● **The Building 1600 Project has a Mid Priority and can only be done once Cosmetology is re-located.**

NEW COSMETOLOGY BUILDING ASSUMPTIONS:

● The existing Cosmetology spaces in Building 1600 are outdated, poorly ventilated and can not meet the current demand.
● The Educational Master Plan identifies "Current high demand for this program and lack of competitive educational providers suggests the potential to expand current program course offerings, which could include providing year-round courses."
● There has been no discussion on what courses would be offered and what size the facility would need to be to support these.
● Previous District list assumed that Building 1600 would become Cosmetology only (i.e. relocate Early Childhood Development and Family Studies) so it was based on the Existing Building 1600 size which is 11,443 ASF/14,336 GSF.
● **We have currently assumed the building will be about 11,400 ASF and 14,400 GSF in line with previous District list, but this should be verified with Faculty/Staff.**
● **This Project has a Mid-High Priority.**

BUILDING 1700 PHYSICAL EDUCATION:

- This building houses Physical Education and was renovated/added to under Measure G.
- **Building ASF/GSF and use would remain UNCHANGED.**
- The FCI in FUSION is 67.67
- The Facilities Assessments identfied Mechanical/Plumbing systems are beyond their useful life and need replacement. The other building systems are in fair condition.
- **No project identified.**

BUILDING 1800A & 1800B & NEW APPLIED TECHNOLOGY ASSUMPTIONS:

- This building houses Vocational Labs and the Police.
- Dean of CTE would like to rename the facility Applied Technology (District should review to ensure CTE funding is not affected).
- The previous District list identified a possible add-on/new CTE Center Facility of about 35,000 GSF.
- The EMP identified a Workforce Development Center as a key transformative project (see EMP for rationale).
- Since the 2012 FMP Draft was developed, the District has indicated some reorganization of the Vocational departments: Automotive to relocate to Vallejo (to a new property in Vallejo). There have been discussions of adding Construction Trades to the Vallejo Automotive Site that suggest Welding Technology would also move from Fairfield to Vallejo. In addition, the building of the Biotech/Multi-Science Facility at Vacaville suggests consolidation at the Vacaville site only. Finally, a separate Maintenance and Operations/Police facility is planned as part of the Facilities Master Plan that would free up additional space in 1800B.
- The EMP does identify the following for Electronics Technology: "General growth in FTES and enrollment and low competition from local educational providers suggest the potential for program expansion. Updates to the program are critical if SCCD wants to continue to support this program. Integration of a mechatroincs program would keep the program on the forefront of the industry, potentially increase enrollment, and support the continuation of the program."
- There is a strong desire to create a Digital Multi-Media Center on Campus. With the location of Photography, Drafting Technology and Journalism in 1800A/B, and Fine Arts in 1300 next door, it makes sense to consolidate creative arts in this location.
- The EMP identifies: "growing enrollment and FTES suggest the potential to expand the [art] programs to meet increasing demand for courses; such courses may include digital printmaking, interactive design, web design, new media and animation—courses that would form the foundation for careers in animation, special effects, and production design."
- Given the relocations and all of the above we suggest this project be done in two phases. The First Phase would entail the renovation of the existing 1800A/B Buildings to accommodate the CTE needs. A second phase (New Applied Technology Wing) would include an addition as programs grow and new ones are added.
- **Building 1800A and 1800B ASF/GSF would remain UNCHANGED, however the building would undergo MAJOR renovations and changes in use. A second Phase includes an addition that is assumed to be 13,000 ASF/17,360 GSF.**
- **Note: Nursing could also be located here, to be confirmed by new Dean/Faculty/Staff.**
- The FCI in FUSION is 68.09.
- Facilities Assessments concluded that the building and the building systems remain in poor condition. Building has inadequate structural connections/anchorage between walls and roof. See full report for details. In addition for Building 1800B, significant vertical and diagonal cracking was observed along the south face of the building. Also, the north center wall of this building is mostly open, thereby introducing concern with a lack of structural walls to resist in-plane seismic loading. A more detailed evaluation is recommended for this building.
- **Phase 1 Project has a Mid Priority, but relies of Automotive/Biotech etc to move out. Phase 2 Project has a Low Priority.**

FAIRFIELD BLDG 1800A/1800B AND NEW APPLIED TECHNOLOGY

BUILDING 1900 WAREHOUSE ASSUMPTIONS:

● The building currently houses Facilities, Maintenance and Warehouse.
● The building was originally designed to be only a warehouse, but over the years has had to accommodate required offices.
● The previous District list identified a New/Add-on M&O Complex at 20,000 GSF, and a District Storage Building at 12,000 GSF.
● Discussion with Facilities Staff revealed that the District Storage needs have been addressed over the years through the addition of smaller Storage buildings near 1900, however the need for additional M&O complex remained. Building this facility would enable the 1900 Warehouse to be returned to its true function (with adequate space for those functions).
● Facilities Staff also requested that the 1900 loading dock be relocated either on the West side or the South Side. This will facilitate deliveries since trucks will no longer have to pull into the crowded maintenance yard to deliver. It's safer for trucks to deliver West or South side.
● **Building ASF/GSF would remain UNCHANGED, however the building would undergo MAJOR renovations or be re-built, given the high FCI. Please see New M&O/Police Project for consideration of consolidating 1900 into that facility enabling this building to be demolished.**
● The FCI in FUSION is 137.44.
● **The Building 1900 Project has a Low Priority.**

SOLANO COMMUNITY COLLEGE DISTRICT 2013 FACILITIES MASTERPLAN:
BUILDING SUMMARY

NEW MAINTENANCE & OPERATIONS (M&O) AND POLICE BUILDING ASSUMPTIONS:

● The previous District list identified a New/Add-on M&O Complex at 20,000 GSF, and a District Storage Building at 12,000 GSF.
● Discussion with Facilities Staff revealed that the District Storage needs have been addressed over the years through the addition of smaller Storage buildings near 1900, however the need for additional M&O complex remained. Building this facility would enable the 1900 Warehouse to be returned to its true function (with adequate space for those functions).
● The New M&O /Police Building would be office based and house both of these Institutional Support Groups. There might be some workshop space required.
● The previous District list also identified a New Police/I.T. Complex at 9,000 ASF and 12,000 GSF. We believe that I.T. is being addressed elsewhere (either New LLRC or Building 500 Renovation) so we have supplemented the District provided M&O Complex ASF/GSF to accommodate the Police but not the IT.
● **We have currently assumed the building will be about 21,376 ASF and 26,720 GSF in line with previous District list, but we question where this much office space is truly required (District Office category is already over State Standards). We suggest the District consider consolidating the Warehouse function into this New Facility given the condition of the existing Warehouse, Building 1900 (see previous**

NEW VALLEJO EDUCATION CENTER & M&O FACILITY ASSUMPTIONS:

● The previous District list identified a New Higheer Education/Classroom Building at 43,200 ASF/54,000 GSF. In addition the District list identified a Student Services Center at 10,300 ASF/12,500 GSF. Finally a 10,000 GSF Child Development Facility was also identified as a possible addition to the Vallejo Campus.
● Our Analysis showed that the current +/- 10 acres site could NOT support adding all of these new buildings without adding a parking garage, which was not budgeted in that list. in addition the City of Vallejo Zoning allowed a maximum of 89,910 GSF to be built on the site.
● The District direction was to consider only one Facility of a similar size to the existing one.
● Even with the addition of a similar size building, the parking shortage had to be addressed, therefore the 2013 FMP suggests adding a one-story parking deck to the site. The Building footprint has been consolidated and is 3-stories.
● **The New Education Center at Vallejo is 24,300 ASF and 34,620 GSF based on the accommodation for a Parking Deck. The footprint of the Parking Deck is approximately 67,707 GSF.**
● To facilitate the M&O needs for the campus, the 2013 FMP includes a small M&O Building. **The M&O Building is estimated at 2,000 GSF.**
● **This Project has a High Priority.**

SOLANO COMMUNITY COLLEGE DISTRICT 2013 FACILITIES MASTERPLAN:
BUILDING SUMMARY

NEW VALLEJO AUTOMOTIVE AND CONSTRUCTION TRADE BUILDING ASSUMPTIONS:

● The District is looking to purchase additional property in the vicinity of the Existing Campus to locate a signature Automotive Program.
● There has been some discussion on adding Construction Trades to the Automotive Program.
● There has been no discussion on the appropriate sizing for this facility.
● The existing Automotive Program at Fairfield is about 6,623 ASF and the Manufacturing and Industrial Technology is 2,944.
● **As a placeholder we have assumed Automotive to be 9,250 ASF and 11,000 GSF and Construction Trades to be 5,250 ASF and 6,200 GSF.**
● **This Project has a Mid-High Priority.**

STV 100 Years | vbn

NEW VACAVILLE BIO-TECH/MULTI-SCIENCE BUILDING ASSUMPTIONS:

● The District Five Year plan identfifies this building as 27,000 ASF and 36,000 GSF.
● From the EMP: "General growth in enrollment and FTES, low competition from other educational providers, and projected industry growth in the county and greater Bay Area and Sacramento regions suggest the potential for program expansion. Providing a short-term program component to "fast track" students who have a degree could increase interest in the program and respond to the need for trained workers. The delivery of short courses could be designed to meet the particular needs of job seekers. Expansion in emerging areas like synthetic biology, biofuels, stem cell science, and imaging (used in nanotechnology) would lead to career possibilities for program graduates. A dedicated training facility on the Vacaville campus would increase the capacity for training students and would dramatically increase the potential to strengthen the partnership with the nearby biotech companies Genentech and Novartis. The introduction of a Bridge to Biotech (basic skills) program would expand the outreach of the program to economically disadvantaged populations within our county. The strategy of providing in-house internships and entrepreneurial training using a Contract Research Organization has been used sucessfully in other parts of the country and would increase the workforce readiness of our students."
● Given the revived interest in promoting the Science fields, we suggested that this facility address both Bio-Tech fields and the Science Fields, looking to capitalize on shared spaces/resources.
● Science Folks say this new building will house Biology, Chemistry, Biotech and New Life Sciences Courses. They require at least (4) new classrooms to hold 40 students with tables insteads of desks. They anticipate there will be (3) Biology Labs with one dedicated to Anatomy. (2) Labs for Chemistry. Bio-tech needs are different and were not outlined in document received.
● Once this faciilty is built the existing (2) Science Labs in the Vacaville Center would be re-purposed for Physical Sciences (Astronomy, Geology. Geography, Physics etc).
● **We kept the buildng ASF at 27,000 ASF but found a GSF of 39,150 more realistic with respect to expected building efficiency.**
● **This Project has a High Priority.**

NEW VACAVILLE PUBLIC SAFETY TRAINING CENTER ASSUMPTIONS:

● There is a long history at the District for wanting to develop a Public Safety Training Center at the Vacaville Campus.
● The existing Fire Academy program at the Campus is extremely successful and there is a high demand.
● From the EMP: "Strong growth in enrollment and FTES, lack of competitive educational providers, the growing need for trained wildland/urban fire prevention in the Pacific Rim and Pacific Islands, and the potential retirement of current firefighters in the field all suggest the potential for program expansion. In addition, growing need of USDA-Forest Service to re-invent their fire prevention/loss reduction programs to assist in mitigating their growing threat of wildland fires to urban areas across the United States. Additionally, the California State Fire Marshal's Office-State Fire Training through the efforts of the California Fire Technology Directors Association is embarking upon an expanded use of online/hybrid courses for certification of fire chiefs, fire prevention specialists and fire investigators."
● Due to noise/fake smoke concerns the location of this Facility is ideally suited on the currently leased portion of the Vacaville Campus. The District is intending to purchase this property.
● **The Fire Academy Faculty has indicated that they could re-use the existing building on the leased property for their Fire Academy and Public Safety Training Classroom/Office/Study needs. That Facility is 12,393 ASF/16,412 GSF.**
● The rest of the immediate required Facilities entails building **Training Towers of about 4,600 GSF**. This size assumption was based on some literature that the Fire Academy Faculty provided the team.
● There are significant site related items such as underground cisterns, practice yards etc. that are also required.
● The Academy would also like to build a Dormitory, Mess etc. but it is not clear whether these are truly needed/viable at this time. They are not shown on the current FMP, but can be added if required once sizes are provided.
● **This Project has a High Priority but would entail moving the current non-Fire Academy programs out of the leased facility AND upgrading the leased Facility to meet State Standards for State College Buildings.**
● We facilitated a meeting with the Nut Tree Airport Director to confirm that there are no issues with the proposed devleopment of the leased property for the Public Safety Training Center with the Nut Tree Airport Land Use Plan, Airport Approach etc. He was able to confirm that he foresaw no issues and would recommend no action to the ALUC (Airport Land Use Commission).

OTHER NEW VACAVILLE BUILDINGS:

● The District has always desired to grow this Center into a full campus supporting about 8,000 FTES. Please see Vacaville Master Plan by KMD Architects dated September 2007.
● The 2007 Master Plan identifed a number of buildings/sizes for the campus (see page C1). These were suggestions based on assumptions in 2007. Since then the most recent District List included the following: A student Services Building at 10,300 ASF and 12,500 GSF; a Child Development Center at 10,000 GSF and an Agriculture Facility at 35,000 GSF.
● The EMP identified Agriculture/Food Science as a possible new Program for Vacaville, and the District is looking into getting this off the ground.
● Based on the Horticulture example at the Fairfield Site we assume that a lot of Agriculture Classes are actually field based and therefore a smaller facility would be more suitable. **We assumed 12,500 ASF/18,000 GSF for the Agriculture/Food Science facility.** However, this would need to be verified once Agriculture/Food Science Faculty was on board.
● **Please look at the last page in this report for the suggested Buildings/sizes for the Vacaville Campus.** These are best guesses and the overall total for the Main Campus (i.e. excluding the leased property site and the Nut Tree Site) are less than what the 2007 Master Plan because we believe adequate surface parking is an issue at this campus (similar to the Vallejo Campus) and therefore less building would be supportable, unless parking garages were built.

Existing vs. New SF

SOLANO COMMUNITY COLLEGE DISTRICT 2013 FACILITIES MASTERPLAN: EXISTING VS NEW

MAIN CAMPUS	Lecture ASF	Lab ASF	Office ASF	Library ASF	AV/TV ASF	P.E. ASF	Assembly ASF	Inactive ASF	All Other ASF	Total ASF	Total Building GSF	Efficiency (Exclude Inactive and Other Uses)	Notes
Main Campus EXISTING ASF	45,551	73,384	50,761	21,944	3,608	43,929	10,769	7,560	72,545	330,051	417,990	78.96%	
Unchanged													Bldgs will be remodeled as needed, just no change to categories
Building 200 Childcare Center			769						7068	7,837	**9280**	84.45%	
Building 201 Childcare #2			98						1252	1,350	**1440**	93.75%	
Building 400 Student Services	4892		12281	1293					3829	22,295	**39621**	56.27%	
Building 900 Faculty Office			3443						326	3,769	**5300**	71.11%	
Bulding 1000 Horticulture		1665	280						1611	3,556	**3977**	89.41%	
Building 1200 Music Drama		5197	1096				10769		2946	20,008	**25231**	79.30%	
Bulding 1300 Fine Arts	835	7206	1297		85				885	10,308	**12400**	83.13%	1300: Not sure whether breakdown changes after completion of this project
Building 1400 Student Center			979	528					21941	23,448	**33032**	70.99%	
Building 1700 PE			2184			38798			2569	43,551	**55881**	77.94%	
Building 1900 Warehouse			1096						9265	10,361	**10730**	96.56%	
Central Plant / Chemical Storage									5396	5,396	**5,660**		
Pool Mechanical (2100)						720			636	1,356	**1,707**		
Stadium (2500)						4411			6021	10,432	**10,754**		
Demolished													
Building 100 Library Complex	-639	-5294	-6397	-17798	-3483			-5003	-5385	-43,999	**-49600**	88.71%	
Bulding 1500 Mathematics	-5507	-2150	-891						-225	-8,773	**-11616**	75.53%	
Portables A-E	-1643		-3771	-2325					-174	-7,913	**-8,643**		Will happen later this Summer
Net Demolition	-7,789	-7,444	-11,059	-20,123	-3,483	0	0	-5,003	-5,784	-60,685	-69,859		
Renovation Changes													
Building 300 Science (Existing)	-2067	-14465	-1276							-17,808	**-24240**	73.47%	
Building 300 Science (New)	2067	13891	1276	574						17,808	**24240**	73.47%	Geology, Physics, Nursing, Astronomy etc
Building 500 Business (Existing)	-914	-6219	-1491							-8,624	**-11616**	74.24%	
Building 500 Admin & IT (New)			4000						4624	8,624	**11616**	74.24%	IT moves from 100 & More Admin Office
Building 600 Administration	-1732		-6275						-1909	-9,916	**-13056**	75.95%	
Building 600 Administration (New)			8641						1528	10,169	**13056**	77.89%	Project underway as part of Measure G
Building 1600 Vocational Arts	-4637	-4801	-1569						-436	-11,443	**-14336**	79.82%	
Building 1600 Vocational Arts	4637	1123	847						4836	11,443	**14336**	79.82%	Former Cosmetology & IR becomes CDC
Building 700 Humanities	-8711	-800	-2207						-70	-11,788	**-16864**	69.90%	
Building 700 Humanities	7538	1000	2500	750						11,788	**16864**	69.90%	
Building 800 Multi Discipline	-9594	-3272	-739						-175	-13,780	**-17856**	77.17%	
Building 800 Inter'l Studies (New)	13605								175	13,780	**17856**	77.17%	Remove Nursing
Bulding 1800 Vocational Complex	-4380	-22315	-2622		-40			-2557	-426	-32,340	**-35150**	92.01%	
Bulding 1800 Vocational Complex		28000	2622	1000	292				426	32,340	**35150**	92.01%	Remove Police & Autotech
Net Change	-4188	-7858	3707	2324	252	0	0	-2557	8573	253	0		
New													
New Forum (Café)									3850	3,850	**3850**	100.00%	
New Library Learning Resource Center		1520	4038	32639	2678				3564	44,439	**59252**	75.00%	
New Science & Math	7800	28000	5000	2500	750				1000	45,050	**62000**	72.66%	Biology, Chemistry & Maths
New Business/Education	3600	6400	1990	750					2700	15,440	**22000**	70.18%	
New Addition to 700/800				1500					2000	3,500	**4500**	77.78%	
New Cosmetology		8000	400	750					2250	11,400	**14400**	79.17%	
New Performing Arts									27480	27,480	**45800**	60.00%	
New CTE (Applied Technology)		8000		1000					4000	13,000	**17360**	74.88%	
New M&0 / Police									21376	21,376	**26720**	80.00%	
Total New	11,400	51,920	11,428	39,139	3,428	0	0	0	68,220	185,535	255,882		
Net Change	-577	36,618	4,076	21,340	197	0	0	-7,560	71,009	125,103	186,023		
Final FMP Totals	44,974	110,002	54,837	43,284	3,805	43,929	10,769	0	143,554	455,154	604,013		

EXISTING VERSUS NEW

SOLANO COMMUNITY COLLEGE DISTRICT 2013 FACILITIES MASTERPLAN: EXISTING VS NEW

VALLEJO	Lecture ASF	Lab ASF	Office ASF	Library ASF	AV/TV ASF	P.E. ASF	Assembly ASF	Inactive ASF	All Other ASF	Total ASF	Total Building GSF	Efficiency (Exclude Inactive and Other Uses)	Notes
Vallejo EXISTING ASF	**7,176**	**7,102**	**2,211**	**1,906**			**1,874**		**8,158**	**28,427**	**40,600**	**70.02%**	
New													
Education Partner Bldg	4000	8000	2000	4000			1500		4800	24,300	34,620	70.19%	Child Development Center, Library, Student
M&O Building									1900	1,900	2,000	95.00%	Services included here
AutoTech Center		8000	250						1000	9,250	11,000	84.09%	
Construction Trades Center		5000	250							5,250	6,200	84.68%	
Total New (Total Change)	**4,000**	**21,000**	**2,500**	**4,000**	**0**	**0**	**1,500**	**0**	**7,700**	**40,700**	**53,820**		
Final FMP Totals	**11,176**	**28,102**	**4,711**	**5,906**	**0**	**0**	**3,374**	**0**	**15,858**	**69,127**	**94,420**		

SOLANO COMMUNITY COLLEGE DISTRICT 2013 FACILITIES MASTERPLAN: EXISTING VS NEW

VACAVILLE	Lecture ASF	Lab ASF	Office ASF	Library ASF	AV/TV ASF	P.E. ASF	Assembly ASF	Inactive ASF	All Other ASF	Total ASF	Total Building GSF	Efficiency (Exclude Inactive and Other Uses)	Notes
Vacaville EXISTING ASF	**6,118**	**5,509**	**2,151**	**1,680**			**1,439**		**7,382**	**24,279**	**36,359**	**66.78%**	
Nut Tree Hanger EXISTING ASF	**778**	**6,481**	**520**							**7,779**	**8,100**	**96.04%**	
Renovation													
Public Safety Training Center	2,942	5,153	1,625	944					1,729	12,393	16,412	75.51%	Leased Property Renovated for PSTC
New													
Bio-Tech/Multi Science	4,000	16,500	2,000	1,000	1,000				2,500	27,000	39,150	68.97%	
Forum Café									2,200	2,200	2,552	86.21%	
Corporate Training Education Center	10,000	12,000	2,500	1,000			2,500		8,000	36,000	47,329	76.06%	
Training Towers (near PSTC)									4,297	4,297	4,600	93.41%	
Maintenance & Operations			1,000						8,000	9,000	10,000	90.00%	
Library LRC		1,000		20,000	1,500				1,500	24,000	32,000	75.00%	
Student Services	1,000		10,000						4,000	15,000	26,000	57.69%	
Child Development Center			1,000						7,500	8,500	11,320	75.09%	
Agriculture / Food Science	1,000	9,000	1,000	500					1,000	12,500	18,000	69.44%	
Fitness Center			2,000			34,000			2,000	38,000	48,596	78.20%	
Classroom Building	12,000	2,000	2,000	500					1,000	17,500	24,770	70.65%	
Total New (Total Change)	**28,000**	**40,500**	**21,500**	**23,000**	**2,500**	**34,000**	**2,500**	**0**	**41,997**	**193,997**	**264,317**		
Final FMP Totals	**37,060**	**51,162**	**25,276**	**25,624**	**2,500**	**34,000**	**3,939**	**0**	**51,108**	**230,669**	**317,088**		

Existing Lecture Furniture Utilization

SOLANO COMMUITY COLLEGE DISTRICT
CLASSROOM UTILIZATION REPORT

Building Room Number	Sq. FT	Room Type	Occupancy Per Current Product Type/ Sq. Ft. Per Person	Maximum **Student** Occupancy For Product Type (Total Students/ # required ADA)	Current **Student** Occupancy (Total Students/ # ADA)	**Student** Occupancy Per Scheduling
Fairfield						
135	631	Classroom	T & C/ 20 Sq. Ft.	30/2	36/2	Unknown
443	719	Classroom	T & C/ 20 Sq. Ft.	34/2	42/2	44
444	727	Classroom	T & C/ 20 Sq. Ft.	35/2	37/0	37
445	724	Classroom	T & C/ 20 Sq. Ft.	35/2	39/2	39
446	736	Classroom	T & C/ 20 Sq. Ft.	35/2	39/2	37
504	951	Classroom / Comp Lab	T & C/ 20 Sq. Ft.	46/2	27/1	26
506	817	Classroom	T & C/ 20 Sq. Ft.	39/2	46/1	46
701	619	Classroom	SD/ 15 sq. ft.	39/2	31/1	31
702	509	Classroom	SD/ 15 sq. ft.	32/2	31/1	31
703	987	Classroom	SD/ 15 sq. ft.	64/3	51/1	52
704	730	Classroom	SD/ 15 sq. ft.	47/2	42/1	43
705	999	Classroom	SD/ 15 sq. ft.	65/3	53/2	52
706	745	Classroom	SD/ 15 sq. ft.	48/2	46/1	46
707	621	Classroom	SD/ 15 sq. ft.	40/2	34/1	33
708	520	Classroom	SD/ 15 sq. ft.	33/2	34/1	31
710	555	Classroom	SD/ 15 sq. ft.	36/2	31/1	31
712	548	Classroom	SD/ 15 sq. ft.	35/2	29/1	29
713	821	Classroom	SD/ 15 sq. ft.	*53/3	56/1	56
714	538	Classroom	SD/ 15 sq. ft.	34/2	31/1	30
736	517	Classroom	SD/ 15 sq. ft.	33/2	28/1	28
801	753	Classroom	SD/ 15 sq. ft.	*49/2	43/2	42
802	1170	Classroom	SD/ 15 sq. ft.	77/4	58/2	57
803	1023	Classroom	SD/ 15 sq. ft.	67/3	47/1	48
804	895	Classroom	SD/ 15 sq. ft.	58/3	49/1	49
806	810	Classroom	SD/ 15 sq. ft.	53/3	25/1	25
811	1195	Classroom	T & C/ 20 Sq. Ft.	58/3	58/2	55
812	1441	Classroom	SD/ 15 sq. ft.	95/5	67/1	67
1301	873	Classroom	SD/ 15 sq. ft.	*57/3	48/2	48
1315	1352	Classroom / Art Only	T & C/ 20 Sq. Ft.	*66/3	48/2	24
1526	953	Classroom	T & C/ 20 Sq. Ft.	46/2	45/1	46
1527	711	Classroom	SD/ 15 sq. ft.	46/2	40/2	37
1528	713	Classroom	SD/ 15 sq. ft.	46/2	35/2	33
1529	796	Classroom	SD/ 15 sq. ft.	*52/3	40/1	42
1530	850	Classroom	SD/ 15 sq. ft.	55/3	44/2	43
1531	743	Classroom	SD/ 15 sq. ft.	48/2	41/1	41
1625	997	Classroom	SD/ 15 sq. ft.	65/3	37/1	55
1626	572	Classroom	SD/ 15 sq. ft.	37/2	37/1	37

DOVETAIL

Page 1 of 2

SOLANO COMMUITY COLLEGE DISTRICT
CLASSROOM UTILIZATION REPORT

Building Room Number	Sq. FT	Room Type	Occupancy Per Current Product Type/ Sq. Ft. Per Person	Maximum **Student** Occupancy For Product Type (Total Students/ # required ADA)	Current **Student** Occupancy (Total Students/ # ADA)	**Student** Occupancy Per Scheduling
1634	584	Classroom	SD/ 15 sq. ft.	37/2	35/2	33
1642	654	Classroom	SD/ 15 sq. ft.	42/2	38/2	37
1645	926	Classroom	SD/ 15 sq. ft.	60/3	51/1	53
1646	928	Classroom	SD/ 15 sq. ft.	60/3	56/3	49
1738	969	Classroom / PE	T & C/ 20 Sq. Ft.	47/2	48/2	40
1746	920	Classroom / PE	T & C/ 20 Sq. Ft.	45/2	45/1	42
1860	993	Classroom	SD/ 15 sq. ft.	*65/3	49/2	Unknown
1877	833	Classroom	SD/ 15 sq. ft.	54/3	36/2	36
1879	834	Classroom	SD/ 15 sq. ft.	54/3	51/2	50
Vacaville						
VA 101	980	Classroom	SD/ 15 sq. ft.	64/3	39/2	39
VA 102	989	Classroom	SD/ 15 sq. ft.	64/3	49/2	49
VA 103	993	Classroom	SD/ 15 sq. ft.	65/3	49/2	49
VA 104	994	Classroom	SD/ 15 sq. ft.	65/3	49/2	49
VA 105	820	Classroom	SD/ 15 sq. ft.	53/3	40/2	40
VA 106	1386	Classroom / Comp Lab	T & C/ 20 Sq. Ft.	68/3	40/2	40
VA 107	994	Classroom	SD/ 15 sq. ft.	65/3	49/2	49
VA 108	962	Classroom	SD/ 15 sq. ft.	63/3	49/2	47
VV 114	1182	Classroom	T & C/ 20 Sq. Ft.	58/3	52/2	52
VV 118	1163	Classroom	T & C/ 20 Sq. Ft.	57/3	54/2	56
VV 207	1027	Classroom	T & C/ 20 Sq. Ft.	*50/3	54/1	54
VV 212	977	Classroom	T & C/ 20 Sq. Ft.	47/2	49/2	49
VV 214	924	Classroom	T & C/ 20 Sq. Ft.	45/2	45/2	45
VV 215	893	Classroom	T & C/ 20 Sq. Ft.	43/2	49/2	46
VV218	914	Classroom	T & C/ 20 Sq. Ft.	44/2	42/2	44
Vallejo						
VJ 121	1163	Classroom	T & C/ 20 Sq. Ft.	57/3	60/1	61
VJ 122	994	Classroom	T & C/ 20 Sq. Ft.	48/2	48/1	47
VJ 123	1157	Classroom	T & C/ 20 Sq. Ft.	56/3	60/1	61
VJ 213	964	Classroom	T & C/ 20 Sq. Ft.	47/2	52/1	53
VJ 215	965	Classroom	T & C/ 20 Sq. Ft.	47/2	50/1	53
VJ 217	1011	Classroom	T & C/ 20 Sq. Ft.	*49/3	57/1	53
VJ 242	1003	Classroom	T & C/ 20 Sq. Ft.	*49/3	57/1	57

T+C = Tables and chairs
SD = Student Desks

Note: Items in red represent discrepancies from Sq. Ft./per Occupant code allowance

* These Rooms contain only one exit so for Fire Safety should have no more than 49 total occupants (including Instructor.)

DOVETAIL

Page 2 of 2

Site Water Strategies

PROJECT MISSION

Develop a Stormwater Management Plan which embraces the Sustainability Goals of Solano Community College

SUSTAINABLE WATER

Achieve a positive impact on local water resources and supply

ECOLOGY

Regenerate degraded environments and halt biodiversity loss by creating wetland and upland habitats and implementing green urban development

HEALTH / HAPPINESS

Provide the means by which all members of the Solano Community College can lead happy, healthy lives. Design for ecological and human health, create and maintain a healthy community green infrastructure; actively promote well being through lifestyle initiatives

EDUCATION

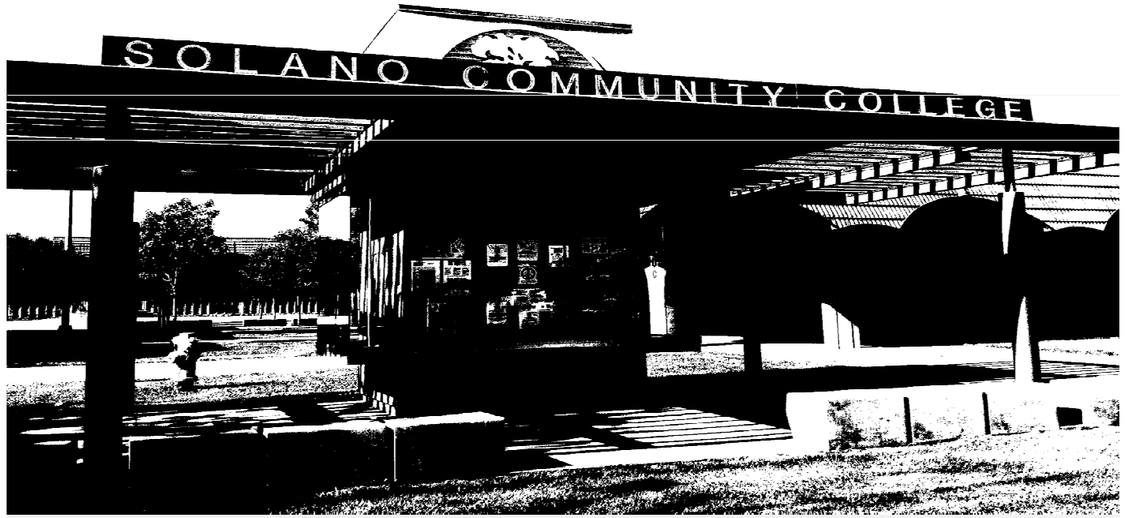
Create wetland ecologies and provide educational interfaces with wildlife

COMMUNITY

Be a model of sustainable water conservation and efficiency.

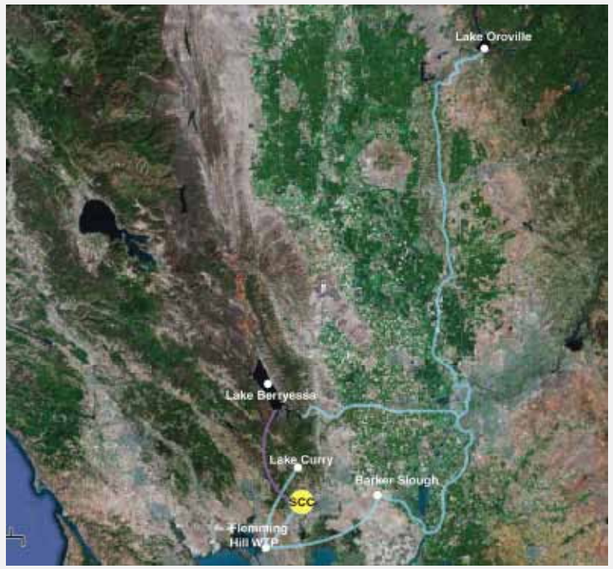
SHERWOOD DESIGN ENGINEERS

Stormwater Conceptual Design



SHERWOOD DESIGN ENGINEERS

OPPORTUNITIES AND CONSTRAINTS



POTABLE SOURCES

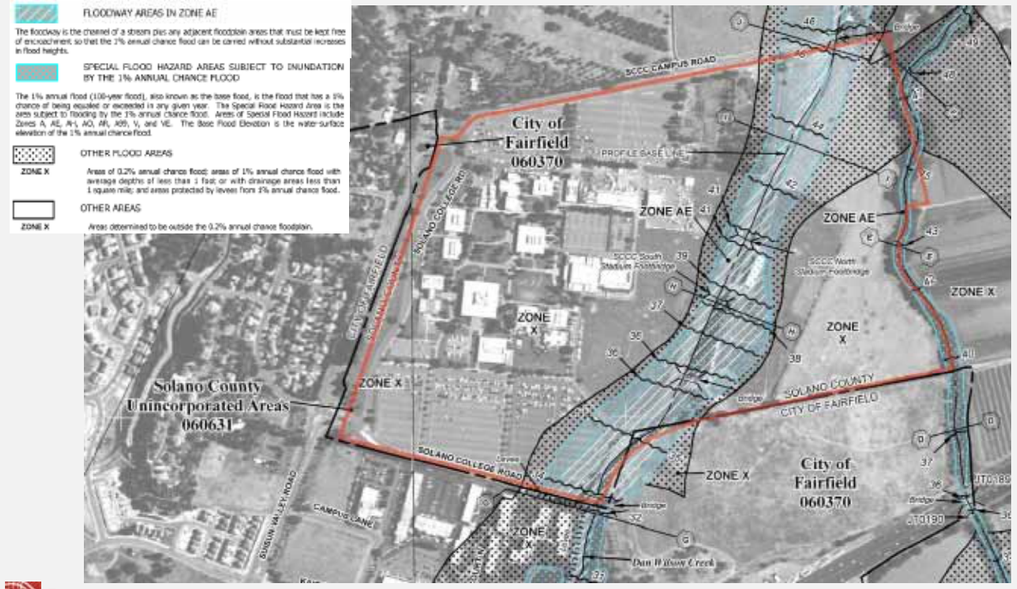
- Lake Oroville
- Lake Berryessa
- Via Barker Slough
- Via Flemming Hill Water Treatment Plant

IRRIGATION SOURCES

- Lake Berryessa

SHERWOOD DESIGN ENGINEERS

OPPORTUNITIES AND CONSTRAINTS



SHERWOOD DESIGN ENGINEERS

OPPORTUNITIES AND CONSTRAINTS

Precipitation at the Fairfield Weather Station

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Inch	5.04	4.57	3.59	1.12	0.64	0.16	0.03	0.05	0.30	1.24	3.08	3.64	23.46

SHERWOOD DESIGN ENGINEERS

OPPORTUNITIES AND CONSTRAINTS

Average Max Temperature at the Fairfield Weather Station

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Max °F	54.7	61.2	65.6	71.4	78.1	84.7	88.8	88.7	86.3	78.3	64.8	55.6	73.2

SHERWOOD DESIGN ENGINEERS

OPPORTUNITIES AND CONSTRAINTS

Evapotranspiration: California Irrigation Management Information System (CIMIS)

	Total	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Evapotransporation Rate: Daily		0.04	0.06	0.11	0.16	0.20	0.23	0.24	0.21	0.17	0.11	0.06	0.03
Evapotransporation Rate: Monthly	*49.42*	1.24	1.68	3.41	4.80	6.20	6.90	7.44	6.51	5.10	3.41	1.80	0.93

Appendix A—Table 1
Reference Evapotranspiration Rates for Selected Cities*

Daily Average Reference Evapotranspiration by ET_o Zone (inches per day)

ET_o Zone	City	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
1	Santa Monica	0.03	0.05	0.08	0.11	0.13	0.15	0.15	0.13	0.11	0.06	0.04	0.02
2	Santa Cruz	0.04	0.06	0.10	0.13	0.15	0.17	0.16	0.15	0.13	0.09	0.06	0.04
3	Monterey/Salinas	0.06	0.08	0.12	0.16	0.17	0.19	0.18	0.17	0.14	0.11	0.08	0.06
4	San Diego	0.06	0.08	0.11	0.15	0.17	0.19	0.19	0.18	0.16	0.11	0.08	0.06
5	Santa Rosa	0.05	0.06	0.09	0.14	0.18	0.21	0.21	0.19	0.15	0.10	0.05	0.03
6	Los Angeles	0.06	0.08	0.11	0.16	0.18	0.21	0.21	0.20	0.16	0.12	0.08	0.06
7	Altures	0.02	0.05	0.08	0.13	0.17	0.21	0.24	0.21	0.16	0.09	0.04	0.02
8	San Jose	0.04	0.06	0.11	0.16	0.20	0.23	0.24	0.21	0.17	0.11	0.06	0.03
9	San Bernardino Pasadena	0.07	0.10	0.13	0.17	0.19	0.22	0.24	0.22	0.19	0.13	0.09	0.06
10	Paicines	0.03	0.06	0.10	0.15	0.19	0.24	0.26	0.23	0.17	0.10	0.05	0.03
11	Sonora	0.06	0.08	0.10	0.15	0.19	0.24	0.26	0.24	0.19	0.12	0.07	0.05
12	Fresno	0.04	0.07	0.11	0.17	0.22	0.26	0.26	0.23	0.18	0.12	0.06	0.03
13	Quincy	0.04	0.07	0.10	0.16	0.21	0.26	0.29	0.25	0.19	0.12	0.06	0.03
14	Sacramento	0.05	0.08	0.12	0.17	0.22	0.26	0.28	0.25	0.19	0.13	0.07	0.05
15	Bakersfield	0.04	0.08	0.12	0.19	0.24	0.27	0.28	0.25	0.19	0.13	0.07	0.04
16	Hanford	0.05	0.09	0.13	0.19	0.25	0.29	0.30	0.27	0.21	0.14	0.08	0.05
17	Needles	0.06	0.10	0.15	0.20	0.26	0.30	0.32	0.28	0.22	0.14	0.09	0.06
18	Palm Springs	0.06	0.12	0.17	0.23	0.28	0.32	0.31	0.28	0.23	0.15	0.10	0.07

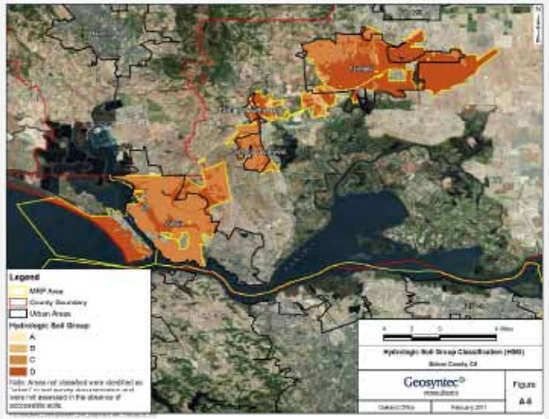
* For comprehensive descriptions of each zone and to locate your region in a zone, see the California Irrigation Management Information System (CIMIS) color map opposite this page.

SHERWOOD DESIGN ENGINEERS

OPPORTUNITIES AND CONSTRAINTS

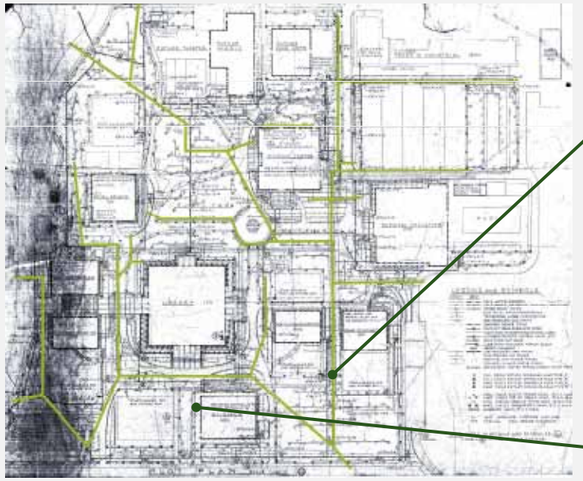
Soil Infiltration:

- HSG C and D soils constitute 97 percent of classified soils in Solano County
- City of Fairfield engineer said likely the site had poor infiltration
- Assumed for this study that soils at the Fairfield campus do not infiltrate



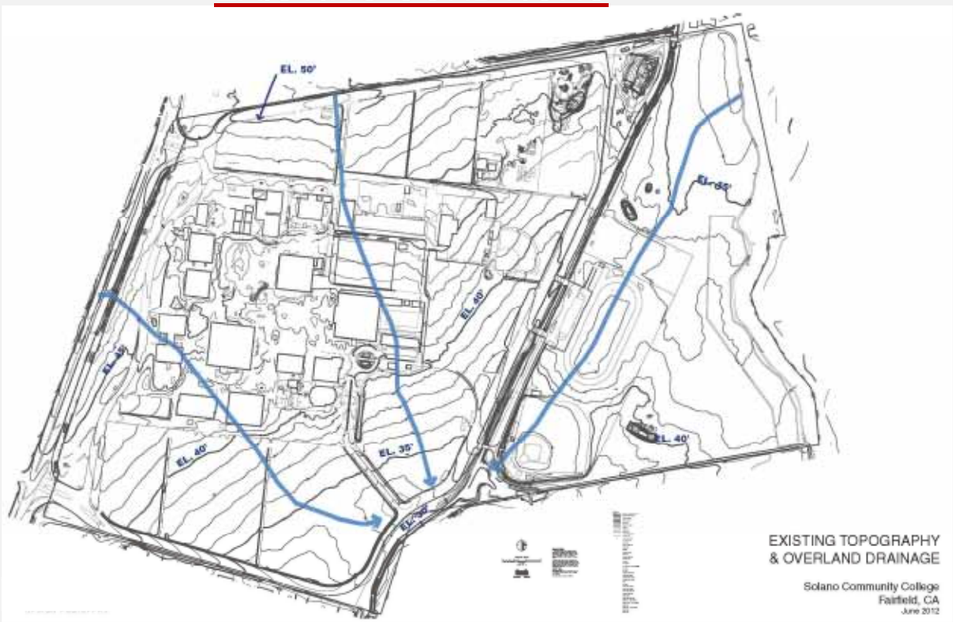
SHERWOOD DESIGN ENGINEERS

EXISTING CONDITIONS



SHERWOOD DESIGN ENGINEERS

EXISTING CONDTIONS



SHERWOOD DESIGN ENGINEERS

Existing Water Budget

Domestic/Potable Water Used

	January	February	March	April	May	June	July	August	September	October	November	December	TOTAL
Days/Month	31	28	31	30	31	30	31	31	30	31	30	31	365
Bill	$6,867.32	$6,671.25	$6,475.18	$6,745.33	$7,015.48	$9,920.32	$12,825.16	$14,344.92	$15,864.68	$11,974.37	$8,084.06	$7,475.69	$114,263.75
Water Consumption	$4,295.64	$4,099.57	$3,903.50	$4,173.65	$4,443.80	$7,348.64	$10,253.48	$11,773.24	$13,293.00	$9,402.69	$5,512.38	$4,904.01	$83,403.59
Units Used	407	389	370	396	421	697	972	1,116	1,260	891	523	465	7,906
Gallons Used	304,563	290,661	276,760	295,914	315,068	521,022	726,977	834,728	942,480	666,655	390,830	347,696	5,913,354
Cubic-Feet Used	40,714	38,856	36,997	39,558	42,118	69,651	97,183	111,587	125,991	89,119	52,246	46,480	790,501
Acre-Feet Used	0.93	0.89	0.85	0.91	0.97	1.60	2.23	2.56	2.89	2.05	1.20	1.07	18.15
Gallons/day	9,825	10,381	8,928	9,864	10,163	17,367	23,451	26,927	31,416	21,505	13,028	11,216	16,201
gall/day/capita	1.16	1.22	1.05	1.16	1.20	2.04	2.76	3.17	3.70	2.53	1.53	1.32	1.91

Irrigation/Non-potable water used: Gallons/Month/SF Area

	January	February	March	April	May	June	July	August	September	October	November	December
Acre-Feet Used	1.18	4.31	0.00	0.00	0.69	11.42	17.72	28.76	27.99	21.46	12.37	2.35
Cubic Feet Used	51,423	187,613	0	0	30,078	497,542	771,905	1,252,982	1,219,310	934,645	539,033	102,344
Gallons Used	384,668	1,403,442	0	0	225,000	3,721,875	5,774,250	9,372,953	9,121,070	6,991,631	4,032,248	765,588
Gallons/Month/SF	0.19	0.68	0.00	0.00	0.11	1.81	2.81	4.55	4.43	3.40	1.96	0.37

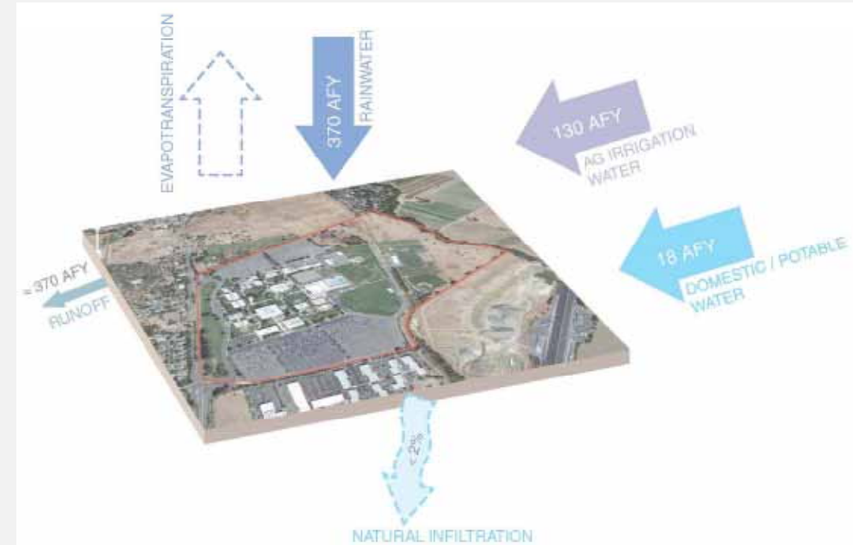
SHERWOOD DESIGN ENGINEERS

Existing Water Budget

		Total	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CLIMATE DATA														
Average Yr Rainfall	inches	*23.46*	5.04	4.57	3.59	1.12	0.64	0.16	0.03	0.05	0.30	1.24	3.08	3.64
Average Rainy Days (>=0.01")		*56.00*	10.00	9.00	9.00	5.00	2.00	1.00	0.00	0.00	1.00	3.00	7.00	9.00
Total Number of Days		*365*	31.00	28.00	31.00	30.00	31.00	30.00	31.00	31.00	30.00	31.00	30.00	31.00
Occupancy		*0.91*	0.90	0.95	0.95	0.95	0.95	0.80	0.80	0.80	1.00	1.00	0.95	0.90
Evapotransporation Rate: Daily			0.04	0.06	0.11	0.16	0.20	0.23	0.24	0.21	0.17	0.11	0.06	0.03
Evapotransporation Rate: Monthly		*49.42*	1.24	1.68	3.41	4.80	6.20	6.90	7.44	6.51	5.10	3.41	1.80	0.93
Evapotransporation scale factor		*1.00*	0.30	0.45	0.83	1.20	1.35	1.73	1.80	1.58	1.28	0.83	0.45	0.23
Avg Temperature (max)		*73.18*	54.70	61.20	65.60	71.40	78.10	84.70	88.80	88.70	86.30	78.30	64.80	55.60
Avg Temperature (factor)		*1.00*	0.84	0.89	0.94	0.99	1.04	1.10	1.11	1.12	1.12	1.06	0.94	0.85
POTENTIAL SOURCES														
Roof Rain % Capture			86%	86%	85%	82%	84%	78%	90%	90%	84%	85%	86%	85%
Roof Capture:	cubic feet	*388,318*	84,171	76,347	59,265	17,683	10,420	2,421	523	872	4,861	20,510	51,111	60,136
Overland % Capture			50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Overland Capture	cubic feet	*7,793,899*	1,674,393	1,518,249	1,192,672	372,087	212,621	53,155	9,967	16,611	99,666	411,954	1,023,240	1,209,284
Wastewater														
Greywater Collection	cubic feet	*2,629,068*	132,941	125,980	118,907	127,340	135,740	231,220	327,190	377,395	427,679	299,530	172,140	153,007
Black Water Collection	cubic feet	*1,690,115*	85,462	80,987	76,440	81,861	87,262	148,641	210,336	242,611	274,936	192,555	110,661	98,362
Total WW														
WW	cubic feet	*4,319,183*	218,404	206,967	195,347	209,201	223,002	379,861	537,526	620,006	702,615	492,085	282,801	251,369
DEMANDS														
Building Potable														
Building Demand P : Historical	Gallons	3,755,811	189,916	179,971	169,867	181,914	193,915	330,314	467,414	539,135	610,970	427,900	245,914	218,582
Building Non-Potable														
Building Demand NP: Historical	Gallons	1,877,905	94,958	89,985	84,934	90,957	96,957	165,157	233,707	269,568	305,485	213,950	122,957	109,291
Irrigation Non-Potable														
Irrigation Demand: Historical	Gallons	41,792,724	384,668	1,403,442	0	0	225,000	3,721,875	5,774,250	9,372,953	9,121,070	6,991,631	4,032,248	765,588
Cooling Non-Potable														
Cooling: Assumed	Gallons	*279,638*	19,689	20,705	21,959	23,043	24,196	25,551	25,856	26,025	26,025	24,805	21,959	19,824

SHERWOOD DESIGN ENGINEERS

Existing Water Budget



SHERWOOD DESIGN ENGINEERS

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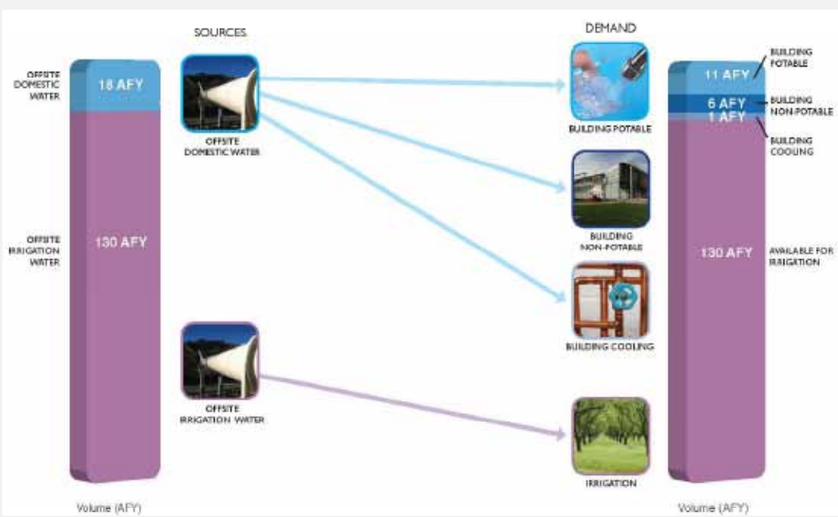
Existing Water Budget



SHERWOOD DESIGN ENGINEERS

Strategies

EXISTING	GOOD	BETTER	BEST
•Potable & irrigation demand met through municipal •Large irrigation demand •No water expression/ecological amenity on site	•Irrigation demand met through RWH •Water efficient landscaping •Wetland amenity •No open water expression in core campus	•Non-potable building demand & irrigation met through RWH & graywater reuse •Water efficient landscaping •Wetland amenity & open water in campus	•All non-potable uses met through RWH, graywater, wastewater treatment •Water efficient landscaping •Wetland amenity & open water expression in campus core

SHERWOOD DESIGN ENGINEERS

DO GOOD

a comprehensive water management plan using demand reduction and rainwater harvesting

Sustainable Water

Wetland Amenity

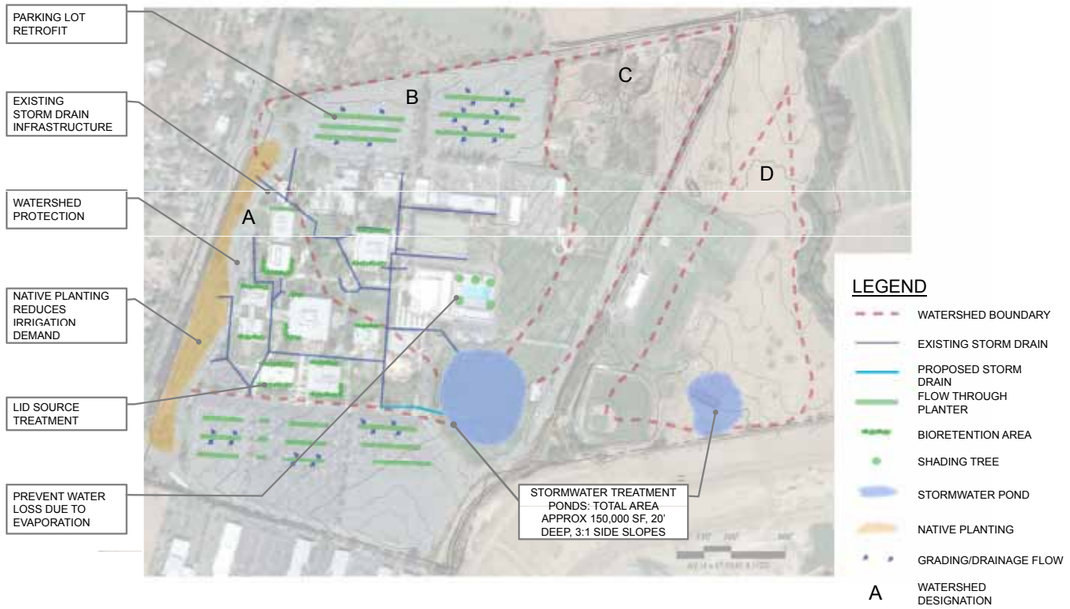
Community Learning

Educational programs

Create Wetlands

SHERWOOD DESIGN ENGINEERS

SUSTAINABLE WATER | ECOLOGY | HEALTH / HAPPINESS | EDUCATION | COMMUNITY



SHERWOOD DESIGN ENGINEERS

DO GOOD

a comprehensive water management plan using demand reduction and rainwater harvesting

NP SOURCES AND DEMANDS SUMMARY

NP (gallons)	total	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
OL Capture		12,524,456	11,356,501	8,921,190	2,783,213	1,590,407	397,602	74,550	124,251	745,503	3,081,414	7,653,835	9,045,441
Roof Capture		629,600	571,073	443,299	132,265	77,939	18,109	3,911	6,519	36,362	153,416	382,309	449,818
Total Rain Captured (OL and roofs)	61,202,984	**13,154,057**	**11,927,574**	**9,364,489**	**2,915,478**	**1,668,347**	**415,710**	**78,462**	**130,770**	**781,865**	**3,234,830**	**8,036,144**	**9,495,259**
Graywater	**19,665,426**	**994,402**	**942,328**	**889,426**	**952,500**	**1,015,337**	**1,729,524**	**2,447,378**	**2,822,912**	**3,199,037**	**2,240,483**	**1,287,606**	**1,144,493**
Building NP Demands	1,877,905	94,958	89,985	84,934	90,957	96,957	165,157	233,707	269,568	305,485	213,950	122,957	109,291
Xeriscape (50% Reduction) NP Demands	20,896,362	192,334	701,721	0	0	112,500	1,860,937	2,887,125	4,686,476	4,560,535	3,495,815	2,016,124	382,794
Irrigation NP Demand	41,792,724	384,668	1,403,442	0	0	225,000	3,721,875	5,774,250	9,372,953	9,121,070	6,991,631	4,032,248	765,588
Cooling NP Demand	279,638	19,689	20,705	21,959	23,043	24,196	25,551	25,856	26,025	26,025	24,805	21,959	19,824
TOTAL NP Demand	64,846,629	**691,648**	**2,215,854**	**106,893**	**114,000**	**458,653**	**5,773,520**	**8,920,938**	**14,355,022**	**14,013,115**	**10,726,201**	**6,193,288**	**1,277,497**

RAINWATER STORAGE POND/TANK	STORAGE VOLUME (Gallons) 16,000,000	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	ANNUAL TOTAL
Total Rain Captured (OL and roofs)	61,202,984	13,154,057	11,927,574	9,364,489	2,915,478	1,668,347	415,710	78,462	130,770	781,865	3,234,830	8,036,144	9,495,259	
Xeriscape NP Demands		**192,334**	**701,721**	**0**	**0**	**112,500**	**1,860,937**	**2,887,125**	**4,686,476**	**4,560,535**	**3,495,815**	**2,016,124**	**382,794**	20,896,362
Capacity at beginning of month		16,000,000	4,485,223	2,461,721	1,600,000	800,000	752,500	2,824,256	6,295,629	11,441,444	15,433,730	15,808,749	10,117,825	
New Volume detained		13,154,057	4,485,223	2,461,721	1,600,000	800,000	415,710	78,462	130,770	781,865	3,234,830	8,036,144	9,495,259	
New volume detained + leftovers		13,154,057	16,000,000	16,000,000	16,000,000	16,000,000	15,663,210	13,254,206	9,835,141	5,340,421	3,801,100	8,227,395	15,377,434	
Percentage lost to evap (assumption)		0.01	0.01	0.02	0.02	0.03	0.04	0.05	0.06	0.04	0.02	0.01	0.01	
Percentage lost to pump out (assumption)		0.1	0.1	0.08	0.03	0.01	0	0	0	0	0.01	0.03	0.08	
Percentage of Captured that is Stored		100%	38%	26%	55%	48%	100%	100%	100%	100%	100%	100%	100%	81%
Actual available in storage for NP		**11,707,110**	**14,240,000**	**14,400,000**	**15,200,000**	**15,360,000**	**15,036,682**	**12,591,496**	**9,245,032**	**5,126,804**	**3,687,067**	**7,898,299**	**13,993,465**	
Leftover R after NP demand for month is used		11,514,777	13,538,279	14,400,000	15,200,000	15,247,500	13,175,744	9,704,371	4,558,556	566,270	191,251	5,882,175	13,610,671	
Volume Rain used for NP		**192,334**	**701,721**	**0**	**0**	**112,500**	**1,860,937**	**2,887,125**	**4,686,476**	**4,560,535**	**3,495,815**	**2,016,124**	**382,794**	**20,896,362**
Capacity at end of month		4,485,223	2,461,721	1,600,000	800,000	752,500	2,824,256	6,295,629	11,441,444	15,433,730	15,808,749	10,117,825	2,389,329	
unmet demand		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

SHERWOOD DESIGN ENGINEERS

SUSTAINABLE WATER | ECOLOGY | HEALTH / HAPPINESS | EDUCATION | COMMUNITY

DO GOOD

SHERWOOD DESIGN ENGINEERS

SUSTAINABLE WATER | ECOLOGY | HEALTH / HAPPINESS | EDUCATION | COMMUNITY

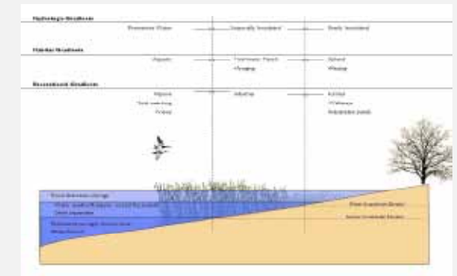
DO GOOD

SHERWOOD DESIGN ENGINEERS

SUSTAINABLE WATER | ECOLOGY | HEALTH / HAPPINESS | EDUCATION | COMMUNITY

Wetlands: A closer look

- Total storage ≈ 16,000,000 gallons
- Capture and store rainfall at two locations
- Collect runoff via stormdrain pipes & overland flow
- Water storage space for detention of infrequent large flood events
- Stormwater treatment
- Recreational & educational amenity
- Restoration of lost habitat for aquatic and terrestrial ecosystems



SHERWOOD DESIGN ENGINEERS

Reduce Irrigation Demand

•Xeriscaping, use native/drought resistant plantings, return to natural condition

•More efficient irrigation technologies

•Reduce areas of green grass

SHERWOOD DESIGN ENGINEERS

Parking Retrofit: A Closer Look

•Treat and detain stormwater before entrance to existing storm drain and outfall into pond or offsite

•Tree species should be selected to provide ample shade for parked vehicles as well as reduced air temperatures on site.

•Parking areas could be paved with permeable pavers

SHERWOOD DESIGN ENGINEERS

Localized Stormwater Treatment

•Raingardens and bioretention areas near building facades

•Stormwater receives treatment prior to conveyance in storage in wetland pond

SHERWOOD DESIGN ENGINEERS

Rainwater Harvesting: A closer look

- Historically, almost 24" of precipitation occurs in the region, with the heaviest rains occurring October thru April.
- Potential uses of captured water
  - irrigation demand
  - indoor non-potable demand
  - Cooling water demand
- Challenges
  - Regulatory concerns
    - municipal building and plumbing codes
    - health and safety regulations addressing treatment requirements
    - concern about downstream beneficial uses
  - Regional concerns (arid, semi-arid region)
    - un-aligned supply & demand
    - irrigation demand is present during months when supply is largely unavailable
- Public education and the demonstration of sustainable technology is considered one of the most common drivers to rainwater harvesting

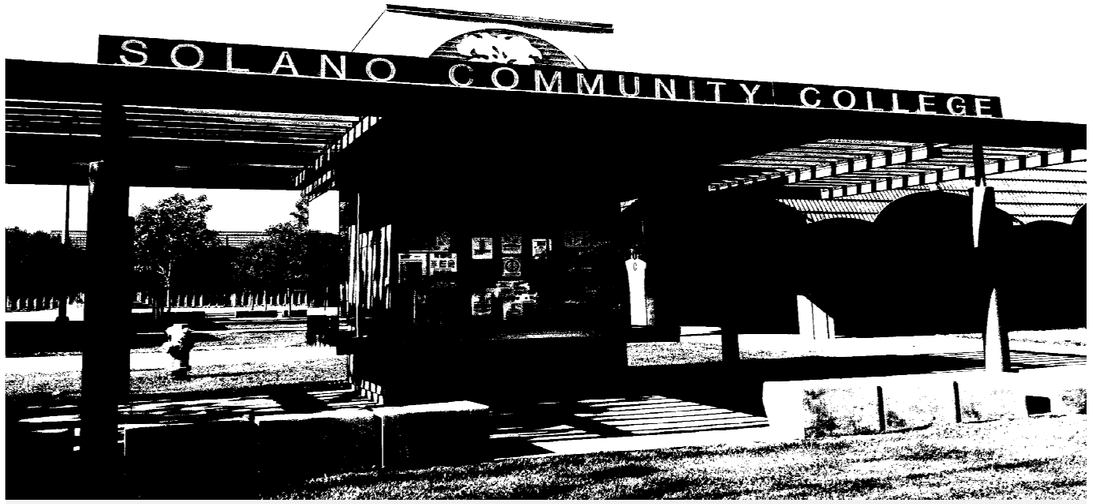
SHERWOOD DESIGN ENGINEERS

Continued Coordination

- Need Existing SD information for entire site, plans now are limited to campus core
- Soils/Geotechnical Report

SHERWOOD DESIGN ENGINEERS

Stormwater Conceptual Design



SHERWOOD DESIGN ENGINEERS

Vacaville Campus

PROJECT MISSION

Develop a Stormwater Management Plan which embraces the Sustainability Goals of Solano Community College

SUSTAINABLE WATER

Achieve a positive impact on local water resources and supply

ECOLOGY

Regenerate degraded environments and halt biodiversity loss by creating wetland and upland habitats and implementing green urban development

HEALTH / HAPPINESS

Provide the means by which all members of the Solano Community College can lead happy, healthy lives. Design for ecological and human health, create and maintain a healthy community green infrastructure; actively promote well being through lifestyle initiatives

EDUCATION

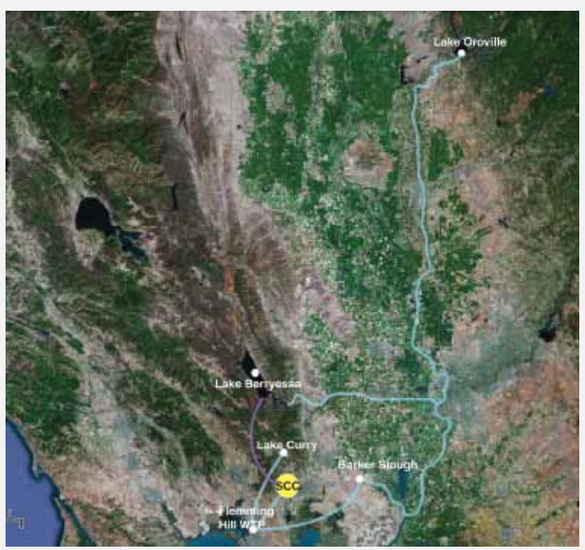
Create wetland ecologies and provide educational interfaces with wildlife

COMMUNITY

Be a model of sustainable water conservation and efficiency.

SHERWOOD DESIGN ENGINEERS

OPPORTUNITIES AND CONSTRAINTS



POTABLE SOURCES

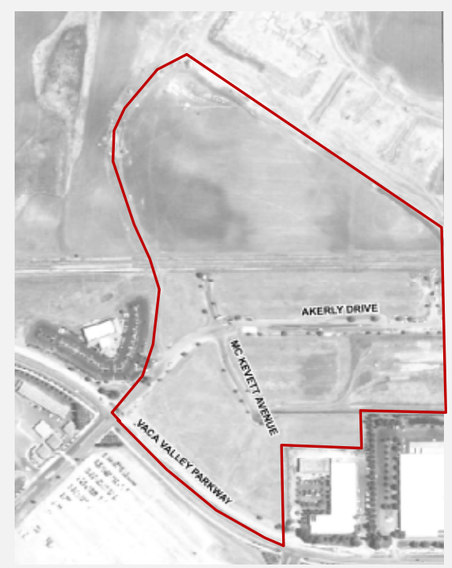
- Lake Oroville
- Lake Berryessa
- Via Barker Slough
- Via Flemming Hill Water Treatment Plant

IRRIGATION SOURCES

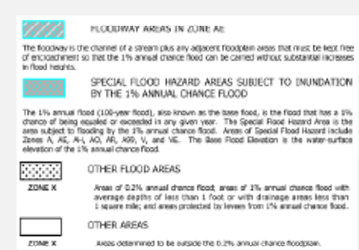
- Lake Berryessa

SHERWOOD DESIGN ENGINEERS

OPPORTUNITIES AND CONSTRAINTS



No Floodways or areas within a 100 or 500 year flood-plain within the site.



FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, A1, AO, AH, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

OTHER FLOOD AREAS

ZONE X

Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X

Areas determined to be outside the 0.2% annual chance floodplain.

SHERWOOD DESIGN ENGINEERS

OPPORTUNITIES AND CONSTRAINTS

Precipitation at the Vacaville Weather Station

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Inch	5.47	5.03	3.74	1.13	.60	.09	.05	.03	.29	1.19	3.27	3.66	24.55

SHERWOOD DESIGN ENGINEERS

OPPORTUNITIES AND CONSTRAINTS

Average Max Temperature at the Vacaville Weather Station

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Max °F	55.6	62.1	66.9	74.1	82.3	90.5	95.8	94.8	90.4	80.5	65.3	56.2	76.2

SHERWOOD DESIGN ENGINEERS

OPPORTUNITIES AND CONSTRAINTS

Evapotranspiration: California Irrigation Management Information System (CIMIS)

	Total	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Evapotransporation Rate: Daily		0.04	0.06	0.11	0.16	0.20	0.23	0.24	0.21	0.17	0.11	0.06	0.03
Evapotransporation Rate: Monthly	*49.42*	1.24	1.68	3.41	4.80	6.20	6.90	7.44	6.51	5.10	3.41	1.80	0.93

Appendix A—Table 1
Reference Evapotranspiration Rates for Selected Cities*

Daily Average Reference Evapotranspiration by ET_o Zone (inches per day)

ET_o Zone	City	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
1	Santa Monica	0.03	0.05	0.08	0.11	0.13	0.15	0.15	0.13	0.11	0.08	0.04	0.02
2	Santa Cruz	0.04	0.06	0.10	0.13	0.15	0.17	0.16	0.15	0.13	0.09	0.06	0.04
3	Monterey/Salinas	0.06	0.08	0.12	0.16	0.17	0.19	0.18	0.17	0.14	0.11	0.08	0.06
4	San Diego	0.06	0.08	0.11	0.15	0.17	0.19	0.19	0.18	0.15	0.11	0.08	0.06
5	Santa Rosa	0.03	0.06	0.09	0.14	0.18	0.21	0.21	0.19	0.15	0.10	0.05	0.03
6	Los Angeles	0.06	0.08	0.11	0.16	0.18	0.21	0.21	0.20	0.16	0.12	0.08	0.06
7	Alturas	0.02	0.05	0.08	0.13	0.17	0.21	0.24	0.21	0.16	0.09	0.04	0.02
8	San Jose	0.04	0.06	0.11	0.16	0.20	0.23	0.24	0.21	0.17	0.11	0.06	0.03
9	San Bernardino Pasadena	0.07	0.10	0.13	0.17	0.19	0.22	0.24	0.22	0.19	0.13	0.09	0.06
10	Pakinas	0.03	0.06	0.10	0.15	0.19	0.24	0.26	0.23	0.17	0.10	0.05	0.03
11	Sonora	0.05	0.08	0.10	0.15	0.19	0.24	0.26	0.24	0.19	0.12	0.07	0.05
12	Fresno	0.04	0.07	0.11	0.17	0.22	0.26	0.26	0.23	0.18	0.12	0.06	0.03
13	Quincy	0.04	0.07	0.10	0.16	0.21	0.26	0.29	0.25	0.19	0.12	0.06	0.03
14	Sacramento	0.05	0.08	0.12	0.17	0.22	0.26	0.28	0.25	0.19	0.13	0.07	0.05
15	Bakersfield	0.04	0.08	0.12	0.19	0.24	0.27	0.28	0.25	0.19	0.13	0.07	0.04
16	Hanford	0.05	0.09	0.13	0.19	0.25	0.29	0.30	0.27	0.21	0.14	0.08	0.05
17	Needles	0.06	0.10	0.15	0.20	0.26	0.30	0.32	0.28	0.22	0.14	0.09	0.06
18	Palm Springs	0.08	0.12	0.17	0.23	0.28	0.32	0.31	0.28	0.23	0.16	0.10	0.07

* For comprehensive descriptions of each zone and to locate your region in a zone, see the California Irrigation Management Information System (CIMIS) color map opposite this page.

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OPPORTUNITIES AND CONSTRAINTS

Soil Infiltration:

- HSG C and D soils constitute 97 percent of classified soils in Solano County
- No soils maps readily available at the Vacaville Site
- Assumed for this study that soils at the Vacaville campus do not infiltrate

SHERWOOD DESIGN ENGINEERS

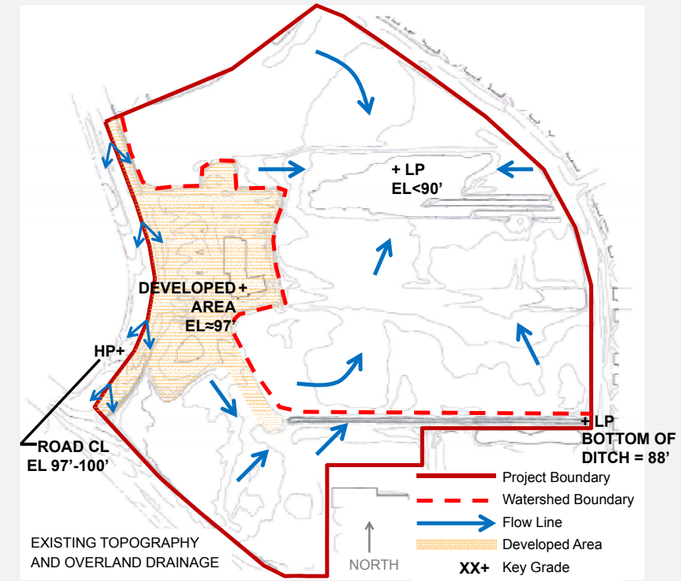
EXISTING CONDITIONS

- Largely undeveloped
- One building and some parking areas constructed in Phase 1 of the Campus Development
- Some commercial & residential development borders the project site

SHERWOOD DESIGN ENGINEERS

EXISTING CONDTIONS

- Site topography is very flat
- Site comprised of two watersheds
- Existing developed area is at approximately 97' elevation
- Low points within site range between 88' & 90'
- There is currently a ditch which receives the site's developed area storm water runoff



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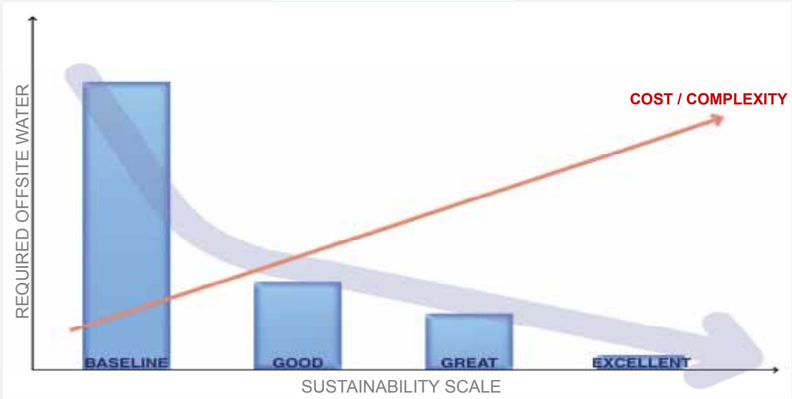
STRATEGIES



WATER SUPPLY	Potable & irrigation demand met through municipal supply	A portion of irrigation and non-potable building demands met through Rainwater Harvesting (RWH)	Most non-potable building & irrigation demands met through RWH & graywater reuse	All non-potable uses met through RWH, graywater, wastewater treatment
IRRIGATION DEMAND	Large irrigation demand	Water efficient landscaping	Water efficient landscaping	Water efficient landscaping
WATER EXPRESSION	No water expression/ ecological amenity on site	Lake Amenity	Lake amenity and open water features	Lake amenity and expanded open water features

SHERWOOD DESIGN ENGINEERS

PROPOSED CONCEPT

a comprehensive water management plan using demand reduction and rainwater harvesting

Sustainable Water

Open Water Amenity

Community Learning

Educational programs

Create Lake Habitat

SHERWOOD DESIGN ENGINEERS

SUSTAINABLE WATER | ECOLOGY | HEALTH / HAPPINESS | EDUCATION | COMMUNITY

PROPOSED CONCEPT

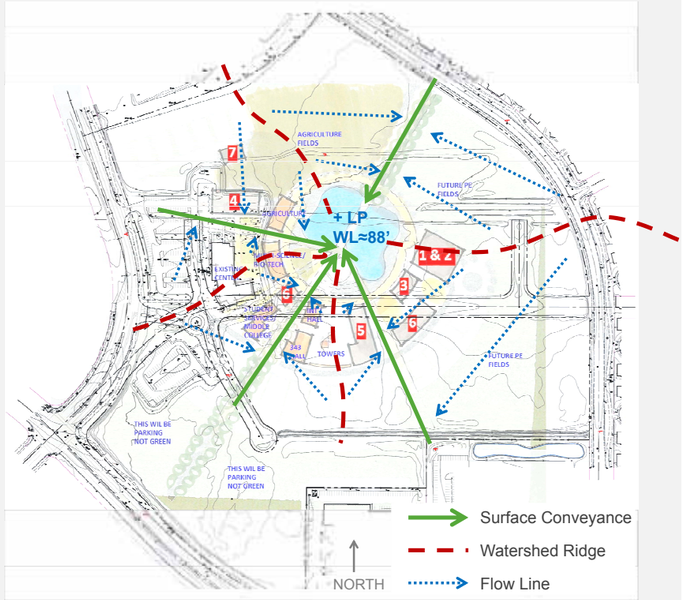
Mimic natural topography as much as possible

- Water reuse pond positioned near natural site low point
- Water level set at 88' to allow most of site to drain into it through surface conveyance
- Finish surfaces range between 92' and 100'; depending on distance to the pond
- Portion of site within potential capture area will require one of the options below:
  1. 100' min. finish surface grade
  2. Pumping to water reuse pond
  3. Landscape based (not reuse) stormwater management

SHERWOOD DESIGN ENGINEERS

PROPOSED CONCEPT

- Create Water Reuse Lake as an amenity
  - Situate close to proposed campus core and at natural low point
- Proposed watersheds will radiate out in "wagon wheel" fashion
- Stormwater will be surface conveyed through vegetated swales at main arterials



SHERWOOD DESIGN ENGINEERS

PROPOSED CONCEPT

WATERSHED PROTECTION CONTROLS NECESSARY

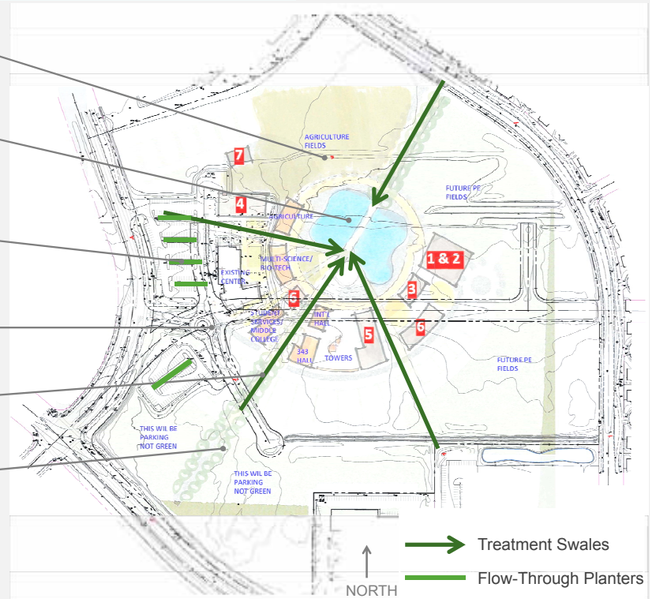
STORMWATER STORAGE PONDS: SUPPLEMENT WITH SOLANO IRRIGATION DISTRICT (SID) WATER WHEN NEEDED TO REMAIN FULL, USE FOR IRRIGATION, COOLING AND TOILET FLUSHING

PROVIDE PRETREATMENT IN FLOW THROUGH PLANTERS IN PARKING LOTS

RETROFIT EXISTING STORM DRAIN INFRASTRUCTURE

LID PRETREATMENT & CONVEYANCE

NATIVE PLANTING REDUCES IRRIGATION DEMAND



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LAKE MANAGEMENT: A CLOSER LOOK

Water Level Management

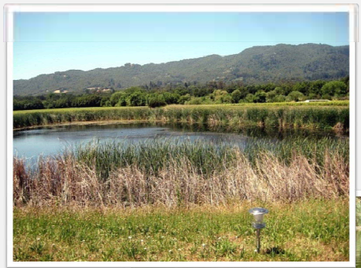
- In speaking with the Solano Irrigation District (SID) it seems feasible that SID water could be used to keep the ponds full as an amenity in the summertime when rainwater is not available.
- SID water could fill pond, and then be used to irrigate at night

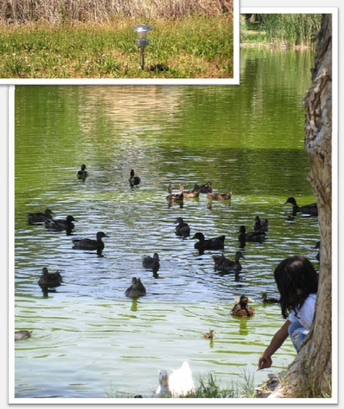
Vector Control

- Maximize disruption of standing water: water level change leaves larvae unable to have successful growth.
  - Operations strategies often include purposely fluctuating water levels so as to help control mosquito breeding
  - Stormwater input, and output to non-potable uses, changes water level
  - Storing SID water in ponds before using will further fluctuate water levels
  - Mechanically move water using pumps if necessary
  - Install a surveillance device to measure the adult mosquito population, if vector control is an issue:
    - Spray ponds with an environmentally safe pesticide to minimize long term impacts on water quality
    - Plant mosquito fish
- Selection of appropriate plant, fish and animal species also will help naturally control vectors

Planting/Aquatic Life

- As a large lake this amenity has the opportunity to have a vast array of natural plant, fish and animal species. Care should be taken in the design phase to select appropriate life to make lake rich in ecological species





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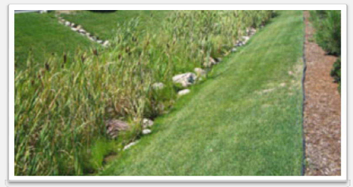
TREATMENT SWALES: A CLOSER LOOK

- Conveys water along the surface instead of in storm drain pipes, allowing for outlet at a higher elevation
- Provides pre-treatment to stormwater through the landscape, allowing harmful pollutants to be removed before storage in pond
- Can be integrated into landscape to be either formal and urban, or more natural in appearance
- Should be planted with species that can handle a lot of water for the winter season, but also don't need much irrigation for the summer months
- Swales can be lined so that less water is absorbed by native soils if it is important all rainwater gets to storage ponds



SHERWOOD DESIGN ENGINEERS

RAINWATER HARVESTING: A CLOSER LOOK

- Historically, almost 25" of precipitation occurs in the region, with the heaviest rains occurring October thru April.
- Potential uses of captured water
  - irrigation demand
  - indoor non-potable demand
  - Cooling water demand
- Challenges
  - Regulatory concerns
    - municipal building and plumbing codes
    - health and safety regulations addressing treatment requirements
    - concern about downstream beneficial uses
  - Regional concerns (arid, semi-arid region)
    - un-aligned supply & demand
    - irrigation demand is present during months when supply is largely unavailable
- Public education and the demonstration of sustainable technology is considered one of the most common drivers to rainwater harvesting

SHERWOOD DESIGN ENGINEERS

Key Presentations

Solano Community College District
Facilities Master Planning, Concept Development
FlexCal; August 10, 2012

TODAY, DESIGN WITH US!

A preview into the developing concepts of the facilities planning at Solano CCD

A
Vacaville Center
Concept A

Vacaville Center
Concept A

B
Vacaville Center
Concept B

Vacaville Center
Concept B

A
Vallejo Center
Concept A

Vallejo Center
Concept A

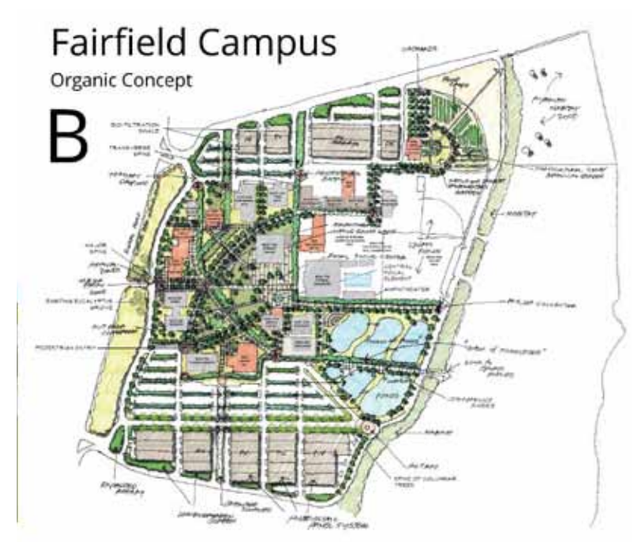
Vallejo Center
Concept A

B
Vallejo Center
Concept B

Vallejo Center
Concept B

Vallejo Center
Concept B

Fairfield Campus
Traditional Quad Concept
A


Fairfield Campus
Organic Concept
B

27-Jul-12

MAIN CAMPUS (Organic Concept)	Total Build Out - Long Range FMP Building Gross SF	"Long Range Plan"Definition: Planning beyond what may be afforded in a new Facilities Bond Program, identifying educational facilities needs in alignment with the Educational Master Plan and future program and community growth/demand.	
Main Campus EXISTING GSF	391,226	Scope	Note
Building 100 Library Complex	(49,600)	Demolition	
F1 New Library Learning Resource Center	59,171	New	
Building 200 Childcare Center	9,280	na	Current Renovation
F11 DEMO Building 201 Childcare #2	(1,440)	Demolition	
F2 DEMO Building 300 Science	(24,240)	Demolition	
F2 New Science & Nursing	42,400	New	
Building 400 Student Services	39,621	na	New Facility
Building 500 Business	11,616	Renovation	
F9 Corporate Training Center Addition	12,139	New	
Building 600 Administration	13,056	na	Current Renovation
F2 DEMO Building 700 Humanities	(16,864)	Demolition	
F2 DEMO Building 800	(17,856)	Retrofit	Repurpose
Building 900 Faculty Office	5,300	na	New Facility
F5 DEMO Bulding 1000 Horticulture	(3,977)	Demolition	Or renovation in 2026 plan
F5/F10 Horticulture/Food Science	22,829	New	
F6 RENOVATE Building 1200 Music Drama	25,231	Renovation	
Bulding 1300 Fine Arts	12,400	na	Current Renovation
Building 1400 Student Center	33,032	na	Recently Renovated Facility
Bulding 1500 Mathematics	16,417	Renovation and Small Addition	
F11 Repurposed 1600 ECE/Family	14,336	Retrofit	Repurpose
Building 1700 PE	55,881	Renovation	
F3/F4 Vocational Center & Cosmetology	12,456	New	
F3/F4 Repurpose 1800 part Vocational	13,300	Retrofit	Repurpose
F15 Repurpose 1800 part Police/IT	12,000	Retrofit	Repurpose
Building 1900 Warehouse	10,730	Renovation	
F12/13 Applied Arts & Middle College	16,000	New	
F16 M&O Complex & Storage	24,250	New	
TOTAL	**347,468**		
Net Difference	(43,758)	Additional	
Technology Upgrades	yes		Note: The above projects and square footages are not final and do not reflect any decision made by the Solano CCD. The list is purely for the analuysis of existing facilities and opportunities for additional educational support space
Infrastructure Upgrades	yes		
Comprehensive Storm Water Plan	yes		
Site Accessibility	yes		
Site Signage and Wayfinding	yes		
Parking revisions	yes		
Landscape renovation and replacement	yes		
New campus drive/circulation	yes		
Site Photovoltaic Panel Installations	yes		
PE Related Upgrades and Maintenance	yes		

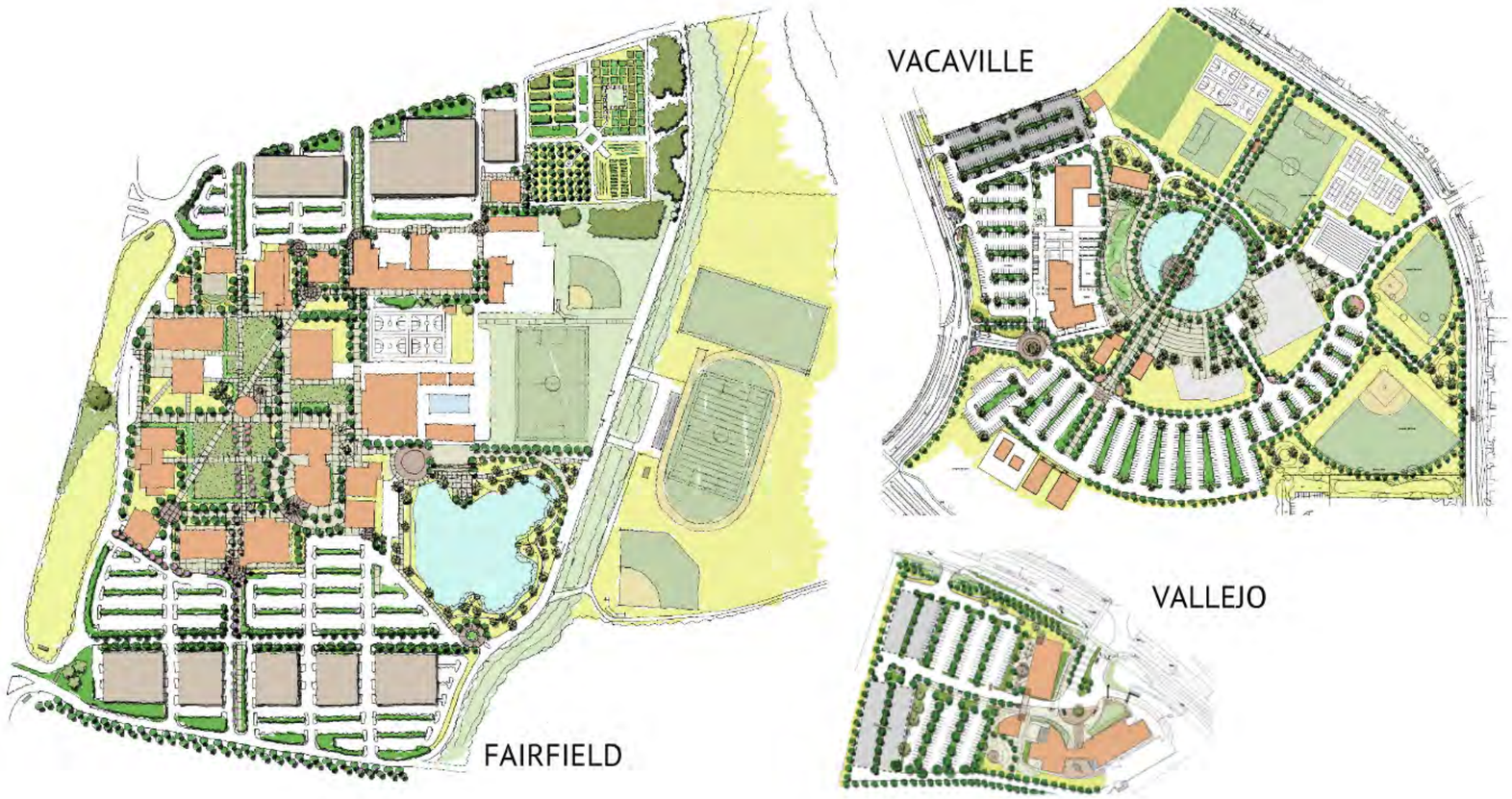
VACAVILLE	Total Build Out - Long Range FMP Building Gross SF	"Long Range Plan"Definition: Planning beyond what may be afforded in a new Facilities Bond Program, identifying educational facilities needs in alignment with the Educational Master Plan and future program and community growth/demand.	
Center EXISTING ASF	36,359	Scope	Note
New Fire Training Facilities			
Drill Tower	2,800	New	
343 Hall	6,000	New	
60' Ladder and Rescue Tower	2,800	New	
Internaional Hall	7,500	New	
Strength & Conditioning Pavilion	1,600	New	
Multi-Use/Science/Bio Tech Building	36,000	New	
Student Services Bldg / Middle College	12,500	New	
Agriculture Building	15,000	New	Note: The above projects and square footages are not final and do not reflect any decision made by the Solano CCD. The list is purely for the analuysis of existing facilities and opportunities for additional educational support space.
Child Care Facility	5,000	New	
Food Café	500	New	
Additional Parking			
TOTAL	**89,700**		
Net Difference	53,341	Additional	
Similar Infrastructure and Site work as indicated above for Fairfield			

VALLEJO	Total Build Out - Long Range FMP Building Gross SF	"Long Range Plan"Definition: Planning beyond what may be afforded in a new Facilities Bond Program, identifying educational facilities needs in alignment with the Educational Master Plan and future program and community growth/demand.	
Center EXISTING ASF	40,600	Scope	Note
Educational Partner Building	32,064	New	
New Student Services Center	12,500	New	Note: The above projects and square footages are not final and do not reflect any decision made by the Solano CCD. The list is purely for the analuysis of existing facilities and opportunities for additional educational support space.
New Child Care Facility	5,000	New	
Food Café	500	New	
Additional Parking			
TOTAL	**90,664**		
Net Difference	50,064	Additional	
Similar Infrastructure and Site work as indicated above for Fairfield			

Draft Campus Plans - Oct 2012

Solano Community College District
District-wide Facilities Master Planning

FINAL DRAFT CAMPUS PLANS
October 3, 2012



VACAVILLE CENTER
FINAL DRAFT CAMPUS PLAN

VALLEJO CENTER
FINAL DRAFT CAMPUS PLAN

FAIRFIELD CAMPUS
FINAL DRAFT CAMPUS PLAN

Solano Community College District BASED ON OPTION 'C' 09/10/2012

25-30 Year Facility Master Plan - PRELIMINARY COST STUDY (Based on July/August Option Development)

Fairfield	$	327,032,543
Vacaville	$	85,663,922
Vallejo	$	54,255,522
	$	466,951,987

Fairfield	$	327,032,542.53				
Campus-wide Infrastructure, Parking, Landscape, Signage, and Security	$	28,748,374	8.8%			
Building Projects	$	198,422,049	60.7%			100%
Seismic/Structural				$	26,474,500	8.1%
Renovation (finishes, mechanical/electrical, structural upgrade)				$	70,602,000	21.6%
Retrofit (gut interior of building and repurpose for new use)				$	21,126,400	6.5%
Demolition				$	1,026,340	0.3%
New Construction				$	76,575,825	23.4%
Building Related Landscape				$	2,616,984	0.8%
Planning and Construction Management & Implementation	$	80,291,360	24.6%			
Other (M&O Set-aside, Technology, Equipment, Land Acquisition)	$	27,570,759	8.4%			
Vacaville	$	85,663,922.39				
Campus-wide Infrastructure, Parking, Landscape, Signage, and Security	$	6,048,259.73	7.1%			
Building Projects	$	51,464,670.00	60.1%			100%
Seismic/Structural				$	3,635,900	7.1%
Renovation (finishes, mechanical/electrical, structural upgrade)				$	5,090,260	9.9%
Retrofit (gut interior of building and repurpose for new use)				$	3,272,310	6.4%
Demolition				$	-	0.0%
New Construction				$	38,820,000	75.4%
Building Related Landscape				$	646,200	1.3%
Planning and Construction Management & Implementation	$	20,658,759.66	24.1%			
Other (M&O Set-aside, Technology, Equipment, Land Acquisition)	$	7,492,233	8.7%			
Vallejo	$	54,255,521.94				
Campus-wide Infrastructure, Parking, Landscape, Signage, and Security	$	6,048,259.73	11.1%			
Building Projects	$	26,086,259.73	48.1%			
Seismic/Structural				$	-	0.0%
Renovation (finishes, mechanical/electrical, structural upgrade)				$	7,750,000	29.7%
Retrofit (gut interior of building and repurpose for new use)				$	2,842,000	10.9%
Demolition				$	3,654,000	14.0%
New Construction				$	5,684,000	21.8%
Building Related Landscape				$	108,000	0.4%
Planning and Construction Management & Implementation	$	9,232,255.21	17.0%			
Other (M&O Set-aside, Technology, Equipment, Land Acquisition)	$	18,937,007	34.9%			
Nut Tree	$	7,500,000.00				
Parking, New Construction, Partnership, Equipment/Vehicles						
Travis	$	500,000.00				
Facility Support, Equipment, Partnership						
	$	474,951,986.86				

Solano Community College District

Facilities Master Planning

Final Draft Campus Plans

January 23, 2013

SOLANO COMMUNITY COLLEGE DISTRICT

PRIORITY PROJECT LIST AND PROBABLE COSTS

Prepared Jan. 22, 2013

DRAFT Probable Costs, Priority Projects

Facilities Master Plan, Solano Community College

			Measure Q	State Funding
1	Fairfield	Building 1200 Theater, Music Drama Renovation	$ 494,894	$13,671,000
2	Fairfield	NEW Student Forum	$ 3,966,236	
3	Fairfield	NEW Library + Academic Success Center	$ 19,653,197	$18,308,000
4	Fairfield	NEW Science and Math	$ 30,906,484	
5	Fairfield	Building 1800A - Vocational Technologies	$ 16,769,522	
1	Vacaville	New Multi-Science and BioTech Building	$ 29,870,125	
2	Vacaville	Agriculture Building + M&O Facility	$ 16,594,514	
3	Vacaville	Existing Vacaville Center Building	$ 19,851,876	
4	Vacaville	New Fire Training Facilities - Drill Tower	$ 1,864,095	
5	Vacaville	New Fire Training Facilities - Strength & Conditioning Pavilion	$ 934,015	
6	Vacaville	New Fire Training Facilities - 343 Hall	$ 3,010,625	
1	Vallejo	New Property Purchase and Improvements	$ 16,292,565	
2	Vallejo	New Multi-Disciplinary Classroom/Lab Building	$ 29,207,320	
3	Vallejo	Existing Vallejo Center Building Renovation/Retrofit	$ 22,068,558	
		Total $, Campus/Center Priorities	**$ 211,484,027**	**$31,979,000**
		Total $, Measure Q	**$ 348,000,000**	
			60.8% of Meas Q	

Probable Costs indicated above include Campus-wide Infrastructure, Landscape, Contingencies, Design, Management Costs (soft costs)

SOLANO COMMUNITY COLLEGE DISTRICT

PRIORITY PROJECT IMPLEMENTATION AND RELATED COSTS

DRAFT Probable Costs, Priority Projects

Facilities Master Plan, Solano Community College

		Measure Q	State Funding
1 Fairfield	Building 1200 Theater, Music Drama Renovation	$ 494,894	$ 13,671,000
	Central Plant Building	$ 4,855,180	
2 Fairfield	NEW Student Forum	$ 3,966,236	
	New Corporate Training Center	$ 7,143,283	
	NEW Classroom Building/Middle College	$ 7,327,098	
	Bldg 201 Child Development Center (ECE) #2 Demolition	$ 20,875	
	Building 1500 Demolition	$ 237,989	
	NEW Library + Academic Success Center	$ 19,653,197	$ 18,308,000
	Building 100 Demolition	$ 1,078,538	
	Building 700 - Health & Nursing	$ 10,509,272	
	Building 800 Demolition	$ 244,469	
4 Fairfield	NEW Science and Math	$ 30,906,484	
5 Fairfield	*Building 1800A - Vocational Technologies*	*$ 16,769,522*	
	NEW Horticulture Building	*$ 12,156,961*	
	Building 1000 Demolition	*$ 57,652*	
	Building 1600 Retrofit/Child Development Center	*$ 207,821*	
	Building 1200 Theater, Music Drama	*$ 494,894*	
	NEW Maintenance & Operations Complex & Storage	*$ 14,270,330*	
1 Vacaville	New Multi-Science and BioTech Building	$ 29,870,125	
2 Vacaville	Agriculture Building + M&O Facility	$ 16,594,514	
3 Vacaville	Existing Vacaville Center Building	$ 19,851,876	
4 Vacaville	New Fire Training Facilities - Drill Tower	$ 1,864,095	
5 Vacaville	New Fire Training Facilities - Strength & Conditioning Pavilion	$ 934,015	
6 Vacaville	New Fire Training Facilities - 343 Hall	$ 3,010,625	
1 Vallejo	New Property Purchase and Improvements	$ 16,292,565	
2 Vallejo	New Multi-Disciplinary Classroom/Lab Building	$ 29,207,320	
3 Vallejo	Existing Vallejo Center Building Renovation/Retrofit	$ 22,068,558	
	Total $, Campus/Center Priorities	**$ 269,593,494**	77.5% of Meas Q
	Total $, Measure Q	**$ 348,000,000**	

Probable Costs indicated above include Campus-wide Infrastructure, Landscape, Contingencies, Design, Management Costs (soft costs)

PHOTOVOLTAICS
AGRICULTURAL FIELDS
ORCHARDS
AGRICULTURAL
MULTI-SCIENCE & BIOTECH
FORUM
VACAVILLE CENTER
CAMPUS POND
CAMPUS POND
FUTURE ATHLETIC FIELD
FUTURE ATHLETIC FIELD
FUTURE ATHLETIC FIELD
FUTURE BUILDINGS
FUTURE BUILDINGS
MIDDLE COLLEGE
STUDENT SERVICES
CHILD DEVELOPMENT CENTER
PHASED PARK
PHASED PARK
FUTURE ATHLETIC FIELD
DRILL TOWERS
FIRE ACADEMY

Next Steps:

Additional studies required:

- Accessibility
- Security/Safety + Traffic
- Technology
- Infrastructure Assessment
- Signage/Wayfinding
- Tree Survey

Implementation Planning:

- Continued Analysis of Project Cost &Implementation
- Collaboration with Program Manager (TBD)
- Design and Sustainability Guidelines
- District Standards (products, materials)

Vallejo Alternative - Feb 2013

SOLANO COMMUNITY COLLEGE DISTRICT

2012 FMP: VALLEJO DESIGN ALTERNATIVE

Board Meeting February 6, 2013

STV 100 Years | vbn

SOLANO COMMUNITY COLLEGE DISTRICT
2012 FACILITIES MASTER PLAN

Alternative Placement Site Plan

Vallejo Design Alternative

STV 100 Years | vbn

SOLANO COMMUNITY COLLEGE DISTRICT
2012 FACILITIES MASTER PLAN

Previous Placement Site Plan

Vallejo Design Alternative

STV 100 Years | vbn

SOLANO COMMUNITY COLLEGE DISTRICT
2012 FACILITIES MASTER PLAN

Alternate Placement Bird's Eye View from West

Alternate Placement Driving from West

Alternate Placement Driving from East

Previous Placement Bird's Eye View from West

Previous Placement Driving from West

Previous Placement Driving from East

Measure Q - April - Dec 2013

SOLANO COMMUNITY COLLEGE DISTRICT
Measure Q Facilities Master Plan Update
April 24, 2013

STV 100 Years | vbn

SOLANO COMMUNITY COLLEGE DISTRICT
2012 FACILITIES MASTER PLAN

FACILITIES MASTER PLAN UPDATE

- Summary of Activity February-April 2013
  - Ongoing input from Stakeholders
  - Partnership Opportunities
  - Initiating Guidelines
- Feedback on Sketch Options
  - Fairfield
  - Vallejo
  - Vacaville
- Progress Update
  - Nut Tree
- Next Steps
  - Comprehensive FMP

Facilities Master Plan Update

February – April Activity

- Joint EMP-FMP Workshops:
  - Fairfield, February 27 & March 14
  - Vallejo, March 14
  - Vacaville, March 14
- Science & Mathematics Faculty & Staff
  - Fairfield, March 21
- Partnership Meetings
  - Winters School District, February 14
  - Jimmy Dolittle Museum at Nut Tree Airport, February 14
  - City of Fairfield, March 26
  - ICON Aircraft at Nut Tree Airport, April 15

Facilities Master Plan Update

February – April Activity

- Ongoing Coordination Meetings
  - District Facilities
  - Kitchell / Measure G
- Initiating Guidelines:
  - Online Survey for Landscape Input (Ongoing)
  - ASSC, April 23
  - Faculty Groups Next

Facilities Master Plan Update

FAIRFIELD
October 2012 Draft

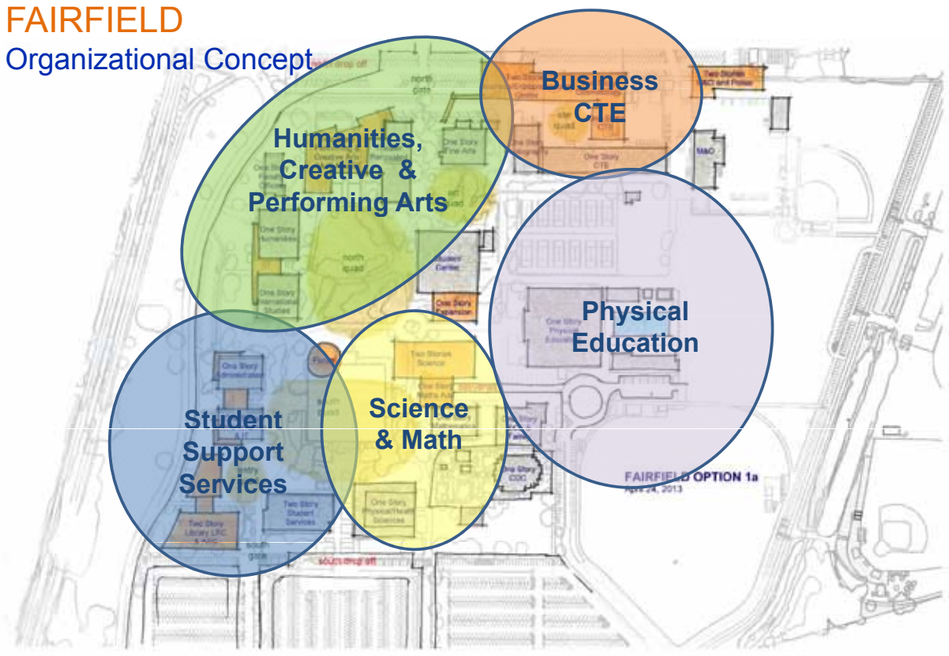
Facilities Master Plan Update

Fairfield Key Additional Feedback

- 2013 Feedback to date:
  - Science/Math's concerned about adequate size, proximity to parking, preference to keep Bldg 300 as physical science and add near it
  - Humanities & Digital/Multi Media prefer to be clustered with Performing and Creative Arts
  - Library will house Academic Success Center that requires adjacency to Building 400 for counseling services
  - Autotech as signature program at Vallejo
  - Corporate Training Center more optimal at Vacaville, however Business/Entrepreneurship at Fairfield
  - Enlarge Theater at Fairfield
  - No immediate need for Horticulture Expansion beyond current Horticulture Plan

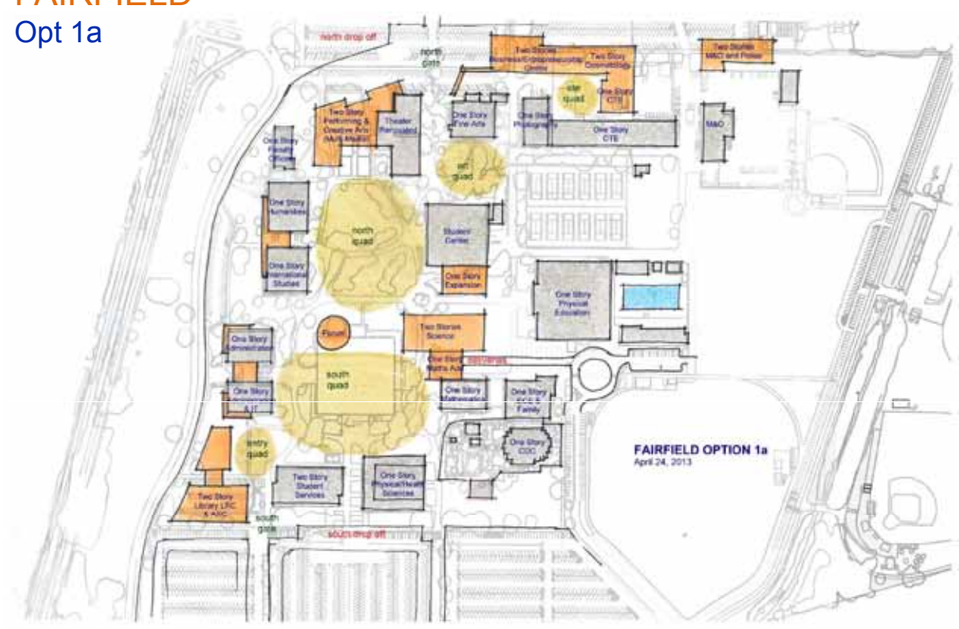
Facilities Master Plan Update

FAIRFIELD
Organizational Concept



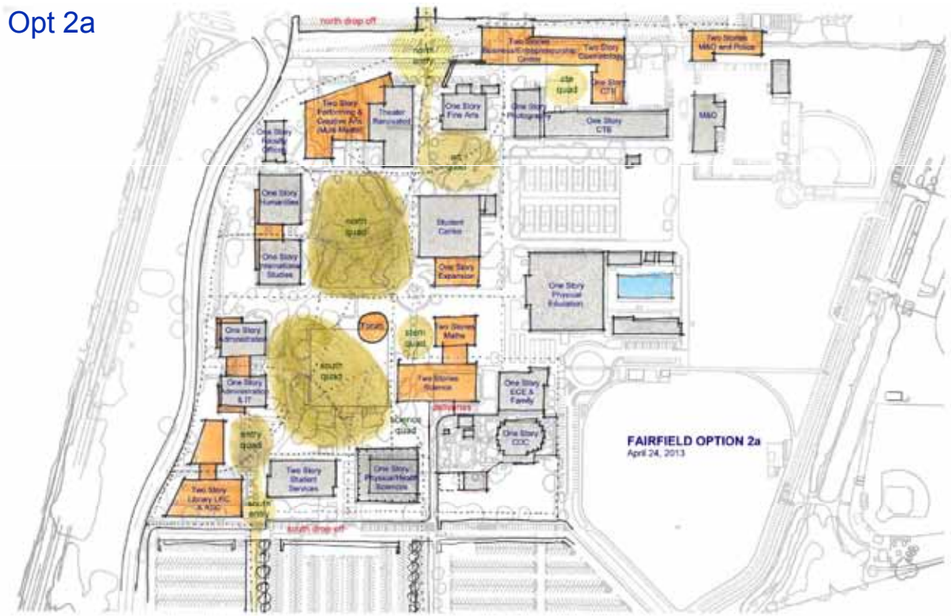
Facilities Master Plan Update

FAIRFIELD
Opt 1a



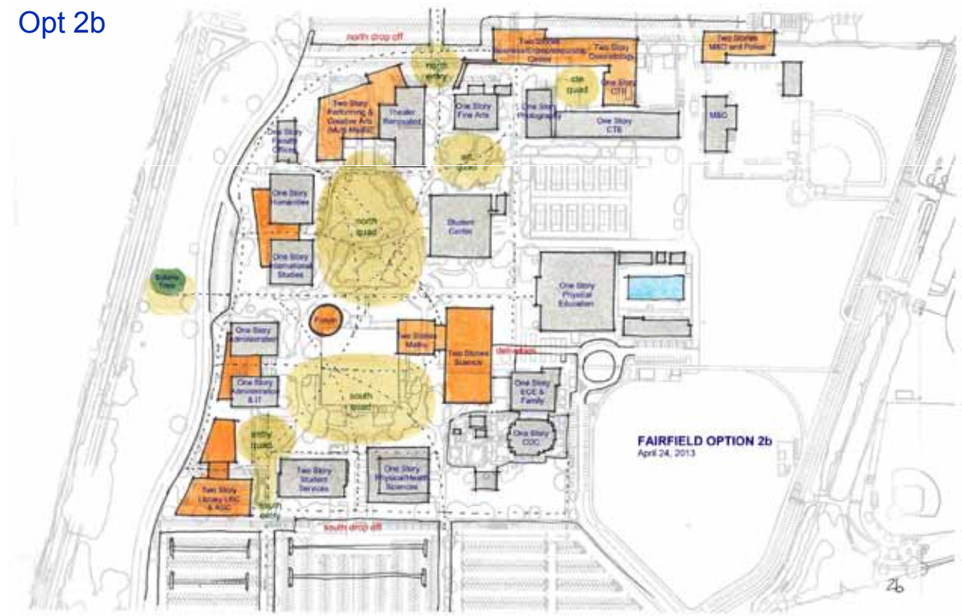
Facilities Master Plan Update

FAIRFIELD
Opt 2a



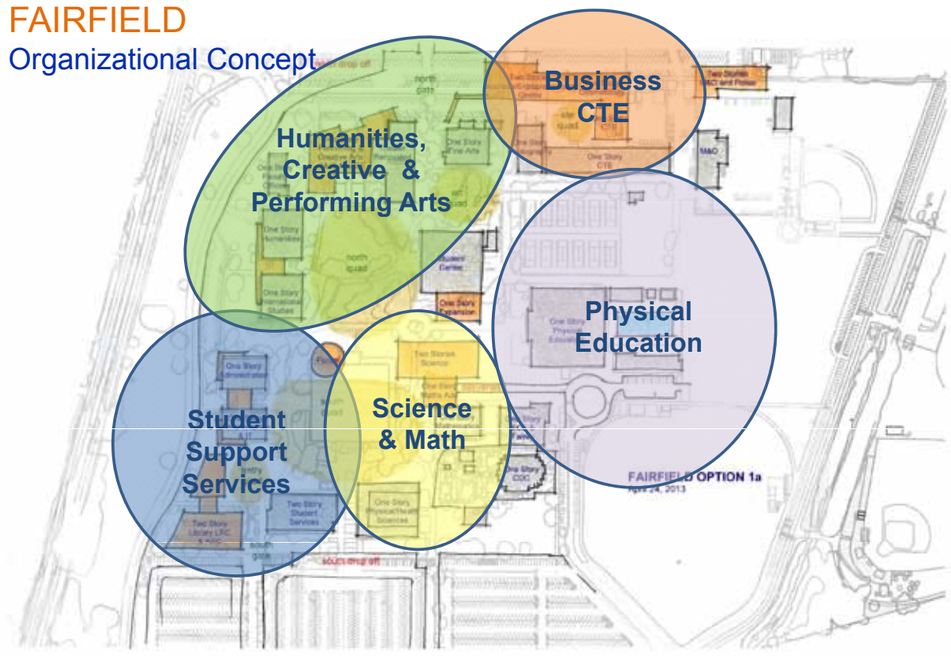
Facilities Master Plan Update

FAIRFIELD
Opt 2b



Facilities Master Plan Update

FAIRFIELD
Organizational Concept



Facilities Master Plan Update

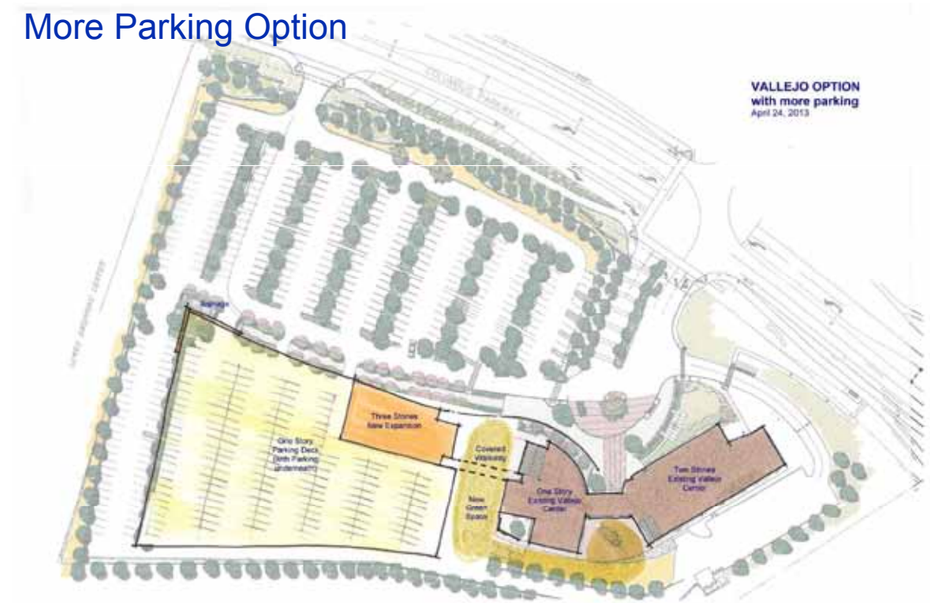
VALLEJO CENTER
February 2013 Draft

Facilities Master Plan Update

Vallejo Key Additional Feedback

- 2013 Feedback to date:
  - Transportation is an issue
  - Autotech on additional site in Vallejo (to be purchased/leased)
  - When Autotech moves to Vallejo, can add Construction Trades too
  - Existing Center is anchor location for Vallejo, therefore need Library, Student Services, Café
  - Outdoor space that gives a sense of third place, fostering sitting, hanging out etc.

VALLEJO CENTER
More Parking Option



Facilities Master Plan Update

VACAVILLE CENTER
October 2012 Draft

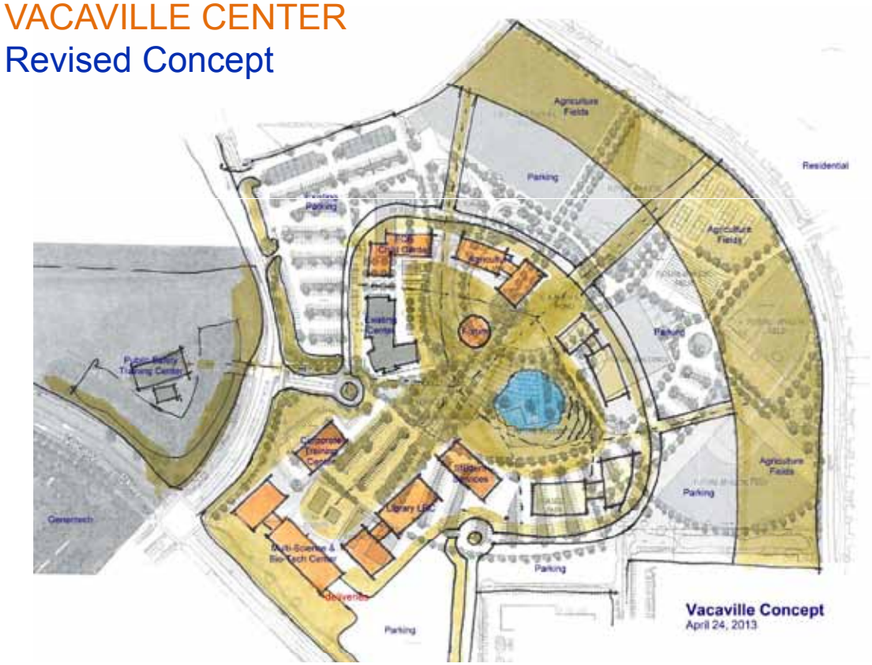
Facilities Master Plan Update

Vacaville Key Additional Feedback

- 2013 Feedback to date:
  - Lease on Former Vacaville Site, with Option to Buy
  - Look at building a more comprehensive Public Safety School (Fire Academy and Public Safety Careers)
  - Bio-Technology/Multi-Science should be located closer to Genentech

Facilities Master Plan Update

VACAVILLE CENTER
Revised Concept



Nut Tree Update

- Exciting Partnership Opportunities:
  - Jimmy Doolittle Air and Space Museum on property adjacent to Nut Tree Airport
  - ICON Aircraft at Nut Tree Airport
  - Existing SCCD program at Nut Tree Hanger
  - Opportunity to create a SCC Advanced Aviation Careers Center and offer additional Workforce Careers in Hospitality, Tourism etc.

Facilities Master Plan Update

Next Steps

- Final Facilities Master Plan
- Design, Landscape & Sustainability Standards
- Traffic & Parking Analysis & Recommendations
- Signage and Way-Finding Master Plan
- Security, Safety, Life Safety Master Plan
- Technology Infrastructure Master Plan
- Utilities Infrastructure Master Plan
- Accessibility Transition Plan
- FF&E Master Plan

Facilities Master Plan Update

SOLANO COMMUNITY COLLEGE DISTRICT

Measure Q Facilities Master Plan Update

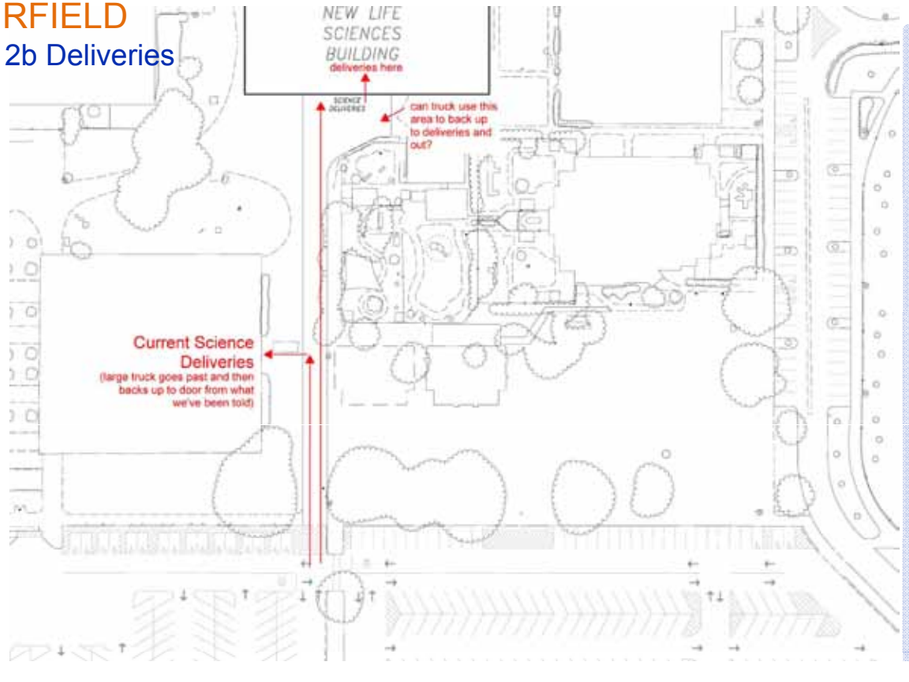
May 8, 2013

FACILITIES MASTER PLAN

- Fairfield
  - Follow up with Science and Mathematics
  - Follow up with Dean Morinec (CTE & Business)
  - Follow up with Veteran's Programs
  - Ongoing: Theater
  - Ongoing: Traffic & Parking
- Vallejo
  - Two Massing/3D Option 1 and 2
- Design Guidelines Survey
- Next Steps

FAIRFIELD

Opt 2b Deliveries



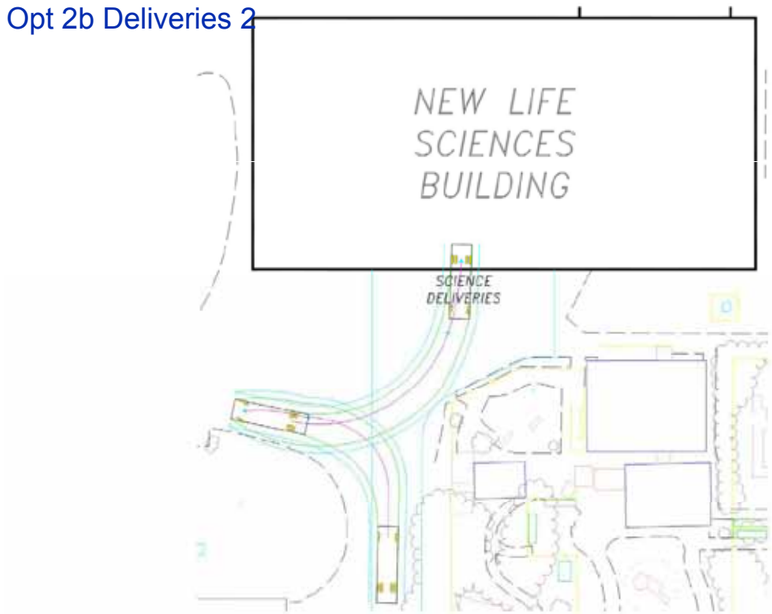
Facilities Master Plan Update

FAIRFIELD

Opt 2b Deliveries 1

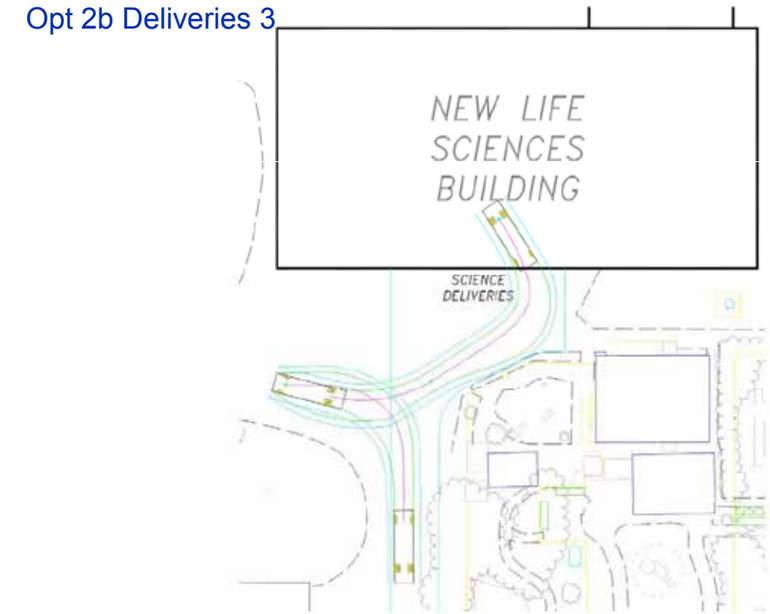
Facilities Master Plan Update

FAIRFIELD
Opt 2b Deliveries 2



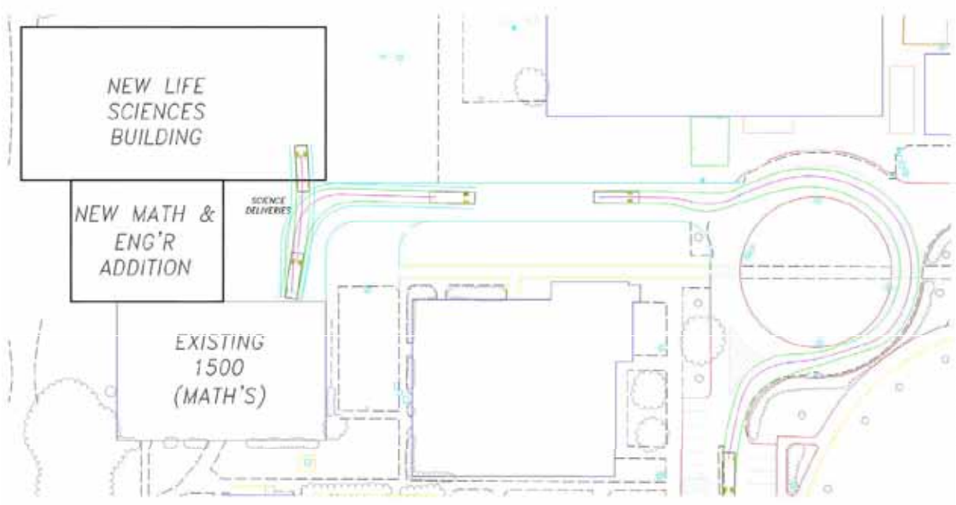
Facilities Master Plan Update

FAIRFIELD
Opt 2b Deliveries 3



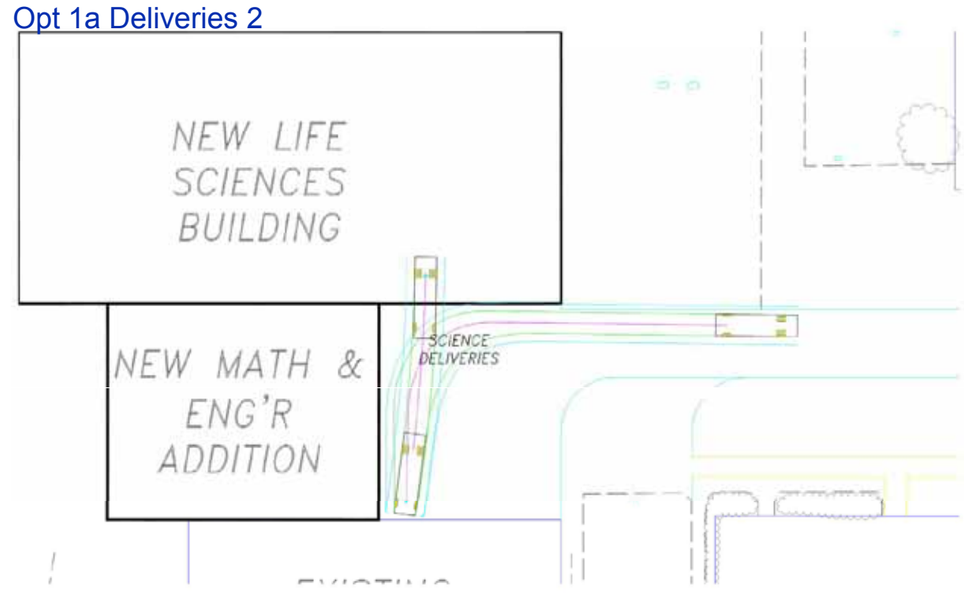
Facilities Master Plan Update

FAIRFIELD
Opt 1a Deliveries 1



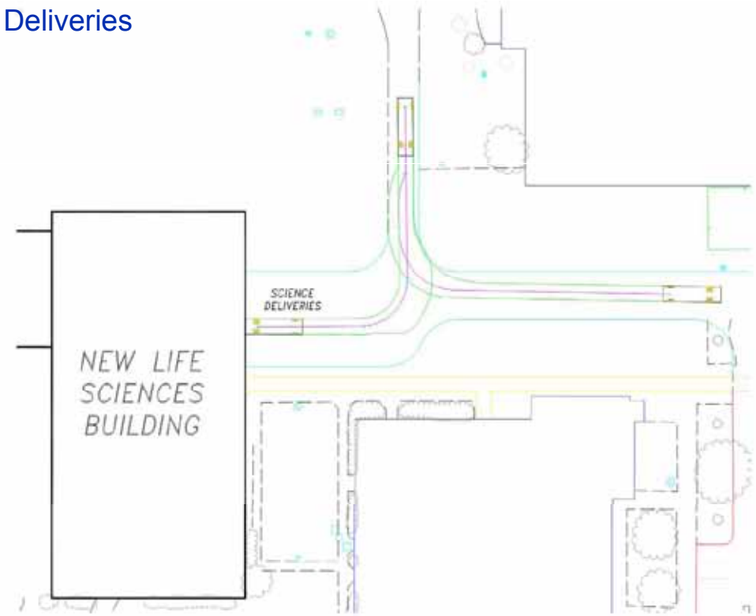
Facilities Master Plan Update

FAIRFIELD
Opt 1a Deliveries 2



Facilities Master Plan Update

FAIRFIELD
Opt 2a Deliveries



Facilities Master Plan Update

SOLANO COMMUNITY COLLEGE DISTRICT
Measure Q Facilities Master Plan Update
June 4, 2013

FACILITIES MASTER PLAN

- Fairfield
  - Follow up Child Development Center
  - Logistics regarding Business & Cosmetology/CTE
- Vallejo
  - Dean of Vallejo request for 2 story versus 3 story
- Vacaville
  - Nut Tree Airport takes no issue with Public Safety School
  - Waiting for confirmation no other review/approval required
  - Fire Academy & Biotech like proposed revisions
- Landscape & Exteriors Survey Responses
- Next Steps

Facilities Master Plan Update

VALLEJO CENTER
Option 1

Facilities Master Plan Update

VALLEJO CENTER
Option 1

Facilities Master Plan Update

VALLEJO CENTER
Option 1

Facilities Master Plan Update

VALLEJO CENTER
Option 2

Facilities Master Plan Update

VALLEJO CENTER
Option 2

Facilities Master Plan Update

VALLEJO CENTER
Option 2

Facilities Master Plan Update

VALLEJO CENTER
Option 3

Facilities Master Plan Update

VALLEJO CENTER
Option 3

Facilities Master Plan Update

SOLANO COMMUNITY COLLEGE DISTRICT

Measure Q Facilities Master Plan Update

June 27, 2013

FACILITIES MASTER PLAN UPDATE

- Regional Bus Transit
- Fairfield Unified School District Property
- Fairfield Campus
  - Proposed Traffic Solutions
  - Parking Analysis
- Accessibility Master Plan Update

Regional Bus Transit Update

- NEW Regional Bus System connecting Solano County to BART
  - Del Norte and Walnut Creek BART Station to Fairfield
  - Del Norte BART Station to Vallejo
- Express System / Freeway Based Stations
  - Fairfield College Station to Vallejo every 15 minutes
  - Fairfield College Station to Vacaville every 30 minutes
- Effects on Existing Bus Service
  - Local Hourly Service from Vallejo will be replaced with Regional Bus every 15 minutes
  - Local #7 Bus Fairfield to Vacaville will remain unchanged (currently every 30 minutes)

Facilities Master Plan Update

Fairfield Regional Bus Stop

Facilities Master Plan Update

Vacaville Regional Bus Stop

Facilities Master Plan Update

Vallejo Location

- Still determining whether at American Canyon or Columbus Parkway (AT Freeway)
  - Either location will require transfer to local Vallejo Service to get to Vallejo Center

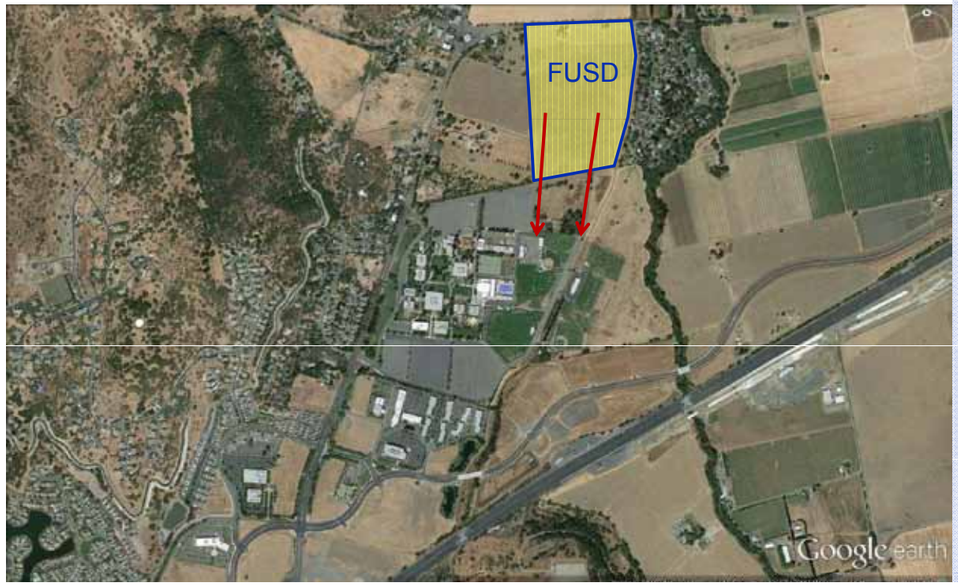
District Options to Influence Bus Systems

- Free Bus System for Students
  - Cost is +/- $1.5 Million per year
  - Requires a 2/3 Majority of Students to Vote for Fee to Support it

Facilities Master Plan Update

FAIRFIELD

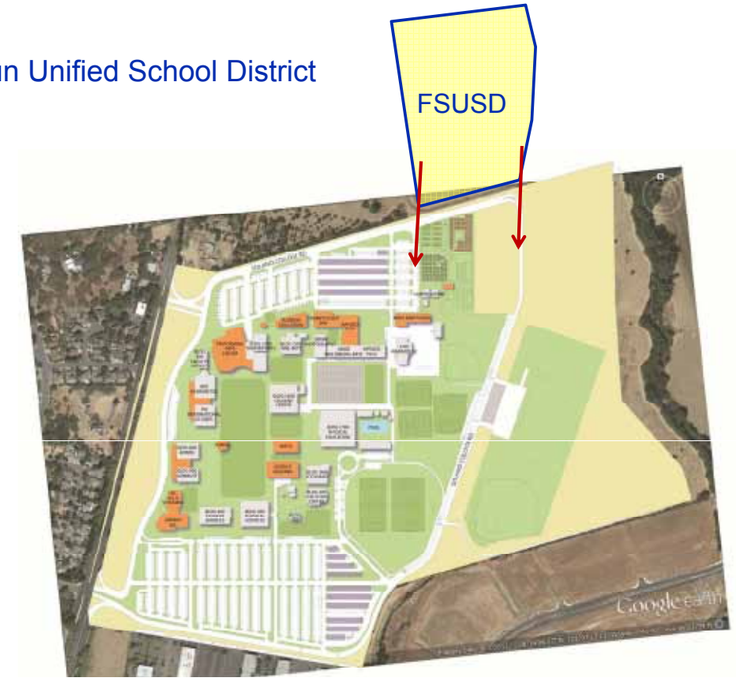
Fairfield Unified School District



Facilities Master Plan Update

FAIRFIELD

Fairfield Suisun Unified School District



Facilities Master Plan Update

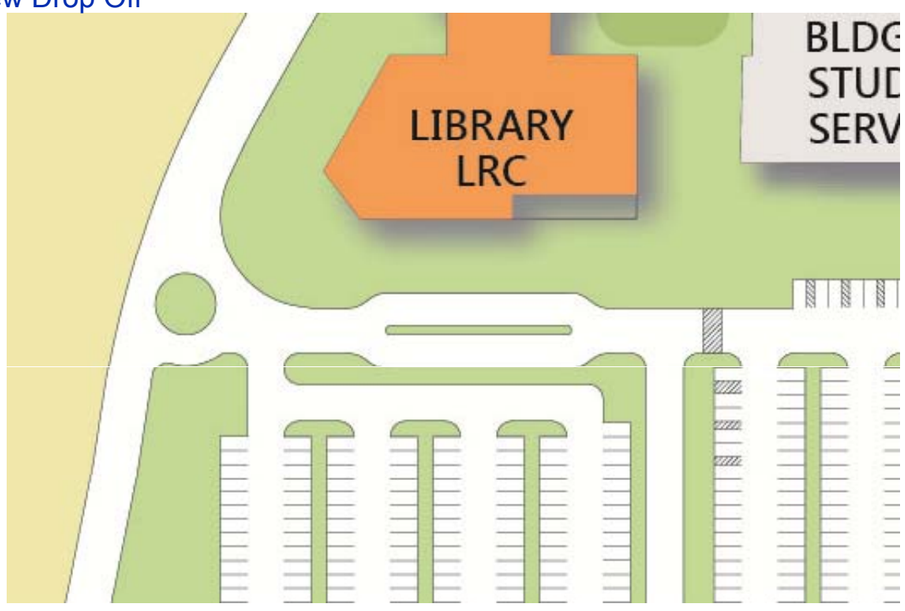
FAIRFIELD
Existing

Facilities Master Plan Update

FAIRFIELD
South Entry

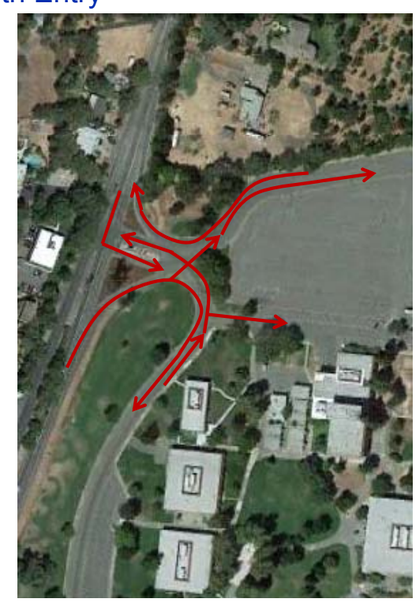
Facilities Master Plan Update

FAIRFIELD
New Drop Off



Facilities Master Plan Update

FAIRFIELD
North Entry

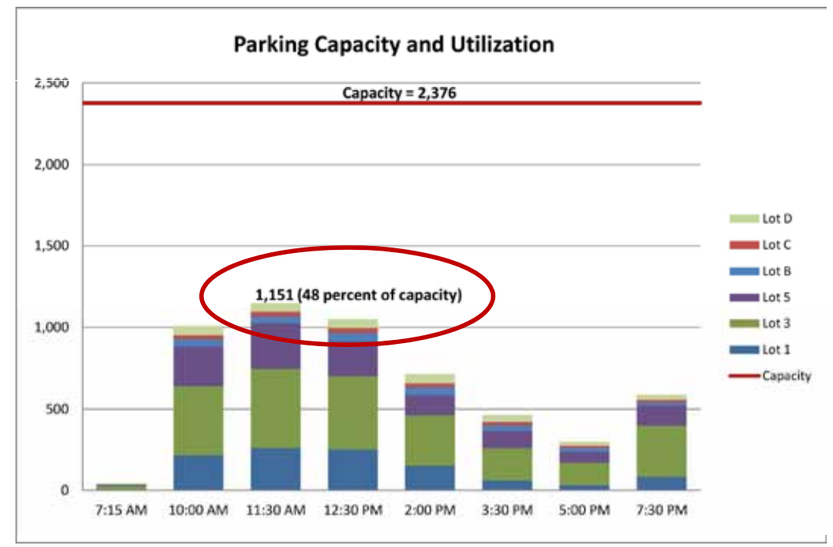


Facilities Master Plan Update

FAIRFIELD
Perimeter Road

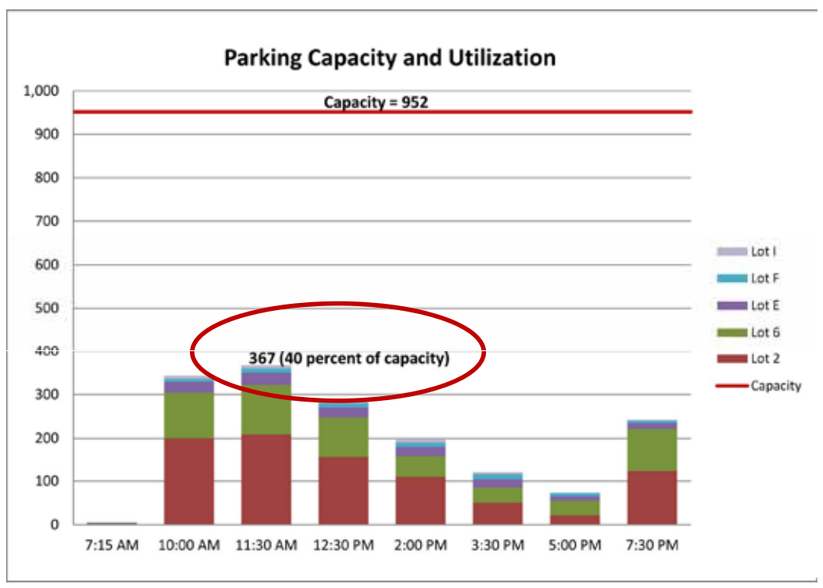
Facilities Master Plan Update

FAIRFIELD
Parking Analysis South Lots



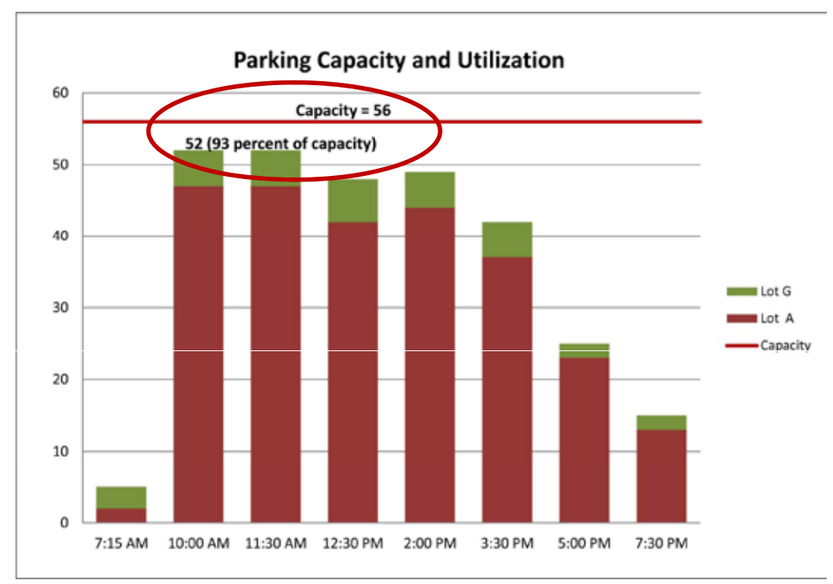
Facilities Master Plan Update

FAIRFIELD
Parking Analysis North Lots *(note Lot 4 closed for 1300 construction)*



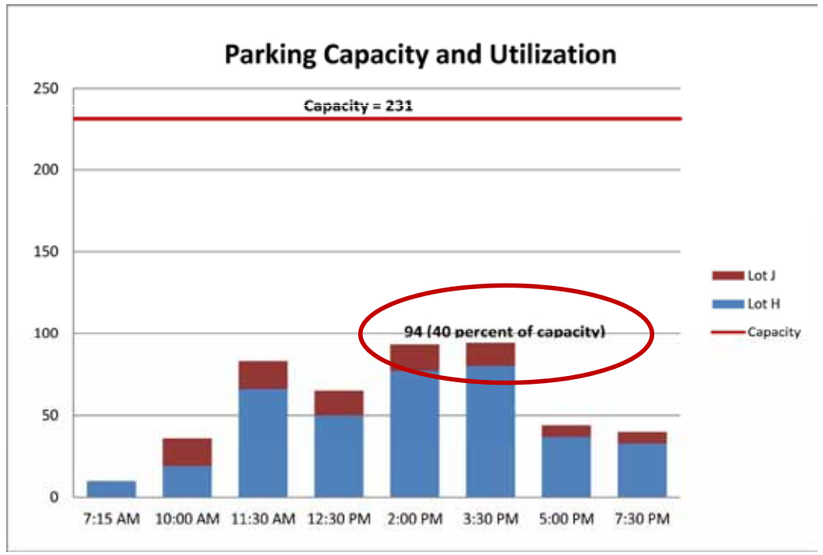
Facilities Master Plan Update

FAIRFIELD
Parking Analysis Employee Lots A and G



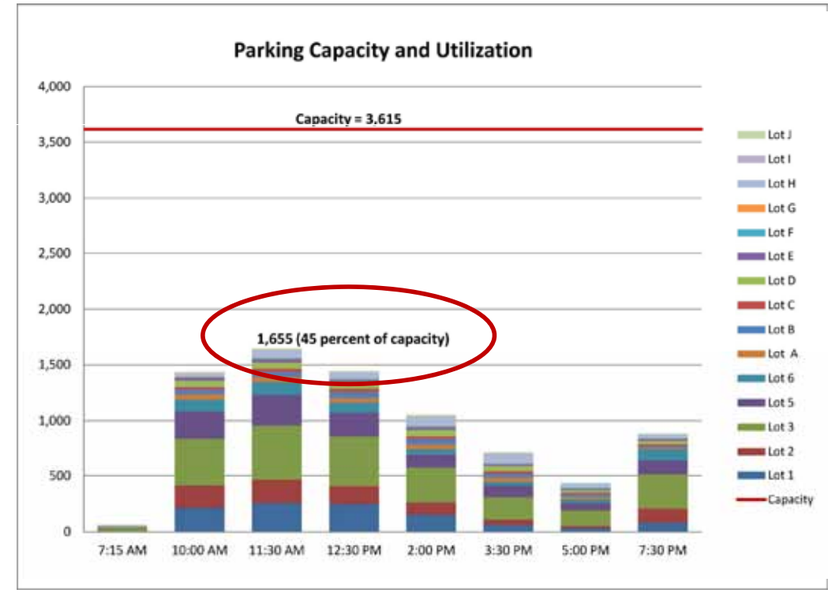
Facilities Master Plan Update

FAIRFIELD
Parking Analysis Lots H and J (Athletic Fields & Warehouse)



Facilities Master Plan Update

FAIRFIELD
Parking Analysis (Total based on Tuesday April 16, 2013)

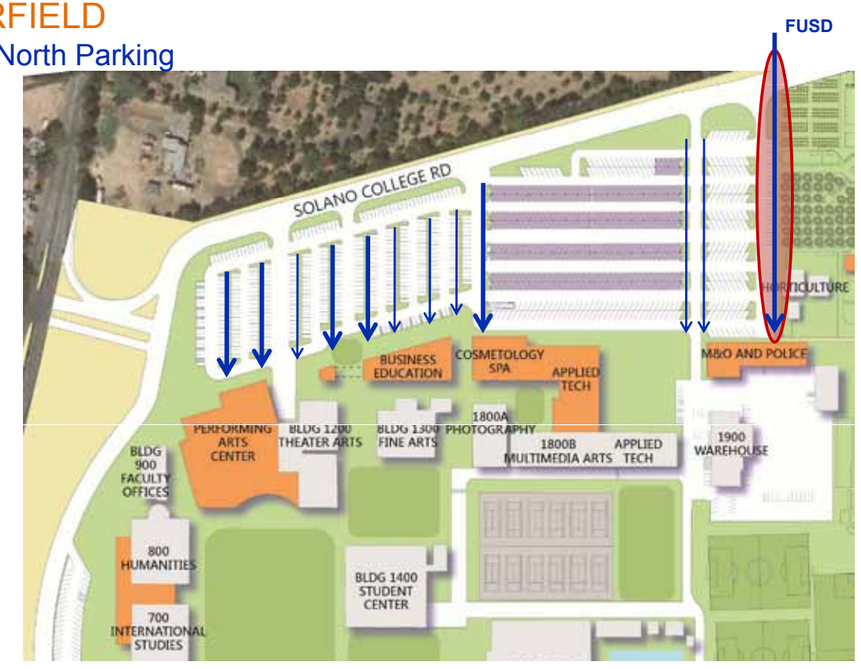


Facilities Master Plan Update

FAIRFIELD
New South Parking

Facilities Master Plan Update

FAIRFIELD
New North Parking



Facilities Master Plan Update

FAIRFIELD
New Parking Summary

	New Total	Existing	% Difference
South Parking Lot (Lot 1, 3, 5 and C)	1882	2235	84%
North Parking Lot (Lot 2, 6, E and F)	976	941	104%
Lot A (unchanged)	50	50	100%
Lot B (Removed)	0	59	0%
Lot D (unchanged)	82	82	100%
Lot G (Removed)	0	6	0%
Lot H (Unchanged)	210	210	100%
Lot I (Removed)	0	11	0%
Lot J (Unchanged)	21	21	100%
GRAND TOTAL	3221	3615	89%
Utilization Tuesday April 16, 2013 (busiest day of wk)		1655	
% of Parking Utlized at Peak Demand		46%	

Note Excludes Lot 4

Facilities Master Plan Update

Accessibility Transition Master Plan

- Federal Requirements: Rehabilitation Act of 1973, Section 504
  - Covers all programs that receive federal assistance
  - Regulations: 28 CFR 41
  - Standard: UFAS or ADAAG
- Federal Requirements: Title II of the Americans with Disabilities Act
  - Covers all state and local government services
  - Regulations: 28 CFR 35 (DOJ)
  - Standard: ADAAG or UFAS

Facilities Master Plan Update

Accessibility Transition Master Plan

- California Accessibility
  - Government Code
  - Civil Code
  - California Building Standards Code
  - DSA Policies and IRs
- Specific Accessibility Requirements
  - Program Accessibility
  - New Construction
  - Alternation/Renovation
  - Maintenance of Accessible Features and Elements

Facilities Master Plan Update

Accessibility Transition Master Plan

- Program Accessibility
  - ADA Title II and Section 11135 of the Government Code require programs and services to be accessible to the public
  - Existing facilities may require modifications in order to be accessible and usable
- Transition Plan
  - List Physical Program Barriers
  - Describe a Solution
  - Indicate the Official Responsible
  - Set Forth a Barrier-Removal Schedule

Facilities Master Plan Update

SOLANO COMMUNITY COLLEGE DISTRICT

Measure Q Facilities Master Plan Update

August 07, 2013

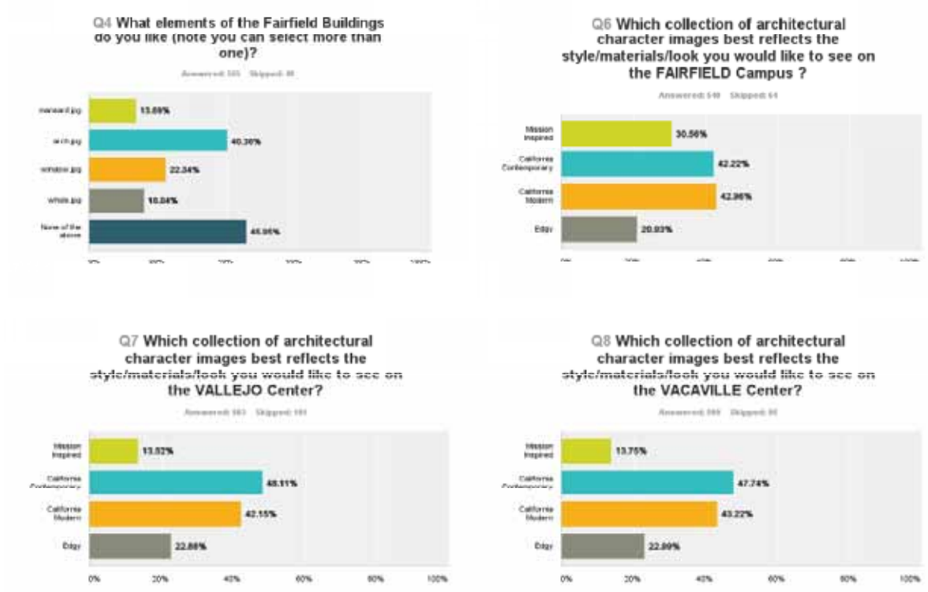
FACILITIES MASTER PLAN UPDATE

- Design Guidelines Update
  - Need to develop these with Landscape/Sustainability
  - Building 600
- Landscape Concepts
  - Fairfield
  - Vallejo
  - Vacaville
- Ongoing Refinements
  - Fairfield
  - Vacaville

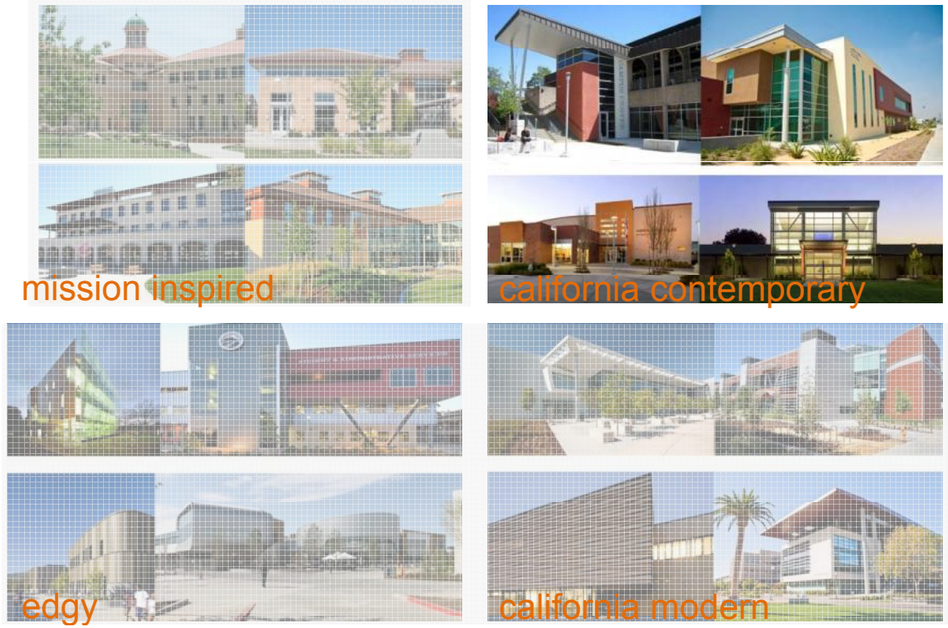
Exteriors/Landscape Survey Results:

- Fairfield Campus
  - Campus is Outdated & Boring
  - Current Architecture should not be repeated
  - California Contemporary/Modern preferred Campus Aesthetic
  - Like Arches, Overhangs/Shade Structures & Exterior Spaces
  - Natural Landscaping preferred Landscape Approach
  - Need more Social Spaces, More Shade & Better Signage
  - Would like Intimate Courtyards, Outdoor Café Spaces, Tree-Lined Walkways and Water Features
- Vallejo & Vacaville Campus
  - Campuses are Inviting, Vibrant and Contemporary
  - Too Much Concrete at Vacaville
  - California Contemporary preferred Campus Aesthetic

SAMPLE RESPONSES (608 Responses)



Exterior Aesthetic Preference



Facilities Master Plan Update

Landscape Character Preference

Facilities Master Plan Update

Building 600 Development

Courtesy of HA+A/TLCD

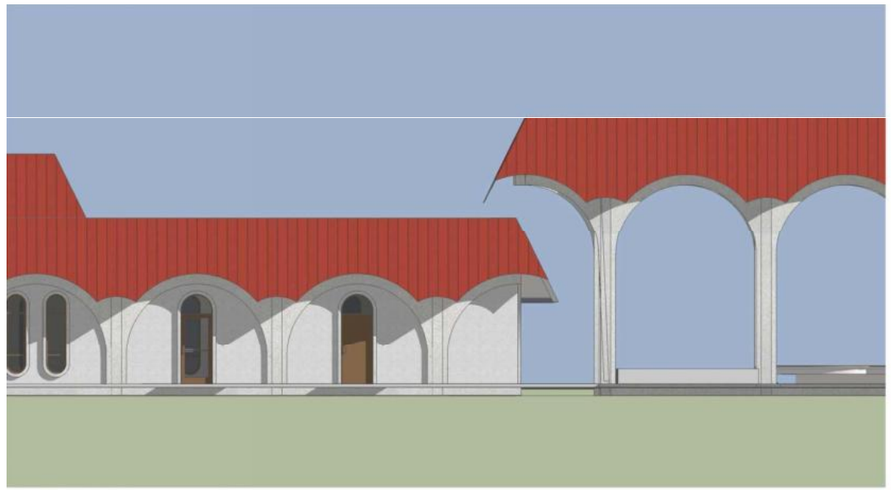
Facilities Master Plan Update

Building 600 Development

Courtesy of HA+A/TLCD

Facilities Master Plan Update

Building 600 Development
Courtesy of HA+A/TLCD



HA+A: ARCHITECTS / TLCD
KITCHELL

Facilities Master Plan Update

Building 600 Development
Courtesy of HA+A/TLCD

HA+A: ARCHITECTS / TLCD
KITCHELL

Facilities Master Plan Update

Building 600 Development
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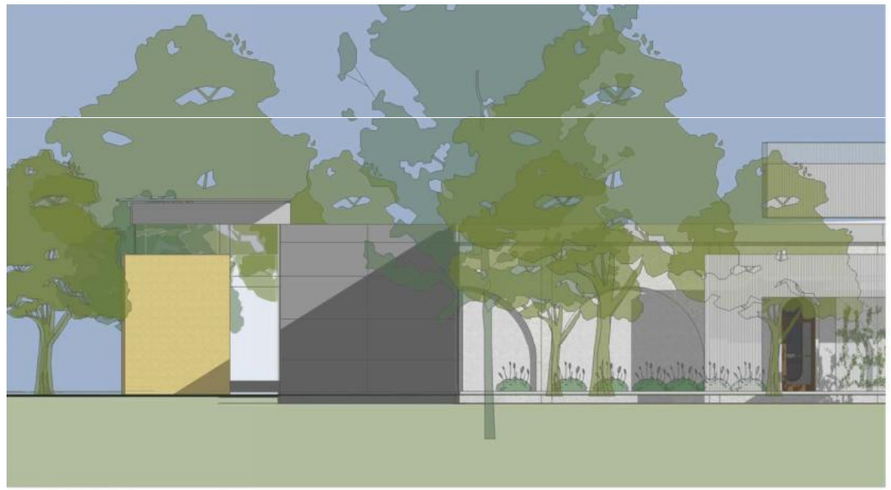

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Facilities Master Plan Update

Building 600 Development
Courtesy of HA+A/TLCD

HA+A: ARCHITECTS / TLCD
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Facilities Master Plan Update

Building 600 Development
Courtesy of HA+A/TLCD

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Facilities Master Plan Update

Building 600 Development
Courtesy of HA+A/TLCD

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KITCHELL

Facilities Master Plan Update

SOLANO COMMUNITY COLLEGE DISTRICT

Measure Q: FMP Update

September 4, 2013

AGENDA

– Design Guidelines
- Design Guidelines Objectives & Elements
- Process for Exterior Color Palette Development
- Suggested Exterior Color Palette – Fairfield
- Suggested Exterior Color Palette – Vallejo & Vacaville

– FF&E by Dovetail
- Master Planning Objective
- Where This Fits
- Process
- Outcomes
- Next Steps

Design Guidelines

– Objectives
- To provide an overall sense of architectural cohesiveness on campus while still allowing for diversity in design
- The approach for new design reflects the Solano Community's goals and visions for the aesthetic development of their facilities
- The approach for existing buildings renovations reflects the desire to create a harmonious campus *and* also reflects the same goals/vision
- These approaches mutually enhance the existing character of the campus
- The goal of the Guidelines is to stand the test of time and be applied beyond Measure Q projects and this Facilities Master Plan

2013 Facilities Master Plan

Design Guidelines

– Elements
- The Campus Plan establishes overall pattern
  - Arrangement of buildings; relationships between buildings and open space; location and configuration of entries/major circulation corridors; alignments of service and vehicular access
- Architectural Vocabulary creates framework for cohesiveness while allowing for diversity in design
  - Building form and massing; building entries; façade articulation and fenestration; building signage, roofs & rooftop elements; materials, colors and finishes
- Landscape Treatment
  - Entrances and Pathways, Plantings, Site Furnishings
- Sustainable Planning
  - For Campus, Buildings and Utilities/Systems, Building Integrated, Mechanical, Plumbing, Electrical, Landscape

2013 Facilities Master Plan

Design Guidelines

– Exterior Color Palette Process

- Analysis Exterior Colors/Materials on Existing Campuses
  - What Works and What Does Not Work
- Analyze New Exterior Design Direction Colors/Materials
- Study Similar Campuses
- Study what can be done to Existing Buildings to be more Harmonious with New Design Colors/Materials
- Develop Exterior Core Color Palette
- Develop Exterior Range of Acceptable Color Accents
- Develop Guidelines for Exterior Color Application

2013 Facilities Master Plan

DESIGN GUIDELINES

Fairfield – Existing Exterior Analysis

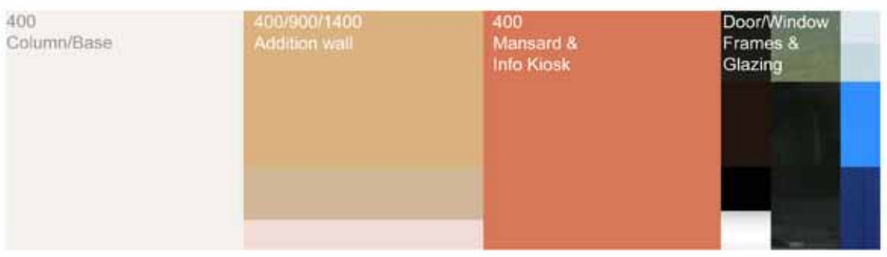
Original Campus:
- Earthy Colors
- Limited Palette
- Dark Glazing
- Light Arcades

2013 Facilities Master Plan

DESIGN GUIDELINES

Fairfield – Existing Exterior Analysis

Measure G
- Earthy Colors
- Mostly Dark Glazing
- 1400 Lighter Glazing
- Metal Roof Elements
- Introduced Aluminum
- Different Blue Accents



2013 Facilities Master Plan

DESIGN GUIDELINES

Fairfield – Existing Exterior Analysis

What Works
- Earthy Palette
- Light Columns / Arches
- 1400 Lighter Glazing

2013 Facilities Master Plan

DESIGN GUIDELINES
Fairfield – Existing Exterior Analysis

What Does Not Work
- Dark Glazing
- Existing Mansards
- Metal Roof Elements
- Flat Facades
- Pinkish Hues
- Lack of Other Colors
- Different Blue Accents

2013 Facilities Master Plan

DESIGN GUIDELINES
Fairfield – Exterior Survey Results

In Summary
- Campus is Outdated and Boring
- Current Architecture should not be repeated
- California Modern Preferred Aesthetic
- California Contemporary close 2nd
- Like Arches
- Like Overhang/Shade Structures
- Like Exterior Spaces created by Buildings

Challenge
How to harmonize Existing with New?

2013 Facilities Master Plan

DESIGN GUIDELINES
New Design Exterior Color/Materials

Color / Materials
- Glazing is more Transparent
- Bigger expanses of Glazing
- Vibrant Colors
- Metal Paneling
- Flat Roofs / Sleek Lines
- "Wood" for Texture/Richness
- Overhangs / Shade Devices

2013 Facilities Master Plan

DESIGN GUIDELINES
Fairfield – Exterior Color Palette Research

Stanford University Precedent
- Started out with same Color/Materials:
  - Yellow/Light Walls
  - Clay Tile Roofs
- Evolved to a "Core" Color Palette:
  - Light Color Walls
  - Redish Brown Elements

2013 Facilities Master Plan

DESIGN GUIDELINES

Fairfield – Exterior Color Palette Research

Stanford University Precedent
Common "Core" Color Palette, yet accepting of New Elements & Color

➢ Lesson Learned at Stanford: New Elements/Colors are better in Limited Quantities and/or Locations

2013 Facilities Master Plan

DESIGN GUIDELINES

Fairfield – Getting to an Exterior Core Color Palette

Existing Buildings to be Renovated:
- Sandblast Existing Concrete Arches & Columns to Clean & Restore Finish
- Option to paint "White" if Existing Concrete Condition warrants it

New Buildings/Additions:
- Exposed Concrete to Match Existing if using Concrete
- "White" Columns for all non Concrete Columns

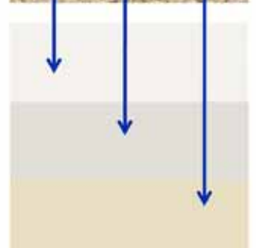
2013 Facilities Master Plan

DESIGN GUIDELINES

Fairfield – Getting to an Exterior Core Color Palette

Existing Buildings to be Renovated:
- Paint Existing Stucco/Walls either of these (3) Colors

New Buildings/Additions:
- Main Walls/Infill to be either of these (3) Colors



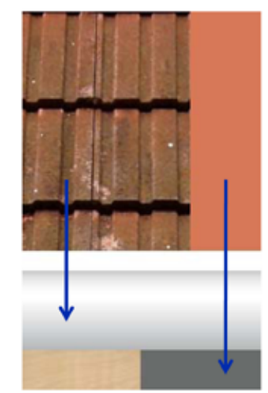
2013 Facilities Master Plan

DESIGN GUIDELINES

Fairfield – Getting to an Exterior Core Color Palette

Existing Buildings to be Renovated:
- Remove Existing Mansards, Replace with Satin Aluminum Coping
- Replace Pinkish-Orange Metal Mechanical Screens with Neutral Grey Metal Screens

New Buildings/Additions:
- Satin Aluminum Coping to Terminate Building Faces
- White Aluminum Coping at Specific Locations
- White or Neutral Grey Metal Screens



2013 Facilities Master Plan

DESIGN GUIDELINES
Fairfield – Getting to an Exterior Core Color Palette

Satin Aluminum Coping:
- To Cap Wall Surfaces like Stucco
- To Cap Glazing Expanses

White Aluminum Coping:
- For Covered Arcade Elements
- Bird Protection Elements
- One Option for Sunshades (other option is wood-like materials)

2013 Facilities Master Plan

DESIGN GUIDELINES
Fairfield – Getting to an Exterior Core Color Palette

White or Neutral Gray Mechanical Screens:
- For Roof Top Equipment
- For Ground Plane Equipment

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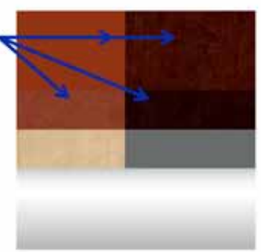
2013 Facilities Master Plan

DESIGN GUIDELINES
Fairfield – Getting to an Exterior Core Color Palette

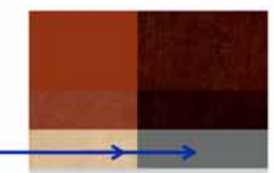
Major Color Accent:
- All Projects to have at least One Element that has one of these (4) Colors in Panel Form
- Sample Applications:
  - Soffits
  - Sun Screens / Trellises
  - Trims at Windows/Doors
  - Stair Towers



2013 Facilities Master Plan

DESIGN GUIDELINES
Fairfield – Getting to an Exterior Core Color Palette

Minor Color Accent:
- Medium Grey
- Light "Wood / Panel"
- Sample "Wood" Applications:
  - Soffits that continue inside
  - "Wood" Trims that continue inside



2013 Facilities Master Plan

DESIGN GUIDELINES

Fairfield – Getting to an Exterior Core Color Palette

Existing Buildings:

- Replace or Paint Door and Window Frames to One Consistent Color
- Replace Glazing to High Performance Low E Clear Glazing with Greenish Look

New Buildings:

- Door and Window Frames to have One Color as shown (no mixing like Building 400)
- Glazing to be High Performance Low E Clear Glazing with Greenish Look*

* Exception is Electro-chromatic Glazing (if used)

2013 Facilities Master Plan

DESIGN GUIDELINES

Fairfield – Common Exterior Core Colors

2013 Facilities Master Plan

DESIGN GUIDELINES

Fairfield – Common Exterior Core Colors with Existing

2013 Facilities Master Plan

DESIGN GUIDELINES

Fairfield – Adding Additional Exterior Color

All Buildings

- If Projects choose to add additional Colors they need to choose only ONE of these colors in addition to Common Core Colors
- Color to be applied in Limited Quantity / Location

- Beige / Brown Colors reserved for Small Support Buildings such as Maintenance Sheds etc.

2013 Facilities Master Plan

DESIGN GUIDELINES

Suggested Exterior Color Palette - Fairfield

2013 Facilities Master Plan

DESIGN GUIDELINES

Suggested Exterior Color Palette - Fairfield

2013 Facilities Master Plan

DESIGN GUIDELINES

Vallejo – Existing Exterior Core Colors

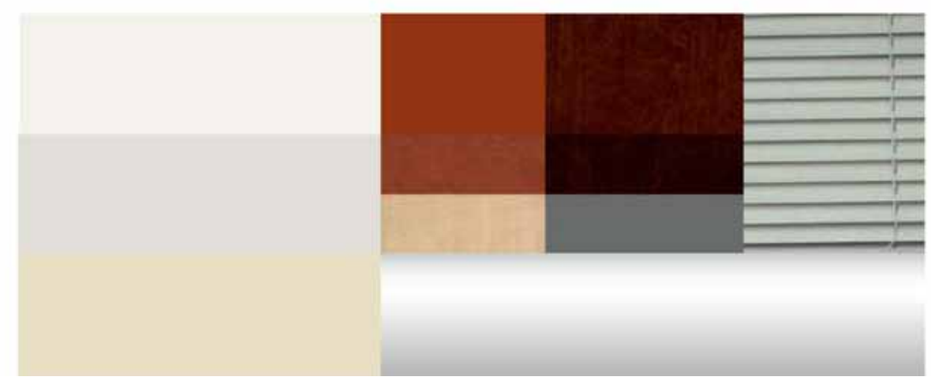
Existing
- "White" Predominant
- Blue preferred over Orange
- Window Mullions are both White and Aluminum
- Glazing is Greenish Tint

2013 Facilities Master Plan

DESIGN GUIDELINES

Vallejo – Common Exterior Core Colors

Common Core
- Similar to Fairfield Common Core
- Only exception is Windows Mullions: Use Aluminum Colored Mullions in lieu of Brown Mullions



2013 Facilities Master Plan

DESIGN GUIDELINES

Vallejo – Adding Additional Exterior Color

All Buildings

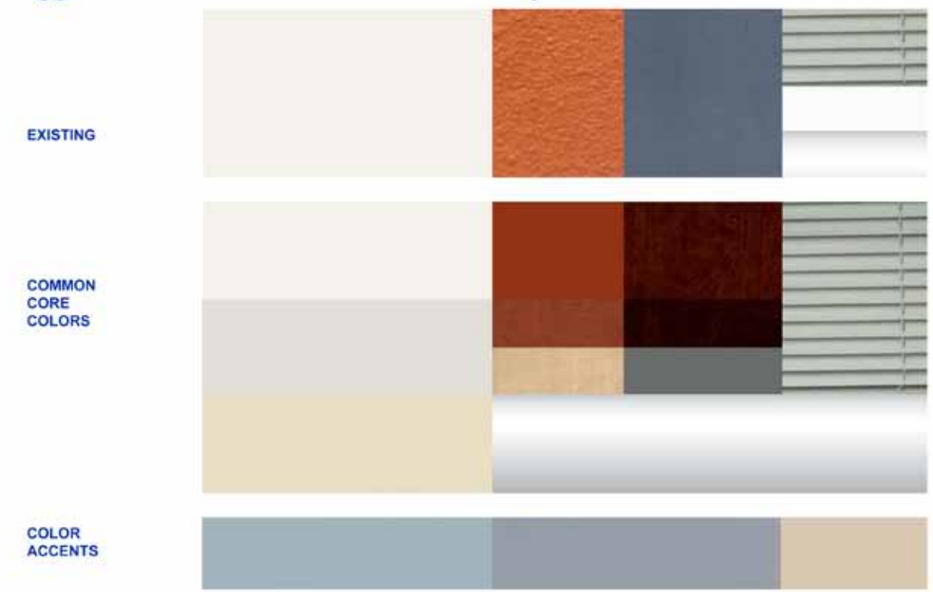
- If Projects choose to add additional Colors they need to choose only ONE of these colors in addition to Common Core Colors
- Color to be applied in Limited Quantity / Location

- Beige / Brown Colors reserved for Small Support Buildings such as Maintenance Sheds etc.

2013 Facilities Master Plan

DESIGN GUIDELINES

Suggested Exterior Color Palette – Vallejo



2013 Facilities Master Plan

DESIGN GUIDELINES

Vacaville – Existing Exterior Core Colors

Existing

- "White" Predominant
- Two Yellows
- Small Blue Accent
- Some Paneling Accent
- Window Mullions are Aluminum
- Glazing is Bluish Tint

2013 Facilities Master Plan

DESIGN GUIDELINES

Vacaville – Common Exterior Core Colors

Common Core

- Similar to Fairfield Common Core
- Exception is Windows Mullions: Use Aluminum Colored Mullions in lieu of Brown Mullions
- Other Exception is Glazing: Use Bluish Tint in lieu of Greenish One

2013 Facilities Master Plan

DESIGN GUIDELINES

Vacaville – Adding Additional Exterior Color

All Buildings

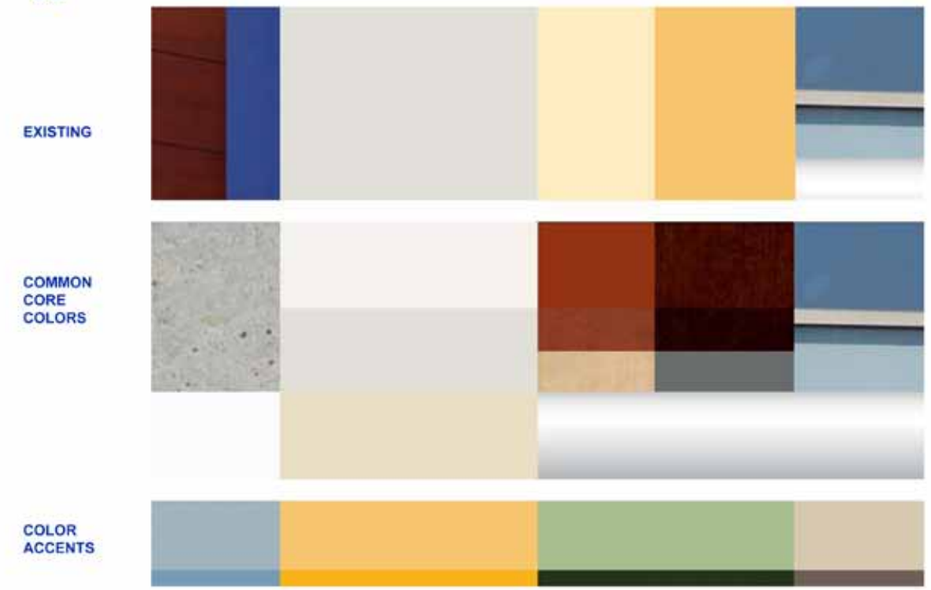
- If Projects choose to add additional Colors they need to choose only ONE of these colors in addition to Common Core Colors
- Color to be applied in Limited Quantity / Location

- Beige / Brown Colors reserved for Small Support Buildings such as Maintenance Sheds etc.

2013 Facilities Master Plan

DESIGN GUIDELINES

Suggested Exterior Color Palette - Vacaville



2013 Facilities Master Plan

Fixtures, Furniture and Equipment (FF&E)

– Master Planning Objective

- "Begin with the end in mind"
- Effective decision-making protocol, applicable to all FF&E
- Focused on District's guiding principles
- Processes for project team engagement
- Methodologies to address concerns

2013 Facilities Master Plan

Where This Fits

2013 Facilities Master Plan

Process

- Assessment (in process)
  - Current Master Plans
  - Existing Conditions
  - Peer Review
- Interviews (between now and Oct 15)
  - College Leadership
  - Operational Teams
- Recommendations (Oct 16 to Nov 22)
  - Two to three approaches
- Adoption (December)
  - BOT

Outcomes

- Clear strategy to apply to Measure Q projects
- Disciplined, defensible approach
- Levels of “choice” defined

2013 Facilities Master Plan

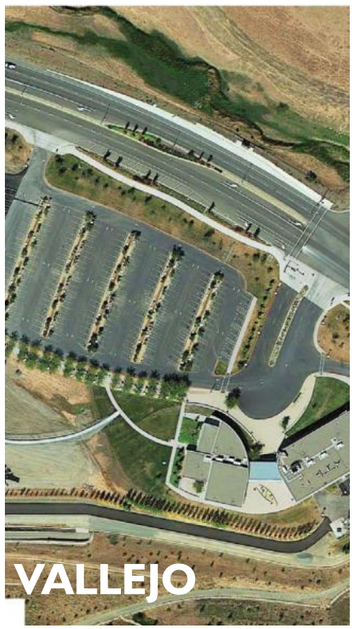
Next Steps

- Schedule interviews with key positions within District
- Assemble Functional Inventory reporting
- Conduct assessment of Ed and Fac MP
- Confirm next session of engagement

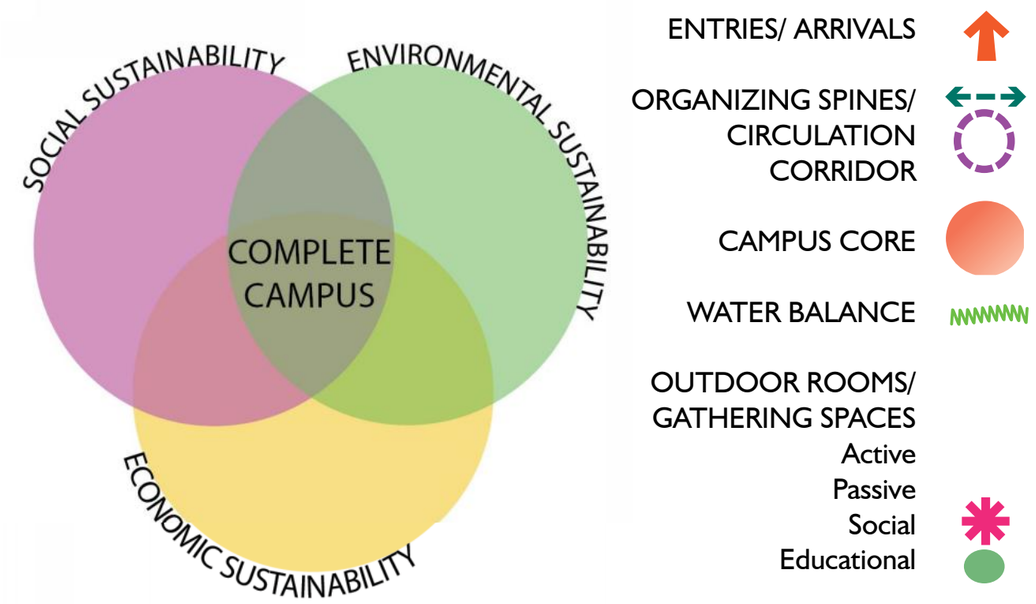
2013 Facilities Master Plan

SOLANO COMMUNITY COLLEGE
Landscape Master Plan

SOLANO COMMUNITY COLLEGE



CREATING A COMPLETE CAMPUS



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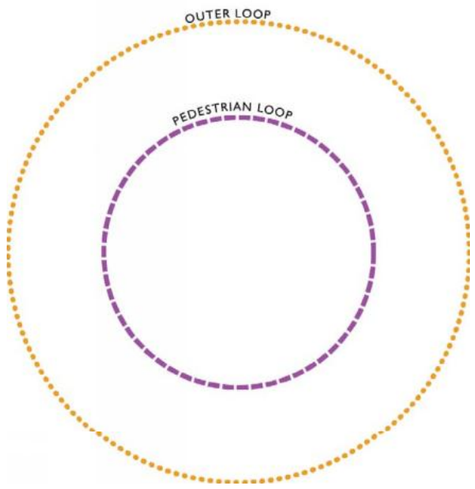

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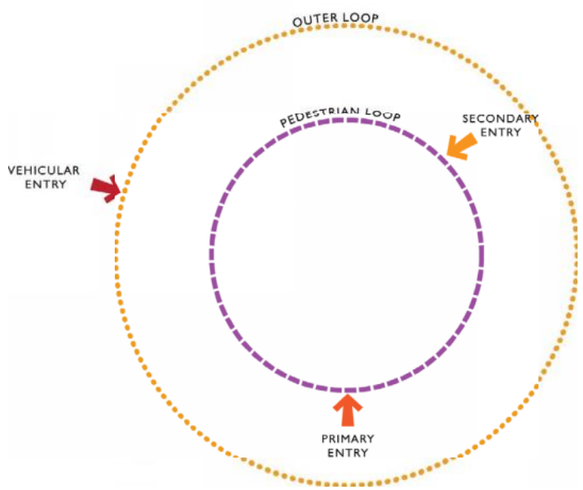

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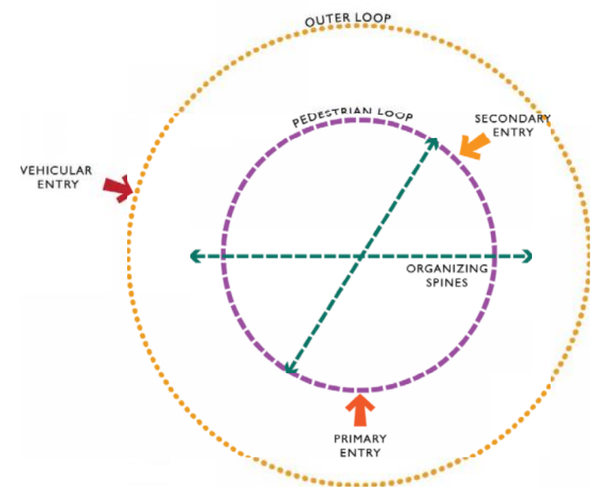

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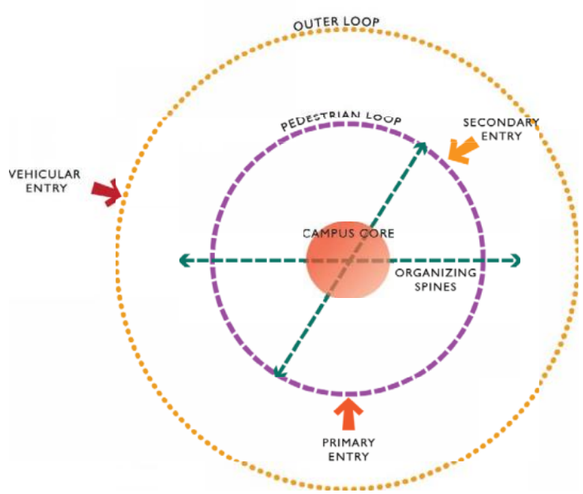

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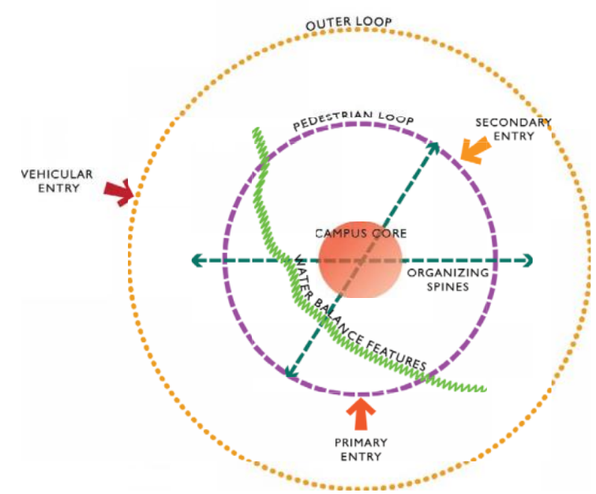

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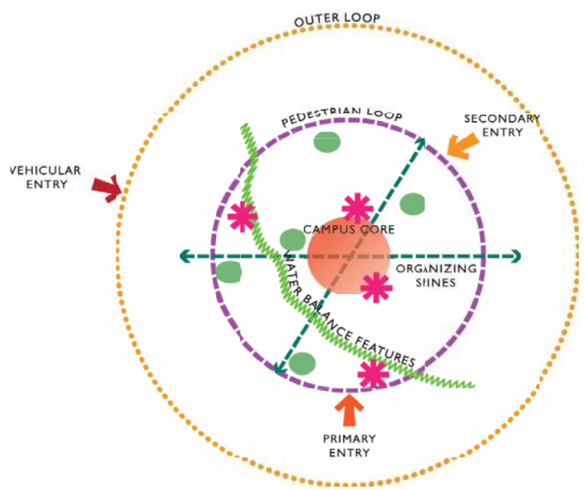
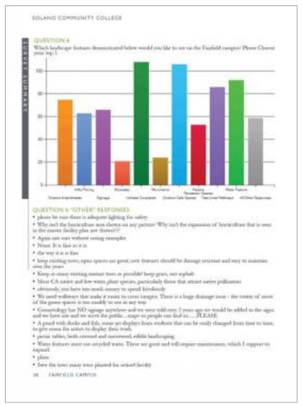
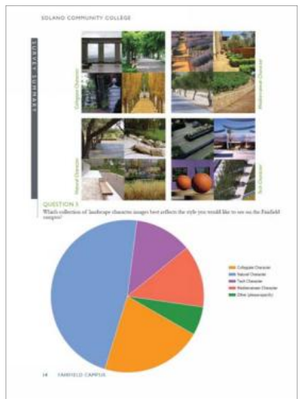
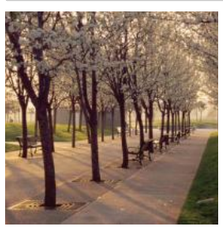


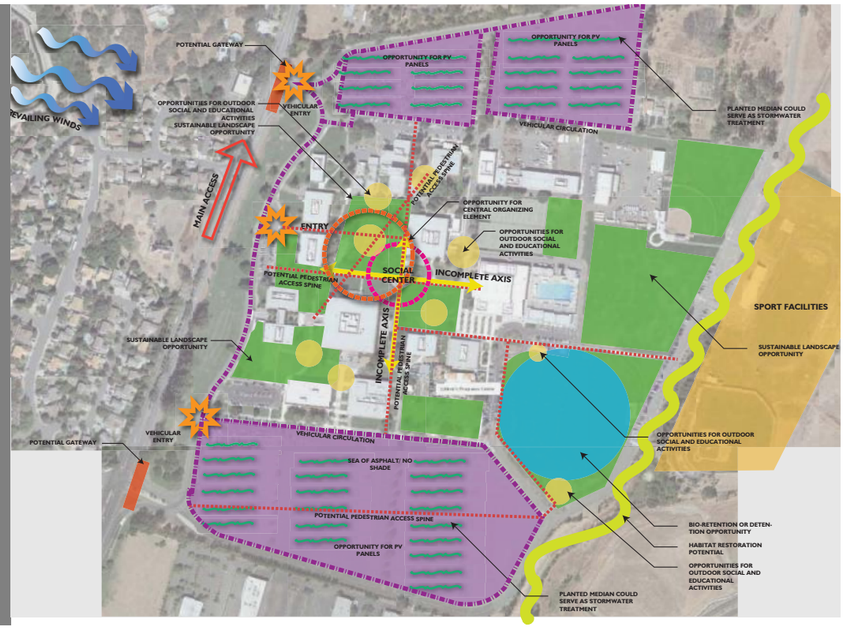
SURVEY RESULTS - FAIRFIELD CAMPUS



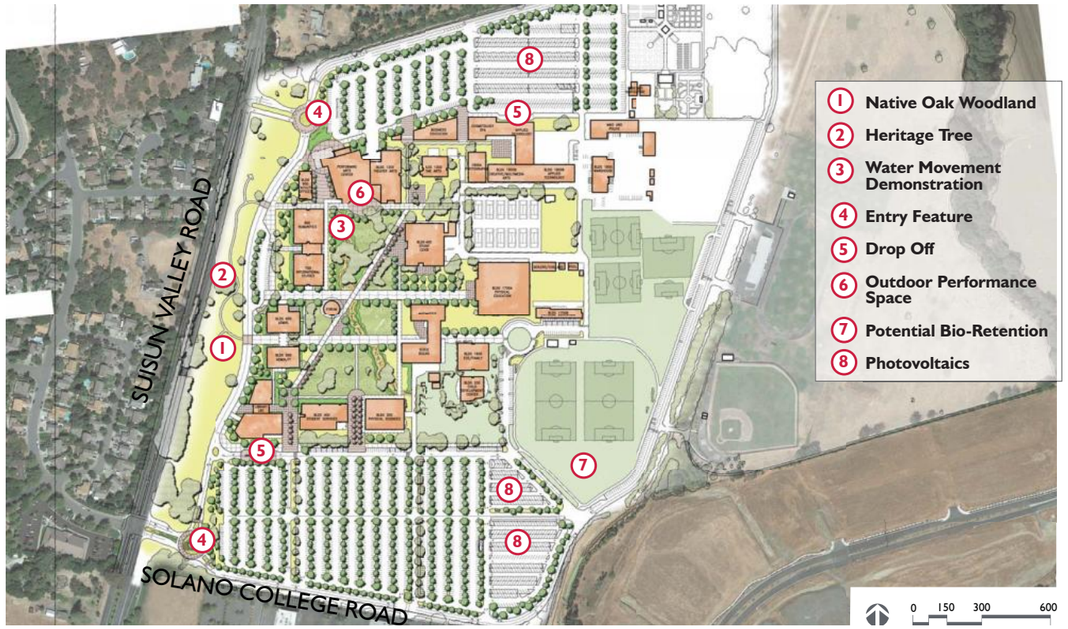




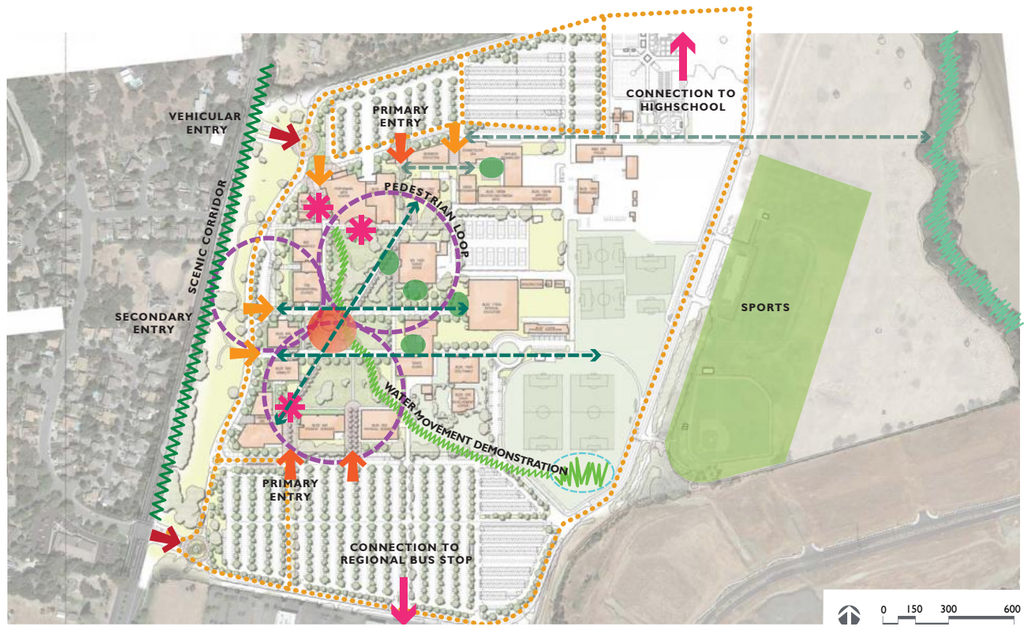
SITE ANALYSIS



SITE PLAN



ORGANIZING COMPONENTS

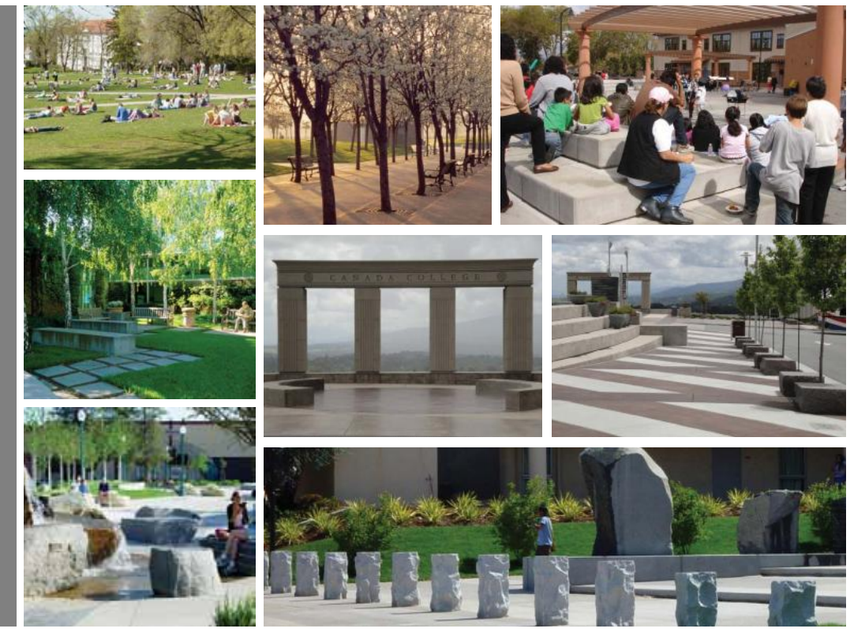


COMPONENTS

ENTRIES/ ARRIVALS

ORGANIZING SPINES

OUTDOOR ROOMS



COMPONENTS

CAMPUS CORE

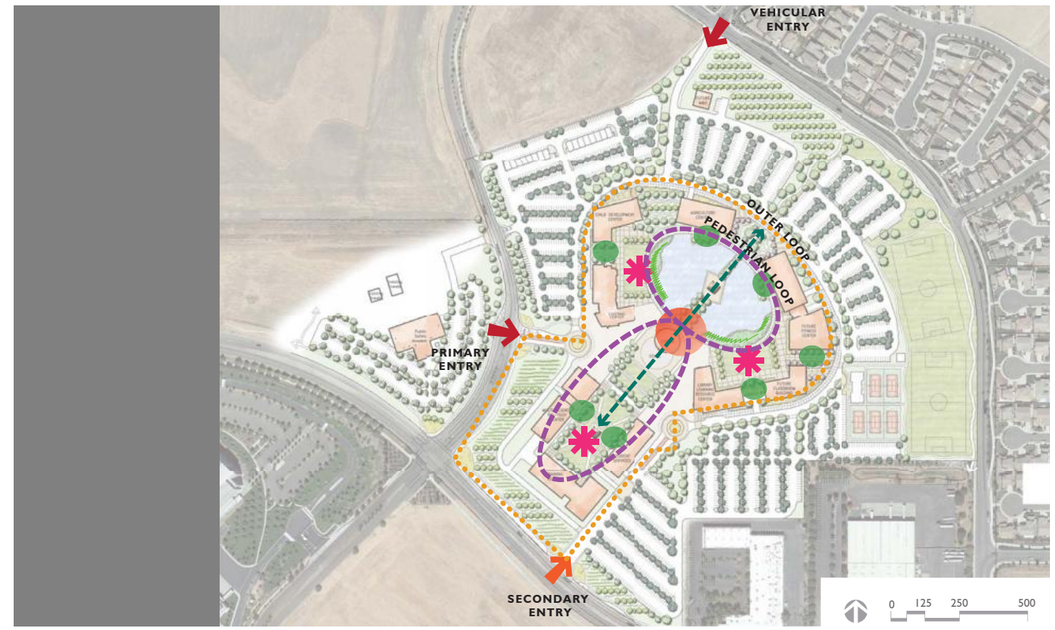
WATER BALANCE
- Water Balance Demonstration
- Native Oak Woodland Planting

CIRCULATION CORRIDORS

SITE ANALYSIS

SITE PLAN

ORGANIZING COMPONENTS



COMPONENTS

ENTRIES/ ARRIVALS

ORGANIZING SPINES

OUTDOOR ROOMS

COMPONENTS

CAMPUS CORE

WATER BALANCE
- -C3 Water Quality Features
- - Naturalized Edge

CIRCULATION CORRIDORS

SITE ANALYSIS

SITE PLAN

ORGANIZING COMPONENTS

COMPONENTS

ENTRIES/ ARRIVALS

ORGANIZING SPINES

OUTDOOR ROOMS

COMPONENTS

CAMPUS CORE

WATER BALANCE

CIRCULATION CORRIDOR

QUESTIONS?

QUESTIONS?

SITE PLAN

SITE PLAN

ENTRY OPTIONS

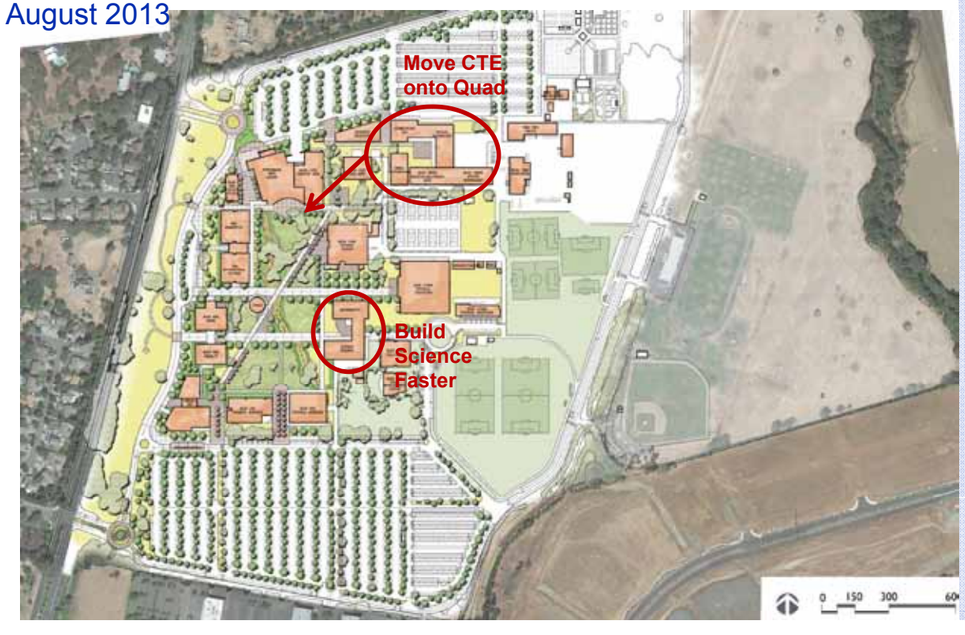
SOLANO COMMUNITY COLLEGE DISTRICT

Measure Q Facilities Master Plan Update

November 20, 2013

FAIRFIELD

August 2013



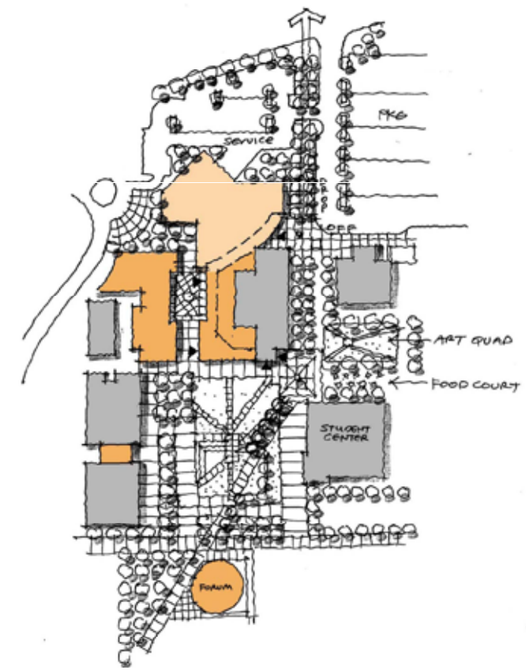
Facilities Master Plan Update

FACILITIES MASTER PLAN UPDATE

- Site Master Plan Revisions
  - Fairfield
  - Vallejo
  - Vacaville
- Signage and Way-Finding
- Other Master Plan Scope Updates
- Next Steps

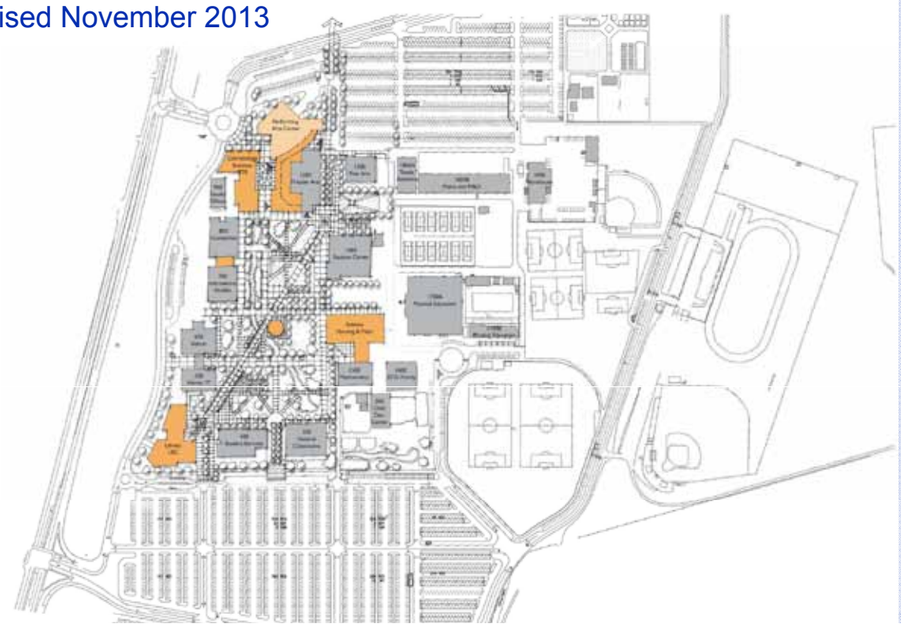
Facilities Master Plan Update

FAIRFIELD
Revised November 2013
North West Side



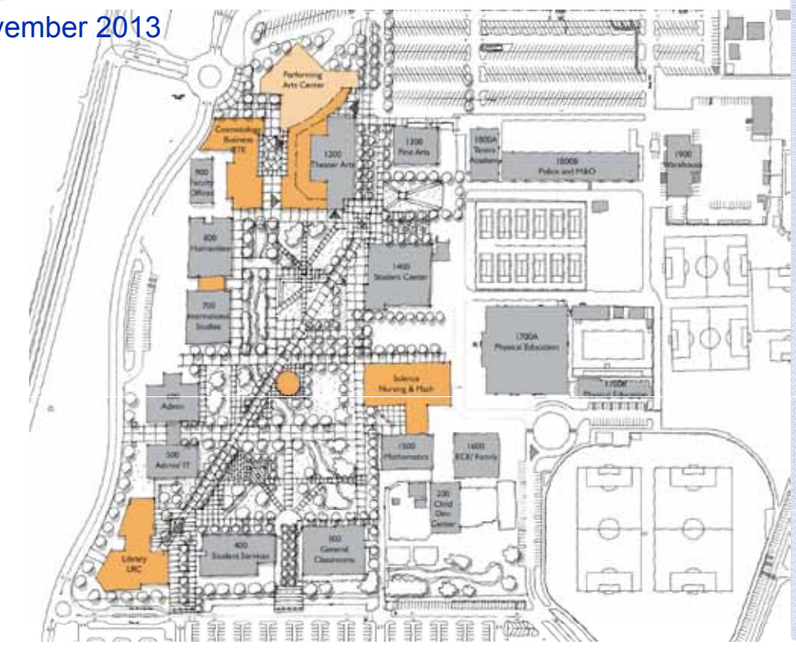
Facilities Master Plan Update

FAIRFIELD
Revised November 2013



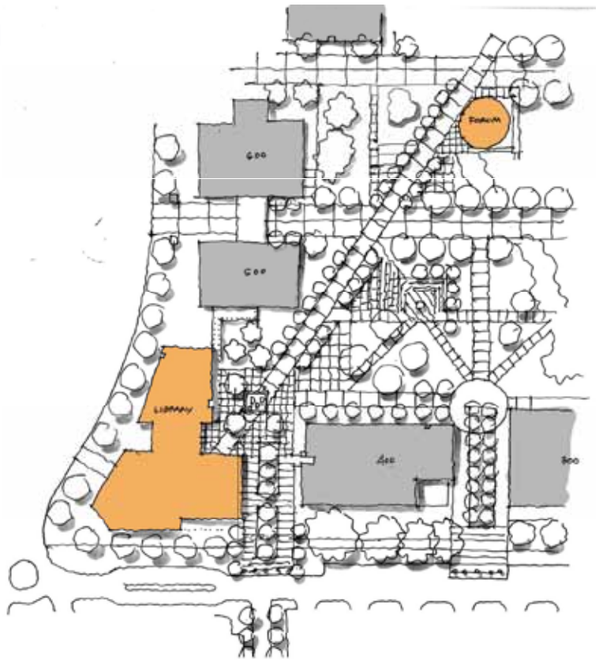
Facilities Master Plan Update

FAIRFIELD
Revised November 2013



Facilities Master Plan Update

FAIRFIELD
Revised November 201
South West Side



Facilities Master Plan Update

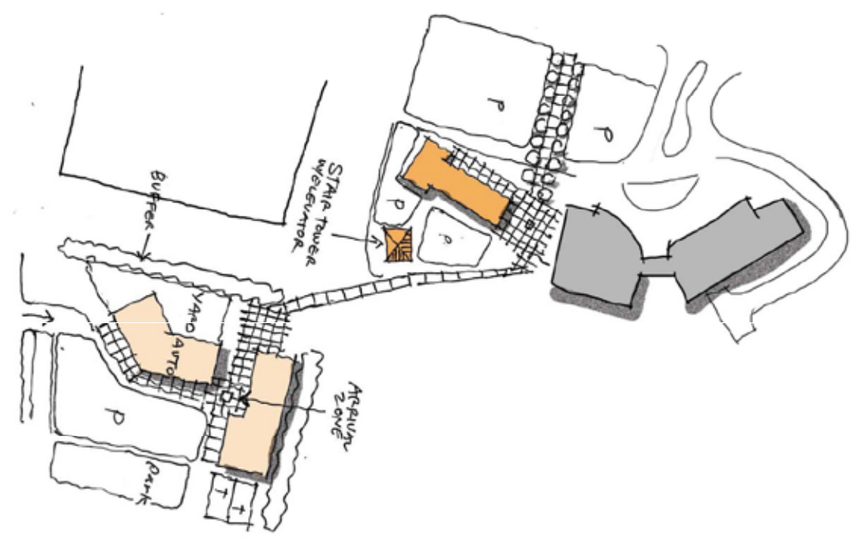
VALLEJO CENTER
November 2013

Facilities Master Plan Update

VALLEJO CENTER
August 2013

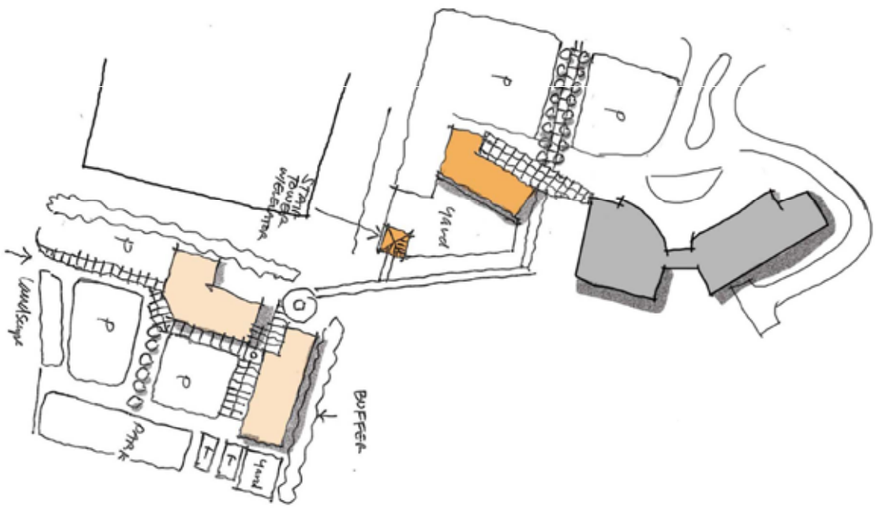
Facilities Master Plan Update

VALLEJO CENTER
November 2013 - Option B



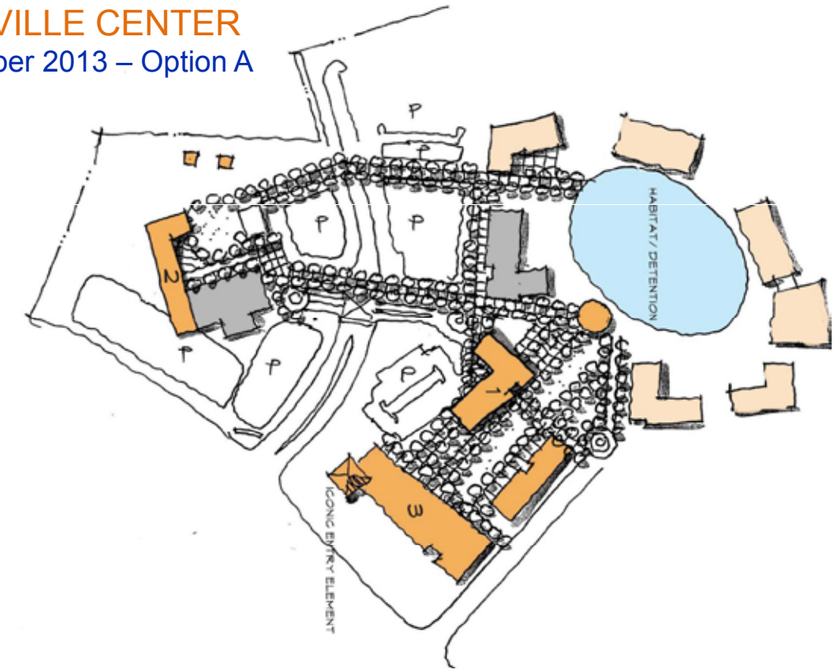
Facilities Master Plan Update

VALLEJO CENTER
November 2013 - Option A



Facilities Master Plan Update

VACAVILLE CENTER
November 2013 – Option A



Facilities Master Plan Update

VACAVILLE CENTER
August 2013

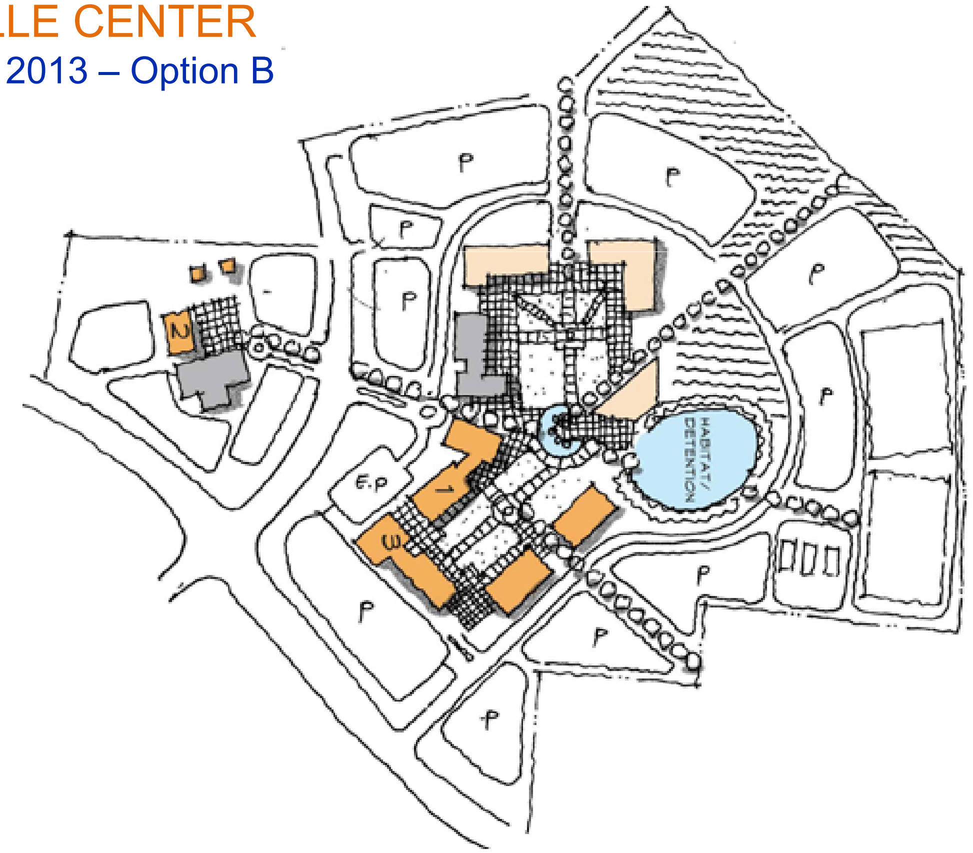
Facilities Master Plan Update

Other Master Plan Scope Updates

- Sustainability
  - Visioning/Goals Session Last Week
  - Draft Sustainability Statement & General Goals for Board Consideration (Tomorrow)
  - Follow Up Meeting to Review and Approve Sustainability Guidelines in January
- District Standards
  - Met with District Facilities Weekly
  - Draft District Standards Early December
  - Final District Standards End of December
- Security
  - Met with District Personnel, in process of developing Policies and Procedures for Security Committee Review

Facilities Master Plan Update

VACAVILLE CENTER
November 2013 – Option B



Next Steps

- Develop Site Master Plans and 3D Visuals
- Measure Q and Board Approval of Site Master Plans (December 18, 2013)
- Complete Full Scope of Master Plan (end of January)
- Draft Master Plan Document (end of January)

Facilities Master Plan Update

Other Master Plan Scope Updates

- IT and AV
  - Working with District I.T. Personnel
  - Draft IT/AV Standards being developed based on District Technology Plan and I.T Personnel Input
- FF&E
  - Functional Inventory 90% Complete, Draft Reports End Dec.
  - Approach was approved by FF&E Committee at Kick-Off Mtg
  - Follow up meeting in 2 weeks
- Accessibility
  - Accessibility Survey Reports (All Sites) Complete
  - Meeting with Accessibility Committee to Prioritize Projects
  - Synchronize Mitigation Efforts with Bond Projects

Facilities Master Plan Update

SOLANO COMMUNITY COLLEGE DISTRICT

Measure Q: EMP and FMP Update

December 18, 2013

Agenda

FMP Update

- EMP Update
- FMP Process Plan
- Site Master Plans
  - Fairfield – 2 Options
  - Vallejo
  - Vacaville
- Sustainability Guidelines Update
- Accessibility Transition Plan Update
- Next Steps

Educational Master Plan Components

EMP UPdate

- Mission: help Students achieve Goals in Basic Skills Education, Workforce Development and Training, and Transfer-Level Education.
- Diversity of the Students We Serve and Our Commitment to Equity (Integrating the Student Equity) – Why Equity is Central to Our Mission (demographic basis)
- Focus on Student Success:
  1) Student Success Act
  2) Student Transfer Achievement Reform Act
  3) Accountability and Student Success Scorecard
  4) Accreditation Standards
  5) US Dept. of Education Initiatives
- Opportunities, Conditions and Assets
- Strategic Goals and Objectives

EMP Program Plans

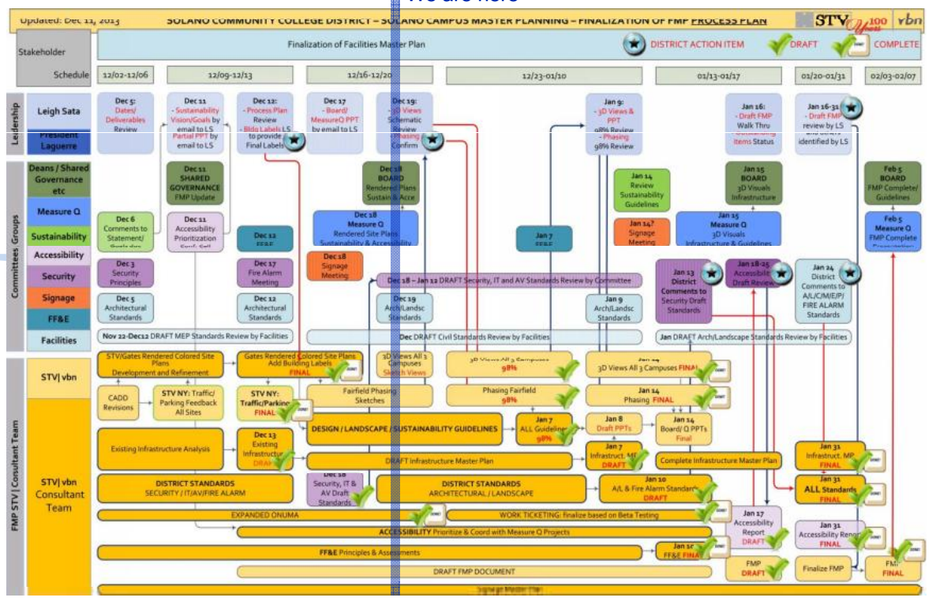
EMP UPdate

- Academic Affairs – Department Program Plans and Rationales tied to Goals and Objectives
- Technology and Support for Academic Programs and Student Services
- Student Support Services that Sustain and Foster the Mission
- Facilities Implications

FMP Update

Facilities Master Plan Process to Completion

We are here



FAIRFIELD
Option A

FMP Update

FAIRFIELD
Option A

FMP Update

FAIRFIELD
Option B

FMP Update

FAIRFIELD

Option B

FMP Update

VALLEJO

FMP Update

VALLEJO

FMP Update

VACAVILLE

VACAVILLE

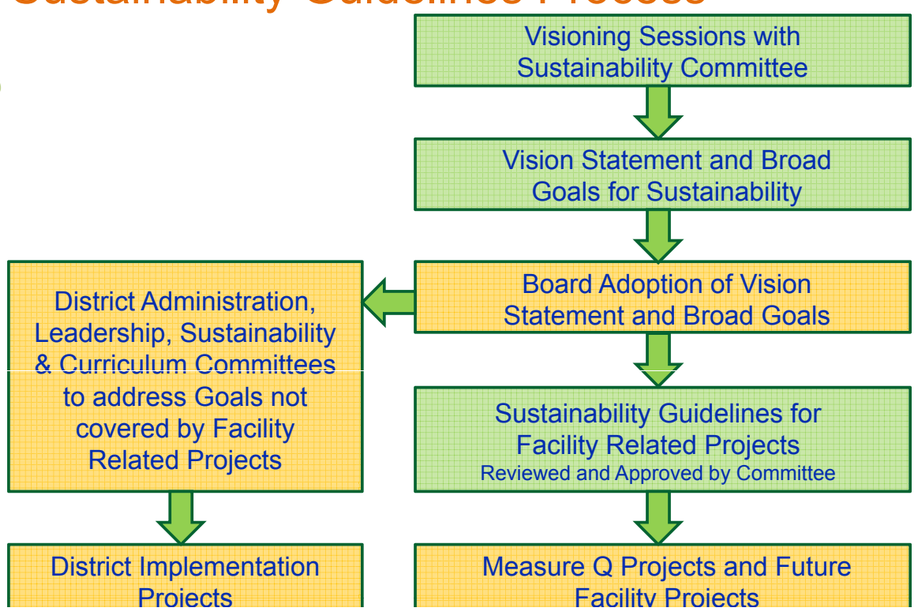
Sustainability Guidelines

sus·tain·a·bil·i·ty

Sustainability promotes meeting the needs of the present without compromising the ability of future generations to meet their own needs. Its success is measured by the triple bottom line: environmental responsibility, economic prosperity, and social equity.

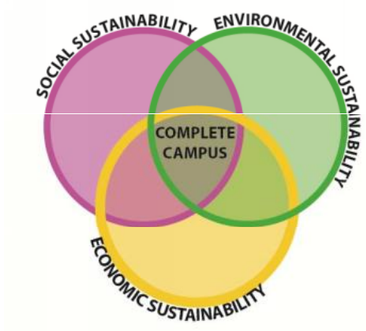
Source: The United Nation's 1983 Bruntland Commission.

Sustainability Guidelines Process



Sustainability Vision

Solano Community College will be a leader in sustainable practices that balance the best interests of the environment, our community and fiscal responsibility. In particular, it will reduce its ecological footprint through energy, water and waste reduction, curriculum development and community engagement.



Sustainability

Sustainability Broad Goals pg 1 of 2

The District will aspire to meet the following goals and target dates:

- Reduce energy consumption from the 2001-2002 baseline by 15% by the end of 2014-2015.
- Reduce the energy cost from the 2001-2002 baseline by 20% by the end of 2014-2015.
- Procure 40% of electricity from renewable sources by 2014.
- The District will endeavor to meet and exceed the following LEED standards: all major new capital projects to be designed to LEED Silver criteria and all major renovation projects to be designed to LEED Certified criteria.
- Reduce water use per student by 20% from 2011 levels by 2020.
- Eliminate the use of potable water for irrigation by 2020.

Sustainability

Sustainability Broad Goals pg 2 of 2

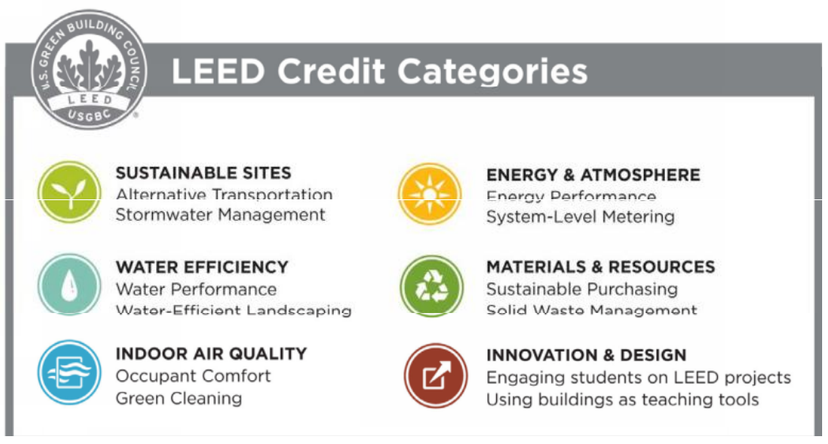
The District will aspire to meet the following goals and target dates:

- Divert 75% of solid waste from landfills by 2015 and aim for zero waste by 2020.
- District will commit to working with local transportation agencies to improve service and routes to the benefit of our students with the aim of reducing Vehicle Miles Travelled (VMT).
- Integrate sustainability into the curriculum through multi-disciplinary approaches, to increase the number of courses offering a sustainable component.
- Reduce annual GHG emissions to 1990 levels by 2020 and achieve climate neutrality by 2050.

Sustainability

LEEDTM covers most Site/Facilities Goals

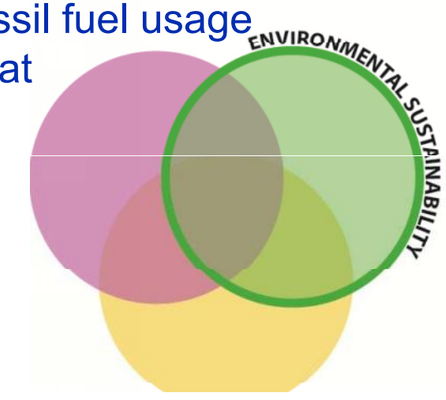
The LEED credit categories include a wide range of solutions that are applicable to colleges and universities, including alternative transportation, purchasing, solid waste management, interior renovations, stormwater management, and energy management.



Sustainability

Sustainability Guidelines Preview

- Improve Water Balance
  - Input of water equals output of water
- Reduce overall campus energy use
- Reduce waste and fossil fuel usage
- Promote natural habitat



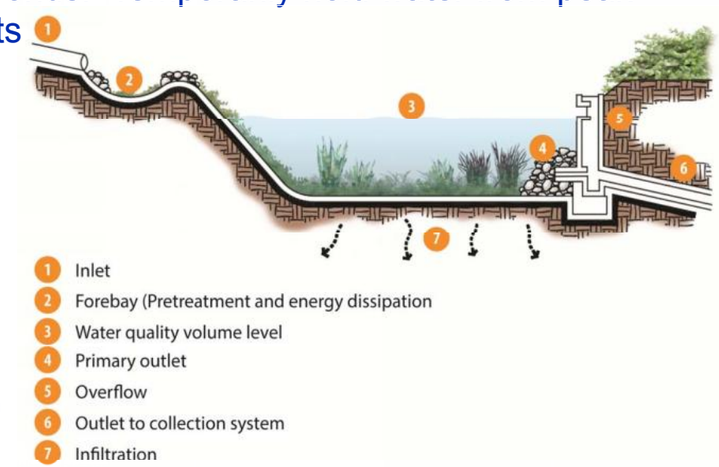
Sustainability Guidelines Preview

Sustainability

Improve Water Balance

Detention Ponds: Temporarily hold water from peak storm events

- Reduces runoff
- Improve water quality
- Reduce flooding
- Create habitat
- Contribute to open space



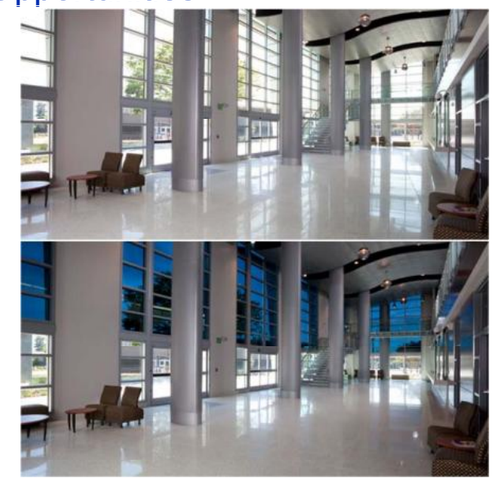
Sustainability Guidelines Preview

Sustainability

Reduce overall campus energy use

Building Integrated Opportunities

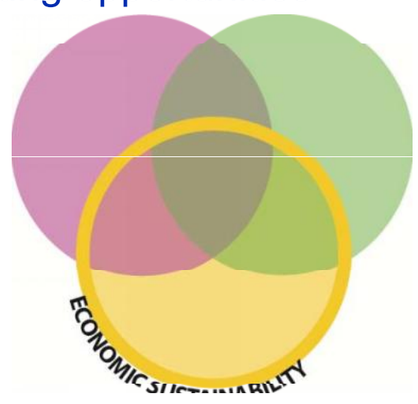
- Glazing
- Thermal Insulation Systems
- Natural Ventilation
- Shading Devices
- Phase Change Materials



Sustainability Guidelines Preview

Sustainability

- Reduce energy and water costs
- Reduce maintenance
- Create revenue generating opportunities

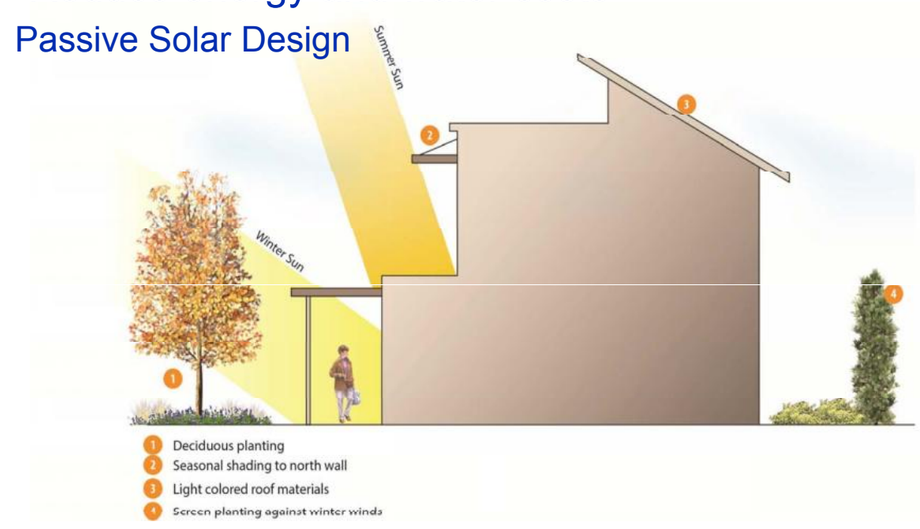


Sustainability Guidelines Preview

Sustainability

Reduce energy and water costs

Passive Solar Design



Sustainability

Sustainability Guidelines Preview

- Create space for social interaction
- Create a place that is educational
- Create a destination with aesthetic appeal

Accessibility

Accessibility Transition Master Plan

Program Accessibility

- ADA Title II and Section 11135 of the Government Code require programs and services to be accessible to the public
- Existing facilities may require modifications in order to be accessible and usable

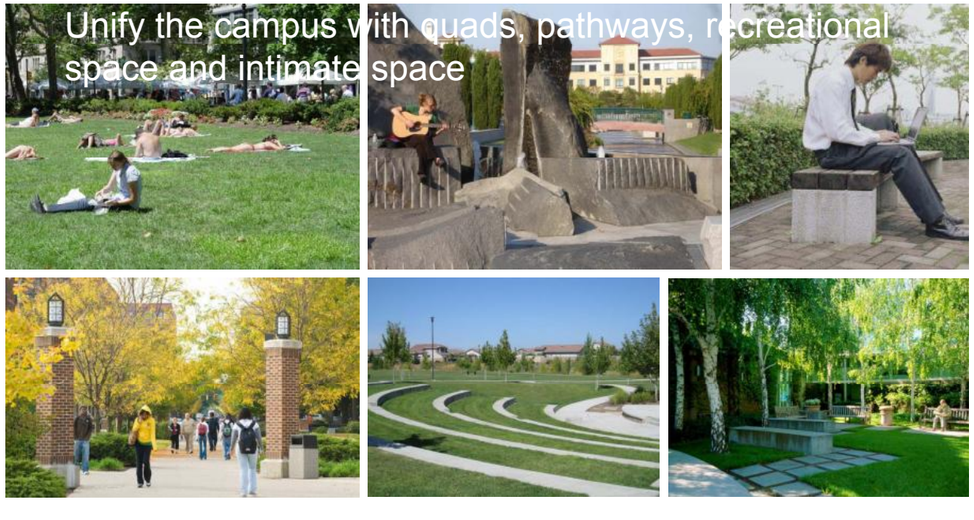
Transition Plan

- Identify physical obstacles (Program Barriers) that limit the accessibility of programs or activities
- Prioritize Program Barriers
- Describe detailed Methods of Mitigation
- Specify Mitigation Schedule to achieve compliance with §35.150 Existing facilities & Indicate the Official Responsible

Sustainability

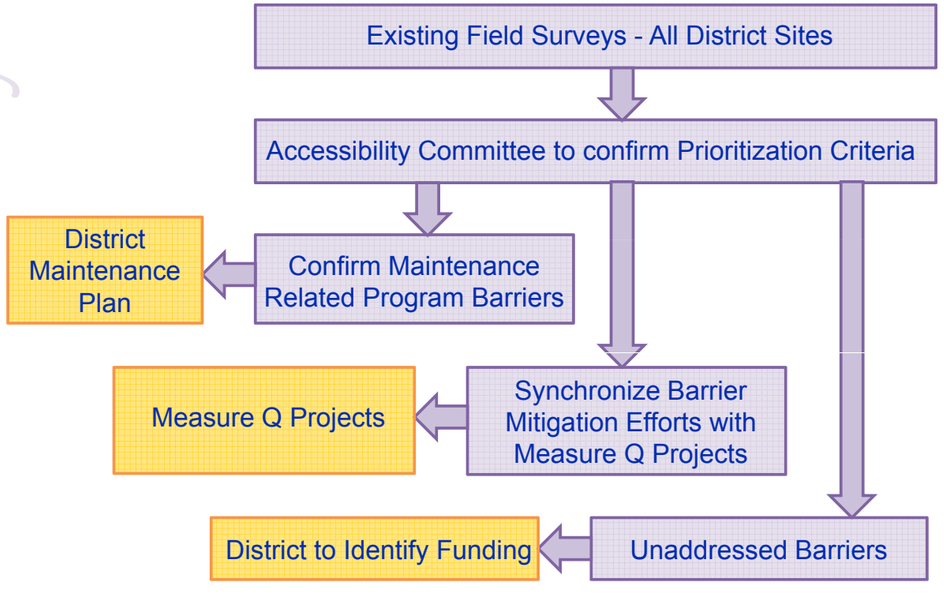
Sustainability Guidelines Preview

Create space for social interaction



Accessibility

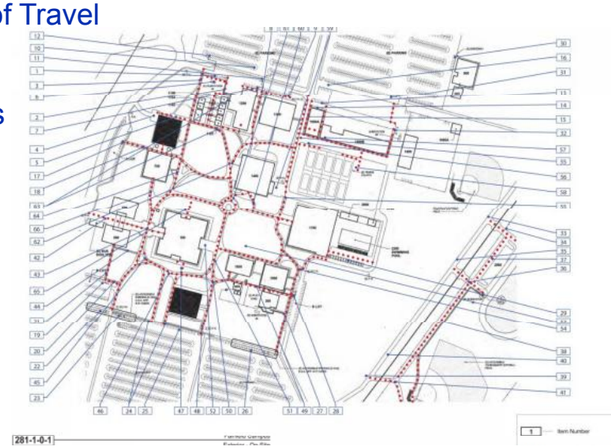
Accessibility Transition Plan Process



Accessibility Transition Master Plan

Survey Methodology

- Initial Walk-Through
- Establish Path of Travel
- Survey Barriers
- Record Findings



Accessibility Transition Master Plan

Sample Program Barriers

Solano CCD Access Compliance Survey **281-1-0-1**

Campus: **Solano CC** Bldg.: **Fairfield Campus** Area.: **Exterior** Part/Floor: **On-Site**

Item No.	Name, Rm. #	Existing Architectural Barrier and Proposed Solution	Codes / Mitigation Info	Qty	Unit	Cost	Total
200		• *As-Built Description:* International Symbol of Accessibility (36" square, in white on blue) is not painted on the pavement near the rear end of the parking space (required in CA only). • *As-Built:* **ISA confusing/faded** • *Proposed Solution:* Reapply symbol on parking space pavement when altering area.	*PCODE* **EA04AREF** *CSAS* **1129B.4** *Priority* **5** *Severity* **4**	REF			
		Parking Signage					
197		• *As-Built Description:* CA only: Additional Sign or additional language below the symbol of accessibility stating "Minimum Fine $250" not provided. • *Proposed Solution:* Provide compliant parking signage that includes fine information.	*PCODE* **EA04G** *CSAS* **1129B.4** *Priority* **5** *Severity* **4**	4	JOB	$100	**$400**
198		• *As-Built Description:* Required "Tow Away" sign not provided at parking lot entrance (required in CA only). • *Proposed Solution:* Provide "Tow Away" sign at parking lot entrance when altering area.	*PCODE* **EA04C** *CSAS* **1129B.4** *Priority* **5** *Severity* **4**	1	JOB	$325	**$325**

Accessibility Transition Master Plan

Prioritization Criteria

- Importance of Program Function
- Frequency of Use
- Program Location and Relation to Other Programmatic Functions
- Severity of Barrier
- Public Input

Priority 1

Basic public access and hazardous conditions:

a. Accessible route from all appropriate site entry points within the property line to an accessible building entrance of the program location. (An exterior accessible route may include walks, ramps, accessible parking spaces, curb ramps, crosswalks at vehicular ways, passenger loading zones, etc.)

b. Accessible route from the accessible program building entrance to "first contact points" such as information counters within the facility. (An accessible route may include corridors, ramps, elevators, lifts and clear floor spaces, etc.).

c. Removal of overhead obstructions, protruding objects, adjustment of doors with excessive opening force at designated public "primary" entrance of each building.

d. Access to site entry points from public transportation stops and major crosswalks in the public right-of-way (e.g. street intersections, sidewalks, bus stops, etc). ***

Priority 2

Access to critical spaces of program functions

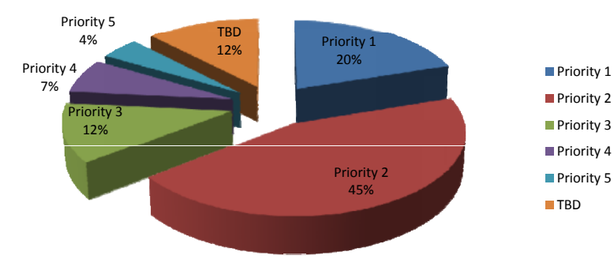
Priority 3

Access to public common areas that support program functions (e.g., restrooms, drinking fountains, public telephones, etc.). and provision of visual/audible signal devices connected to the existing fire alarm system.

Accessibility Transition Master Plan

Fairfield Cost Breakdown by Priorities

Priority	Preliminary Cost Estimate for Mitigation
Priority 1	$ 687,332.50
Priority 2	$ 1,529,236.00
Priority 3	$ 409,915.00
Priority 4	$ 233,244.00
Priority 5	$ 147,731.00
TBD	$ 425,270.00
TOTAL	**$ 3,432,728.50**

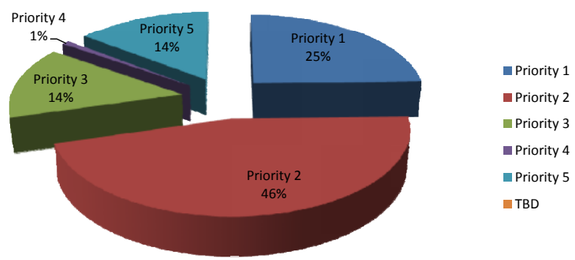


Accessibility

Accessibility Transition Master Plan

Vacaville Cost Breakdown by Priorities

Priority		Preliminary Cost Estimate for Mitigation
Priority 1	$	22,260.00
Priority 2	$	41,555.00
Priority 3	$	12,790.00
Priority 4	$	750.00
Priority 5	$	13,150.00
TBD	$	0
TOTAL	**$**	**90,505.00**

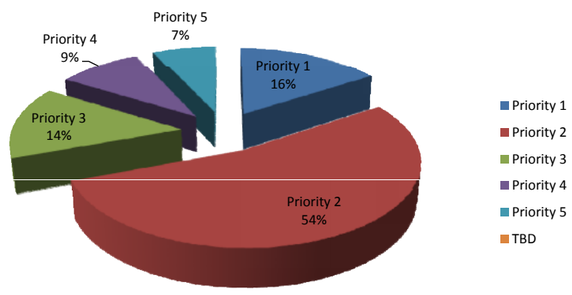


Accessibility

Accessibility Transition Master Plan

Vallejo Cost Breakdown by Priorities

Priority		Preliminary Cost Estimate for Mitigation
Priority 1	$	11,180.00
Priority 2	$	37,815.00
Priority 3	$	10,130.00
Priority 4	$	6,573.00
Priority 5	$	4,899.00
TBD	$	0
TOTAL	**$**	**70,597.00**



FMP Update

Next Steps

- Develop 3D Visuals (January timeframe)
- Develop Design, Landscape and Sustainability Guidelines (January timeframe)
- Develop and Integrate Infrastructure Master Plan and Phasing (January timeframe)
- Next Meeting **January 15, 2013**

SOLANO COMMUNITY COLLEGE DISTRICT

Measure Q Meeting: FMP Update

January 15, 2014

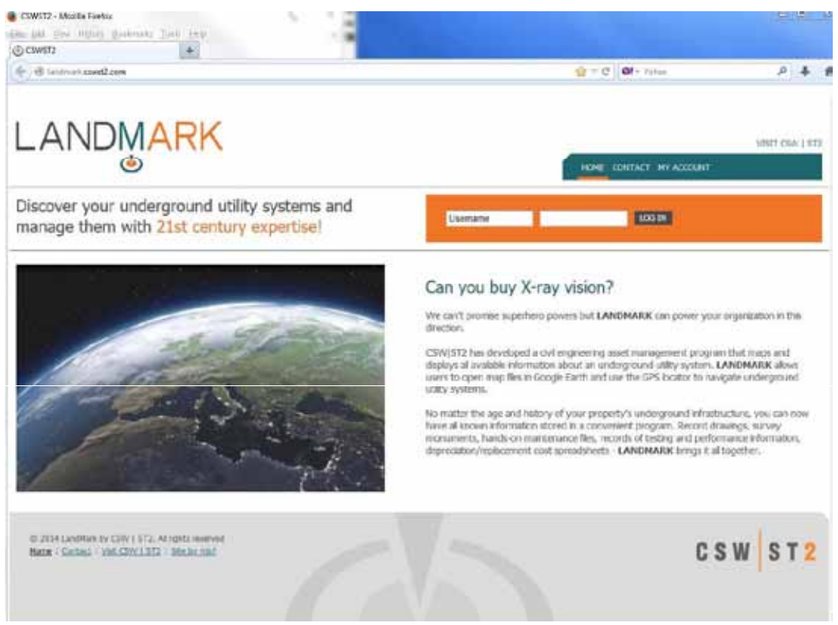
FMP Update

Agenda

- EMP Update
- FMP Update
  - Civil Infrastructure
  - 3d Visualizations
  - Design Guidelines

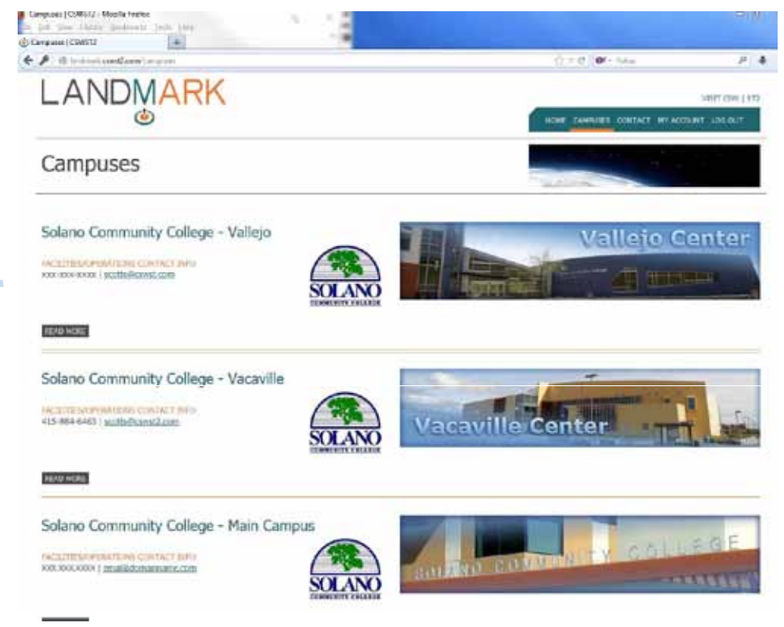
FMP Update

CIVIL INFRASTRUCTURE



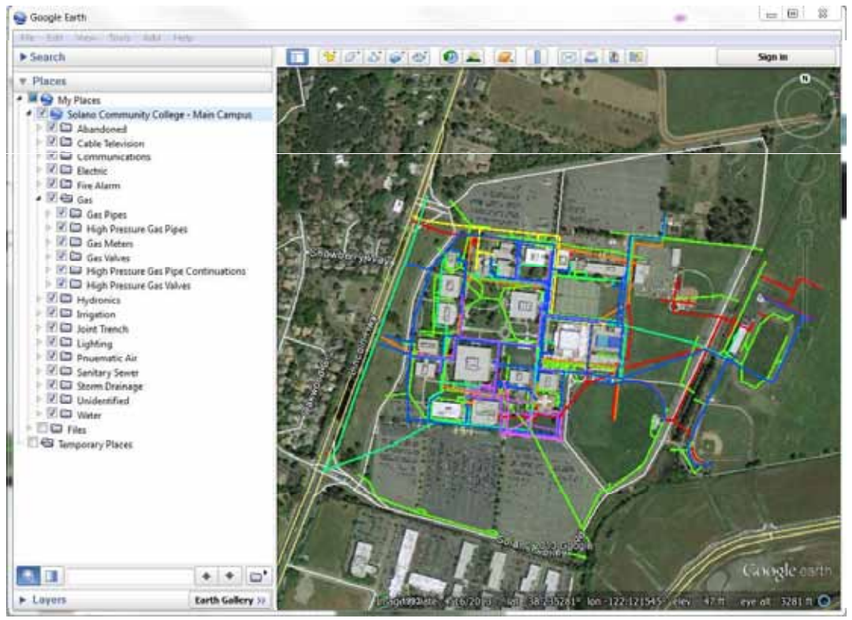
FMP Update

CIVIL INFRASTRUCTURE



FMP Update

CIVIL INFRASTRUCTURE



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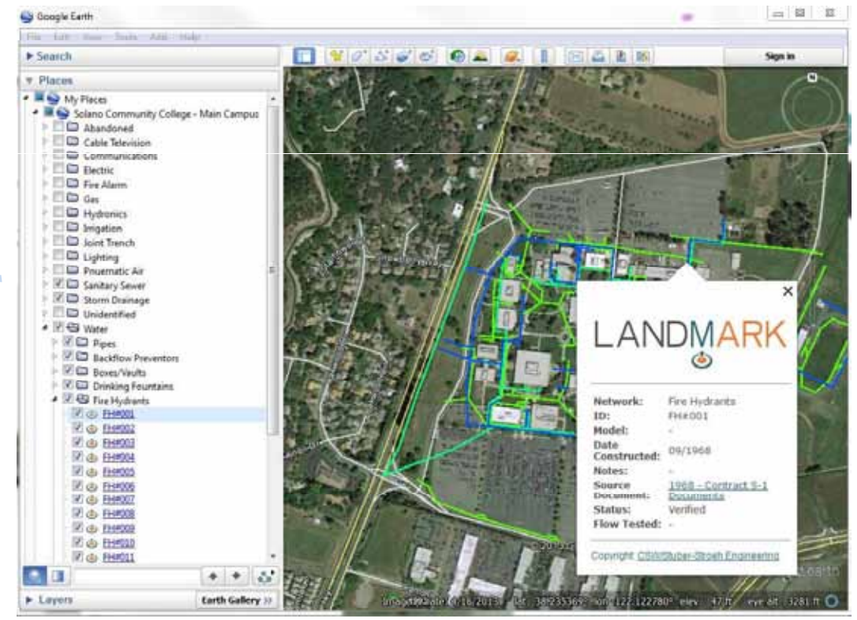

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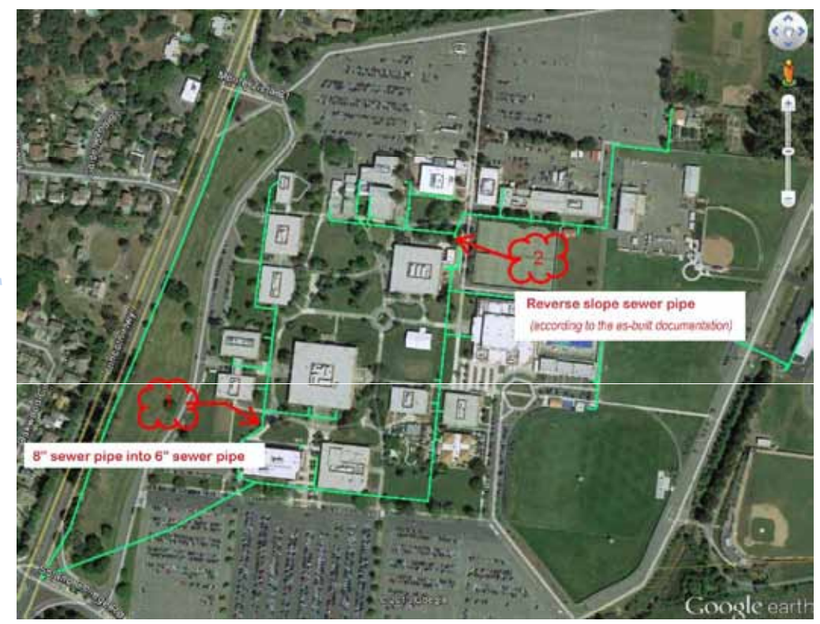

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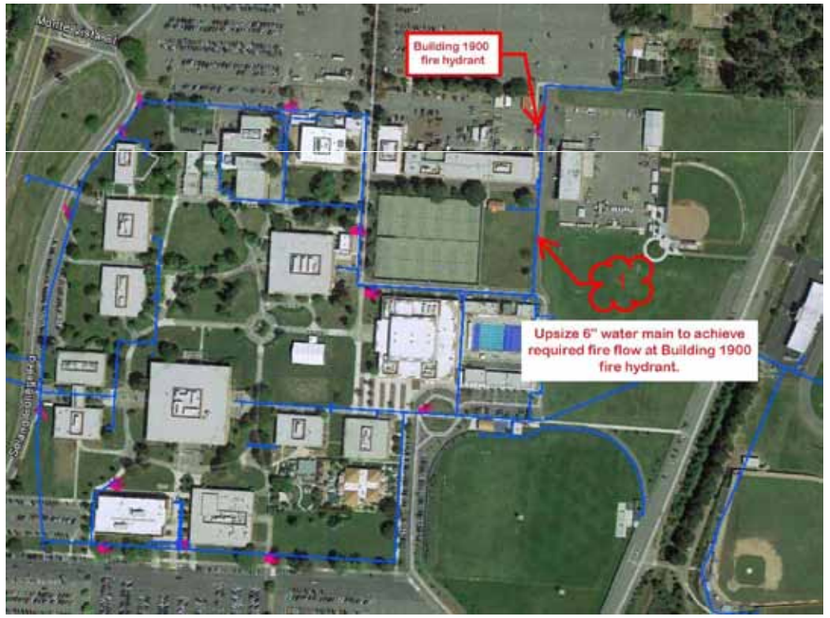


FMP Update

FAIRFIELD Site Plan

FMP Update

FAIRFIELD 3d View

FMP Update

VALLEJO Site Plan

FMP Update

VALLEJO 3d View

FMP Update

VACAVILLE Site Plan

FMP Update

VACAVILLE 3d View

Sustainability Committee Mtgs

Sustainability

SOLANO COMMUNITY COLLEGE DISTRICT
Measure Q Draft Facilities Master Plan
Sustainability Workshop, November 13, 2013

green cam·pus

A green campus is a higher education community that is improving energy efficiency, conserving resources and enhancing environmental quality by educating for sustainability and creating healthy living and learning environments.

Sustainability

Agenda

- Introduction/Goals
  - Why a Sustainability Committee?
  - Committee Goals for Measure Q
  - Process to achieve these Goals
- Resources
  - USGBC Roadmap to a Green Campus
  - CCCCO Sustainability Template
- Visioning Brainstorming
  - Goals, Objectives, Desired Outcomes

Sustainability

Why a Sustainability Committee?

- SCCD signed the American College and University Presidents' Climate Commitment (ACUPCC) in 2012
- Measure Q provides an opportunity for implementing *part* of that commitment

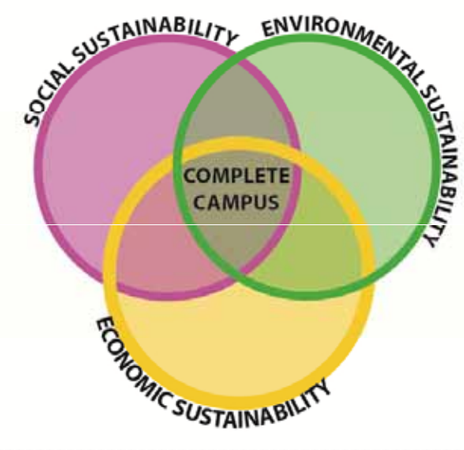
"The ACUPCC provides a framework for colleges and universities to become climate neutral and advance education for sustainability. The Commitment recognizes **the unique responsibility that institutions of higher education have as role models for their communities and in training the individuals** who will develop the social, economic and technological solutions to reverse global warming."

Sustainability

sus·tain·a·bil·i·ty

Sustainability promotes meeting the needs of the present without compromising the ability of future generations to meet their own needs. Its success is measured by the triple bottom line: environmental responsibility, economic prosperity, and social equity.

Source: The United Nation's 1983 Bruntland Commission



Sustainability

What are the Goals for this Committee?

- Goals Desired for Measure Q:
  - Sustainability Statement/Principles for Board consideration that addresses the triple bottom line
  - Board Approval of Sustainability Statement/Principles
  - Review and Approval of Sustainability Guidelines for Facilities projects
- Goals Beyond Measure Q:
  - To be established by this Group, if desired

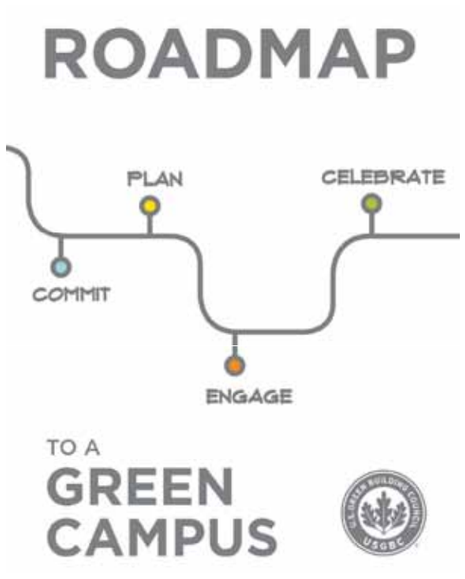
Sustainability

What is the Process?

- Process for Measure Q:
  - Define Vision and Goals for Sustainability
  - Craft a Sustainability Statement/Principles
  - Take Sustainability Statement/Principles to Board for consideration (and ideally approval/adoption)
  - FMP team to develop Sustainability Guidelines based on Statement/Principles, collaboration with Facilities & Maintenance, and in conjunction with Design Guidelines
  - Committee to Review and Approve Sustainability Guidelines for Facilities projects
- Process Beyond Measure Q:
  - To be established by this Group, if desired
- Resources

Sustainability

USGBC Roadmap to a Green Campus



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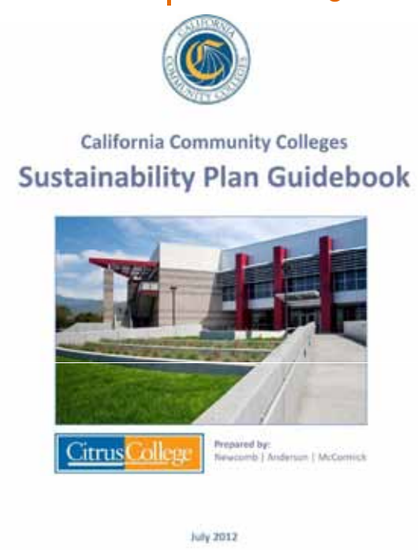
Sustainability

CCCCO|Citrus College Sustainability Template



Sustainability Plan Guidebook

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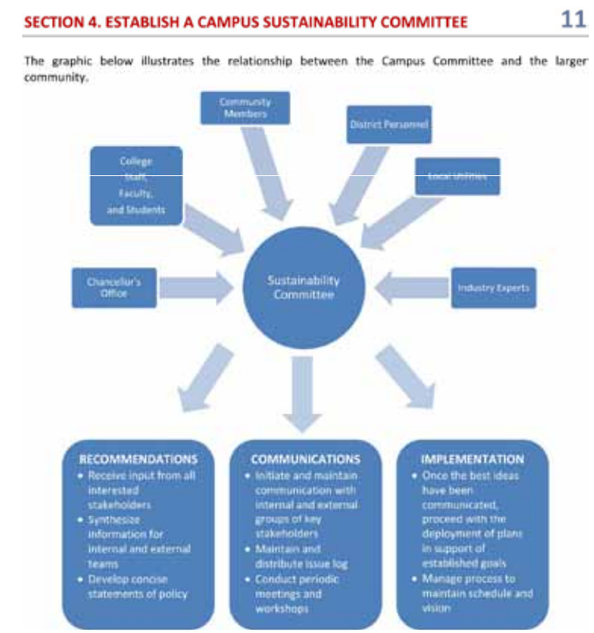
Sustainability

CCCCO Sustainability Template Process:

The following flow chart illustrates the recommended approach for sustainability planning as outlined in this Guidebook.

Sustainability

CCCCO:



Sustainability

Brainstorming Questions:

(from CCCCO Template)

Goals, Objectives, and Desired Outcomes

- *What is the campus Vision for Sustainability?*
- *What are the Goals and Objectives for the Plan?*
- *What are the campus priorities and limitations?*
- *What are the criteria for success?*
- *What is the timeline for Plan implementation?*

Sustainability

Next Steps

– November 21, 2013 1:00 pm -2:00 pm
  - Craft a Draft Sustainability Statement/Principles

Sustainability

SOLANO COMMUNITY COLLEGE DISTRICT

Measure Q Draft Facilities Master Plan

Sustainability Workshop, November 21, 2013

green cam·pus

A green campus is a higher education community that is improving energy efficiency, conserving resources and enhancing environmental quality by educating for sustainability and creating healthy living and learning environments.

Sustainability

Agenda

- Visioning Statement
  - Develop a Draft Vision Statement for Board Consideration
- Goals Review
  - Develop a Short List of General Goals for Board Consideration
  - Prioritization of Goals
  - What Goals would be covered in Sustainability Guidelines
- Next Steps

Sustainability

Vision Statements from 11/13/13

- SCC will be at the Forefront of Green Campus Projects
- SCC will assist County in Reducing Carbon Emissions
- SCC should be a Model to the Surrounding Population regarding Sustainability
- Leadership Sets the Example for Being Sustainable
- Leader in Solano County for Sustainable Practices
- SCC Sets the Example for Sustainability
- State Recognized for Sustainability

Sustainability

Vision Statement

(from CCCCO Template)

[Insert Vision Statement here. An example Vision Statement is: By adopting this Sustainability Plan, the Community College District commits to environmental and fiscal sustainability, reducing its greenhouse gas emissions, and developing green curricul]

Sustainability

Goals from 11/13/13 fall in these Categories:

- General (Energy, Water, Carbon Targets)
- Procedural (Sustainability Plan etc.)
- Economic
- Curriculum
- Transportation
- Recycling
- Facilities
- Site

Sustainability

"General" Goals from 11/13/13

- Carbon Footprint Reduction
- Reduce our Waste by 50% or more in the Next 5 Years
- To Create a System Where we use Sunlight as Energy for 25% or more of the Campus
- SCC will Reduce its Dependence on Energy Resources by Creating its Own Electricity
- All New Construction meet LEED Standards (have Architects Aware and Accountable)
- Don't have to be LEED Certified, but should work towards Sustainable Building Practices
- Attractive: both Education and Buildings
- Fully Implemented Recycling Program
- Encourage Green – i.e. Transportation
- Use of County Assets/Experts – Community Outreach

Sustainability

General Goals

(from CCCCO Template)

- *Energy Use (or cost) Reduction:* Reduce energy consumption from a 2001-2002 baseline by 15% by the end of 2011-2012 (Source: CCC Board of Governors Energy and Sustainability Policy)
- *Green Building Standards:* All major capital projects need to outperform Title 24 Standards by at least 15% and major renovation projects need to outperform Title 24 Standards by at least 10% (Source: CCC Board of Governors Energy and Sustainability Policy)
- *Renewable Energy:* Procure 20% of electricity from renewable sources by 2010 and 40% by 2014 (Source: CCC Board of Governors Energy and Sustainability Policy)
- *Water Use Reduction:* Reduce water use intensity 16% by 2015 (Source: Federal Executive Order 13423 for government agencies)
- *Waste Diversion and Management:* Divert 75% of solid waste from landfills by 2012 and zero waste by 2020 (Source: UC Sustainability Practices Policy)
- *Greenhouse Gas Reductions:* Reduce annual GHG emissions to 1990 levels by 2020 (Source: AB-32) and achieve climate neutrality as soon as possible (Source: American College and University Presidents' Climate Commitment)

Area of Sustainability	Established Goal
Energy Use Reduction	Reduce energy consumption from the 2001-2002 baseline by 15% by the end of 2011-2012
Energy Cost Reduction	Reduce the energy cost from the 2001-2002 baseline by 20% by the end of 2011-2012.
Green Building Standard	All major capital projects need to outperform Title 24 Standards by at least 15% and all major renovation projects need to outperform Title 24 by at least 10%.
Renewable Energy Use	Procure 20% of electricity from renewable sources by 2010 and 40% by 2014.
Water Use Reduction	Reduce water use per student by 16% from 2011 levels by 2015.
Waste Diversion and Management	Divert 75% of solid waste from landfills by 2012 and aim for zero waste by 2020.
Transportation Efficiency	Reduce total staff, faculty, and student VMT by 25% from 2011 levels by 2020.
Greenhouse Gas Reduction	Reduce annual GHG emissions to 1990 levels by 2020 and achieve climate

Sustainability

Procedural Goals from 11/13/13

- Develop a long-term plan to prepare for upcoming changes in the law etc.
- Sustainability Written into Vendor Contracts
- Provide Training/Education of Sustainable Practices to SCC Employees/Staff – Facilities, Custodial and Janitorial
- Students to Recognize and be Involved in Sustainability Efforts
- Green Purchasing
- Embrace "Reduce, Reuse, Recycle" in All Aspects of Campus Policies / Actions

Sustainability

Economic Goals from 11/13/13

- Bring Economic Development by Attraction/Recognition
- Use of Campus Facilities by Other Organizations
- Sell Off Inventory of Items No Longer in Use (Reuse)
- Paper Reduction – Move to More Electronics to Reduce Cost/Waste
- Use of County Assets/Experts – Community Outreach

Curriculum Goals from 11/13/13

- Green Coursework
- Teach Sustainability Curriculum
- Teach Partnerships with Sustainable Companies
- Look at Courses Related to Sustainable Practices: Sciences, Nutrition and Landscaping

Sustainability

Transportation Goals from 11/13/13

- Encourage Green – i.e. Transportation
- Increase the Usage of the Carpool System on Campus
- Encourage and Provide an Incentive for Electric Vehicle Usage
- Public Transit
- Increase the amount of Students that use Public Transportation
- Express Bus from Train Station? Or Ferry Terminal?
- Shuttles connecting 3 Campuses
- Work with Local Transit Company to Improve Commuting Options

Sustainability

Recycling Goals from 11/13/13

- Fully Implemented Recycling Program
- Embrace “Reduce, Reuse, Recycle” in All Aspects of Campus Policies / Actions
- Recycling to be a Campus Wide Effort that Administration is involved in
- Mulch and Organic Trash Separation (3 Bins for Garbage)
- Recycle Containers
- Full Cycle of Composting On-Site: Green Waste and Food Waste Re-use in Landscaping
- Sell Used/Old Materials such as Desks, Chairs, Metals, etc.
- Composting: Cafeteria Waste to Horticulture to Landscaping Composting Program
- Campus Wide Recycling from Classrooms to Outside Collections
- On-site Composting should be started

Sustainability

Facilities Goals from 11/13/13

- Natural Light in Classrooms (less Energy used)
- Arches and Shade
- Emphasize Stairs in Buildings; Less Use of Elevators
- Waterless Urinals
- Lower Electric Use
- Natural Ventilation Where Possible
- Lower Water Usage
- Use of Grey Water for Toilets and Landscaping
- Thermostat Regulation
- Lights that Turn Off when a Room is Unoccupied etc
- Architectural Design that is Attractive and Useful (i.e. recycled materials, solar, horticulture/agriculture)
- Renew our Campus Buildings to be more Environmentally Friendly
- Repurpose – Give Old Things New Life

Sustainability

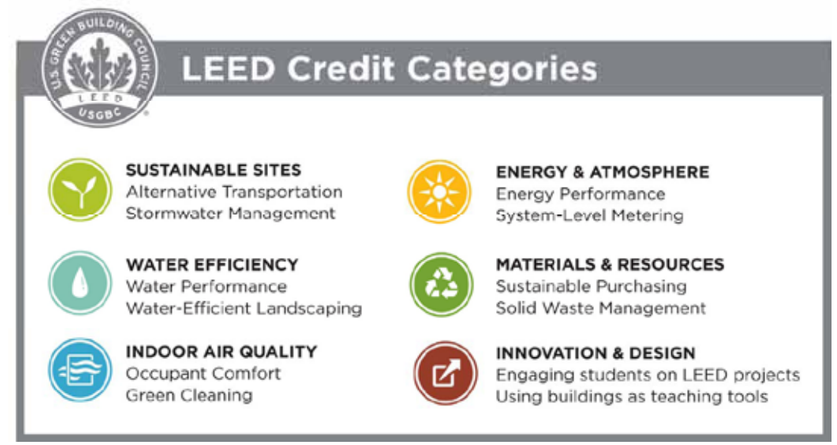
Site/Landscaping Goals from 11/13/13

- Solano should be a Campus that Encourages Usage of Outdoor Green Spaces
- More Walkable Campus (Closer Buildings)
- Shade for Cars (Shade Lowers Heat)
- Places for Shelter in Winter
- Bicycle Parking & Bicycle Paths
- Native/No Grass Landscaping (Low Water)
- Landscape that is Sustainable
- All Landscaping to Embrace Water Conservation Practices
- Use of Correct Plant Material for Climate Zone
- Native Plants
- Drought Resistant Plants
- Recycle, and Filter Sewage/Waste Water to Water our Fields
- Lower Electric Use
- Wind Energy Considerations

Sustainability

LEED covers most Site/Facilities Goals

The LEED credit categories include a wide range of solutions that are applicable to colleges and universities, including alternative transportation, purchasing, solid waste management, interior renovations, stormwater management, and energy management.



Sustainability

Facilities/Site Goals

- Will be captured in Sustainability Guidelines and LEED Goal (if established by District)

Other Goals

- Transportation, Recycling, Procedural, Economic and Curriculum will need to be addressed in a Sustainability Plan
- Those aspects that affect Facilities/Site will be reflected in Sustainability Guidelines

Sustainability

Next Steps

- Finalize Statement/Principles/Broad Goals
- Take to Board for Approval
- Review and Approval of Sustainability Guidelines for Facilities projects (January Timeframe)

Sustainability

SOLANO COMMUNITY COLLEGE DISTRICT

Measure Q Draft Facilities Master Plan

Sustainability Workshop, January 13, 2014

green cam·pus

A green campus is a higher education community that is improving energy efficiency, conserving resources and enhancing environmental quality by educating for sustainability and creating healthy living and learning environments.

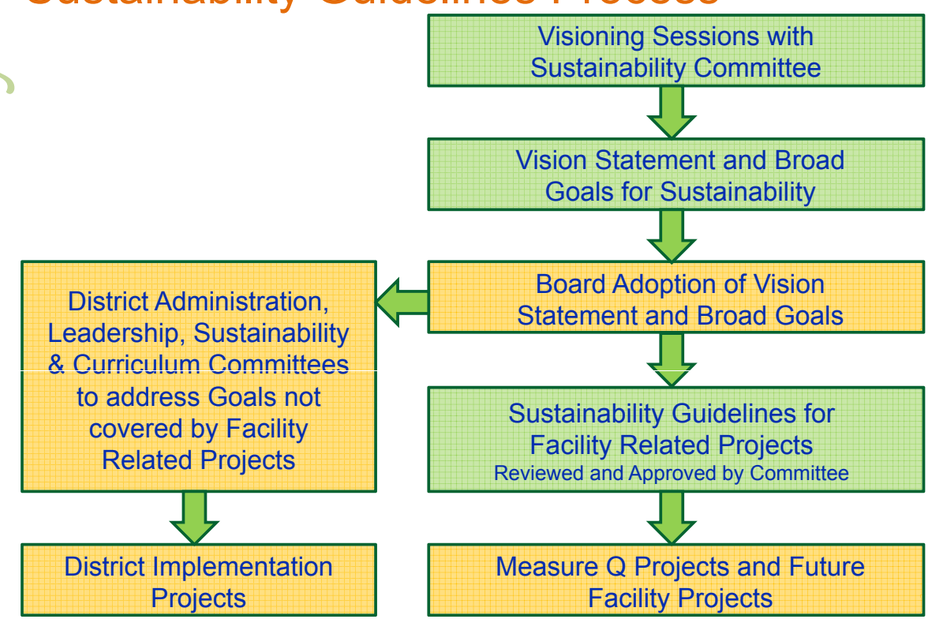
Sustainability

Agenda

- Re-cap
- Sustainability Guidelines

Sustainability

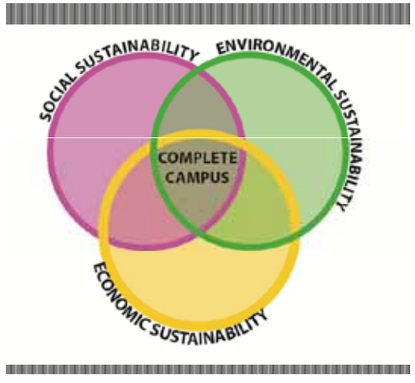
Sustainability Guidelines Process



Sustainability

Sustainability Vision

Solano Community College will be a leader in sustainable practices that balance the best interests of the environment, our community and fiscal responsibility. In particular, it will reduce its ecological footprint through energy, water and waste reduction, curriculum development and community engagement.



Sustainability

Sustainability Broad Goals pg 1 of 2

The District will aspire to meet the following goals and target dates:

- Reduce energy consumption from the 2001-2002 baseline by 15% by the end of 2014-2015.
- Reduce the energy cost from the 2001-2002 baseline by 20% by the end of 2014-2015.
- Procure 40% of electricity from renewable sources by 2014.
- The District will endeavor to meet and exceed the following LEED standards: all major new capital projects to be designed to LEED Silver criteria and all major renovation projects to be designed to LEED Certified criteria.
- Reduce water use per student by 20% from 2011 levels by 2020.
- Eliminate the use of potable water for irrigation by 2020.

Sustainability

Sustainability Broad Goals pg 2 of 2

The District will aspire to meet the following goals and target dates:

- Divert 75% of solid waste from landfills by 2015 and aim for zero waste by 2020.
- District will commit to working with local transportation agencies to improve service and routes to the benefit of our students with the aim of reducing Vehicle Miles Travelled (VMT).
- Integrate sustainability into the curriculum through multi-disciplinary approaches, to increase the number of courses offering a sustainable component.
- Reduce annual GHG emissions to 1990 levels by 2020 and achieve climate neutrality by 2050.

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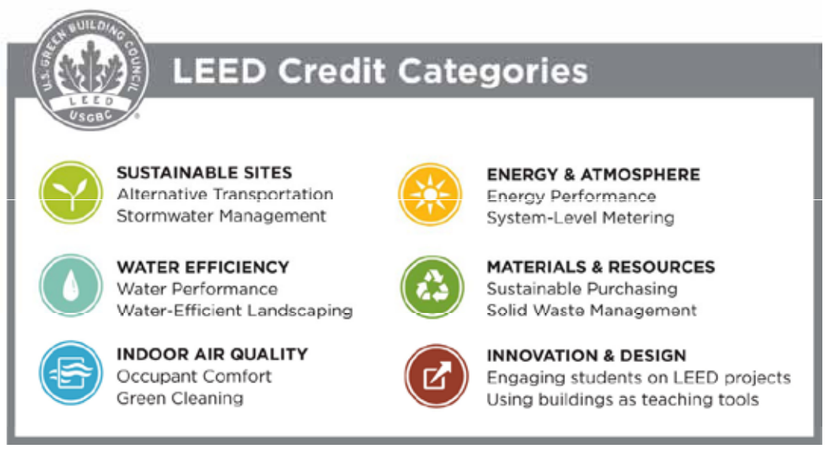
Sustainability

LEEDTM covers most Site/Facilities Goals

The LEED credit categories include a wide range of solutions that are applicable to colleges and universities, including alternative transportation, purchasing, solid waste management, interior renovations, stormwater management, and energy management.



Sustainability Guidelines

These guidelines were developed through conversations with Solano Stakeholders (through the Sustainability Committee) and with the collaboration of maintenance and operations staff at the District.

SUSTAINABILITY VISION

26

"Solano Community College will be a leader in sustainable practices that balance the best interests of the environment, our community and fiscal responsibility. In particular, it will reduce its ecological footprint through energy, water and waste reduction, curriculum development and community engagement."

SUSTAINABILITY GOALS

The District will aspire to meet the following goals and target dates:

- Reduce energy consumption from the 2001-2002 baseline by 15% by the end of 2014-2015.
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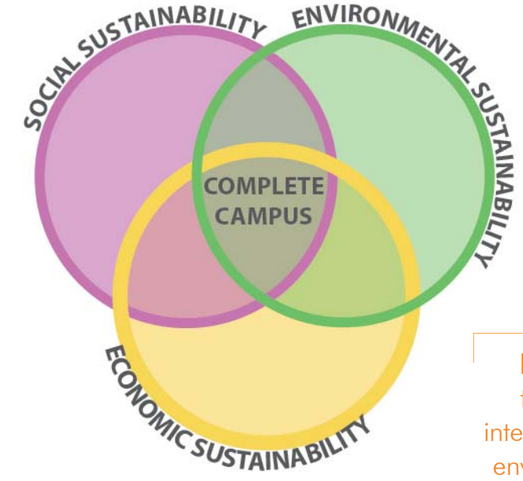


balance the best interests of the environment, our community and fiscal responsibility

SOLANO COMMUNITY COLLEGE 2013 FACILITIES MASTER PLAN

- Reduce water use per student by 20% from 2011 levels by 2020.
- Eliminate the use of potable water for irrigation by 2020.
- Divert 75% of solid waste from landfills by 2015 and aim for zero waste by 2020.
- District will commit to working with local transportation agencies to improve service and routes to the benefit of our students with the aim of reducing Vehicle Miles Traveled (VMT).
- Integrate sustainability into the curriculum through multi-disciplinary approaches, to increase the number of courses offering a sustainable component.
- Reduce annual GHG emissions to 1990 levels by 2020 and achieve climate neutrality by 2050.

The Facilities Master Plan includes Sustainability Guidelines that aim to help the District achieve these goals as applicable to site, infrastructure and facilities development. These Guidelines are arranged per *selective* credit categories identified in the LEED version 4 for Building Design and Construction (BD+C) checklist, however they do not replace the LEED checklist and should be evaluated in conjunction with the most currrent applicable LEED checklist and the "Programs and Projects for Implementation" found in the CCCCO Sustainability Plan Guidebook.

LOCATION AND TRANSPORTATION

The Facilities Master Plan is based on sustaniable planning principles that should be reinforced with each Capital Improvement Project. The following apply to the Location and Transportation credits:

LEED for Neighborhood Development Location

- At Fairfield, most existing buildings have been repurposed rather than demolished and new buildings are proposed in areas with existing infrastructure.
- Buildings are proposed to be in close proximity to one another to encourage walkability and reduce vehicle distance traveled.
- New buildings should to be a minimum of 2-stories.

Sensitive Land Protection

- On the Fairfield Campus the land east of the campus loop road is being maintained as its natural riparian habitat, and the area fronting Suisun Valley Road is being maintained as open land.

Access to Quality Transit

- District is committed to working with local transportation agencies to improve service and routes for the benefit of its students and at this time it is expected that the existing bus stops on each campus will accommodate these improvements.
- Existing Public Transit access has been maintained on all campus sites and the Fairfield Campus bus stop is proposed to be relocated south of Building 400 with better waiting facilities.
- At the Fairfield Campus a pathway to the proposed Regional Bus Station (off-site) has been reinforced.
- At the Vacvaille Campus a pathway should be provided once the Regional Bus Station location has been identified.

Bicycle Facilities

- District is interested in trying out a Bicycle Share program and specific projects should look at opportunities to incorporate bicycle storage and shower rooms.

ImageSource: campuslifeservices.ucsf.edu

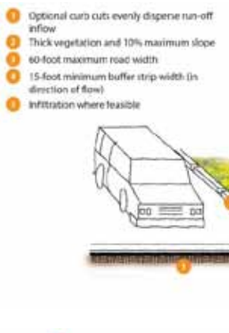
Reduced Parking Footprint

- The Facilities Master Plan proposes to reduce Parking at the Fairfield campus (current supply exceeds current and projected demand), and Vallejo is proposed to have a one-story parking deck on the additional property to reduce future parking footprint in favor of more green space.

Green Vehicles

- Fairfield already has some Electric Vehicle Charging Stations and the District is interested in promoting Green Vehicle usage on all Campus sites thus future projects affecting parking lots should include the addition of charging stations per LEED criteria.

ImageSource: sfbike.org



Vegetated Buffer

Vegetated Swale

SUSTAINABLE SITES

The Facilities Master Plan is based on sustaniable planning principles that should be reinforced with each Capital Improvement Project. The following apply to the Sustainable Sites credits:

Site Development - protect or restore habitat

For the Fairfield Campus the buildings proposed are replacing demolished buildings and existing parking, which results in green space *added* to the campus. This is not the case with the other two campuses, where greenfields are being replaced with buildings and parking, so these credits will apply only to Fairfield.

Furthermore, on the Fairfield Campus the land east of the campus loop road is being maintained as its natural riparian habitat. In addition, by allowing habitats to flourish the natural ecology of the land will thrive. To better the soils and habitat one should:

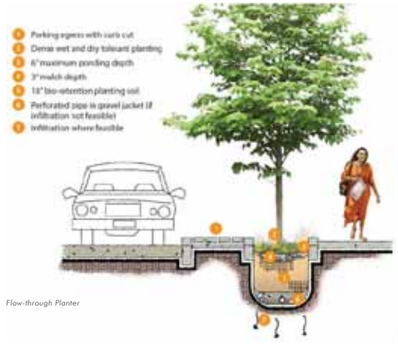
- Mulch regularly and Sheet mulch where appropriate.
- Avoid synthetic and quick release fertilizers.
- Limit use of chemical pesticide.
- Plant California Natives when suitable for microclimate.

Rainwater (Stormwater) Management

Rainwater management consists of systems that retain rainfall on sites instead of allowing it to leave via gutters and storm drains. Retaining stormwater allows for reduced irrigation water demand, an increase in groundwater recharge and an opportunity for removal of sediments and pollutants. Refer to the Stormwater Management Plan included in the Infrastructure Master Plan (see Part I) for complete details. The following are some systems that help retain rainfall on sites:

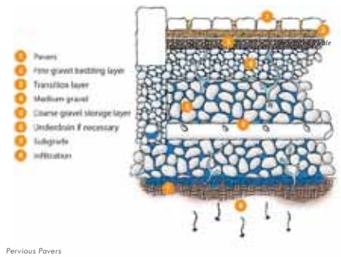
- Vegetated Buffers are sloped planting strips designed to capture and treat sheet flow from adjacent paved areas. Vegetated Buffers are attractive landscape features that can improve water quality, attenuate peak flows and facilitate groundwater recharge.
- Vegetated Swales are shallow planted channels that convey storm water runoff. The advantages of vegetated swales is that they remove particulates from the storm water flow, thereby improving the water quality. They also reduce the rate of runoff and helps facilitate groundwater recharge.

- Flow-Through Planters allow water to percolate through vegetation and soils to help remove pollutants and sediment. Apart from providing an aesthetic amenity, the benefits of flow-through planters include creation of habitat, reduction in runoff volumes, improvement of water quality, facilitation of groundwater recharge and facilitation of evapotranspiration.



Flow-through Planter

- Permeable Pavements are porous, load-bearing surfaces that can temporarily store rainwater before infiltration to the stormwater system or groundwater table. Permeable pavement can reduce runoff, improve water quality, facilitate groundwater recharge, reduce surface ponding and reduce heat island effect.



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INFRASTRUCTURE ASSESSMENTS APPENDIX

Overview

The following are included here:

- Opinion of Probable Construction Costs for Infrastructure Improvements as identified in Book 1 for FF, VV and VJ
- Appendices for Storm Water Management Program found in Book 1 for FF, VV and VJ
- Appendices for Utility Capacity Reports for all campuses found in Book 3 for FF, VV and VJ
- Appendices for (Utiilty) Physical Assessments Reports for Fairfield found in Book 3
- Appendices for Storm Water Review Reports for all campuses found in Book 3 for FF, VV and VJ

Fairfield Infrastructure Cost Estimate

This is the opinion of probable construction costs for the Fairfield Infrastructure Improvements described in Book 1, starting on page 20.

Solano Community College District Master Plan - Fairfield campus
OPINION OF PROBABLE CONSTRUCTION COSTS

(Costs do not include: Bonding, Connection Fees, Plan Checking Fees, Agency Fees, or Permits)

	QUANTITY		DESCRIPTION	UNIT PRICE	TOTAL
A. STORM DRAINAGE FACILITIES (IN PLACE)					
1.	670	L.F.	Revome exisiting storm drian pipe	$50.00	$33,500
2.	2	EA.	D.I., Turning Structure, Catch Basins	$3,000.00	$6,000
3.	185	L.F.	15" HDPE (Incl. Bedding and Backfill)	$125.00	$23,125
4.	630	L.F.	18" HDPE (Incl. Bedding and Backfill)	$125.00	$78,750
5.	683	L.F.	30" HDPE (upsized from 21")	$150.00	$102,450
6.	750	L.F.	36" HDPE (upsized from 30")	$160.00	$120,000
				Subtotal - Storm Drainage Facilities:	$363,825
B. SANITARY SEWER FACILITIES (IN PLACE)					
1.	650	L.F.	Remove existing sanitary sewer pipe	$55.00	$35,750
2	440	L.F.	4" Lateral (PVC)	$100.00	$44,000
3.	80	L.F.	8" Main (upsized from 6")	$140.00	$11,200
3.	825	L.F.	12" Main (upsized from 10")	$150.00	$123,750
4.	4	EA.	Manhole	$3,000.00	$12,000
				Subtotal - Sanitary Sewer Facilities:	$226,700
C. DOMESTIC WATER FACILITIES (Including Valves & Fittings) (IN PLACE)					
1.	600	L.F.	Remove existing water line	$40.00	$24,000
2.	288	L.F.	1.5" Service	$75.00	$21,600
3.	70	L.F.	3" Service	$85.00	$5,950
4.	720	L.F.	8" P.V.C.	$110.00	$79,200
				Subtotal - Water Facilities:	$130,750
D. FIRE WATER FACILITIES (Including Valves & Fittings) (IN PLACE)					
1.	6	EA.	Fire Service (incl. lateral, DCV, FDC, & PIV)	$15,000.00	$90,000
2.	300	L.F.	10" P.V.C.	$120.00	$36,000
3.	2	EA.	Fire Hydrant	$2,500.00	$5,000
				Subtotal - Water Facilities:	$131,000

SUMMARY

A.	STORM DRAINAGE FACILITIES (IN PLACE)		$363,825
B.	SANITARY SEWER FACILITIES (IN PLACE)		$226,700
C.	DOMESTIC WATER FACILITIES		$130,750
D.	FIRE WATER FACILITIES		$131,000
	SUBTOTAL CONSTRUCTION COST		$852,275
	+ CONSTRUCTION CONTINGENCY	15%	$127,841
	TOTAL CONSTRUCTION COSTS		$980,116.25

NOTES:

1 This estimate does not include specific items which may be required by public agencies during the approval process.

2 This estimate should be used as a guide only for Master Plan purposes. Actual cost can only be determined by a based on final approved plans or actual construction of facilities.

3 The estimate above is based on the UTILITY MASTER PLAN REPORT for the Fairfield campus, prepared by CSW/Stuber-Stroeh Engineering Group, Inc., and dated February 19th 2014, as requested by Solano Community College District

Vacaville Infrastructure Cost Estimate

This is the opinion of probable construction costs for the Fairfield Infrastructure Improvements described in Book 1, starting on page 37.

Solano Community College District Master Plan - Vacaville campus
OPINION OF PROBABLE CONSTRUCTION COSTS

(Costs do not include: Bonding, Connection Fees, Plan Checking Fees, Agency Fees, or Permits)

	QUANTITY		DESCRIPTION	UNIT PRICE	TOTAL
A. STORM DRAINAGE FACILITIES (IN PLACE)					
1.	800	L.F.	Revome exisiting storm drian pipe	$50.00	$40,000
2.	7	EA.	D.I., Turning Structure, Catch Basins	$3,000.00	$21,000
3.	350	L.F.	15" HDPE (Incl. Bedding and Backfill)	$125.00	$43,750
4.	150	L.F.	18" HDPE (upsized from 15")	$130.00	$19,500
4.	1,010	L.F.	24" HDPE (Incl. Bedding and Backfill)	$120.00	$121,200
5.	210	L.F.	30" HDPE (Incl. Bedding and Backfill)	$150.00	$31,500
6.	300	L.F.	36" HDPE (Incl. Bedding and Backfill)	$160.00	$48,000
6.	820	L.F.	48" HDPE (Incl. Bedding and Backfill)	$160.00	$131,200
				Subtotal - Storm Drainage Facilities:	$456,150
B. SANITARY SEWER FACILITIES (IN PLACE)					
1.	340	L.F.	Remove existing sanitary sewer pipe	$55.00	$18,700
2	615	L.F.	6" Main (PVC)	$100.00	$61,500
3.	1,170	L.F.	8" Main (PVC)	$120.00	$140,400
4.	210	L.F.	12" Main (PVC)	$150.00	$31,500
5.	200	L.F.	12" Main (upsized from 8")	$150.00	$30,000
6.	8	EA.	Manhole	$3,000.00	$24,000
				Subtotal - Sanitary Sewer Facilities:	$306,100
C. DOMESTIC WATER FACILITIES (Including Valves & Fittings) (IN PLACE)					
1.	1	EA.	New Back flow assembly and meter	$10,000.00	$10,000
2.	320	L.F.	3" Service (assumed 40 lf per building)	$85.00	$27,200
3.	3,400	L.F.	8" P.V.C.	$90.00	$306,000
				Subtotal - Water Facilities:	$343,200
D. FIRE WATER FACILITIES (Including Valves & Fittings) (IN PLACE)					
1.	8	EA.	Fire Service (incl. lateral, DCV, FDC, & PIV)	$15,000.00	$120,000
2.	8	EA.	Fire Hydrant	$2,500.00	$20,000
				Subtotal - Water Facilities:	$140,000

SUMMARY

A.	STORM DRAINAGE FACILITIES (IN PLACE)		$456,150
B.	SANITARY SEWER FACILITIES (IN PLACE)		$306,100
C.	DOMESTIC WATER FACILITIES		$343,200
D.	FIRE WATER FACILITIES		$140,000
	SUBTOTAL CONSTRUCTION COST		$1,245,450
	+ CONSTRUCTION CONTINGENCY	15%	$186,818
	TOTAL CONSTRUCTION COSTS		$1,432,267.50

NOTES:

1 This estimate does not include specific items which may be required by public agencies during the approval process.

2 This estimate should be used as a guide only for Master Plan purposes. Actual cost can only be determined by a based on final approved plans or actual construction of facilities.

3 The estimate above is based on the UTILITY MASTER PLAN REPORT for the Vallejo campus, prepared by CSW/Stuber-Stroeh Engineering Group, Inc., and dated February 19th 2014, as requested by Solano Community College District

Vallejo Infrastructure Cost Estimate

This is the opinion of probable construction costs for the Fairfield Infrastructure Improvements described in Book 1, starting on page 54.

Solano Community College District Master Plan - Vallejo campus
OPINION OF PROBABLE CONSTRUCTION COSTS

(Costs do not include: Bonding, Connection Fees, Plan Checking Fees, Agency Fees, or Permits)

	QUANTITY		DESCRIPTION	UNIT PRICE	TOTAL
A. STORM DRAINAGE FACILITIES (IN PLACE)					
1.	70	L.F.	Revome exisiting storm drian pipe	$50.00	$3,500
2.	1	EA.	D.I., Turning Structure, Catch Basins	$3,000.00	$3,000
3.	160	L.F.	Trench Drain	$25.00	$4,000
4.	85	L.F.	3" Sidewalk Underdrain	$50.00	$4,250
5.	130	L.F.	10" HDPE (Incl. Bedding and Backfill)	$100.00	$13,000
				Subtotal - Storm Drainage Facilities:	$27,750
B. SANITARY SEWER FACILITIES (IN PLACE)					
1.	85	L.F.	Remove existing sanitary sewer pipe	$55.00	$4,675
2	415	L.F.	6" Main (PVC)	$100.00	$41,500
3.	2	EA.	Manhole	$3,000.00	$6,000
				Subtotal - Sanitary Sewer Facilities:	$52,175
C. DOMESTIC WATER FACILITIES (Including Valves & Fittings) (IN PLACE)					
1.	420	L.F.	Remove existing abandoned water line	$50.00	$21,000
2.	550	L.F.	4" Service	$85.00	$46,750
				Subtotal - Water Facilities:	$67,750
D. FIRE WATER FACILITIES (Including Valves & Fittings) (IN PLACE)					
1.	1	EA.	Fire Service (incl. lateral, DCV, FDC, & PIV)	$15,000.00	$15,000
2.	1	EA.	Fire Hydrant	$2,500.00	$2,500
				Subtotal - Water Facilities:	$17,500

SUMMARY

A.	STORM DRAINAGE FACILITIES (IN PLACE)		$27,750
B.	SANITARY SEWER FACILITIES (IN PLACE)		$52,175
C.	DOMESTIC WATER FACILITIES		$67,750
D.	FIRE WATER FACILITIES		$17,500
	SUBTOTAL CONSTRUCTION COST		$165,175
	+ CONSTRUCTION CONTINGENCY	15%	$24,776
	TOTAL CONSTRUCTION COSTS		$189,951.25

NOTES:

1 This estimate does not include specific items which may be required by public agencies during the approval process.

2 This estimate should be used as a guide only for Master Plan purposes. Actual cost can only be determined by a based on final approved plans or actual construction of facilities.

3 The estimate above is based on the UTILITY MASTER PLAN REPORT for the Vallejo campus, prepared by CSW/Stuber-Stroeh Engineering Group, Inc., and dated February 19th 2014, as requested by Solano Community College District

Storm Water Management Program Appendix

This is the Appendix to the Storm Water Management Program Document that appears in Book 1, page 145.

APPENDIX A

Comparison of SWMP to Phase II MS4 Permit-Non Traditional Requirements

SCCD SWMP BMPs compared to Statewide Phase II MS4 Permit Requirements for Non-Traditional MS4's (Permit Section F)

SCCD SWMP BMP's	F.5.a Program Management	F.5.b.1 Compliance Participation Options	F.5.b.2 Public Education and Outreach	F.5.b.3 Staff and Site Operator Training and Education: Illicit Discharge Detection and Elimination	F.5.b.4 Staff Pollution Prevention and Good Housekeeping	F.5.c Public Involvement and Participation Program	F.5.d.1 Outfall Mapping	F.5.d.2Field Sampling to Detect Illicit Discharges	F.5.d.3 Illicit Discharge Detection and Elimination Source Investigations and Corrective Actions	F.5.e Construction Site Runoff Control Program	F.5.f.1 Inventory of Permittee-Owned or Operated Facilities	F.5.f.2 Map of Permittee-Owned or Operated Facilities	F.5.f.3 Facility Assessment	F.5.f.4 Storm Water Pollution Prevention Plans	F.5.f.5 Inspections, Visual Monitoring and Remedial Action	F.5.f.6 Storm Drain Assessment and Prioritization	F.5.f.7 Maintenance of Strom Drain System	F.5.f.8 Permittee Operations and Maintenance Activities	F.5.f.9 Pesticide, Herbicide, and Fertilizer Application and New Landscape Design and Maintenance	F.5.g.1 Site Design Measures	F.5.g.2 Low Impact Development (LID) Design Standards	F.5.g.3 Alternative Post-Construction Storm Water Management Program	F.5.g.4 O & M of Post-Construction Storm Water Management Measures	F.5.h.1 Program Effectiveness Assessment and Improvement	F.5.h.2 Storm Water Program Modifications	F.5.i Total Maximum Daily Loads Compliance Requirements	F.5.j Online Annual Reporting
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SCCD SWMP BMPs compared to Statewide Phase II MS4 Permit Requirements for Non-Traditional MS4's (Permit Section F)

SCCD SWMP BMP's	F.5.a Program Management	F.5.b.1 Compliance Participation Options	F.5.b.2 Public Education and Outreach	F.5.b.3 Staff and Site Operator Training and Education: Illicit Discharge Detection and Elimination	F.5.b.4 Staff Pollution Prevention and Good Housekeeping	F.5.c Public Involvement and Participation Program	F.5.d.1 Outfall Mapping	F.5.d.2Field Sampling to Detect Illicit Discharges	F.5.d.3 Illicit Discharge Detection and Elimination Source Investigations and Corrective Actions	F.5.e Construction Site Runoff Control Program	F.5.f.1 Inventory of Permittee-Owned or Operated Facilities	F.5.f.2 Map of Permittee-Owned or Operated Facilities	F.5.f.3 Facility Assessment	F.5.f.4 Storm Water Pollution Prevention Plans	F.5.f.5 Inspections, Visual Monitoring and Remedial Action	F.5.f.6 Storm Drain Assessment and Prioritization	F.5.f.7 Maintenance of Strom Drain System	F.5.f.8 Permittee Operations and Maintenance Activities	F.5.f.9 Pesticide, Herbicide, and Fertilizer Application and New Landscape Design and Maintenance	F.5.g.1 Site Design Measures	F.5.g.2 Low Impact Development (LID) Design Standards	F.5.g.3 Alternative Post-Construction Storm Water Management Program	F.5.g.4 O & M of Post-Construction Storm Water Management Measures	F.5.h.1 Program Effectiveness Assessment and Improvement	F.5.h.2 Storm Water Program Modifications	F.5.i Total Maximum Daily Loads Compliance Requirements	F.5.j Online Annual Reporting
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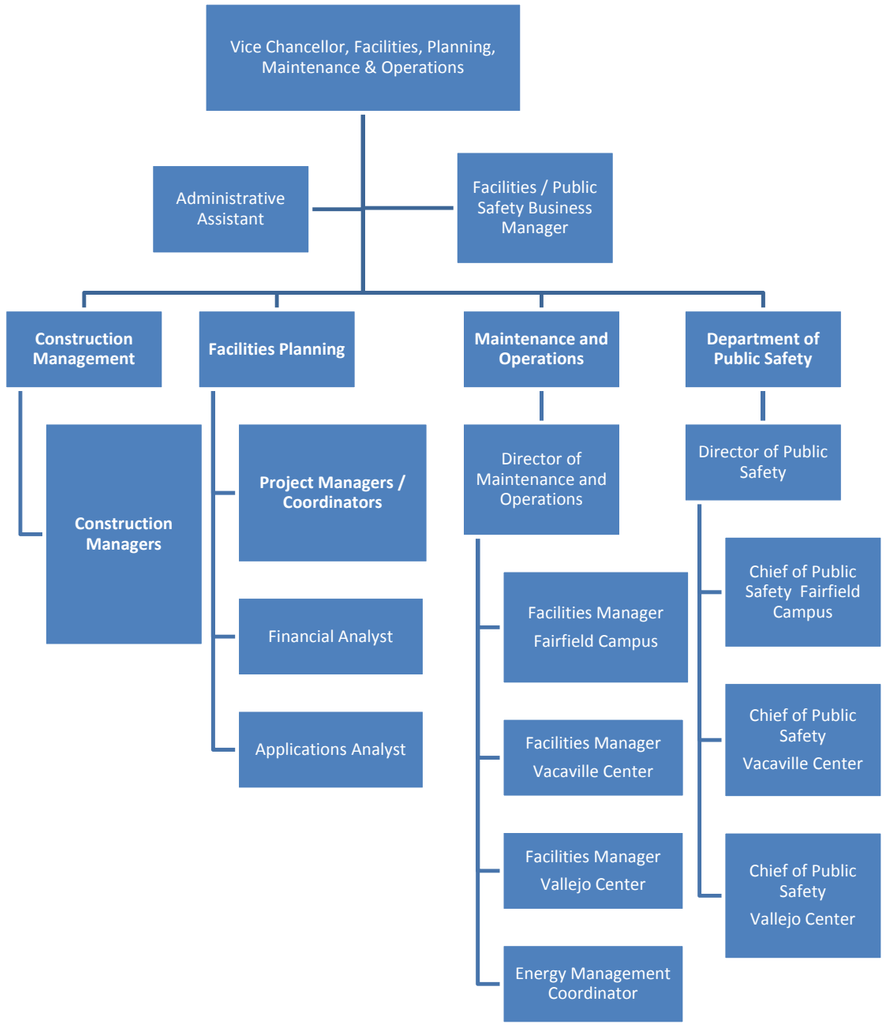
APPENDIX B
Organization Chart

Solano Community College District



APPENDIX C
Vicinity Map – SCCD Campus Locations

Appendix D

Overall Drainage Patterns and Locations of Discharge to Downstream MS4's

Appendix E

Storm Drain Inlet and Outfall Location Maps

Storm Drain Inlet and Outfall Inspection Sheets

SOLANO COMMUNITY COLLEGE

Storm Drain
Inlet / Manhole / Outfall / Discharge Location
Visual Inspection Sheet for Illicit Discharge and Condition

Section 1: Background Data		Structure/Location Type (More than one may be checked):			
Date:	Time:	☐	☐	☐	☐
Inspector:					
Structure/Outfall ID:		Inlet	Manhole or Turning Structure	Outfall End of Pipe System	Connection To Offsite System

Section 2: Environmental Conditions							
Weather Condition:	☐ Clear	☐ Partly Cloudy	☐ Cloudy	☐ Foggy			
Precipitation Condition:	☐ Dry	☐ Misty	☐ Light Rain	☐ Rain	☐ Heavy Rain	☐ Hail	☐ Snow
Recent Precipitation Condition:	Time Elapsed Since Last Storm:		Precipitation Amount from Last Storm: inches				

Section 3: Storm Drain System Conditions					
Inlet / Manhole / Turning Structure:			**Outfall:**		
Submerged in Water?			Submerged with Water?		
☐ No	☐ Partially	☐ Full	☐ No	☐ Partially	☐ Full
Submerged with Sediment or Debris?			Submerged with Sediment or Debris?		
☐ No	☐ Partially	☐ Full	☐ No	☐ Partially	☐ Full
Structural Condition / Condition of Surrounding Area:					
☐ Excellent Condition	☐ Curb Damage	☐ Missing Lid or Grate	☐ New Erosion	☐ Crack in Structure	☐ Structure is Sinking
☐ Pipe is Damaged	☐ Pipe is Crushed	☐ Pipe is Dislocated	☐ Holes in Pipe	☐ Pipe Bottom is Gone	☐ Pipe is Sinking
Notes:					

Section 4: Physical Indicators of Illicit Discharge for Flowing and Non-Flowing Conditions			Structure/Outfall ID:	Date:
Are Physical Indicators that are not related to flow present? ☐ Yes ☐ No			(If No, Skip this Section)	
Indicator	**Check if Present**	**Description**		**Comments**
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion		
Deposits / Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:		
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited		
Poor Pool Quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:		
Pipe Benthic Growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:		

Section 5: Flow Characterization				
Flow Present?	☐ Yes	☐ No (If No, Go to Section 8.)	Flow Description	☐ Trickle ☐ Moderate ☐ Substantial
Field Data for Flowing Outfalls				
Parameter		Result	Unit	Equipment
☐ Flow #1	Volume		Liter	Bottle
	Time to Fill		Seconds	Stop watch
☐ Flow #2	Flow Depth		Inches	Tape measure
	Flow Width	_____ Feet Inches	Feet, Inches	Tape measure
	Measured Length	_____ Feet Inches	Feet, Inches	Tape measure
	Time of Travel		Seconds	Tape measure
Temperature			°F	Thermometer
pH			pH Units	Test strip / Probe
Ammonia			mg/L	Test strip

Section 6: Physical Indicators of Illicit Discharge for Flowing Conditions Only			Structure/Outfall ID:	Date:
Are Any Physical Indicators Present in the Flow? ☐ Yes ☐ No (If No, Go to Section 8.)				
Indicator	**Check if Present**	**Description**	**Relative Severity Index**	
Odor	☐	☐ Sewage ☐ Rancid/Sour ☐ Petroleum/Gas ☐ Sulfide ☐ Other:	☐ 1 - Faint	☐ 2 – Easily Detected ☐ 3 – Noticeable from a Distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 - Faint Colors in Sample Bottle	☐ 2 – Clearly Visible in Sample Bottle ☐ 3 – Clearly Visible in Outfall Flow
Turbidity	☐	See Severity	☐ 1 – Slight Cloudiness	☐ 2 – Cloudy ☐ 3 – Opaque
Floatables (Does Not Include Trash)	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (Oil Sheen) ☐ Other:	☐ 1 – Few/Slight; Origin Not Obvious	☐ 2 – Some; Indications of Origin (e.g., Possible Suds or Oil Sheen) ☐ 3 – Some; Origins Clear (e.g., Obvious Oil Sheen, Suds or Floating Sanitary Materials)

Section 7: Overall Characterization for Illicit Discharge			
☐ Unlikely to be an Illicit Discharge	☐ Potential (presence of 2 or more indicators)	☐ Suspect (one or more indicators with a Relative Severity Index of 3)	☐ Obvious

Section 8: Action			
Photos? ☐ Yes ☐ No			
☐ No Action Necessary		☐ Next Scheduled Visit is During Yearly Inspection	
☐ Address in Scheduled Routine Maintenance		☐ Add to Schedule for Maintenance or Repair	
☐ Source of Illicit Discharge is Known		☐ Source or Type of Illicit Discharge is Unknown	
Sample for Lab? ☐ Yes ☐ No	If Yes, collected from: ☐ Flow ☐ Pool	Intermittent Flow Trap Set? ☐ Yes ☐ No	If Yes, type: ☐ OBM ☐ Caulk Dam

Notes:

Resources

Low Impact / Sustainable / High Performing Development:

Local Water Pollution Prevention Program (SWPPP)
http://www.flowstobay.org/bs_new_development.php - C.3 Stormwater Technical Guidance

California Stormwater Quality Association (CASQA)
http://www.cabmphandbooks.com/ - Stormwater Best Management Practice (BMP) Handbook for New Development and Redevelopment

California Stormwater Quality Association (CASQA)
http://www.casqa.org/LID/tabid/240/Default.aspx - California LID Portal

United States Environmental Protection Agency (US EPA)
http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm -National Menu of Stormwater Best Management Practices

US Green Building Council – Leadership in Energy & Environmental Design
http://www.usgbc.org/leed

Collaborative for High Performance Schools (CHPS)
http://www.chps.net/dev/Drupal/

Construction:

California Stormwater Quality Association (CASQA)
http://www.casqa.org/LeftNavigation/ConstructionBMPHandbookPortalSWPPPTemplate/tabid/200/Default.aspx - CASQA BMP Handbooks Portal (subscription required to view)

United States Environmental Protection Agency (US EPA)
http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm -National Menu of Stormwater Best Management Practices

Illicit Discharge Detection and Elimination:

United States Environmental Protection Agency (US EPA)
http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min_measure&min_measure_id=3

Landscaping:

Bay-Friendly Landscaping & Gardening Coalition
http://www.bayfriendlycoalition.org/ - non-profit program developed in Alameda County by StopWaste.Org
Resources include, not limited to:
-Bay Friendly Qualified Professional training (Including for municipal maintenance workers. Seven-session class with written exam. Need to renew every two years with 4 CEUs.
-webpage on tools and resources for Municipalities and Landscape Professionals
-sample language for RFP's
-model Policies and Ordinances
-Bay Friendly Landscape Scorecard
-Resources
-Potential Campus Event – Sponsor a Bay-Friendly Training

EcoWise
http://www.ecowisecertified.org/index.html - Certification program, which is a project of the Association of Bay Area Governments, funded by the **SWRCB**, focused for professionals to provide effective, prevention-based pest control, minimizing the need to use pesticides.
Resources include, not limited to:
-List of Certified IPM Service Providers
-Online Course through BIRC
-EcoWise IPM Contracting Tool Kit http://www.ecowisecertified.org/toolkit/ For Public Agencies and Businesses.

Bio-Integral Resource Center (BIRC)
http://www.birc.org/index.html - specializes in finding non-toxic and least-toxic integrated pest management solutions to urban and agricultural pest problems.
Resources include, not limited to:
-journals
-EcoWise Certification

Our Water Our World
http://www.ourwaterourworld.org/Home.aspx - Collaboration among regional and local water agencies in the SF Bay Area, managing home and garden pests in a way that helps protect water.
Resources include, not limited to:
-ask an expert feature
-Healthy gardening workshops to educate the general public about healthy gardening. Workshops and seminars are held in various communities.
-Promotional Materials
-Potential Campus Event – Sponsor a Healthy Gardening Workshop (Marin County Stormwater Pollution Prevention Program workshop table of contents http://www.ourwaterourworld.org/Portals/0/documents/pdf/Healthy-GardensTOC.pdf)

UC IPM Online
Resources include, not limited to:
http://www.ipm.ucdavis.edu/index.html - IPM resource
http://www.ipm.ucdavis.edu/training/ - Free online training on IPM topics

Recycle / Disposal:

CalRecycle
http://www.calrecycle.ca.gov/
California's Department of Resources Recycling and Recovery
Resources include, but are not limited to:
-Recycling Information for many materials including medication waste, construction and demolition debris and electronics
-Information for recycling and waste prevention at home
-Information for Teachers and Kids

Recycle Works
http://www.recycleworks.org/business/index.html
Solano County – Public Works Department Program
Resources include, but are not limited to:
-composting workshops
-links to cooking oil recycling

StopWaste.Org
http://www.stopwaste.org/home/index.asp?page=1 – Alameda County Waste Management Authority and the Alameda County Source Reduction and Recycling Board operating as one public agency.

Outreach and Community-Based Social Marketing:

United States Environmental Protection Agency (US EPA)
http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min_measure&min_measure_id=1 – Public Education and Outreach on Stormwater Impacts

United States Environmental Protection Agency (US EPA)
http://cfpub.epa.gov/npstbx/index.html - Nonpoint Source (NPS) Outreach Toolbox

Fostering Sustainable Behavior
http://www.cbsm.com/public/world.lasso - Site courtesy of Doug McKenzie-Mohr, Ph.D. – Environmental Psychologist

Education and Storm Water Awareness:

SWRCB / RWQCB Videos
http://www.waterboards.ca.gov/videos/ - approximately 20 videos regarding storm water issues. A few are produced with Spanish subtitles.

Bay Area Stormwater Management Agencies Association (BASMAA)
http://www.basmaa.org/Portals/0/documents/pdf/Pollution%20from%20Surface%20Cleaning.pdf – Pollution from Surface Cleaning (Brochure in English)

http://www.basmaa.org/LinkClick.aspx?fileticket=MoNchH7u%2flE%3d&tabid=57 – Pollution from Surface Cleaning (Brochure in Spanish)

http://www.basmaa.org/Training.aspx - Pollution Prevention Training and Certificate Program for Surface Cleaners

Resources for Internal Inspector/Manager Training

Local Water Pollution Prevention Program
http://www.flowstobay.org/

(keep an eye on San Francisco Bay Area storm water programs for free/low cost seminars, some of which offer continuing education credits/hours)

Certified Municipal Separate Storm Sewer System Specialist
http://www.cms4s.org/

Certified Erosion, Sediment and Storm Water Inspector (CESSWI)
http://www.cesswi.org/

CASQA Training and Education Program
https://www.casqa.org/TrainingandEducation/tabid/201/Default.aspx

StormwaterONE
http://stormwaterone.com/

National Stormwater Center
https://www.npdes.com/

ACOE	United States Army Corps of Engineers
ASF	Automotive Service Facility
BMP	Best Management Practice
CalEPA	California Environmental Protection Agency
CAO	County Administrator's Office
CBC	California Building Code
CEQA	California Environmental Quality Act
County	County of Solano
CPESC	Certified Professionals in Erosion and Sediment Control
CUPA	Certified Unified Program Agency
CURFFL	California Uniform Retail Food Facilities Law
DES	Department of Emergency Services California
DFG	Department of Fish and Game
DI	Depth-integrated
EDC	Environmental Discovery Center
EH	Department of Health Services/ Environmental Health Division
EPA	Unites States Environmental Protection Agency
FMC	Facilities Maintenance Center
FM	Facilities Manager
FPO	Facilities Planning and Operations
HMBP	Hazardous Materials Business Plan
LID	Low Impact Development

MS4 General Permit	General Permit for Storm Water Discharges from Small Municipal Separate Storm Sewers
MCM	Minimum Control Measure
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer
MtBE	Methyl t-Butyl Ether
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NOI	Notice of Intent
NTU	Nephelometric Turbidity Units
PPP	Pollution Prevention Program
RGO	Retail Gasoline Outlet
RMP	Regional Monitoring Program
RWQCB	Regional Water Quality Control Board (of California)
Region 2	Region Number for the San Francisco Bay Regional Water Quality Control Board
SAC	Supervised Adult Crews
SCC	Solano County Code
SEMS	Standardized Emergency Management System
SFEI	San Francisco Estuary Institute
SCCD	Solano County College District
SSC	Suspended Sediment Concentration
State Board	California State Water Resources Control Board
SWAMP	Surface Water Ambient Monitoring Program
SWMP	Storm Water Management Program
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
SWWG	Storm Water Working Group
TMDL	Total Maximum Daily Load
TPW	Department of Transportation and Public Works
USGS	United States Geological Survey

At the Point of Discharge(s) – At the point where runoff is discharged from the District MS4 into a municipal MS4. Also the point where runoff exits a pipe.

Beneficial Uses - The Uses of water of the State protected against degradation, such as domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation and preservation of fish and wildlife, and other aquatic resources or preserves.

Benthic – An adjective used to associate an activity, an occurrence or an organism to the bottom of a body of water.

Best Management Practices (BMPs) - means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment measures, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Catch Basin - A catch basin (a.k.a., storm drain inlet) is an inlet to the storm drain system that typically includes a grate or curb inlet where storm water enters the catch basin and a sump to capture sediment, debris and associated pollutants. Catch basins act as pretreatment for other treatment practices by capturing large sediments. The performance of catch basins at removing sediment and other pollutants depends on the design of the catch basin (e.g., the size of the sump), and routine maintenance to retain the storage available in the sump to capture sediment. Commonly, the term "catch basin" also refers to those inlets which are designed to capture runoff, but not designed to capture sediment.

Clean Water Act (CWA) - means the Federal Water Pollution Control Act enacted by Public Law 92-500 as amended by Public Laws 95-217, 95-576, 96-483, and 97-117; 33 USC. 1251 et seq.

Community Based Social Marketing (CBSM) - A systematic way to change the behavior of communities to reduce their impact on the environment. Realizing that simply providing information is usually not sufficient to initiate behavior change, CBSM uses tools and findings from social psychology to discover the perceived barriers to behavior change and ways of overcoming these barriers.

Construction Site - Any project, including projects requiring coverage under the General Construction Permit, that involves soil disturbing activities including, but not limited to, clearing, grading, paving, and disturbances to ground such as stockpiling, and excavation.

[5] Definitions in the Glossary are taken in part from documents produced by the State Water Resources Control Board for the Industrial General Permit, the Phase II Small Municipal Separate Storm Sewer System (MS4) Program and Construction Storm Water Program. Some definitions were modified to suit activities and facilities within the Solano Community College District. http://www.swrcb.ca.gov/water_issues/programs/stormwater/

Discharge of a Pollutant - The addition of any pollutant or combination of pollutants to waters of the United States from any point source.

Erosion - The physical detachment of soil due to wind or water. Often the detached fine soil fraction becomes a pollutant transported storm water runoff. Erosion occurs naturally, but can be accelerated by land disturbance and grading activities such as farming, development, road building, and timber harvesting.

Erosion Control Measures – Measures used to minimize soil detachment. These may include: Vegetation, either undisturbed or planted (e.g., grasses, wildflowers), and other materials, such as straw (applied over bare soil, crimped into soil); protective erosion control blankets; fiber (applied as mulch or hydromulch); and mulch.

Healthy Watershed - Healthy watersheds are watersheds that function well ecologically and are sustainable. They support healthy, diverse aquatic habitat, have healthy riparian areas and corridors with sufficient vegetative buffer area to minimize land pollutant runoff into surfaces waters, sufficient cover and canopy to maintain healthy habitat, and have near natural levels of sediment transport. Surface waters meet water quality objectives, and sediments are sufficiently low in pollutants to provide for healthy habitat. Groundwaters are near natural levels in quantity and quality, for water supply purposes and for base flow for sustaining creek habitat and migratory fish routes. A Healthy Watershed sustains these characteristics through measures that ensure the dynamics that provide these healthy factors and functions are protected. For example, watersheds must be protected, through low impact development or other forms of protection, from hydromodification that adversely affects recharge areas' function or creeks' bed or bank stability. Creek buffer/riparian areas must be protected from land disturbance activities. Healthy sustainable watersheds use less energy for imported water, have fewer greenhouse gas emissions, and a lesser carbon footprint than unhealthy watersheds.

Hotspot - Hotspots are specific operations and areas in a sub watershed that may generate high storm water pollution. Hotspots are high priority sites.

Hydromodification - Modification of hydrologic pathways (precipitation, surface runoff, infiltration, groundwater flow, return flow, surface-water storage, groundwater storage, evaporation and transpiration) that results in negative impacts to watershed health and functions.

Illicit Discharge - Any discharge to a municipal separate storm sewer (storm drain) system (MS4) that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term illicit discharge includes all non-storm water discharges not composed entirely of storm water. The term illicit discharge does not include discharges that are regulated by an NPDES permit.

Impaired Waterbody - A waterbody (i.e., stream reaches, lakes, waterbody segments) with chronic or recurring monitored violations of the applicable numeric and/or narrative water quality criteria. An impaired water is a water that has been listed on the California 303(d) list or has not yet been listed but otherwise meets the criteria for listing. A waterbody is a portion of a surface water of the state, including ocean, estuary, lake, river, creek, or wetland. The water currently may not be meeting state water quality standards or may be determined to be threatened and have the

potential to not meet standards in the future. The State of California's 303(d) list can be found at http://www.swrcb.ca.gov/quality.html.

Impervious Surface - A surface covering or pavement of a developed parcel of land that prevents the land's natural ability to absorb and infiltrate rainfall/storm water. Impervious surfaces include, but are not limited to; roof tops, walkways, patios, driveways, parking lots, storage areas, impervious concrete and asphalt, and any other continuous watertight pavement or covering. Landscaped soil and pervious pavement, including pavers with pervious openings and seams, underlain with pervious soil or pervious storage material, such as a gravel layer sufficient to hold the specified volume of rainfall runoff are not impervious surfaces.

Integrated Pest Management (IPM) – a management strategy for the growth of vegetation which incorporates strategies of plant production and less-toxic pest management suited for the available environment and to protect beneficial uses of the surrounding habitat.

Low Impact Development – A sustainable practice that benefits water supply and contributes to water quality protection. Unlike traditional storm water management, which collects and conveys storm water runoff through storm drains, pipes, or other conveyances to a centralized storm water facility, Low Impact Development (LID) takes a different approach by using site design and storm water management to maintain the site's pre-development runoff rates and volumes. The goal of LID is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source of rainfall. LID has been a proven approach in other parts of the country and is seen in California as an alternative to conventional storm water management.

Maximum Extent Practicable (MEP) - The minimum required performance standard for implementation of municipal storm water management programs to reduce pollutants in storm water. MEP is the cumulative effect of implementing, evaluating, and making corresponding changes to a variety of technically appropriate and economically feasible BMPs, ensuring that the most appropriate controls are implemented in the most effective manner. This process of implementing, evaluating, revising, or adding new BMPs is commonly referred to as the iterative process.

Minimum Control Measure – Practices or behaviors related to a specific topic which can be structured and modified to guide a targeted audience to protect storm water runoff.

Municipal Separate Storm Sewer System (MS4) - The regulatory definition of an MS4 (40 CFR 122.26(b)(8)) is "a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) owned or operated by a state, city, town, borough, county, parish, district, association, or other public body created to or pursuant to state law.

National Pollutant Discharge Elimination System (NPDES) - A national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the CWA.

New Development - New Development means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision on an area that has not been previously developed.

Non-Storm Water Discharge - means any discharge to storm sewer systems that is not composed entirely of storm water.

Non-Traditional Small MS4 - Federal and State operated facilities that can include universities, prisons, hospitals, military bases (e.g. State Army National Guard barracks, parks and office building complexes.)

Notice of Intent (NOI) - The application form by which dischargers seek coverage under General Permits, unless the General Permit requires otherwise.

Nuisance - Anything that meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; (3) occurs during, or as a result of, the treatment or disposal of wastes.

Open Channel - Flow within a distinct natural or modified channel, calculated as flow velocity times channel cross-sectional area.

Outfall - The point where the District municipal separate storm sewer discharges into an offsite municipal separate storm sewer system or outside of the jurisdiction of the District. Alternatively, the point where water discharges from a component of the District storm sewer system.

Parking Lot - Land area or facility for the parking or storage of motor vehicles.

Pathogen – an organism which causes disease.

Pervious Pavement - Pavement that stores and infiltrates rainfall at a rate that exceeds conventional pavement.

Pesticides – Terms Associated with;

Organophosphorous Pesticides (chlorpyrifos, diazinon, and malathion)

Pyrethroids (bifenthrin, cyfluthrin, beta-cyfluthrin, cypermethrin, deltamethrin, esfenvalerate, lambda-cyhalothrin, permethrin, and tralomethrin)

Carbamates (carbaryl)

Fipronil

Point Source - Any discernible, confined, and discrete conveyance including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operations, landfill leachate collection systems, vessel, or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

Pollutant - Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 *et seq.*)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

Pollutants of Concern - Pollutants of concern found in urban runoff include sediments, non-sediment solids, nutrients, pathogens, oxygen-demanding substances, petroleum hydrocarbons, heavy metals, floatables, polycyclic aromatic hydrocarbons (PAHs), trash, and pesticides and herbicides.

Pollution - An alteration of the quality of the waters of the state by waste to a degree which unreasonably affects the beneficial uses of the water or facilities which serve those beneficial uses.

Receiving Water – Surface water that receives regulated and unregulated discharges from activities on land.

Redevelopment - Land-disturbing activity that results in the creation, addition, or replacement of exterior impervious surface area on a site on which some past development has occurred. Redevelopment does not include trenching, excavation and resurfacing associated with LUPs; pavement grinding and resurfacing of existing roadways; construction of new sidewalks, pedestrian ramps, or bike lanes on existing roadways; or routine replacement of damaged pavement such as pothole repair or replacement of short, non-contiguous sections of roadway.

Riparian Areas – Plant communities contiguous to and affected by surface and subsurface hydrologic features of perennial or intermittent waterbodies. Riparian areas have one or both of the following characteristics: 1) distinctively different vegetative species than adjacent areas, and 2) species similar to adjacent areas but exhibiting more vigorous or robust growth forms. Riparian areas are usually transitional between wetland and upland.

Sediments - Solid particulate matter, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface either above or below sea level.

Sediment Control Measures – Measures used to trap and/or retain detached soil before discharging to receiving waters. These may include: fiber rolls (e.g., keyed-in straw wattles, compost rolls); silt fence; retention basins; and active treatment systems.

Sensitive Waterbody - Receiving waters which are a priority to protect. They include: 1) Areas of Special Biological Significance (ASBS), 2) areas providing or known to provide habitat for chinook and coho salmon and steelhead, and 3) beaches that serve more than 50,000 people between April 1 and October 31 and are adjacent to flowing storm drains or creeks.

Small MS4 – An MS4 that is not permitted under the municipal Phase I regulations, and which is "owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes.

Source Control - Land use or site planning practices, or structural or nonstructural measures, that aim to prevent runoff pollution by reducing the potential for contact with rainfall runoff at the source of pollution. Source control BMPs minimize the contact between pollutants and urban runoff.

Surface Drainage - Any above-ground runoff (sheet, shallow concentrated, and open channel) that flows into the storm drain system.

State Water Resources Control Board (SWRCB) – The State Water Resources Control Board's mission is to preserve, enhance and restore the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations. http://www.waterboards.ca.gov/about_us/

Storm Drain System - The basic infrastructure in a municipal separate storm sewer system that collects and conveys storm water runoff to a treatment facility or receiving water body.

Storm Water – Storm water is generated when precipitation from rain and snowmelt events flows over land or impervious surfaces and does not percolate into the ground. As storm water flows over the land or impervious surfaces, it accumulates debris, chemicals, sediment or other pollutants that could adversely affect water quality if the storm water is discharged untreated.

Storm Water Treatment System - Any engineered system designed to remove pollutants from storm water runoff by settling, filtration, biological degradation, plant uptake, media absorption/adsorption or other physical, biological, or chemical process. This includes landscape-based systems such as grassy swales and bioretention units as well as proprietary systems.

Structural Controls - Any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution.

Targeted Audience: Group(s) of people targeted to receive an educational message.

Time of Concentration – The time it takes the most hydraulically-remote drop of water to travel through the watershed to a specific point of interest.

Total Maximum Daily Loads (TMDLs) - The maximum amount of a pollutant that can be discharged into a waterbody from all sources (point and nonpoint) and still maintain water quality standards. Under CWA section 303(d), TMDLs must be developed for all waterbodies that do not meet water quality standards even after application of technology-based controls, more stringent

Appendix 8.1
– Sanitary Sewer Capacity Calculations

Sanitary Sewer

Design:

- Sanitary Sewer peak flow rates were determined using the following equation from City of Fairfield Engineering Design Standards:

$$Q = (Q_P \times PF) + {}^{I}/_{I}$$

Where: Q = Peak Flow Rate
Q_P = Average Daily Flow
PF = Peak Factor
I/I= Inflow and Infiltration

- I/I was taken as 4,000 Gallons per inch diameter mile per day from the City of Fairfield Engineering Design Standards.
- PF was assumed to be 2.0.
- Q_P was calculated based on occupancy of each building, with a flow rate of 20 gpd per student, taken from Table 4: Projected Daily Sewage Flow from the Solano County Sewage Standards.
- Utilized Hydraflow Storm Sewers for AutoCAD Civil 3D 2012 to hydraulically model the sanitary sewer systems. The starting HGL of the system outfall was taken as crown of pipe. Please note that Storm Sewers rounds known flows to the hundredths place as a result the total flows are slightly higher than the calculations due to rounding. Calculated Building Flows were applied to the nearest upstream manhole, service stubs were not modeled.
- Hydraulic Model was constructed utilizing the Solano College – Main Campus (Fairfield) Landmark Site, prepared by CSW|ST2. Note, that not all plan sets utilized the same datum, therefore inverts have been revised to match datum's.

Assumptions:

General Assumptions:

- Existing and Future available square footages (asf) were taken from a spreadsheet provided by SVT/ VBN.
- I/I was calculated and included in each building prorated for square footage.
- Occupancy was determined using square footage and an occupant load factor (OLF) of 50 square feet per occupant.

Existing Condition:

- Existing Condition peak flows are based on occupancy with a flow rate of 20 gpd per occupant.

Results and Recommendations:

Existing Condition:

The existing system has several under capacity sewer lines, one reverse flow sewer pipe, and one instance of a larger sewer line discharging into a smaller sewer line, see Exhibit S1. However, the hydraulic grade line remains more than 2 feet from the surface elevations, which is a standard practice freeboard. As such, the existing sewer system has sufficient capacity to convey the sewage loads at Solano College – Fairfield.

The existing sewer system has a number of pipes with minimal slope (0.3 %), which result in discharge velocities less than 2 feet per second (self-cleaning velocity). As such, it is recommended that the entire system be flushed annually.

Future Condition:

The existing system has several under capacity sewer lines, one reverse flow sewer pipe, and one instance of a larger sewer line discharging into a smaller sewer line, see Exhibit S2. The increase of sewage load on the existing system results in the hydraulic grade line rising to within 2 feet or less of finished grade, which is a standard practice freeboard. As such, the existing sewer system has insufficient capacity to convey the future condition sewage loads at the Solano College-Fairfield. However, upsize approximately 1,150 linear feet of 10-inch main to 12-inch results in the hydraulic grade line remaining more than 2 feet from the surface elevations. As such, the upsized sewer system would have sufficient capacity to convey the sewage loads at Solano College – Fairfield.

The existing sewer system has a number of pipes with minimal slope (0.3 %), which result in discharge velocities less than 2 feet per second (self-cleaning velocity). As such, it is recommended that the entire system be flushed annually.

Existing Condition Peak Flow Calculations

	Sanitary Sewer Flow Rates								
Existing Buildings	Area (sf)	No. of Occupant	gpd/ Occupant	Flow Rate (gpd)	Flow Rate (gph)*	Flow Rate (gpm)	Peaking Factor	Flow Rate (gpm)	Flow Rate (cfs)
Building 100	43999	880	20.0	17599.6	2200.0	36.7	2.0	73.3	0.163
Building 200	7837	157	20.0	3134.8	391.9	6.5	2.0	13.1	0.029
Building 201	1350	27	20.0	540.0	67.5	1.1	2.0	2.3	0.005
Building 300	17808	356	20.0	7123.2	890.4	14.8	2.0	29.7	0.066
Building 400	22295	446	20.0	8918.0	1114.8	18.6	2.0	37.2	0.083
Building 500	8624	172	20.0	3449.6	431.2	7.2	2.0	14.4	0.032
Building 600	9916	198	20.0	3966.4	495.8	8.3	2.0	16.5	0.037
Building 700	11788	236	20.0	4715.2	589.4	9.8	2.0	19.6	0.044
Building 800	13780	276	20.0	5512.0	689.0	11.5	2.0	23.0	0.051
Building 900	3769	75	20.0	1507.6	188.5	3.1	2.0	6.3	0.014
Bulding 1000	3556	71	20.0	1422.4	177.8	3.0	2.0	5.9	0.013
Building 1200	20008	400	20.0	8003.2	1000.4	16.7	2.0	33.3	0.074
Bulding 1300	10308	206	20.0	4123.2	515.4	8.6	2.0	17.2	0.038
Building 1400	23448	469	20.0	9379.2	1172.4	19.5	2.0	39.1	0.087
Bulding 1500	8773	175	20.0	3509.2	438.7	7.3	2.0	14.6	0.033
Building 1600	11443	229	20.0	4577.2	572.2	9.5	2.0	19.1	0.042
Building 1700	43551	871	20.0	17420.4	2177.6	36.3	2.0	72.6	0.162
Bulding 1800	32340	647	20.0	12936.0	1617.0	27.0	2.0	53.9	0.120
Building 1900	10361	207	20.0	4144.4	518.1	8.6	2.0	17.3	0.038
Central Plant	5396	108	20.0	2158.4	269.8	4.5	2.0	9.0	0.020
Portables A-E	7913	158	20.0	3165.2	395.7	6.6	2.0	13.2	0.029
Pool Mechanical	1356	27	20.0	542.4	67.8	1.1	3.0	3.4	0.008
Stadium	10432	209	20.0	4172.8	521.6	8.7	2.0	17.4	0.039
Total	330051	6601	20.0	132020.4	16502.6	275.0	2.0	551.2	1.228

* assumes 8 hour day

	Inflow/ Infiltration								Total Flow
Existing Buildings	Area (sf)	% Total Area	I/I Rate (g/in-mi/d)	Site I/I* (gpd)	I/I (gpd)	I/I** (gph)	I/I (gpm)	I/I (cfs)	Rate (cfs)
Building 100	43999	0.133	4000	7260	967.8	40.3	0.7	0.0015	0.165
Building 200	7837	0.024	4000	7260	172.4	7.2	0.1	0.0003	0.029
Building 201	1350	0.004	4000	7260	29.7	1.2	0.0	0.0000	0.005
Building 300	17808	0.054	4000	7260	391.7	16.3	0.3	0.0006	0.067
Building 400	22295	0.068	4000	7260	490.4	20.4	0.3	0.0008	0.084
Building 500	8624	0.026	4000	7260	189.7	7.9	0.1	0.0003	0.032
Building 600	9916	0.030	4000	7260	218.1	9.1	0.2	0.0003	0.037
Building 700	11788	0.036	4000	7260	259.3	10.8	0.2	0.0004	0.044
Building 800	13780	0.042	4000	7260	303.1	12.6	0.2	0.0005	0.052
Building 900	3769	0.011	4000	7260	82.9	3.5	0.1	0.0001	0.014
Bulding 1000	3556	0.011	4000	7260	78.2	3.3	0.1	0.0001	0.013
Building 1200	20008	0.061	4000	7260	440.1	18.3	0.3	0.0007	0.075
Bulding 1300	10308	0.031	4000	7260	226.7	9.4	0.2	0.0004	0.039
Building 1400	23448	0.071	4000	7260	515.8	21.5	0.4	0.0008	0.088
Bulding 1500	8773	0.027	4000	7260	193.0	8.0	0.1	0.0003	0.033
Building 1600	11443	0.035	4000	7260	251.7	10.5	0.2	0.0004	0.043
Building 1700	43551	0.132	4000	7260	957.9	39.9	0.7	0.0015	0.163
Bulding 1800	32340	0.098	4000	7260	711.3	29.6	0.5	0.0011	0.121
Building 1900	10361	0.031	4000	7260	227.9	9.5	0.2	0.0004	0.039
Central Plant	5396	0.016	4000	7260	118.7	4.9	0.1	0.0002	0.020
Portables A-E	7913	0.024	4000	7260	174.1	7.3	0.1	0.0003	0.030
Pool Mechanical	1356	0.004	4000	7260	29.8	1.2	0.0	0.0000	0.008
Stadium	10432	0.032	4000	7260	229.5	9.6	0.2	0.0004	0.039
Total	330051	1.000	4000	7260	7259.7	302.5	5.0	0.0112	1.239

* Assumes 6" Pipe Dia. & 8,005 LF Pipe ** Assumes 24 hour day

effluent limitations required by a state or local authority, and other pollution control requirements such as BMPs.

Toxicity – the degree to which a substance is toxic to animals or organisms.

Trash and Debris - Trash consists of litter and particles of litter. California Government Code Section 68055.1 (g) defines litter as all improperly discarded waste material, including, but not limited to, convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic and other natural and synthetic materials, thrown or deposited on the lands and waters of the state, but not including the properly discarded waste of the primary processing of agriculture, mining, logging, sawmilling, or manufacturing.

Treatment - Any method, technique, or process designed to remove pollutants and/or solids from polluted storm water runoff, wastewater, or effluent.

Urban Rural Interface - The urban/rural interface is identified as the geographical location at which urban land use and rural land use interact.

Urbanized Area - A densely settled core of census tracts and/or census blocks that have population of at least 50,000, along with adjacent territory containing non-residential urban land uses as well as territory with low population density included to link outlying densely settled territory with the densely settled core. It is a calculation used by the Bureau of the Census to determine the geographic boundaries of the most heavily developed and dense urban areas. From the Phase II final rule (Revised June 2012) http://www.epa.gov/npdes/pubs/fact2-2.pdf Data utilized in this Order was derived from 2010 U.S. Census Data.

Waste - Includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

Waste Load Allocation -The portion of a receiving water's total maximum daily load that is allocated to one of its existing or future point sources of pollution. Waste load allocations constitute a type of water quality-based effluent limitation.

Water Quality Control Plan (Basin Plan) –The Regional Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State within each Region, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives and discharge prohibitions. Basin Plans are adopted and approved by the State Water Board, U.S. EPA, and the Office of Administrative Law where required.

Watershed Processes – Functions that are provided by watersheds, including but not limited to, groundwater recharge, sediment supply and delivery, streamflow, and aquatic habitat.

Future Condition Peak Flow Calculations

	Sanitary Sewer Flow Rates								
Existing Buildings	**Area (sf)**	**No. of Occupant**	**gpd/ Occupant**	**Flow Rate (gpd)**	**Flow Rate (gph)****	**Flow Rate (gpm)**	**Peaking Factor**	**Flow Rate (gpm)**	**Flow Rate (cfs)**
Building 100*	43999								
Building 200	7837	157	20.0	3134.8	391.9	6.5	2.0	13.1	0.029
Building 201	1350	27	20.0	540.0	67.5	1.1	2.0	2.3	0.005
Building 300	17808	356	20.0	7123.2	890.4	14.8	2.0	29.7	0.066
Building 400	22295	446	20.0	8918.0	1114.8	18.6	2.0	37.2	0.083
Building 500	8624	172	20.0	3449.6	431.2	7.2	2.0	14.4	0.032
Building 600	10169	203	20.0	4067.6	508.5	8.5	2.0	16.9	0.038
Building 700	11788	236	20.0	4715.2	589.4	9.8	2.0	19.6	0.044
Building 800	13780	276	20.0	5512.0	689.0	11.5	2.0	23.0	0.051
Building 900	3769	75	20.0	1507.6	188.5	3.1	2.0	6.3	0.014
Bulding 1000	3556	71	20.0	1422.4	177.8	3.0	2.0	5.9	0.013
Building 1200	20008	400	20.0	8003.2	1000.4	16.7	2.0	33.3	0.074
Bulding 1300	10308	206	20.0	4123.2	515.4	8.6	2.0	17.2	0.038
Building 1400	23448	469	20.0	9379.2	1172.4	19.5	2.0	39.1	0.087
Bulding 1500	8773	175	20.0	3509.2	438.7	7.3	2.0	14.6	0.033
Building 1600	11443	229	20.0	4577.2	572.2	9.5	2.0	19.1	0.042
Building 1700	43551	871	20.0	17420.4	2177.6	36.3	2.0	72.6	0.162
Bulding 1800	32340	647	20.0	12936.0	1617.0	27.0	2.0	53.9	0.120
Building 1900	10361	207	20.0	4144.4	518.1	8.6	2.0	17.3	0.038
Central Plant	5396	108	20.0	2158.4	269.8	4.5	2.0	9.0	0.020
Portables A-E*	7913								
Pool Mechanical	1356	27	20.0	542.4	67.8	1.1	2.0	2.3	0.005
Stadium	10432	209	20.0	4172.8	521.6	8.7	2.0	17.4	0.039
Total	278392	5568	20.0	111356.8	13919.6	232.0	2.0	464.0	1.034

Future Buildings	**Area (sf)**	**No. of Occupant**	**gpd/ Occupant**	**Flow Rate (gpd)**	**Flow Rate (gph)****	**Flow Rate (gpm)**	**Peaking Factor**	**Flow Rate (gpm)**	**Flow Rate (cfs)**
Library Learning	59252	1185	20.0	23701	2963	49.4	2.0	98.8	0.220
Science & Math	62000	1240	20.0	24800	3100	51.7	2.0	103.3	0.230
Add to 700/800	4500	90	20.0	1800	225	3.8	2.0	7.5	0.017
Performing Arts	45800	916	20.0	18320	2290	38.2	2.0	76.3	0.170
CTE	17360	347	20.0	6944	868	14.5	2.0	28.9	0.064
M&O/ Police	26720	534	20.0	10688	1336	22.3	2.0	44.5	0.099
Total	215632	4313	20.0	86253	10782	179.7	2.0	359.4	0.801

* demolished, not included; ** assumes 8 hour day

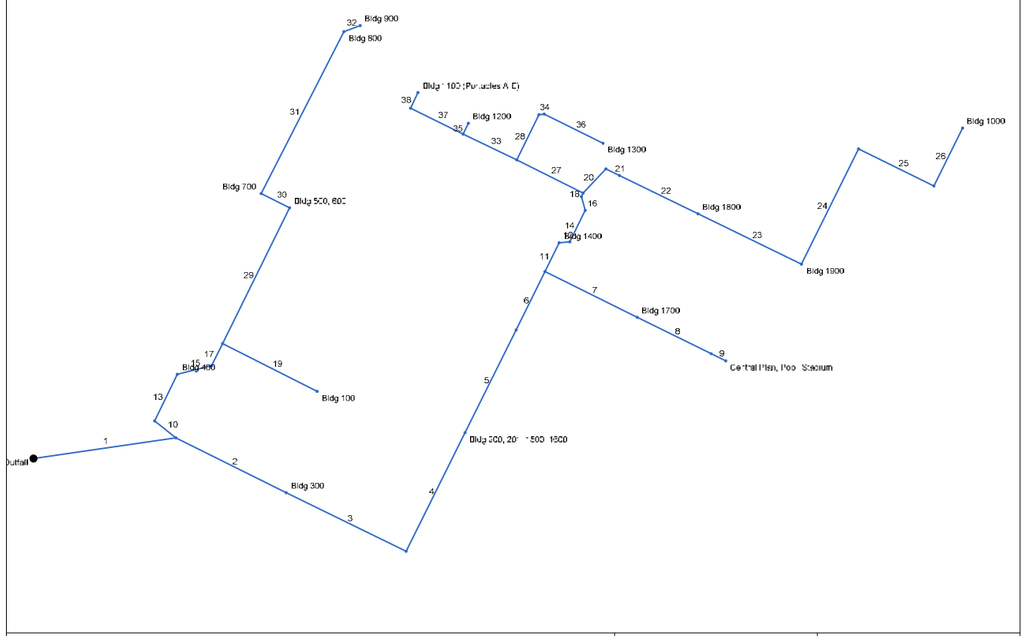
Existing Buildings	**Area (sf)**	**% Total Area**	**I/I Rate (g/in-mi/d)**	**Site I/I* (gpd)**	**I/I (gpd)**	**I/I** (gph)**	**I/I (gpm)**	**I/I (cfs)**	**Rate (cfs)**
Building 100*	43999								
Building 200	7837	0.028	4000	7260	204.4	8.52	0.14	0.0003	0.029
Building 201	1350	0.005	4000	7260	35.2	1.47	0.02	0.0001	0.005
Building 300	17808	0.064	4000	7260	464.4	19.35	0.32	0.0007	0.067
Building 400	22295	0.080	4000	7260	581.4	24.22	0.40	0.0009	0.084
Building 500	8624	0.031	4000	7260	224.9	9.37	0.16	0.0003	0.032
Building 600	10169	0.037	4000	7260	265.2	11.05	0.18	0.0004	0.038
Building 700	11788	0.042	4000	7260	307.4	12.81	0.21	0.0005	0.044
Building 800	13780	0.049	4000	7260	359.3	14.97	0.25	0.0006	0.052
Building 900	3769	0.014	4000	7260	98.3	4.10	0.07	0.0002	0.014
Bulding 1000	3556	0.013	4000	7260	92.7	3.86	0.06	0.0001	0.013
Building 1200	20008	0.072	4000	7260	521.8	21.74	0.36	0.0008	0.075
Bulding 1300	10308	0.037	4000	7260	268.8	11.20	0.19	0.0004	0.039
Building 1400	23448	0.084	4000	7260	611.5	25.48	0.42	0.0009	0.088
Bulding 1500	8773	0.032	4000	7260	228.8	9.53	0.16	0.0004	0.033
Building 1600	11443	0.041	4000	7260	298.4	12.43	0.21	0.0005	0.043
Building 1700	43551	0.156	4000	7260	1135.7	47.32	0.79	0.0018	0.163
Bulding 1800	32340	0.116	4000	7260	843.3	35.14	0.59	0.0013	0.121
Building 1900	10361	0.037	4000	7260	270.2	11.26	0.19	0.0004	0.039
Central Plant	5396	0.019	4000	7260	140.7	5.86	0.10	0.0002	0.020
Portables A-E*	7913								
Pool Mechanical	1356	0.005	4000	7260	35.4	1.47	0.02	0.0001	0.005
Stadium	10432	0.037	4000	7260	272.0	11.33	0.19	0.0004	0.039
Total	278392	1.000	4000	7260	7260	302.5	5.04	0.0112	1.045

Future Buildings	**Area (sf)**	**% Total Area**	**I/I Rate (g/in-mi/d)**	**Site I/I** (gpd)**	**I/I (gpd)**	**I/I*** (gph)**	**I/I (gpm)**	**I/I (cfs)**	**Flow Rate (cfs)**
Library Learning	59252	0.275	4000	7260	1994.8	83.12	1.385	0.0031	0.223
Science & Math	62000	0.288	4000	7260	2087.4	86.97	1.450	0.0032	0.233
Add to 700/800	4500	0.021	4000	7260	151.5	6.31	0.105	0.0002	0.017
Performing Arts	45800	0.212	4000	7260	1541.9	64.25	1.071	0.0024	0.172
CTE	17360	0.081	4000	7260	584.5	24.35	0.406	0.0009	0.065
M&O/ Police	26720	0.124	4000	7260	899.6	37.48	0.625	0.0014	0.101
Total	215632	1.000	4000	7260	7259.7	302.5	5.041	0.0112	0.812
							Total Flow =	**833.5**	**1.857**

* demolished, not included; ** Assumes 6" Pipe Dia. & 8,005 LF Pipe;*** Assumes 24 hour day

Hydraulic Model Results – Existing Condition

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



Project File: Ex Sanitary Sewer.stm | Number of lines: 38 | Date: 9/11/2013

Storm Sewers v5.00

Storm Sewer Inventory Report

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Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	351.419	-8.296	MH	0.00	0.00	0.00	0.0	28.95	0.35	30.18	10	Cir	0.015	1.00	38.85	
2	1	300.589	34.862	MH	0.07	0.00	0.00	0.0	30.21	0.29	31.09	10	Cir	0.015	0.15	37.67	
3	2	325.779	-0.428	MH	0.00	0.00	0.00	0.0	31.17	0.31	32.18	10	Cir	0.015	1.00	36.77	
4	3	324.150	-89.798	MH	0.11	0.00	0.00	0.0	32.22	0.27	33.08	10	Cir	0.015	0.15	38.08	
5	4	280.786	0.043	MH	0.00	0.00	0.00	0.0	33.06	0.36	34.08	10	Cir	0.015	0.15	37.98	
6	5	159.481	-0.297	MH	0.00	0.00	0.00	0.0	34.10	0.39	34.72	10	Cir	0.015	1.00	39.02	
7	6	251.549	90.424	MH	0.16	0.00	0.00	0.0	34.89	0.30	35.65	10	Cir	0.015	0.15	39.37	
8	7	201.166	-0.191	MH	0.00	0.00	0.00	0.0	35.65	0.24	36.14	8	Cir	0.015	0.15	39.41	
9	8	39.715	-0.209	MH	0.07	0.00	0.00	0.0	36.26	0.83	36.59	6	Cir	0.015	1.00	39.41	
10	1	66.843	-133.359	MH	0.00	0.00	0.00	0.0	30.31	0.88	30.90	6	Cir	0.015	0.98	40.00	
11	6	78.462	0.281	MH	0.09	0.00	0.00	0.0	34.78	0.48	35.16	10	Cir	0.015	0.88	39.02	
12	11	25.947	58.697	MH	0.00	0.00	0.00	0.0	35.16	0.42	35.27	8	Cir	0.015	0.88	39.02	
13	10	125.847	77.725	MH	0.08	0.00	0.00	0.0	30.90	0.76	31.86	6	Cir	0.015	0.80	40.00	
14	12	85.673	-59.222	MH	0.00	0.00	0.00	0.0	35.27	0.74	35.90	8	Cir	0.015	0.70	39.50	
15	13	86.196	49.535	MH	0.00	0.00	0.00	0.0	31.86	0.74	32.50	6	Cir	0.015	0.79	39.63	
16	14	34.715	-40.872	MH	0.00	0.00	0.00	0.0	35.90	-0.32	35.79	8	Cir	0.015	0.70	39.75	
17	15	60.159	-48.775	MH	0.00	0.00	0.00	0.0	32.50	1.11	33.17	8	Cir	0.015	1.00	39.63	
18	16	9.801	41.034	MH	0.00	0.00	0.00	0.0	35.79	0.20	35.81	8	Cir	0.015	1.00	40.94	
19	17	258.307	90.099	MH	0.17	0.00	0.00	0.0	33.17	0.65	34.85	6	Cir	0.015	1.00	40.00	
20	18	81.001	17.029	MH	0.00	0.00	0.00	0.0	35.93	1.27	36.96	6	Cir	0.015	0.97	41.74	
21	20	36.719	73.369	MH	0.00	0.00	0.00	0.0	36.96	0.35	37.09	6	Cir	0.015	0.15	41.74	
22	21	213.113	-0.362	MH	0.12	0.00	0.00	0.0	37.09	0.44	38.03	6	Cir	0.015	0.15	43.16	
23	22	281.472	-0.029	MH	0.04	0.00	0.00	0.0	38.03	0.26	38.77	6	Cir	0.014	1.00	43.17	

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Storm Sewer Inventory Report

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Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
24	23	314.653	-89.751	MH	0.00	0.00	0.00	0.0	38.77	0.30	39.71	6	Cir	0.014	1.00	43.00	
25	24	204.586	90.059	MH	0.00	0.00	0.00	0.0	39.71	0.54	40.82	6	Cir	0.015	1.00	44.00	
26	25	158.166	-90.000	MH	0.01	0.00	0.00	0.0	40.95	0.16	41.20	6	Cir	0.015	1.00	45.00	
27	18	181.178	-89.319	MH	0.00	0.00	0.00	0.0	35.92	0.39	36.62	6	Cir	0.015	1.00	41.44	
28	27	122.887	89.302	MH	0.00	0.00	0.00	0.0	36.74	0.75	37.66	6	Cir	0.015	0.87	42.00	
29	17	370.630	-0.700	MH	0.07	0.00	0.00	0.0	33.32	1.00	37.01	6	Cir	0.015	1.00	42.75	
30	29	77.524	-89.316	MH	0.04	0.00	0.00	0.0	37.02	0.66	37.53	6	Cir	0.015	1.00	42.75	
31	30	444.743	90.142	MH	0.05	0.00	0.00	0.0	37.53	1.03	42.12	6	Cir	0.012	0.72	45.00	
32	31	42.112	42.645	MH	0.01	0.00	0.00	0.0	42.12	2.04	42.98	6	Cir	0.015	1.00	46.00	
33	27	145.674	-1.022	MH	0.00	0.00	0.00	0.0	36.62	0.30	37.06	6	Cir	0.015	1.00	42.00	
34	28	12.857	57.597	MH	0.00	0.00	0.00	0.0	37.66	0.31	37.70	6	Cir	0.015	0.60	42.00	
35	33	29.528	90.316	MH	0.08	0.00	0.00	0.0	37.06	0.30	37.15	6	Cir	0.015	1.00	42.00	
36	34	160.489	32.769	MH	0.04	0.00	0.00	0.0	37.70	0.30	38.18	6	Cir	0.015	1.00	42.00	
37	33	142.830	0.674	MH	0.00	0.00	0.00	0.0	37.06	0.30	37.49	6	Cir	0.015	1.00	42.00	
38	37	42.314	89.236	MH	0.03	0.00	0.00	0.0	37.49	0.31	37.62	6	Cir	0.015	1.00	42.00	

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Storm Sewers v5.6

Storm Sewer Tabulation

Page

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	351.419	0.00	0.00	0.00	0.00	0.00	0.0	43.4	0.0	1.24	1.12	2.27	10	0.35	28.95	30.18	29.78	31.24	40.29	38.85	
2	1	300.589	0.00	0.00	0.00	0.00	0.00	0.0	40.1	0.0	0.81	1.03	1.53	10	0.29	30.21	31.09	31.32	31.83	38.85	37.67	
3	2	325.779	0.00	0.00	0.00	0.00	0.00	0.0	37.3	0.0	0.74	1.06	1.92	10	0.31	31.17	32.18	31.83	32.66	37.67	36.77	
4	3	324.150	0.00	0.00	0.00	0.00	0.00	0.0	34.6	0.0	0.74	0.98	1.99	10	0.27	32.22	33.08	32.74	33.64	36.77	38.08	
5	4	280.786	0.00	0.00	0.00	0.00	0.00	0.0	32.2	0.0	0.63	1.14	1.97	10	0.36	33.06	34.08	33.64	34.49	38.08	37.98	
6	5	159.481	0.00	0.00	0.00	0.00	0.00	0.0	31.0	0.0	0.63	1.18	2.23	10	0.39	34.10	34.72	34.50	35.18	37.98	39.02	
7	6	251.549	0.00	0.00	0.00	0.00	0.00	0.0	4.3	0.0	0.23	1.04	1.39	10	0.30	34.89	35.65	35.25	35.89	39.02	39.37	
8	7	201.166	0.00	0.00	0.00	0.00	0.00	0.0	0.4	0.0	0.07	0.52	0.87	8	0.24	35.65	36.14	35.90	36.29	39.37	39.41	
9	8	39.715	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.07	0.44	1.62	6	0.83	36.26	36.59	36.39	36.72	39.41	39.41	
10	1	66.843	0.00	0.00	0.00	0.00	0.00	0.0	14.0	0.0	0.43	0.46	2.19	6	0.88	30.31	30.90	31.32	31.84	38.85	40.00	
11	6	78.462	0.00	0.00	0.00	0.00	0.00	0.0	30.3	0.0	0.40	1.32	1.76	10	0.48	34.78	35.16	35.25	35.46	39.02	39.02	
12	11	25.947	0.00	0.00	0.00	0.00	0.00	0.0	30.0	0.0	0.31	0.68	1.69	8	0.42	35.16	35.27	35.53	35.60	39.02	39.02	
13	10	126.847	0.00	0.00	0.00	0.00	0.00	0.0	13.0	0.0	0.43	0.42	2.19	6	0.76	30.90	31.86	31.91	32.90	40.00	40.00	
14	12	85.673	0.00	0.00	0.00	0.00	0.00	0.0	29.3	0.0	0.31	0.90	1.99	8	0.74	35.27	35.90	35.65	36.16	39.02	39.50	
15	13	86.196	0.00	0.00	0.00	0.00	0.00	0.0	12.2	0.0	0.35	0.42	1.76	6	0.74	31.86	32.50	32.96	33.39	40.00	39.63	
16	14	34.715	0.00	0.00	0.00	0.00	0.00	0.0	28.9	0.0	0.31	0.00	1.69	8	-0.32	35.90	35.79	36.16	36.40	39.50	39.75	
17	15	60.159	0.00	0.00	0.00	0.00	0.00	0.0	11.5	0.0	0.35	1.10	1.39	8	1.11	32.50	33.17	33.43	33.53	39.63	39.63	
18	16	9.801	0.00	0.00	0.00	0.00	0.00	0.0	28.8	0.0	0.31	0.47	0.94	8	0.20	35.79	35.81	36.41	36.42	39.75	40.94	
19	17	258.307	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.17	0.39	1.58	6	0.65	33.17	34.85	33.58	35.06	39.63	40.00	
20	18	81.001	0.00	0.00	0.00	0.00	0.00	0.0	27.9	0.0	0.17	0.55	1.52	6	1.27	35.93	36.96	36.43	37.17	40.94	41.74	
21	20	36.719	0.00	0.00	0.00	0.00	0.00	0.0	27.5	0.0	0.17	0.29	1.70	6	0.35	36.96	37.09	37.17	37.42	41.74	41.74	
22	21	213.113	0.00	0.00	0.00	0.00	0.00	0.0	25.2	0.0	0.17	0.32	1.55	6	0.44	37.09	38.03	37.43	38.26	41.74	43.16	
23	22	281.472	0.00	0.00	0.00	0.00	0.00	0.0	19.9	0.0	0.05	0.27	0.88	6	0.26	38.03	38.77	38.27	38.90	43.16	43.17	
24	23	314.653	0.00	0.00	0.00	0.00	0.00	0.0	9.6	0.0	0.01	0.28	0.51	6	0.30	38.77	39.71	38.92	39.77	43.17	43.00	
25	24	204.586	0.00	0.00	0.00	0.00	0.00	0.0	5.2	0.0	0.01	0.36	0.78	6	0.54	39.71	40.82	39.78	40.87	43.00	44.00	
26	25	158.166	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.01	0.19	0.50	6	0.16	40.95	41.20	41.00	41.70	44.00	45.00	
27	18	181.178	0.00	0.00	0.00	0.00	0.00	0.0	6.4	0.0	0.14	0.30	1.15	6	0.39	35.92	36.62	36.43	36.86	40.94	41.44	
28	27	122.887	0.00	0.00	0.00	0.00	0.00	0.0	3.1	0.0	0.04	0.42	1.07	6	0.75	36.74	37.66	36.90	37.76	41.44	42.00	
29	17	370.630	0.00	0.00	0.00	0.00	0.00	0.0	8.3	0.0	0.18	0.48	1.95	6	1.00	33.32	37.01	33.58	37.22	39.63	42.75	
30	29	77.524	0.00	0.00	0.00	0.00	0.00	0.0	7.5	0.0	0.11	0.39	1.64	6	0.66	37.02	37.53	37.22	37.70	42.75	42.75	
31	30	444.743	0.00	0.00	0.00	0.00	0.00	0.0	1.2	0.0	0.06	0.62	1.17	6	1.03	37.53	42.12	37.75	42.25	42.75	45.00	
32	31	42.112	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.01	0.69	0.61	6	2.04	42.12	42.98	42.25	43.03	45.00	46.00	
33	27	145.674	0.00	0.00	0.00	0.00	0.00	0.0	4.3	0.0	0.11	0.27	1.17	6	0.30	36.62	37.06	36.90	37.26	41.44	42.00	
34	28	12.857	0.00	0.00	0.00	0.00	0.00	0.0	2.9	0.0	0.04	0.27	1.11	6	0.31	37.66	37.70	37.76	37.85	42.00	42.00	
35	33	29.528	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.08	0.27	0.96	6	0.30	37.06	37.15	37.29	37.34	42.00	42.00	
36	34	160.489	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.04	0.27	0.93	6	0.30	37.70	38.18	37.85	38.30	42.00	42.00	
37	33	142.830	0.00	0.00	0.00	0.00	0.00	0.0	0.8	0.0	0.03	0.27	0.68	6	0.30	37.06	37.49	37.29	37.59	42.00	42.00	
38	37	42.314	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.03	0.27	0.88	6	0.31	37.49	37.62	37.61	37.73	42.00	42.00	

Project File: Ex Sanitary Sewer.stm | Number of lines: 38 | Run Date: 9/11/2013

NOTES:Known Qs only ; c = cir e = ellip b = box

Storm Sewers v5.6

Hydraulic Grade Line Computations

Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minor loss
	(in)	(cfs)	Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	(ft)	Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	Ave Sf (%)	Enrgy loss (ft)	(K)	(ft)
1	10	1.24	28.95	29.78	0.83	0.55	2.27	0.08	29.86	0.403	351.41	30.18	31.24	0.83	0.55	2.27	0.08	31.32	0.426	0.414	1.456	1.00	0.0
2	10	0.81	30.21	31.32	0.83	0.55	1.48	0.03	31.35	0.182	300.58	31.09	31.83	0.74	0.51	1.58	0.04	31.87	0.162	0.172	0.517	0.15	0.01
3	10	0.74	31.17	31.83	0.66	0.47	1.59	0.04	31.87	0.161	325.77	32.18	32.66	0.48	0.33	2.25	0.08	32.74	0.373	0.267	0.869	1.00	0.0
4	10	0.74	32.22	32.74	0.52	0.36	2.06	0.07	32.81	0.294	324.15	33.08	33.64	0.56	0.39	1.92	0.06	33.69	0.249	0.272	0.881	0.15	0.01
5	10	0.63	33.06	33.64	0.58	0.41	1.55	0.04	33.68	0.158	280.78	34.08	34.49	0.41	0.27	2.38	0.09	34.58	0.479	0.318	0.894	0.15	0.01
6	10	0.63	34.10	34.50	0.40	0.26	2.44	0.09	34.59	0.507	159.48	34.72	35.18	0.46	0.31	2.03	0.06	35.25	0.312	0.409	0.653	1.00	0.0
7	10	0.23	34.89	35.25	0.36	0.22	1.03	0.02	35.26	0.100	251.54	35.65	35.89	0.24	0.13	1.76	0.05	35.94	0.441	0.271	0.681	0.15	0.01
8	8	0.07	35.65	35.90	0.25	0.12	0.57	0.00	35.90	0.047	201.16	36.14	36.29	0.15	0.06	1.17	0.02	36.31	0.357	0.202	0.406	0.15	0.0
9	6	0.07	36.26	36.39	0.13*	0.04	1.63	0.04	36.43	0.830	39.715	36.59	36.72	0.13**	0.04	1.61	0.04	36.76	0.803	0.817	0.324	1.00	0.0
10	6	0.43	30.31	31.32	0.50	0.20	2.19	0.07	31.39	0.780	66.843	30.90	31.84	0.50	0.20	2.18	0.07	31.91	0.779	0.779	0.521	0.98	0.07
11	10	0.40	34.78	35.25	0.47	0.31	1.28	0.03	35.27	0.123	78.462	35.16	35.46	0.30	0.18	2.24	0.08	35.54	0.557	0.340	0.267	0.88	0.07
12	8	0.31	35.16	35.53	0.37	0.20	1.57	0.04	35.57	0.250	25.947	35.27	35.60	0.33	0.17	1.82	0.05	35.65	0.372	0.311	0.081	0.88	0.0
13	6	0.43	30.90	31.91	0.50	0.20	2.19	0.07	31.98	0.780	125.847	31.86	32.90	0.50	0.20	2.18	0.07	32.97	0.779	0.779	0.989	0.80	0.06
14	8	0.31	35.27	35.65	0.38	0.20	1.55	0.04	35.68	0.243	85.673	35.90	36.16	0.26**	0.13	2.44	0.09	36.26	0.821	0.532	n/a	0.70	0.06
15	6	0.35	31.86	32.96	0.50	0.20	1.76	0.05	33.01	0.504	86.196	32.50	33.39	0.50	0.20	1.76	0.05	33.44	0.504	0.504	0.435	0.79	0.04
16	8	0.31	35.90	36.16	0.26*	0.13	2.44	0.09	36.26	0.821	34.715	35.79	36.40	0.61	0.33	0.94	0.01	36.41	0.078	0.450	0.156	0.70	0.01
17	8	0.35	32.50	33.43	0.67	0.35	0.99	0.02	33.45	0.109	60.159	33.17	33.53	0.36	0.19	1.80	0.05	33.58	0.337	0.223	0.134	1.00	0.0
18	8	0.31	35.79	36.41	0.62	0.34	0.93	0.01	36.42	0.078	9.801	35.81	36.42	0.61	0.33	0.94	0.01	36.43	0.079	0.078	0.008	1.00	0.01
19	6	0.17	33.17	33.58	0.41	0.17	0.99	0.02	33.60	0.122	258.307	34.85	35.06	0.21**	0.08	2.18	0.07	35.13	0.912	0.517	n/a	1.00	0.07
20	6	0.17	35.93	36.43	0.50	0.20	0.87	0.01	36.44	0.122	81.001	36.96	37.17 j	0.21**	0.08	2.18	0.07	37.24	0.912	0.517	n/a	0.97	0.07
21	6	0.17	36.96	37.17	0.21*	0.08	2.18	0.07	37.24	0.912	36.719	37.09	37.42	0.33	0.14	1.22	0.02	37.45	0.198	0.555	0.204	0.15	0.0
22	6	0.17	37.09	37.43	0.34	0.14	1.21	0.02	37.45	0.193	213.11	38.03	38.26	0.23	0.09	1.90	0.06	38.32	0.624	0.408	0.870	0.15	0.01

Project File: Ex Sanitary Sewer.stm | Number of lines: 38 | Run Date: 9/11/2013

Notes: * depth assumed.; ** Critical depth.; j-Line contains hyd. jump. ; c = cir e = ellip b = box

Storm Sewers v5

Hydraulic Grade Line Computations

Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minor loss
	(in)	(cfs)	Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	(ft)	Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	Ave Sf (%)	Enrgy loss (ft)	(K)	(ft)
23	6	0.05	38.03	38.27	0.24	0.09	0.52	0.00	38.28	0.040	281.472	38.77	38.90	0.13	0.04	1.23	0.02	38.92	0.424	0.232	0.653	1.00	0.02
24	6	0.01	38.77	38.92	0.15	0.05	0.20	0.00	38.92	0.009	314.653	39.71	39.77	0.06**	0.01	0.82	0.01	39.78	0.519	0.264	0.831	1.00	0.01
25	6	0.01	39.71	39.78	0.07	0.02	0.64	0.01	39.78	0.290	204.586	40.82	40.87	0.05**	0.01	0.92	0.01	40.89	0.804	0.547	1.120	1.00	0.01
26	6	0.01	40.95	41.00	0.05*	0.01	0.96	0.01	41.02	0.910	158.168	41.20	41.70	0.50	0.20	0.05	0.00	41.70	0.000	0.455	0.720	1.00	0.00
27	6	0.14	35.92	36.43	0.50	0.20	0.73	0.01	36.44	0.088	181.178	36.62	36.86	0.24	0.09	1.57	0.04	36.90	0.421	0.254	0.461	1.00	0.04
28	6	0.04	36.74	36.90	0.16	0.05	0.75	0.01	36.90	0.146	122.887	37.66	37.76 j	0.10**	0.03	1.39	0.03	37.79	0.830	0.488	n/a	0.87	0.03
29	6	0.18	33.32	33.58	0.26	0.10	1.70	0.04	33.62	0.455	370.630	37.01	37.22	0.21**	0.08	2.20	0.08	37.30	0.917	0.686	n/a	1.00	n/a
30	6	0.11	37.02	37.22	0.20	0.07	1.42	0.03	37.25	0.401	77.524	37.53	37.70	0.17**	0.06	1.85	0.05	37.75	0.831	0.616	0.477	1.00	0.05
31	6	0.06	37.53	37.75	0.22	0.08	0.75	0.01	37.76	0.065	444.743	42.12	42.25 j	0.13**	0.04	1.59	0.04	42.29	0.530	0.298	n/a	0.72	0.03
32	6	0.01	42.12	42.25	0.13	0.04	0.26	0.00	42.25	0.022	42.112	42.98	43.03 j	0.05**	0.01	0.96	0.01	43.05	0.911	0.466	n/a	1.00	0.01
33	6	0.11	36.62	36.90	0.28	0.11	0.95	0.01	36.91	0.135	145.674	37.06	37.26	0.20	0.07	1.40	0.03	37.29	0.389	0.262	0.382	1.00	0.03
34	6	0.04	37.66	37.76	0.10*	0.03	1.39	0.03	37.79	0.830	12.857	37.70	37.85	0.15	0.05	0.82	0.01	37.86	0.190	0.510	0.066	0.60	0.01
35	6	0.08	37.06	37.29	0.23	0.09	0.83	0.01	37.30	0.120	29.528	37.15	37.34	0.19	0.07	1.09	0.02	37.36	0.250	0.185	0.055	1.00	0.02
36	6	0.04	37.70	37.85	0.15	0.05	0.78	0.01	37.86	0.161	160.489	38.18	38.30	0.12	0.04	1.08	0.02	38.32	0.404	0.283	0.454	1.00	0.02
37	6	0.03	37.06	37.29	0.23	0.09	0.33	0.00	37.30	0.019	142.830	37.49	37.59	0.10	0.03	1.02	0.02	37.61	0.429	0.224	0.320	1.00	0.02
38	6	0.03	37.49	37.61	0.12	0.04	0.83	0.01	37.62	0.240	42.314	37.62	37.73	0.11	0.03	0.94	0.01	37.74	0.340	0.290	0.123	1.00	0.01

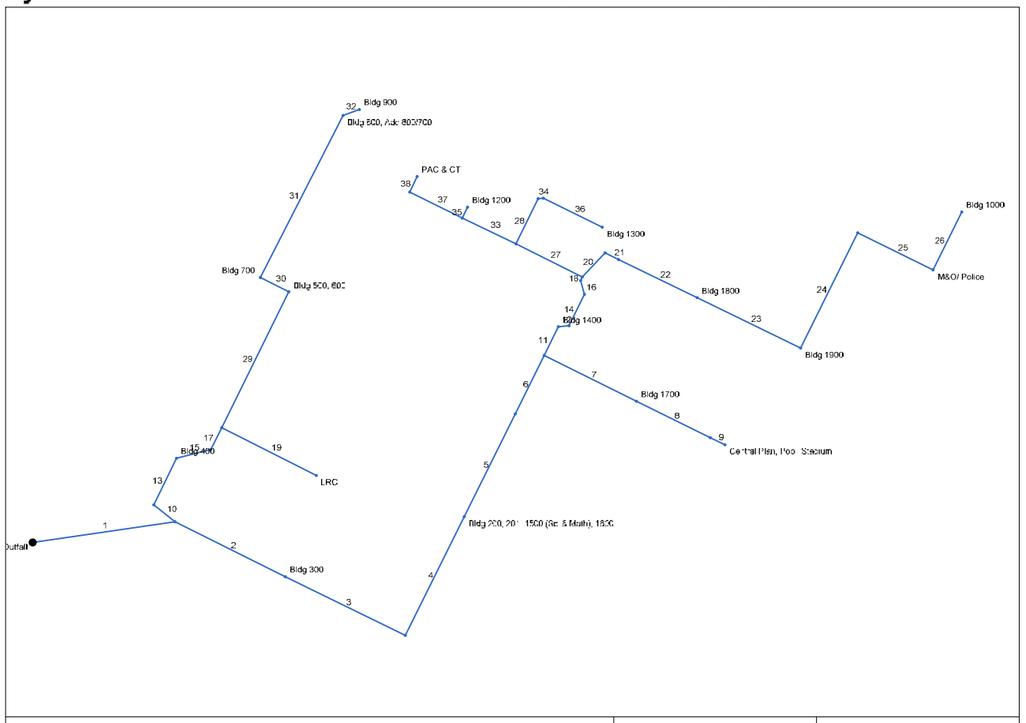
Project File: Ex Sanitary Sewer.stm | Number of lines: 38 | Run Date: 9/11/2013

Notes: * depth assumed.; ** Critical depth.; j-Line contains hyd. jump. ; c = cir e = ellip b = box

Storm Sewers v5.00

Hydraulic Model Results – Future Condition

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



Project File: Future Sanitary Sewer.stm | Number of lines: 38 | Date: 1/20/2014

Storm Sewers v5.00

Storm Sewer Inventory Report

Page 1

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	351.419	-8.296	MH	0.00	0.00	0.00	0.0	28.95	0.35	30.18	10	Cir	0.015	1.00	38.85	
2	1	300.589	34.862	MH	0.07	0.00	0.00	0.0	30.21	0.29	31.09	10	Cir	0.015	0.15	37.67	
3	2	325.779	-0.428	MH	0.00	0.00	0.00	0.0	31.17	0.31	32.18	10	Cir	0.015	1.00	36.77	
4	3	324.150	-89.798	MH	0.34	0.00	0.00	0.0	32.22	0.27	33.08	10	Cir	0.015	0.15	38.08	
5	4	280.786	0.043	MH	0.00	0.00	0.00	0.0	33.06	0.36	34.08	10	Cir	0.015	0.15	37.98	
6	5	159.481	-0.297	MH	0.00	0.00	0.00	0.0	34.10	0.39	34.72	10	Cir	0.015	1.00	39.02	
7	6	251.549	90.424	MH	0.16	0.00	0.00	0.0	34.89	0.30	35.65	10	Cir	0.015	0.15	39.37	
8	7	201.166	-0.191	MH	0.00	0.00	0.00	0.0	35.65	0.24	36.14	8	Cir	0.015	0.15	39.41	
9	8	39.715	-0.209	MH	0.07	0.00	0.00	0.0	36.26	0.83	36.59	6	Cir	0.015	1.00	39.41	
10	1	66.843	-133.359	MH	0.00	0.00	0.00	0.0	30.31	0.88	30.90	6	Cir	0.015	0.98	40.00	
11	6	78.462	0.281	MH	0.09	0.00	0.00	0.0	34.78	0.48	35.16	10	Cir	0.015	0.88	39.02	
12	11	25.947	58.697	MH	0.00	0.00	0.00	0.0	35.16	0.42	35.27	8	Cir	0.015	0.88	39.02	
13	10	125.847	77.725	MH	0.08	0.00	0.00	0.0	30.90	0.76	31.86	6	Cir	0.015	0.80	40.00	
14	12	85.673	-59.222	MH	0.00	0.00	0.00	0.0	35.27	0.74	35.90	8	Cir	0.015	0.70	39.50	
15	13	86.196	49.535	MH	0.00	0.00	0.00	0.0	31.86	0.74	32.50	6	Cir	0.015	0.79	39.63	
16	14	34.715	-40.872	MH	0.00	0.00	0.00	0.0	35.90	-0.32	35.79	8	Cir	0.015	0.70	39.75	
17	15	60.159	-48.775	MH	0.00	0.00	0.00	0.0	32.50	1.11	33.17	8	Cir	0.015	1.00	39.63	
18	16	9.801	41.034	MH	0.00	0.00	0.00	0.0	35.79	0.20	35.81	8	Cir	0.015	1.00	40.94	
19	17	258.307	90.099	MH	0.22	0.00	0.00	0.0	33.17	0.65	34.85	6	Cir	0.015	1.00	40.00	
20	18	81.001	17.029	MH	0.00	0.00	0.00	0.0	35.93	1.27	36.96	6	Cir	0.015	0.97	41.74	
21	20	36.719	73.369	MH	0.00	0.00	0.00	0.0	36.96	0.35	37.09	6	Cir	0.015	0.15	41.74	
22	21	213.113	-0.362	MH	0.12	0.00	0.00	0.0	37.09	0.44	38.03	6	Cir	0.015	0.15	43.16	
23	22	281.472	-0.029	MH	0.04	0.00	0.00	0.0	38.03	0.26	38.77	6	Cir	0.014	1.00	43.17	

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Storm Sewers v5.00

Storm Sewer Inventory Report

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Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
24	23	314.663	-89.751	MH	0.00	0.00	0.00	0.0	38.77	0.30	39.71	6	Cir	0.014	1.00	43.00	
25	24	204.586	90.059	MH	0.10	0.00	0.00	0.0	39.71	0.54	40.82	6	Cir	0.015	1.00	44.00	
26	25	158.166	-90.000	MH	0.01	0.00	0.00	0.0	40.95	0.16	41.20	6	Cir	0.015	1.00	45.00	
27	18	181.178	-89.319	MH	0.00	0.00	0.00	0.0	35.92	0.39	36.62	6	Cir	0.015	1.00	41.44	
28	27	122.887	89.302	MH	0.00	0.00	0.00	0.0	36.74	0.75	37.66	6	Cir	0.015	0.87	42.00	
29	17	370.630	-0.700	MH	0.07	0.00	0.00	0.0	33.32	1.00	37.01	6	Cir	0.015	1.00	42.75	
30	29	77.524	-89.316	MH	0.04	0.00	0.00	0.0	37.02	0.66	37.53	6	Cir	0.015	1.00	42.75	
31	30	445.000	90.142	MH	0.07	0.00	0.00	0.0	37.53	1.03	42.12	6	Cir	0.012	0.72	45.00	
32	31	42.112	42.645	MH	0.01	0.00	0.00	0.0	42.12	2.04	42.98	6	Cir	0.015	1.00	46.00	
33	27	145.674	-1.022	MH	0.00	0.00	0.00	0.0	36.62	0.30	37.06	6	Cir	0.015	1.00	42.00	
34	28	12.857	57.597	MH	0.00	0.00	0.00	0.0	37.66	0.31	37.70	6	Cir	0.015	0.60	42.00	
35	33	29.528	90.316	MH	0.08	0.00	0.00	0.0	37.06	0.30	37.15	6	Cir	0.015	1.00	42.00	
36	34	160.489	32.769	MH	0.04	0.00	0.00	0.0	37.70	0.30	38.18	6	Cir	0.015	1.00	42.00	
37	33	142.830	0.674	MH	0.00	0.00	0.00	0.0	37.06	0.30	37.49	6	Cir	0.015	1.00	42.00	
38	37	42.314	89.236	MH	0.24	0.00	0.00	0.0	37.49	0.31	37.62	6	Cir	0.015	1.00	42.00	

Project File: Future Sanitary Sewer.stm | Number of lines: 38 | Date: 1/20/2014

Storm Sewers v5.00

Storm Sewer Tabulation

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Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	351.419	0.00	0.00	0.00	0.00	0.00	0.0	56.7	0.0	1.85	1.12	3.39	10	0.35	28.95	30.18	29.78	33.02	40.29	38.85	
2	1	300.589	0.00	0.00	0.00	0.00	0.00	0.0	54.7	0.0	1.35	1.03	2.48	10	0.29	30.21	31.09	33.20	34.72	38.85	37.67	
3	2	325.779	0.00	0.00	0.00	0.00	0.00	0.0	52.4	0.0	1.28	1.06	2.35	10	0.31	31.17	32.18	34.74	36.22	37.67	36.77	
4	3	324.150	0.00	0.00	0.00	0.00	0.00	0.0	50.1	0.0	1.28	0.98	2.35	10	0.27	32.22	33.08	36.31	37.79	36.77	38.08	
5	4	280.786	0.00	0.00	0.00	0.00	0.00	0.0	47.4	0.0	0.94	1.14	1.72	10	0.36	33.06	34.08	37.81	38.49	38.08	37.98	
6	5	159.481	0.00	0.00	0.00	0.00	0.00	0.0	45.8	0.0	0.94	1.18	1.72	10	0.39	34.10	34.72	38.50	38.89	37.98	39.02	
7	6	251.549	0.00	0.00	0.00	0.00	0.00	0.0	19.4	0.0	0.23	1.04	0.42	10	0.30	34.89	35.65	38.94	38.98	39.02	39.37	
8	7	201.166	0.00	0.00	0.00	0.00	0.00	0.0	1.9	0.0	0.07	0.52	0.19	8	0.24	35.65	36.14	38.98	38.98	39.37	39.41	
9	8	39.715	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.07	0.44	0.34	6	0.83	36.26	36.59	38.98	38.99	39.41	39.41	
10	1	66.843	0.00	0.00	0.00	0.00	0.00	0.0	14.8	0.0	0.50	0.46	2.53	6	0.88	30.31	30.90	33.20	33.90	38.85	40.00	
11	6	78.462	0.00	0.00	0.00	0.00	0.00	0.0	44.8	0.0	0.71	1.32	1.30	10	0.48	34.78	35.16	38.94	39.05	39.02	39.02	
12	11	25.947	0.00	0.00	0.00	0.00	0.00	0.0	44.6	0.0	0.62	0.68	1.78	8	0.42	35.16	35.27	39.07	39.16	39.02	39.02	
13	10	125.847	0.00	0.00	0.00	0.00	0.00	0.0	13.9	0.0	0.50	0.42	2.53	6	0.76	30.90	31.86	34.00	35.32	40.00	40.00	
14	12	85.673	0.00	0.00	0.00	0.00	0.00	0.0	43.8	0.0	0.62	0.90	1.78	8	0.74	35.27	35.90	39.21	39.51	39.02	39.50	
15	13	86.196	0.00	0.00	0.00	0.00	0.00	0.0	13.2	0.0	0.41	0.42	2.10	6	0.74	31.86	32.50	35.40	36.03	40.00	39.63	
16	14	34.715	0.00	0.00	0.00	0.00	0.00	0.0	43.5	0.0	0.62	0.00	1.78	8	-0.32	35.90	35.79	39.54	39.67	39.50	39.75	
17	15	60.159	0.00	0.00	0.00	0.00	0.00	0.0	12.4	0.0	0.41	1.10	1.18	8	1.11	32.50	33.17	36.08	36.17	39.63	39.63	
18	16	9.801	0.00	0.00	0.00	0.00	0.00	0.0	43.4	0.0	0.62	0.47	1.78	8	0.20	35.79	35.81	39.70	39.74	39.75	40.94	
19	17	258.307	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.22	0.39	1.12	6	0.65	33.17	34.85	36.20	36.73	39.63	40.00	
20	18	81.001	0.00	0.00	0.00	0.00	0.00	0.0	42.4	0.0	0.27	0.55	1.38	6	1.27	35.93	36.96	39.79	40.04	40.94	41.74	
21	20	36.719	0.00	0.00	0.00	0.00	0.00	0.0	41.9	0.0	0.27	0.29	1.38	6	0.35	36.96	37.09	40.07	40.18	41.74	41.74	
22	21	213.113	0.00	0.00	0.00	0.00	0.00	0.0	39.4	0.0	0.27	0.32	1.38	6	0.44	37.09	38.03	40.18	40.85	41.74	43.16	
23	22	281.472	0.00	0.00	0.00	0.00	0.00	0.0	33.2	0.0	0.15	0.27	0.76	6	0.26	38.03	38.77	40.85	41.09	43.16	43.17	
24	23	314.663	0.00	0.00	0.00	0.00	0.00	0.0	24.0	0.0	0.11	0.28	0.57	6	0.30	38.77	39.71	41.09	41.24	43.17	43.00	
25	24	204.586	0.00	0.00	0.00	0.00	0.00	0.0	17.9	0.0	0.11	0.36	0.57	6	0.54	39.71	40.82	41.24	41.32	43.00	44.00	
26	25	158.166	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.01	0.19	0.15	6	0.16	40.95	41.20	41.32	41.34	44.00	45.00	
27	18	181.178	0.00	0.00	0.00	0.00	0.00	0.0	24.9	0.0	0.35	0.30	1.79	6	0.39	35.92	36.62	39.79	40.73	40.94	41.44	
28	27	122.887	0.00	0.00	0.00	0.00	0.00	0.0	14.5	0.0	0.04	0.42	0.20	6	0.75	36.74	37.66	40.78	40.79	41.44	42.00	
29	17	370.630	0.00	0.00	0.00	0.00	0.00	0.0	7.8	0.0	0.19	0.48	1.36	6	1.00	33.32	37.01	36.20	37.29	39.63	42.75	
30	29	77.524	0.00	0.00	0.00	0.00	0.00	0.0	7.0	0.0	0.12	0.39	1.45	6	0.66	37.02	37.53	37.33	37.71	42.75	42.75	
31	30	445.000	0.00	0.00	0.00	0.00	0.00	0.0	1.2	0.0	0.08	0.62	1.29	6	1.03	37.53	42.12	37.77	42.26	42.75	45.00	
32	31	42.112	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.01	0.69	0.59	6	2.04	42.12	42.98	42.26	43.03	45.00	46.00	
33	27	145.674	0.00	0.00	0.00	0.00	0.00	0.0	2.6	0.0	0.31	0.27	1.59	6	0.30	36.62	37.06	40.78	41.38	41.44	42.00	
34	28	12.857	0.00	0.00	0.00	0.00	0.00	0.0	13.5	0.0	0.04	0.27	0.20	6	0.31	37.66	37.70	40.79	40.79	42.00	42.00	
35	33	29.528	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.08	0.27	0.38	6	0.30	37.06	37.15	41.42	41.43	42.00	42.00	
36	34	160.489	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.04	0.27	0.20	6	0.30	37.70	38.18	40.79	40.80	42.00	42.00	
37	33	142.830	0.00	0.00	0.00	0.00	0.00	0.0	0.6	0.0	0.24	0.27	1.21	6	0.30	37.06	37.49	41.42	41.76	42.00	42.00	
38	37	42.314	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.24	0.27	1.21	6	0.31	37.49	37.62	41.78	41.88	42.00	42.00	

Project File: Future Sanitary Sewer.stm | Number of lines: 38 | Run Date: 1/20/2014

NOTES:Known Qs only ; c = cir e = ellip b = box

Storm Sewers v5.0

Hydraulic Grade Line Computations

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Line	Size (in)	Q (cfs)	Downstream Invert elev (ft)	Downstream HGL elev (ft)	Downstream Depth (ft)	Downstream Area (sqft)	Downstream Vel (ft/s)	Downstream Vel head (ft)	Downstream EGL elev (ft)	Downstream Sf (%)	Len (ft)	Upstream Invert elev (ft)	Upstream HGL elev (ft)	Upstream Depth (ft)	Upstream Area (sqft)	Upstream Vel (ft/s)	Upstream Vel head (ft)	Upstream EGL elev (ft)	Upstream Sf (%)	Check Ave Sf (%)	Check Enrgy loss (ft)	JL coeff (K)	Minor loss (ft)
1	10	1.85	28.95	29.78	0.83	0.55	3.39	0.18	29.96	0.898	351.419	30.18	33.02	0.83	0.55	3.39	0.18	33.20	0.947	0.922	3.242	1.00	0.18
2	10	1.35	30.21	33.20	0.83	0.55	2.48	0.10	33.30	0.506	300.589	31.09	34.72	0.83	0.55	2.48	0.10	34.82	0.506	0.506	1.521	0.15	0.01
3	10	1.28	31.17	34.74	0.83	0.55	2.35	0.09	34.82	0.457	325.779	32.18	36.22	0.83	0.55	2.35	0.09	36.31	0.457	0.457	1.489	1.00	0.09
4	10	1.28	32.22	36.31	0.83	0.55	2.35	0.09	36.40	0.457	324.150	33.08	37.79	0.83	0.55	2.35	0.09	37.88	0.457	0.457	1.482	0.15	0.01
5	10	0.94	33.06	37.81	0.83	0.55	1.72	0.05	37.85	0.245	280.786	34.08	38.49	0.83	0.55	1.72	0.05	38.54	0.245	0.245	0.689	0.15	0.01
6	10	0.94	34.10	38.50	0.83	0.55	1.72	0.05	38.55	0.245	159.481	34.72	38.89	0.83	0.55	1.72	0.05	38.94	0.245	0.245	0.391	1.00	0.05
7	10	0.23	34.89	38.94	0.83	0.55	0.42	0.00	38.94	0.015	251.549	35.65	38.98	0.83	0.55	0.42	0.00	38.98	0.015	0.015	0.037	0.15	0.00
8	8	0.07	35.65	38.98	0.67	0.35	0.19	0.00	38.98	0.004	201.156	36.14	38.98	0.67	0.35	0.19	0.00	38.99	0.004	0.004	0.008	0.15	0.00
9	6	0.07	36.26	38.98	0.50	0.20	0.34	0.00	38.99	0.019	39.715	36.59	38.99	0.50	0.20	0.34	0.00	38.99	0.019	0.019	0.008	1.00	0.00
10	6	0.50	30.31	33.20	0.50	0.20	2.53	0.10	33.30	1.046	66.843	30.90	33.90	0.50	0.20	2.53	0.10	34.00	1.046	1.046	0.699	0.98	0.10
11	10	0.71	34.78	38.94	0.83	0.55	1.30	0.03	38.97	0.140	78.462	35.16	39.05	0.83	0.55	1.30	0.03	39.08	0.140	0.140	0.110	0.88	0.02
12	8	0.62	35.16	39.07	0.67	0.35	1.78	0.05	39.12	0.353	25.947	35.27	39.16	0.67	0.35	1.78	0.05	39.21	0.353	0.353	0.092	0.88	0.04
13	6	0.50	30.90	34.00	0.50	0.20	2.53	0.10	34.10	1.046	125.847	31.86	35.32	0.50	0.20	2.53	0.10	35.42	1.046	1.046	1.327	0.80	0.08
14	8	0.62	35.27	39.21	0.67	0.35	1.78	0.05	39.26	0.353	85.673	35.90	39.51	0.67	0.35	1.78	0.05	39.56	0.353	0.353	0.303	0.70	0.03
15	6	0.41	31.86	35.40	0.50	0.20	2.10	0.07	35.47	0.723	86.196	32.50	36.03	0.50	0.20	2.10	0.07	36.10	0.722	0.722	0.623	0.79	0.05
16	8	0.62	35.90	39.54	0.67	0.35	1.78	0.05	39.59	0.353	34.715	35.79	39.67	0.67	0.35	1.78	0.05	39.72	0.353	0.353	0.123	0.70	0.03
17	8	0.41	32.50	36.08	0.67	0.35	1.18	0.02	36.10	0.156	60.159	33.17	36.17	0.67	0.35	1.18	0.02	36.20	0.156	0.156	0.094	1.00	0.02
18	8	0.62	35.79	39.70	0.67	0.35	1.78	0.05	39.75	0.353	9.801	35.81	39.74	0.67	0.35	1.78	0.05	39.79	0.353	0.353	0.035	1.00	0.05
19	6	0.22	33.17	36.20	0.50	0.20	1.12	0.02	36.22	0.205	258.307	34.85	36.73	0.50	0.20	1.12	0.02	36.75	0.205	0.205	0.530	1.00	0.02
20	6	0.27	35.93	39.79	0.50	0.20	1.38	0.03	39.82	0.311	81.001	36.96	40.04	0.50	0.20	1.38	0.03	40.07	0.311	0.311	0.252	0.97	0.03
21	6	0.27	36.96	40.07	0.50	0.20	1.38	0.03	40.10	0.311	36.719	37.09	40.18	0.50	0.20	1.38	0.03	40.21	0.311	0.311	0.114	0.15	0.00
22	6	0.27	37.09	40.18	0.50	0.20	1.38	0.03	40.21	0.311	213.113	38.03	40.85	0.50	0.20	1.38	0.03	40.88	0.311	0.311	0.663	0.15	0.00

Project File: Future Sanitary Sewer.stm | Number of lines: 38 | Run Date: 1/20/2014

; c = cir e = ellip b = box

Storm Sewers v5.00

Hydraulic Grade Line Computations

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Line	Size (in)	Q (cfs)	Downstream Invert elev (ft)	Downstream HGL elev (ft)	Downstream Depth (ft)	Downstream Area (sqft)	Downstream Vel (ft/s)	Downstream Vel head (ft)	Downstream EGL elev (ft)	Downstream Sf (%)	Len (ft)	Upstream Invert elev (ft)	Upstream HGL elev (ft)	Upstream Depth (ft)	Upstream Area (sqft)	Upstream Vel (ft/s)	Upstream Vel head (ft)	Upstream EGL elev (ft)	Upstream Sf (%)	Check Ave Sf (%)	Check Enrgy loss (ft)	JL coeff (K)	Minor loss (ft)
23	6	0.15	38.03	40.85	0.50	0.20	0.76	0.01	40.86	0.083	281.472	38.77	41.09	0.50	0.20	0.76	0.01	41.09	0.083	0.083	0.234	1.00	0.01
24	6	0.11	38.77	41.09	0.50	0.20	0.57	0.00	41.10	0.045	314.65	39.71	41.24	0.50	0.20	0.57	0.00	41.24	0.045	0.045	0.143	1.00	0.00
25	6	0.11	39.71	41.24	0.50	0.20	0.57	0.00	41.25	0.052	204.58	40.82	41.32	0.50	0.20	0.57	0.00	41.32	0.050	0.051	0.105	1.00	0.00
26	6	0.01	40.95	41.32	0.37	0.16	0.06	0.00	41.32	0.001	158.16	41.20	41.34	0.14	0.04	0.23	0.00	41.34	0.016	0.008	0.013	1.00	0.00
27	6	0.35	35.92	39.79	0.50	0.20	1.79	0.05	39.84	0.522	181.17	36.62	40.73	0.50	0.20	1.79	0.05	40.78	0.522	0.522	0.945	1.00	0.05
28	6	0.04	36.74	40.78	0.50	0.20	0.20	0.00	40.78	0.006	122.88	37.66	40.79	0.50	0.20	0.20	0.00	40.79	0.006	0.006	0.008	0.87	0.00
29	6	0.19	33.32	36.20	0.50	0.20	0.98	0.02	36.21	0.158	370.63	37.01	37.29	0.28	0.11	1.73	0.05	37.33	0.450	0.304	1.127	1.00	0.05
30	6	0.12	37.02	37.33	0.31	0.13	0.96	0.01	37.35	0.127	77.524	37.53	37.71	0.18**	0.06	1.95	0.06	37.77	0.847	0.487	0.377	1.00	0.06
31	6	0.08	37.53	37.77	0.24	0.09	0.86	0.01	37.78	0.081	445.00	42.12	42.26 j	0.14**	0.05	1.71	0.05	42.31	0.535	0.308	n/a	0.72	0.03
32	6	0.01	42.12	42.26	0.14	0.05	0.21	0.00	42.26	0.013	42.112	42.98	43.03 j	0.05**	0.01	0.96	0.01	43.05	0.911	0.462	n/a	1.00	0.01
33	6	0.31	36.62	40.78	0.50	0.20	1.59	0.04	40.82	0.412	145.67	37.06	41.38	0.50	0.20	1.59	0.04	41.42	0.412	0.412	0.601	1.00	0.04
34	6	0.04	37.66	40.79	0.50	0.20	0.20	0.00	40.79	0.006	12.857	37.70	40.79	0.50	0.20	0.20	0.00	40.79	0.006	0.006	0.001	0.60	0.00
35	6	0.08	37.06	41.42	0.50	0.20	0.38	0.00	41.42	0.024	29.528	37.15	41.43	0.50	0.20	0.38	0.00	41.43	0.024	0.024	0.007	1.00	0.00
36	6	0.04	37.70	40.79	0.50	0.20	0.20	0.00	40.79	0.006	160.48	38.18	40.80	0.50	0.20	0.20	0.00	40.80	0.006	0.006	0.010	1.00	0.00
37	6	0.24	37.06	41.42	0.50	0.20	1.21	0.02	41.44	0.238	142.83	37.49	41.76	0.50	0.20	1.21	0.02	41.78	0.238	0.238	0.340	1.00	0.02
38	6	0.24	37.49	41.78	0.50	0.20	1.21	0.02	41.81	0.238	42.314	37.62	41.88	0.50	0.20	1.21	0.02	41.91	0.238	0.238	0.101	1.00	0.02

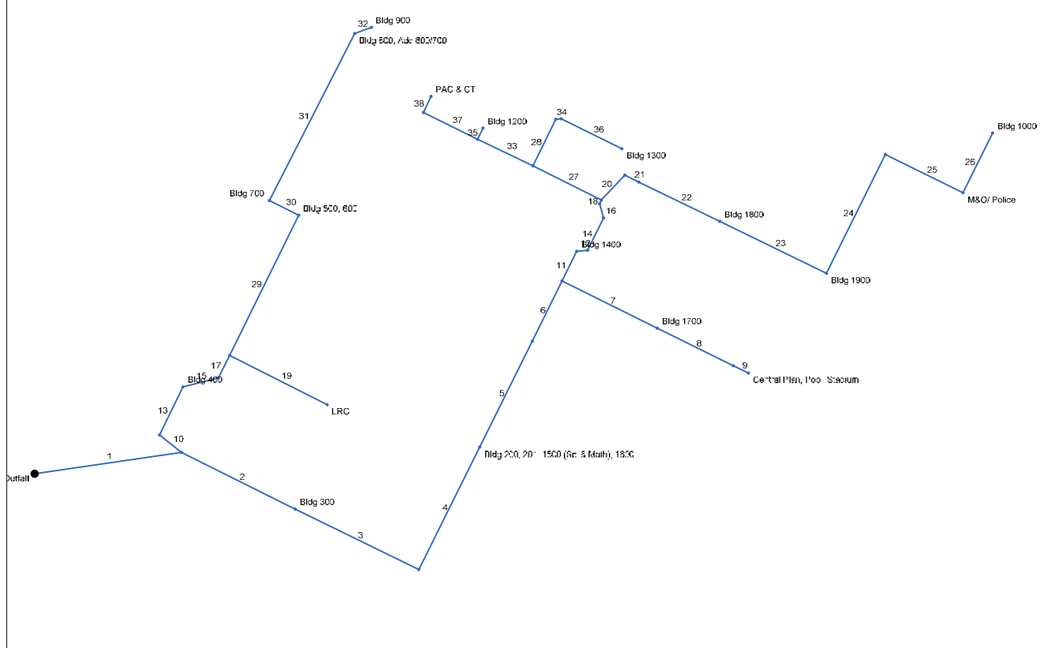
Project File: Future Sanitary Sewer.stm | Number of lines: 38 | Run Date: 1/20/2014

Notes: ; ** Critical depth.; j-Line contains hyd. jump. ; c = cir e = ellip b = box

Storm Sewers v5.0

Hydraulic Model Results – Future Condition (Upsized Pipes)

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



Project File: Future Sanitary Sewer - Upsized Pipes.stm | Number of lines: 38 | Date: 1/20/2014

Storm Sewers v8.00

Storm Sewer Inventory Report

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Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	351.419	-8.296	MH	0.00	0.00	0.00	0.0	28.95	0.35	30.18	12	Cir	0.015	1.00	38.85	
2	1	300.589	34.862	MH	0.07	0.00	0.00	0.0	30.21	0.29	31.09	12	Cir	0.015	0.15	37.67	
3	2	325.779	-0.428	MH	0.00	0.00	0.00	0.0	31.17	0.31	32.18	10	Cir	0.015	1.00	36.77	
4	3	324.150	-89.798	MH	0.34	0.00	0.00	0.0	32.22	0.27	33.08	10	Cir	0.015	0.15	38.08	
5	4	280.786	0.043	MH	0.00	0.00	0.00	0.0	33.06	0.36	34.08	10	Cir	0.015	0.15	37.98	
6	5	159.481	-0.297	MH	0.00	0.00	0.00	0.0	34.10	0.39	34.72	10	Cir	0.015	1.00	39.02	
7	6	251.549	90.424	MH	0.16	0.00	0.00	0.0	34.89	0.30	35.65	10	Cir	0.015	0.15	39.37	
8	7	201.166	-0.191	MH	0.00	0.00	0.00	0.0	35.65	0.24	36.14	8	Cir	0.015	0.15	39.41	
9	8	39.715	-0.209	MH	0.07	0.00	0.00	0.0	36.26	0.83	36.59	6	Cir	0.015	1.00	39.41	
10	1	66.843	-133.359	MH	0.00	0.00	0.00	0.0	30.31	0.88	30.90	6	Cir	0.015	0.98	40.00	
11	6	78.462	0.281	MH	0.09	0.00	0.00	0.0	34.78	0.48	35.16	10	Cir	0.015	0.88	39.02	
12	11	25.947	58.697	MH	0.00	0.00	0.00	0.0	35.16	0.42	35.27	8	Cir	0.015	0.88	39.02	
13	10	125.847	77.725	MH	0.08	0.00	0.00	0.0	30.90	0.76	31.86	6	Cir	0.015	0.80	40.00	
14	12	85.673	-59.222	MH	0.00	0.00	0.00	0.0	35.27	0.74	35.90	8	Cir	0.015	0.70	39.50	
15	13	86.196	49.535	MH	0.00	0.00	0.00	0.0	31.86	0.74	32.50	6	Cir	0.015	0.79	39.63	
16	14	34.715	-40.872	MH	0.00	0.00	0.00	0.0	35.90	-0.32	35.79	8	Cir	0.015	0.70	39.75	
17	15	60.159	-48.775	MH	0.00	0.00	0.00	0.0	32.50	1.11	33.17	8	Cir	0.015	1.00	39.63	
18	16	9.801	41.034	MH	0.00	0.00	0.00	0.0	35.79	0.20	35.81	8	Cir	0.015	1.00	40.94	
19	17	258.307	90.099	MH	0.22	0.00	0.00	0.0	33.17	0.65	34.85	6	Cir	0.015	1.00	40.00	
20	18	81.001	17.029	MH	0.00	0.00	0.00	0.0	35.93	1.27	36.96	6	Cir	0.015	0.97	41.74	
21	20	36.719	73.369	MH	0.00	0.00	0.00	0.0	36.96	0.35	37.09	6	Cir	0.015	0.15	41.74	
22	21	213.113	-0.362	MH	0.12	0.00	0.00	0.0	37.09	0.44	38.03	6	Cir	0.015	0.15	43.16	
23	22	281.472	-0.029	MH	0.04	0.00	0.00	0.0	38.03	0.26	38.77	6	Cir	0.014	1.00	43.17	

Project File: Future Sanitary Sewer - Upsized Pipes.stm | Number of lines: 38 | Date: 1/20/2014

Storm Sewers v8.00

Storm Sewer Inventory Report

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Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
24	23	314.653	-89.751	MH	0.00	0.00	0.00	0.0	38.77	0.30	39.71	6	Cir	0.014	1.00	43.00	
25	24	204.586	90.059	MH	0.10	0.00	0.00	0.0	39.71	0.54	40.82	6	Cir	0.015	1.00	44.00	
26	25	158.166	-90.000	MH	0.01	0.00	0.00	0.0	40.95	0.16	41.20	6	Cir	0.015	1.00	45.00	
27	18	181.178	-89.319	MH	0.00	0.00	0.00	0.0	35.92	0.39	36.62	6	Cir	0.015	1.00	41.44	
28	27	122.887	89.302	MH	0.00	0.00	0.00	0.0	36.74	0.75	37.66	6	Cir	0.015	0.87	42.00	
29	17	370.630	-0.700	MH	0.07	0.00	0.00	0.0	33.32	1.00	37.01	6	Cir	0.015	1.00	42.75	
30	29	77.524	-89.316	MH	0.04	0.00	0.00	0.0	37.02	0.66	37.53	6	Cir	0.015	1.00	42.75	
31	30	445.000	90.142	MH	0.07	0.00	0.00	0.0	37.53	1.03	42.12	6	Cir	0.012	0.72	45.00	
32	31	42.112	42.645	MH	0.01	0.00	0.00	0.0	42.12	2.04	42.98	6	Cir	0.015	1.00	46.00	
33	27	145.674	-1.022	MH	0.00	0.00	0.00	0.0	36.62	0.30	37.06	6	Cir	0.015	1.00	42.00	
34	28	12.857	57.597	MH	0.00	0.00	0.00	0.0	37.66	0.31	37.70	6	Cir	0.015	0.60	42.00	
35	33	29.528	90.316	MH	0.08	0.00	0.00	0.0	37.06	0.30	37.15	6	Cir	0.015	1.00	42.00	
36	34	160.489	32.769	MH	0.04	0.00	0.00	0.0	37.70	0.30	38.18	6	Cir	0.015	1.00	42.00	
37	33	142.830	0.674	MH	0.00	0.00	0.00	0.0	37.06	0.30	37.49	6	Cir	0.015	1.00	42.00	
38	37	42.314	89.236	MH	0.24	0.00	0.00	0.0	37.49	0.31	37.62	6	Cir	0.015	1.00	42.00	

Project File: Future Sanitary Sewer - Upsized Pipes.stm | Number of lines: 38 | Date: 1/20/2014

Storm Sewers v5.0

Storm Sewer Tabulation

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Station Line	Station To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	351.419	0.00	0.00	0.00	0.00	0.00	0.0	32.2	0.0	1.85	1.83	2.65	12	0.35	28.95	30.18	29.78	31.01	40.29	38.85	
2	1	300.589	0.00	0.00	0.00	0.00	0.00	0.0	29.8	0.0	1.35	1.67	2.08	12	0.29	30.21	31.09	31.12	31.77	38.85	37.67	
3	2	325.779	0.00	0.00	0.00	0.00	0.00	0.0	27.7	0.0	1.28	1.06	2.66	10	0.31	31.17	32.18	31.79	33.50	37.67	36.77	
4	3	324.150	0.00	0.00	0.00	0.00	0.00	0.0	25.4	0.0	1.28	0.98	2.35	10	0.27	32.22	33.08	33.59	35.07	36.77	38.08	
5	4	280.786	0.00	0.00	0.00	0.00	0.00	0.0	22.7	0.0	0.94	1.14	1.72	10	0.36	33.06	34.08	35.09	35.77	38.08	37.98	
6	5	159.481	0.00	0.00	0.00	0.00	0.00	0.0	21.2	0.0	0.94	1.18	1.72	10	0.39	34.10	34.72	35.78	36.17	37.98	39.02	
7	6	251.549	0.00	0.00	0.00	0.00	0.00	0.0	7.7	0.0	0.23	1.04	0.48	10	0.30	34.89	35.65	36.22	36.26	39.02	39.37	
8	7	201.166	0.00	0.00	0.00	0.00	0.00	0.0	0.4	0.0	0.07	0.52	0.46	8	0.24	35.65	36.14	36.26	36.35	39.37	39.41	
9	8	39.715	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.07	0.44	1.62	6	0.83	36.26	36.59	36.39	36.72	39.41	39.41	
10	1	66.843	0.00	0.00	0.00	0.00	0.00	0.0	13.9	0.0	0.50	0.46	2.53	6	0.88	30.31	30.90	31.12	31.82	38.85	40.00	
11	6	78.462	0.00	0.00	0.00	0.00	0.00	0.0	20.2	0.0	0.71	1.32	1.30	10	0.48	34.78	35.16	36.22	36.33	39.02	39.02	
12	11	25.947	0.00	0.00	0.00	0.00	0.00	0.0	19.9	0.0	0.62	0.68	1.78	8	0.42	35.16	35.27	36.35	36.44	39.02	39.02	
13	10	126.847	0.00	0.00	0.00	0.00	0.00	0.0	13.0	0.0	0.50	0.42	2.53	6	0.76	30.90	31.86	31.92	33.25	40.00	40.00	
14	12	85.673	0.00	0.00	0.00	0.00	0.00	0.0	19.1	0.0	0.62	0.90	1.78	8	0.74	35.27	35.90	36.49	36.79	39.02	39.50	
15	13	86.196	0.00	0.00	0.00	0.00	0.00	0.0	12.3	0.0	0.41	0.42	2.10	6	0.74	31.86	32.50	33.33	33.95	40.00	39.63	
16	14	34.715	0.00	0.00	0.00	0.00	0.00	0.0	18.8	0.0	0.62	0.00	1.78	8	-0.32	35.90	35.79	36.82	36.95	39.50	39.75	
17	15	60.159	0.00	0.00	0.00	0.00	0.00	0.0	11.5	0.0	0.41	1.10	1.18	8	1.11	32.50	33.17	34.00	34.10	39.63	39.63	
18	16	9.801	0.00	0.00	0.00	0.00	0.00	0.0	18.7	0.0	0.62	0.47	1.78	8	0.20	35.79	35.81	36.98	37.02	39.75	40.94	
19	17	258.307	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.22	0.39	1.56	6	0.65	33.17	34.85	34.12	35.12	39.63	40.00	
20	18	81.001	0.00	0.00	0.00	0.00	0.00	0.0	17.8	0.0	0.27	0.55	1.56	6	1.27	35.93	36.96	37.07	37.33	40.94	41.74	
21	20	36.719	0.00	0.00	0.00	0.00	0.00	0.0	17.4	0.0	0.27	0.29	1.58	6	0.35	36.96	37.09	37.38	37.49	41.74	41.74	
22	21	213.113	0.00	0.00	0.00	0.00	0.00	0.0	15.4	0.0	0.27	0.32	1.78	6	0.44	37.09	38.03	37.49	38.36	41.74	43.16	
23	22	281.472	0.00	0.00	0.00	0.00	0.00	0.0	11.8	0.0	0.15	0.27	1.30	6	0.26	38.03	38.77	38.37	39.02	43.16	43.17	
24	23	314.653	0.00	0.00	0.00	0.00	0.00	0.0	7.7	0.0	0.11	0.28	1.26	6	0.30	38.77	39.71	39.05	39.91	43.17	43.00	
25	24	204.586	0.00	0.00	0.00	0.00	0.00	0.0	5.5	0.0	0.11	0.36	1.54	6	0.54	39.71	40.82	39.94	40.99	43.00	44.00	
26	25	158.166	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.01	0.19	0.48	6	0.16	40.95	41.20	41.05	41.27	44.00	45.00	
27	18	181.178	0.00	0.00	0.00	0.00	0.00	0.0	14.9	0.0	0.35	0.30	1.79	6	0.39	35.92	36.62	37.07	38.01	40.94	41.44	
28	27	122.887	0.00	0.00	0.00	0.00	0.00	0.0	5.3	0.0	0.04	0.42	0.21	6	0.75	36.74	37.66	38.06	38.07	41.44	42.00	
29	17	370.630	0.00	0.00	0.00	0.00	0.00	0.0	7.7	0.0	0.19	0.48	1.63	6	1.00	33.32	37.01	34.12	37.23	39.63	42.75	
30	29	77.524	0.00	0.00	0.00	0.00	0.00	0.0	7.0	0.0	0.12	0.39	1.74	6	0.66	37.02	37.53	37.23	37.71	42.75	42.75	
31	30	445.000	0.00	0.00	0.00	0.00	0.00	0.0	1.2	0.0	0.08	0.62	1.29	6	1.03	37.53	42.12	37.77	42.26	42.75	45.00	
32	31	42.112	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.01	0.69	0.59	6	2.04	42.12	42.98	42.26	43.03	45.00	46.00	
33	27	145.674	0.00	0.00	0.00	0.00	0.00	0.0	2.6	0.0	0.31	0.27	1.59	6	0.30	36.62	37.06	38.06	38.66	41.44	42.00	
34	28	12.857	0.00	0.00	0.00	0.00	0.00	0.0	4.4	0.0	0.04	0.27	0.24	6	0.31	37.66	37.70	38.07	38.07	42.00	42.00	
35	33	29.528	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.08	0.27	0.38	6	0.30	37.06	37.15	38.70	38.71	42.00	42.00	
36	34	160.489	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.04	0.27	0.61	6	0.30	37.70	38.18	38.07	38.31	42.00	42.00	
37	33	142.830	0.00	0.00	0.00	0.00	0.00	0.0	0.6	0.0	0.24	0.27	1.21	6	0.30	37.06	37.49	38.70	39.04	42.00	42.00	
38	37	42.314	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.24	0.27	1.21	6	0.31	37.49	37.62	39.06	39.16	42.00	42.00	

Project File: Future Sanitary Sewer - Upsized Pipes.stm | Number of lines: 38 | Run Date: 1/20/2014

NOTES:Known Qs only ; c = cir e = ellip b = box

Storm Sewers v5.00

Hydraulic Grade Line Computations

Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minor loss
	(in)	(cfs)	Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	(ft)	Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	Ave Sf (%)	Enrgy loss (ft)	(K)	(ft)
1	12	1.85	28.95	29.78	0.83	0.70	2.65	0.11	29.89	0.351	351.41	30.18	31.01	0.83	0.70	2.65	0.11	31.12	0.349	0.350	1.231	1.00	0.1
2	12	1.35	30.21	31.12	0.91	0.75	1.80	0.05	31.17	0.168	300.58	31.09	31.77	0.68	0.57	2.36	0.09	31.86	0.292	0.230	0.690	0.15	0.0
3	10	1.28	31.17	31.79	0.62	0.43	2.96	0.14	31.92	0.567	325.77	32.18	33.50	0.83	0.55	2.35	0.09	33.59	0.457	0.512	1.667	1.00	0.0
4	10	1.28	32.22	33.59	0.83	0.55	2.35	0.09	33.68	0.457	324.15	33.08	35.07	0.83	0.55	2.35	0.09	35.16	0.457	0.457	1.482	0.15	0.0
5	10	0.94	33.06	35.09	0.83	0.55	1.72	0.05	35.13	0.245	280.78	34.08	35.77	0.83	0.55	1.72	0.05	35.82	0.245	0.245	0.689	0.15	0.0
6	10	0.94	34.10	35.78	0.83	0.55	1.72	0.05	35.83	0.245	159.48	34.72	36.17	0.83	0.55	1.72	0.05	36.22	0.245	0.245	0.391	1.00	0.0
7	10	0.23	34.89	36.22	0.83	0.55	0.42	0.00	36.22	0.015	251.54	35.65	36.26	0.61	0.43	0.54	0.00	36.26	0.019	0.017	0.042	0.15	0.0
8	8	0.07	35.65	36.26	0.61	0.33	0.20	0.00	36.26	0.004	201.16	36.14	36.35	0.21	0.09	0.72	0.01	36.36	0.093	0.048	0.097	0.15	0.0
9	6	0.07	36.26	36.39	0.13*	0.04	1.63	0.04	36.43	0.830	39.715	36.59	36.72	0.13**	0.04	1.61	0.04	36.76	0.803	0.817	0.324	1.00	0.0
10	6	0.50	30.31	31.12	0.50	0.20	2.53	0.10	31.22	1.046	66.843	30.90	31.82	0.50	0.20	2.53	0.10	31.92	1.046	1.046	0.699	0.98	0.1
11	10	0.71	34.78	36.22	0.83	0.55	1.30	0.03	36.25	0.140	78.462	35.16	36.33	0.83	0.55	1.30	0.03	36.35	0.140	0.140	0.110	0.88	0.0
12	8	0.62	35.16	36.35	0.67	0.35	1.78	0.05	36.40	0.353	25.947	35.27	36.44	0.67	0.35	1.78	0.05	36.49	0.353	0.353	0.092	0.88	0.0
13	6	0.50	30.90	31.92	0.50	0.20	2.53	0.10	32.02	1.046	125.84	31.86	33.25	0.50	0.20	2.53	0.10	33.35	1.046	1.046	1.327	0.80	0.0
14	8	0.62	35.27	36.49	0.67	0.35	1.78	0.05	36.54	0.353	85.673	35.90	36.79	0.67	0.35	1.78	0.05	36.84	0.353	0.353	0.303	0.70	0.0
15	6	0.41	31.86	33.33	0.50	0.20	2.10	0.07	33.39	0.723	86.196	32.50	33.95	0.50	0.20	2.10	0.07	34.02	0.722	0.722	0.623	0.79	0.0
16	8	0.62	35.90	36.82	0.67	0.35	1.78	0.05	36.87	0.353	34.715	35.79	36.95	0.67	0.35	1.78	0.05	37.00	0.353	0.353	0.123	0.70	0.0
17	8	0.41	32.50	34.00	0.67	0.35	1.18	0.02	34.02	0.156	60.159	33.17	34.10	0.67	0.35	1.18	0.02	34.12	0.156	0.156	0.094	1.00	0.0
18	8	0.62	35.79	36.98	0.67	0.35	1.78	0.05	37.03	0.353	9.801	35.81	37.02	0.67	0.35	1.78	0.05	37.07	0.353	0.353	0.035	1.00	0.0
19	6	0.22	33.17	34.12	0.50	0.20	1.12	0.02	34.14	0.205	258.30	34.85	35.12	0.27	0.11	2.00	0.06	35.19	0.610	0.408	1.053	1.00	0.0
20	6	0.27	35.93	37.07	0.50	0.20	1.38	0.03	37.09	0.311	81.001	36.96	37.33	0.37	0.16	1.74	0.05	37.38	0.385	0.348	0.282	0.97	0.0
21	6	0.27	36.96	37.38	0.42	0.17	1.55	0.04	37.41	0.303	36.719	37.09	37.49	0.40	0.17	1.61	0.04	37.53	0.327	0.315	0.116	0.15	0.0
22	6	0.27	37.09	37.49	0.40	0.17	1.59	0.04	37.53	0.318	213.11	38.03	38.36	0.33	0.14	1.96	0.06	38.42	0.513	0.416	0.886	0.15	0.0

Project File: Future Sanitary Sewer - Upsized Pipes.stm | Number of lines: 38 | Run Date: 1/20/2014

Notes: * depth assumed.; ** Critical depth. ; c = cir e = ellip b = box

Storm Sewers v

Hydraulic Grade Line Computations

Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minor loss
	(in)	(cfs)	Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	(ft)	Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	Ave Sf (%)	Enrgy loss (ft)	(K)	(ft)
23	6	0.15	38.03	38.37	0.34	0.14	1.05	0.02	38.39	0.127	281.47	38.77	39.02	0.25	0.10	1.55	0.04	39.05	0.343	0.235	0.662	1.00	0.04
24	6	0.11	38.77	39.05	0.28	0.12	0.96	0.01	39.07	0.118	314.65	39.71	39.91	0.20	0.07	1.56	0.04	39.94	0.434	0.276	0.869	1.00	0.04
25	6	0.11	39.71	39.94	0.23	0.09	1.23	0.02	39.97	0.264	204.58	40.82	40.99	0.17**	0.06	1.84	0.05	41.05	0.792	0.528	1.081	1.00	0.05
26	6	0.01	40.95	41.05	0.10	0.03	0.38	0.00	41.05	0.066	158.16	41.20	41.27	0.07	0.02	0.58	0.01	41.28	0.223	0.144	0.228	1.00	0.01
27	6	0.35	35.92	37.07	0.50	0.20	1.79	0.05	37.11	0.522	181.17	36.62	38.01	0.50	0.20	1.79	0.05	38.06	0.522	0.522	0.945	1.00	0.05
28	6	0.04	36.74	38.06	0.50	0.20	0.20	0.00	38.06	0.006	122.88	37.66	38.07	0.41	0.17	0.23	0.00	38.07	0.006	0.006	0.008	0.87	0.00
29	6	0.19	33.32	34.12	0.50	0.20	0.98	0.02	34.13	0.158	370.63	37.01	37.23	0.22**	0.08	2.28	0.08	37.31	0.937	0.547	n/a	1.00	0.08
30	6	0.12	37.02	37.23	0.21	0.08	1.55	0.04	37.27	0.455	77.524	37.53	37.71	0.18**	0.06	1.93	0.06	37.77	0.826	0.641	0.497	1.00	0.06
31	6	0.08	37.53	37.77	0.24	0.09	0.86	0.01	37.78	0.081	445.00	42.12	42.26 j	0.14**	0.05	1.71	0.05	42.31	0.535	0.308	n/a	0.72	0.03
32	6	0.01	42.12	42.26	0.14	0.05	0.21	0.00	42.26	0.013	42.112	42.98	43.03 j	0.05**	0.01	0.96	0.01	43.05	0.911	0.462	n/a	1.00	0.01
33	6	0.31	36.62	38.06	0.50	0.20	1.59	0.04	38.10	0.412	145.67	37.06	38.66	0.50	0.20	1.59	0.04	38.70	0.412	0.412	0.601	1.00	0.04
34	6	0.04	37.66	38.07	0.41	0.17	0.23	0.00	38.07	0.006	12.857	37.70	38.07	0.37	0.16	0.25	0.00	38.07	0.008	0.007	0.001	0.60	0.00
35	6	0.08	37.06	38.70	0.50	0.20	0.38	0.00	38.70	0.024	29.528	37.15	38.71	0.50	0.20	0.38	0.00	38.71	0.024	0.024	0.007	1.00	0.00
36	6	0.04	37.70	38.07	0.37	0.16	0.25	0.00	38.07	0.008	160.48	38.18	38.31	0.13	0.04	0.98	0.01	38.32	0.307	0.157	0.253	1.00	0.01
37	6	0.24	37.06	38.70	0.50	0.20	1.21	0.02	38.72	0.238	142.83	37.49	39.04	0.50	0.20	1.21	0.02	39.06	0.238	0.238	0.340	1.00	0.02
38	6	0.24	37.49	39.06	0.50	0.20	1.21	0.02	39.09	0.238	42.314	37.62	39.16	0.50	0.20	1.21	0.02	39.19	0.238	0.238	0.101	1.00	0.02

Project File: Future Sanitary Sewer - Upsized Pipes.stm | Number of lines: 38 | Run Date: 1/20/2014

Notes: * depth assumed.; ** Critical depth.; j-Line contains hyd. jump. ; c = cir e = ellip b = box

Storm Sewers v5.00

Source Data

SECTION 5

SANITARY SEWERS

5.01 GENERAL

A. System Design

Sanitary sewer system design within a developing area must include provisions for size and capacity to adequately convey all domestic and industrial waste that can be reasonably anticipated under conditions of full ultimate development. Engineering calculations to support the sewer system design shall be submitted to the City Engineer for approval. The calculations shall include:

1. Map indicating service area within the sewer system including any future contributing development with projected land use, zoning, and any physical features contributing to the sewer system design.

2. Sanitary sewer waste volumes either existing or proposed within the service area of the system.

3. Size and slope of each pipe between appurtenant structures.

4. Invert and rim elevations of each pipe and appurtenant structure.

B. Line Size and Service Policy

1. The line size and service policy requires that the minimum size of any new public sewer shall be 8 inches in diameter.

2. All side sewers (laterals) 8 inches and larger shall be connected by or at a manhole.

3. The minimum lateral size is 4 inches where grade requirements can be met and the lateral's intended use is to serve single family residences. Six inch or larger laterals shall be installed where intended use is industrial, commercial or greater than single family residential flows. Joint use of laterals will not be permitted except in multi-family residential uses or commercial developments if approved by the City Engineer.

4. Laterals connecting houses having a finished floor elevation 12 inches or less above the highest elevation of the nearest upstream structure shall require installation of a backflow prevention device next to the cleanout.

5. Sewers 12 inches and larger shall be designed in accordance with the Fairfield-Suisun Sewer District standards.

C. Separation of Sewer and Water Lines

Sanitary sewer design shall comply with the standards for the separation of water mains and sanitary sewers as stipulated by the State of California Department of Health Services and outlined in Section 64630, Title 22, of the California Administrative Code. Where the horizontal separation between sewer and water lines is less than 10 feet or where a sewer crosses over the top of a water line, special requirements shall apply for the type of pipe used and the location of joints.

D. Right of Way Policy

The right of way policy requires that all public sewers be in easements or rights of way granted or dedicated for sewers and/or public use. In the case of public right-of-way for streets, further dedication is not necessary.

Easements for sanitary sewers shall meet both of the following width criteria:

1. Minimum width of any easement shall be 15 feet.

2. All easements shall have a minimum width in feet equal to the required trench width according to the standard detail for trench backfill plus 2 additional feet of width for every foot of depth of the pipe as measured from the bottom of the pipe to finished grade. All sewer pipes shall be centered within their easements.

E. Annexation Policy

The service policy of the Fairfield-Suisun Sewer District requires that all properties served must annex to the City of Fairfield. Upon annexation to the City, all buildings inhabited or used by human beings within 200 feet of a sewer main shall be required to connect to the sewer system within 30 days.

5.02 DESIGN

A. Flow

The design sanitary sewer flow shall be computed using the following formula:

$$Q_D = Q_P + I$$

Where: Q_D = design flow (gallons per day)

Q_P = peak flow (residential only)

I = infiltration

The peak flow (Q_P) for residential service areas is defined as three times the average flow, with the average flow for the service area being computed from two basic assumptions:

1. 3-1/2 persons per single family dwelling.

2. 100 gallons per person per day.

Acreage flow estimates for other than residential service areas are as follows:

	Average Flow (Gal./Acre/Day)	Peak Flow (Gal./Acre/Day)
Commercial Areas	1500	4500
Light Industrial Areas	2000	4000
Heavy Industrial Areas -	Sewage flow rate shall be considered on a case by case basis and may require special design.	

Infiltration and inflow (I & I) shall be computed by using 4000 gallons per inch diameter mile per day for sewer mains and laterals. Residential laterals shall be assumed to be a minimum of 75 feet in length.

B. Pipe Capacity

1. Manning's Formula $Q = A\ (1.49/n)\ R^{2/3}\ S^{1/2}$ shall be used to determine pipe capacity. The "n" value shall be 0.013 or the pipe manufacturer's recommendation, whichever is greater.

2. a. All main sewers shall be sized to carry the design flows at 70% of pipe capacity.

   b. Design capacities for trunk sewers 12 inches and larger shall require approval by the Fairfield Suisun Sewer District Engineer.

Table 4: Projected Daily Sewage Flow

TYPE OF OCCUPANCY	GALLONS PER DAY
Airports	5 per passenger
Campgrounds:	
Campground with central comfort station	35 per person
Campground with flush toilets, no showers	25 per person
Day Camps (no meals served)	15 per person
Summer and seasonal	50 per person
Churches (sanctuary)	5 per seat
With kitchen wastes	7 per seat
Factories	35 per person per shift
Hospitals	250 per bed space
Kitchen waste only	25 per bed
Laundry waste only	40 per bed
Hotels/Motels with private bathroom (No kitchen waste)	60 per two person room
Hotels/Motels without private bathroom (No kitchen waste)	50 per two person room
Hotels/Motels with private bathroom and kitchen	75 gallons per person
Institutions other than hospitals	125 per bed space
Movie Theaters	5 per seat
Offices	20 per employee
Picnic Parks with toilets and showers	10 per person
Picnic parks with toilet waste only	5 gallons per person
Resort Camps with limited plumbing	50 gallons per person
Restaurants: Kitchen wastes (multi use utensil)	5 per meal served
Kitchen wastes disposable utensil	3 per meal served
And add the following for type of facility present:	
Conventional sit down	10 per person
Short Order	8 per person
Bar and Cocktail	3 per person
Schools (non-boarding)	20 per student
With gym and showers add	5 per student
With cafeteria using disposable utensils	3 per meal served
Self service laundries	50 gallons per wash
Service Stations	10 gallons per vehicle served
Retail Stores	20 per employee
For public restroom add	1 per 10 square feet
Swimming pools and bathhouses	10 per person
Tourist camps or mobile home parks with individual bath units	100 per person
Tourist camps or trailer parks with central bathhouse	75 per person
Work or construction camps (semi-permanent)	50 per person
Wine Tasting Facility (no meals served)	3 per person

Note: Employee use shall be added to all above occupancies at a volume of 20 gallons per day per employee.

1004.5 Outdoor areas. Yards, patios, courts and similar outdoor areas accessible to and usable by the building occupants shall be provided with means of egress as required by this chapter. The occupant load of such outdoor areas shall be assigned by the building official in accordance with the anticipated use. Where outdoor areas are to be used by persons in addition to the occupants of the building, and the path of egress travel from the outdoor areas passes through the building, means of egress requirements for the building shall be based on the sum of the occupant loads of the building plus the outdoor areas.

Exceptions:

1. Outdoor areas used exclusively for service of the building need only have one means of egress.
2. Both outdoor areas associated with Group R-3 and individual dwelling units of Group R-2.

1004.6 Multiple occupancies. Where a building contains two or more occupancies, the means of egress requirements shall apply to each portion of the building based on the occupancy of that space. Where two or more occupancies utilize portions of the same means of egress system, those egress components shall meet the more stringent requirements of all occupancies that are served.

SECTION 1005
MEANS OF EGRESS SIZING

1005.1 General. All portions of the means of egress system shall be sized in accordance with this section.

Exception: Means of egress complying with Section 1028.

1005.2 Minimum width based on component. The minimum width, in inches (mm), of any means of egress components shall not be less than that specified for such component, elsewhere in this code.

1005.3 Required capacity based on occupant load. The required capacity, in inches (mm), of the means of egress for any room, area, space or story shall not be less than that determined in accordance with Sections 1005.3.1 and 1005.3.2:

1005.3.1 Stairways. The capacity, in inches (mm), of means of egress stairways shall be calculated by multiplying the occupant load served by such stairway by a means of egress capacity factor of 0.3 inch (7.6 mm) per occupant. Where stairways serve more than one story, only the occupant load of each story considered individually shall be used in calculating the required capacity of the stairways serving that story.

Exceptions:

1. For other than Group H and I-2 occupancies, the capacity, in inches (mm), of means of egress stairways shall be calculated by multiplying the occupant load served by such stairway by a means of egress capacity factor of 0.2 inch (5.1 mm) per occupant in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and an emergency

TABLE 1004.1.2
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR[a]
Accessory storage areas, mechanical equipment room	300 gross
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport terminal	
Baggage claim	20 gross
Baggage handling	300 gross
Concourse	100 gross
Waiting areas	15 gross
Assembly	
Gaming floors (keno, slots, etc.)	11 gross
Exhibit Gallery and Museum	30 net
Assembly with fixed seats	See Section 1004.4
Assembly without fixed seats	
Concentrated (chairs only-not fixed)	7 net
Standing space	5 net
Unconcentrated (tables and chairs)	15 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net
Business areas	100 gross
Courtrooms—other than fixed seating areas	40 net
Day care	35 net
Dormitories	50 gross
Educational	
Classroom area	20 net
Shops and other vocational room areas	50 net
Exercise rooms	50 gross
Group H-5 Fabrication and manufacturing areas	200 gross
Industrial areas	100 gross
Institutional areas	
Inpatient treatment areas	240 gross
Outpatient areas	100 gross
Sleeping areas	120 gross
Kitchens, commercial	200 gross
Laboratory	
Educational	*50 net*
Laboratories, non-educational	*100 net*
Laboratory suite[b]	*200 gross*
Library	
Reading rooms	50 net
Stack area	100 gross
Mall buildings—covered and open	See Section 402.8.2
Mercantile	
Areas on other floors	60 gross
Basement and grade floor areas	30 gross
Storage, stock, shipping areas	300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools	
Rink and pool	50 gross
Decks	15 gross
Stages and platforms	15 net
Warehouses	500 gross

For SI: 1 square foot = 0.0929 m^2.
a. Floor area in square feet per occupant.
b. See Section 443.2.

Appendix 8.2
– Domestic Water Capacity Calculations

Domestic Water

Design:

- The pipe sizes were analyzed/determined using the Energy Equation and Simplified Hazen-Williams Equation.

Energy Equation:

$$Z_1 + \frac{P_1}{\delta} + \frac{V_1^2}{2g} = Z_2 + \frac{P_2}{\delta} + \frac{V_2^2}{2g} + \sum \Delta h$$

Where: Z = Elevation
P = Pressure (ft)
V = Velocity (ft/s)
g = Acceleration due to gravity
Δh = Friction Headloss (ft)

Simplified Hazen Williams Equation:

$$h_f = \frac{4.72\,L}{D^{4.86}}\left(\frac{Q}{C}\right)^{1.85}$$

Where: h_f = Friction Headloss (ft)
L = Pipe Length (ft)
D = Pipe Diameter (ft)
Q = Flow Rate (cfs)
C = Hazen-Williams coefficient

Assumptions:

General Assumptions:

- Domestic water main capacity was analyzed under the following assumptions: the existing domestic water main is 8" ACP and configured in a loop, if that water main had sufficient capacity to convey half of the calculated demand the system as a whole had sufficient capacity.
- Existing demand was assumed to be 20.0 gpd per occupant, based on the sanitary sewer demand on the system.
- A peak factor was used for all demand calculations.

- Occupancy was determined using square footage and an occupant load factor (OLF) of 50 square feet per occupant.
- Calculations exclude any irrigation demand on the system.

Results and Recommendations:

Existing Condition:

See Exhibit W1 for the existing domestic water system. The existing domestic water system has sufficient capacity to convey the water demand at Solano College – Fairfield.

Future Condition:

See Exhibit W2 for the future domestic water system. The future campus build out requires rerouting of existing water mains. The future domestic water system has sufficient capacity to convey the water demand at Solano College – Fairfield.

Solano College – Fairfield Campus
Capacity Assessment – Domestic Water
January 31, 2014

Existing Condition Demand Calculations

Existing Condition Demand Calculations

Existing Buildings	Area (sf)	No. of Occupant	gpd/ Occupant	Demand (gpd)	Demand (gph)*	Demand (gpm)	Peaking Factor	Demand (gpm)	Demand (cfs)
Building 100	43999	880	20.0	17599.6	2200.0	36.7	2.0	73.3	0.163
Building 200	7837	157	20.0	3134.8	391.9	6.5	2.0	13.1	0.029
Building 201	1350	27	20.0	540.0	67.5	1.1	2.0	2.3	0.005
Building 300	17808	356	20.0	7123.2	890.4	14.8	2.0	29.7	0.066
Building 400	22295	446	20.0	8918.0	1114.8	18.6	2.0	37.2	0.083
Building 500	8624	172	20.0	3449.6	431.2	7.2	2.0	14.4	0.032
Building 600	9916	198	20.0	3966.4	495.8	8.3	2.0	16.5	0.037
Building 700	11788	236	20.0	4715.2	589.4	9.8	2.0	19.6	0.044
Building 800	13780	276	20.0	5512.0	689.0	11.5	2.0	23.0	0.051
Building 900	3769	75	20.0	1507.6	188.5	3.1	2.0	6.3	0.014
Bulding 1000	3556	71	20.0	1422.4	177.8	3.0	2.0	5.9	0.013
Building 1200	20008	400	20.0	8003.2	1000.4	16.7	2.0	33.3	0.074
Bulding 1300	10308	206	20.0	4123.2	515.4	8.6	2.0	17.2	0.038
Building 1400	23448	469	20.0	9379.2	1172.4	19.5	2.0	39.1	0.087
Bulding 1500	8773	175	20.0	3509.2	438.7	7.3	2.0	14.6	0.033
Building 1600	11443	229	20.0	4577.2	572.2	9.5	2.0	19.1	0.042
Building 1700	43551	871	20.0	17420.4	2177.6	36.3	2.0	72.6	0.162
Bulding 1800	32340	647	20.0	12936.0	1617.0	27.0	2.0	53.9	0.120
Building 1900	10361	207	20.0	4144.4	518.1	8.6	2.0	17.3	0.038
Central Plant	5396	27	20.0	539.6	67.5	1.1	2.0	2.2	0.005
Portables A-E	7913	40	20.0	791.3	98.9	1.6	2.0	3.3	0.007
Pool Mechanical	1356	7	20.0	135.6	17.0	0.3	2.0	0.6	0.001
Stadium	10432	209	20.0	4172.8	521.6	8.7	2.0	17.4	0.039
Total	330051	6381	20.0	127620.9	15952.6	265.9	2.0	531.8	1.185

* assumes 8 hour day

Future Conditions Demand Calculations

Future Condition Demand Calculations

Existing Buildings	Area (sf)	No. of Occupant	gpd/ Occupant	Demand (gpd)	Demand (gph)**	Demand (gpm)	Peaking Factor	Demand (gpm)	Demand (cfs)
Building 100*	43999								
Building 200	7837	157	20.0	3134.8	391.9	6.5	2.0	13.1	0.029
Building 201	1350	27	20.0	540	67.5	1.1	2.0	2.3	0.005
Building 300	17808	356	20.0	7123.2	890.4	14.8	2.0	29.7	0.066
Building 400	22295	446	20.0	8918	1114.8	18.6	2.0	37.2	0.083
Building 500	8624	172	20.0	3449.6	431.2	7.2	2.0	14.4	0.032
Building 600	9916	198	20.0	3966.4	495.8	8.3	2.0	16.5	0.037
Building 700	11788	236	20.0	4715.2	589.4	9.8	2.0	19.6	0.044
Building 800	13780	276	20.0	5512	689.0	11.5	2.0	23.0	0.051
Building 900	3769	75	20.0	1507.6	188.5	3.1	2.0	6.3	0.014
Bulding 1000	3556	71	20.0	1422.4	177.8	3.0	2.0	5.9	0.013
Building 1200	20008	400	20.0	8003.2	1000.4	16.7	2.0	33.3	0.074
Bulding 1300	10308	206	20.0	4123.2	515.4	8.6	2.0	17.2	0.038
Building 1400	23448	469	20.0	9379.2	1172.4	19.5	2.0	39.1	0.087
Bulding 1500	8773	175	20.0	3509.2	438.7	7.3	2.0	14.6	0.033
Building 1600	11443	229	20.0	4577.2	572.2	9.5	2.0	19.1	0.042
Building 1700	43551	871	20.0	17420.4	2177.6	36.3	2.0	72.6	0.162
Bulding 1800	32340	647	20.0	12936	1617.0	27.0	2.0	53.9	0.120
Building 1900	10361	207	20.0	4144.4	518.1	8.6	2.0	17.3	0.038
Central Plant	5396	108	20.0	2158.4	269.8	4.5	2.0	9.0	0.020
Portables A-E*	7913								
Pool Mechanical	1356	7	20.0	135.6	17.0	0.3	2.0	0.6	0.001
Stadium	10432	209	20.0	4172.8	521.6	8.7	2.0	17.4	0.039
Total	239717	4794	20.0	110848.8	13856.1	230.9	2.0	461.9	1.029

Future Buildings	Area (sf)	No. of Occupant	gpd/ Occupant	Demand (gpd)	Demand (gph)**	Demand (gpm)	Peaking Factor	Demand (gpm)	Demand (cfs)
Library/ LRC	59252	1185	20.0	23700.8	2962.6	49.4	2.0	98.8	0.220
Science and Math	62000	1240	20.0	24800	3100	51.7	2.0	103.3	0.230
Building 700/800	4500	90	20.0	1800	225	3.75	2.0	7.5	0.017
Performing Arts	45800	916	20.0	18320	2290	38.2	2.0	76.3	0.170
CTE (Applied Tech)	17360	347	20.0	6944	868	14.5	2.0	28.9	0.064
M&O/ Police	26720	534	20.0	10688	1336	22.3	2.0	44.5	0.099
Total	215632	2134	20.0	86253	10782	179.7	2.0	359.4	0.801

*demolished, not included; **assumes 8 hour day

Total = 821.3 1.830

Solano College – Fairfield Campus
Capacity Assessment – Domestic Water
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Capacity & Sizing Calculations

Sizing Calculations

Energy Equation:

$$Z_1 + \frac{P_1}{\delta} + \frac{V_1^2}{2g} = Z_2 + \frac{P_2}{\delta} + \frac{V_2^2}{2g} + \sum\Delta h$$

$P_1 = P_2 = 0$ "gage pressure"

$V_1 = V_2 = 0$

$Z_1 - Z_2 = \Delta$ Elevation

Simplified Hazen-Williams Equation:

$$hf = \frac{4.72\,L}{D^{4.86}}\left(\frac{Q}{C}\right)^{1.85}$$

Combind Equation:

$$Z_1 - Z_2 = \frac{4.72\,L}{D^{4.86}}\left(\frac{Q}{C}\right)^{1.85}$$

Existing Condition:

Trunk Main is 8" ACP

Ex. Dia. (ft)	Δ El	Length (ft)*	C-Factor	Capacity (cfs)	Demand (cfs)	Capacity Sufficient
0.67	8.0	2400	140	0.96	0.592	Yes

* Longest reach of 8" ACP is 2,400 LF

Future Condition:

Trunk Main is 8" ACP

Ex. Dia. (ft)	Δ El	Length (ft)*	C-Factor	Capacity (cfs)	Demand (cfs)	Capacity Sufficient
0.67	8.0	2400	140	0.96	0.915	Yes

* Longest reach of 8" ACP is 2,400 LF

Appendix 8.3
– Fire Protection Capacity Calculations

Fire Protection Water

Design:

- The residual pressure at 2,500 gpm and resulting flow at 20 psi was determined using the following equation from NFPA 291:

Hydrant Flow Equation (NFPA 21):

$$Q_R = Q_F \; x \; \frac{hr^{0.54}}{h_f^{\;0.54}}$$

Where: Q_R = Flow predicted at desired residual pressure (gpm)
Q_F = Total flow measured during test (gpm)
h_R = Pressure drop to desired residual pressure (psi)
h_R = Pressure drop measured during test (psi)

- The pipe sizes were analyzed/determined using the Energy Equation and Simplified Hazen-Williams Equation.

Energy Equation:

$$Z_1 + \frac{P_1}{\delta} + \frac{V_1^2}{2g} = Z_2 + \frac{P_2}{\delta} + \frac{V_2^2}{2g} + \sum \Delta h$$

Where: Z = Elevation
P = Pressure (ft)
V = Velocity (ft/s)
g = Acceleration due to gravity
Δh = Friction Headloss (ft)

Simplified Hazen Williams Equation:

$$h_f = \frac{4.72\,L}{D^{4.86}}\left(\frac{Q}{C}\right)^{1.85}$$

Where: h_f = Friction Headloss (ft)
L = Pipe Length (ft)
D = Pipe Diameter (ft)
Q = Flow Rate (cfs)
C = Hazen-Williams coefficient

$$L_{equivalent} = 0.00530\; K_m\; C^{1.85}\; D^{0.87}\; Q^{0.15}$$

Where: L = Equivalent Length (ft)
Km = Minor Loss Coefficient (0.25)
D = Pipe Diameter (ft)
C = Hazen-Williams coefficient (140 for PVC, 120 for ACP)

Assumptions:

- Assume all buildings are Type IIA construction or higher (i.e. Type IA or IB).
- Assume all buildings are not sprinkled and require 3,500 gpm of fire flow per the California Fire Code. For the purposes of this analysis it is assumed that each hydrant must flow 2,500 gpm and that two hydrants can act upon a single building to supply the 3,500 gpm required flow.
- Assume all hydrants require 2,500 gpm at 20 psi minimum, this is the requirement set for onsite hydrants during the insurance premium hydrant tests, see Hydrant Flow Data.
- Calculations were performed assuming a looped analysis. Also all calculations were run from the point of connection (BFP#1 and BFP#2) to the City water main off of Suisun Valley Road.
- Pressure loss across the back flow preventer (BFP) was assumed to be 7 psi.

Results and Recommendations:

Existing Condition:

The existing water supply system at the Solano College Fairfield Campus has sufficient capacity to convey 2,500 gpm at a minimum 20 psi residual pressure to all fire hydrant on-site except Fire Hydrant #3. Upsizing the 6-inch service main (460 linear feet) to an 10-inch main would provide sufficient supply to Hydrant #3 or upsize the service main to an 8-inch and extend to the existing 8-inch main to create a loop in the system.

Future Condition:

The future water supply system at the Solano College Fairfield Campus has sufficient capacity to convey 2,500 gpm at a minimum 20 psi residual pressure to all fire hydrant on-site except Fire Hydrant #3. Upsizing the 6-inch service main (460 linear feet) to an 10-inch main would provide sufficient supply to Hydrant #3 or upsize the service main to an 8-inch and extend to the existing 8-inch main to create a loop in the system. An additional two (2) fire hydrants will be required (at the Performing Arts Center and the Maintenance and Operations/ Police Buildings) to meet the required fire protection standards.

Fire Hydrant Flow Data

INSURANCE SERVICES OFFICE, INC.

HYDRANT FLOW DATA SUMMARY

City Cordelia Fd
County Solano
State California
Witnessed by: Insurance Services Office, Inc.
Date: April 28, 2011

TEST NO.	TYPE DIST.*	TEST LOCATION	SERVICE	FLOW - GPM Q=(29.83(C(d²)p^0.5)) INDIVIDUAL HYDRANTS			TOTAL	PRESSURE PSI STATIC	RESID.	FLOW -AT 20 PSI NEEDED **	AVAIL.	REMARKS***
1	Comm	West Cordelia Road & Dittmer Rd.	Vallejo Water Department, 1	1300	0	0	1300	88	78	3500	3700	(C)-(1792 gpm)
2	Comm	Central Way & W Cordelia Rd.	Vallejo Water Department, 1	1240	0	0	1240	65	60	4000	4100	(A)-(3590 gpm)(D)-(1683 gpm)
2.1	Comm	Central Way & W Cordelia Rd.	Vallejo Water Department, 1	1240	0	0	1240	65	60	500	4100	
3	Comm	Cordelia Road & Ritchie Rd	Vallejo Water Department, 1	1100	0	0	1100	86	70	2250	2400	(B)-(2010 gpm)
4	Comm	Next hyd west on Suisun Vallley Rd.	Vallejo Water Department, 1	1400	0	0	1400	112	99	2500	4000	(A)-(1250 gpm)(B)-(2010 gpm)
5	Comm	Rockville Road & Sidney Jones Ln	Vallejo Water Department, 1	980	0	0	980	181	85	2500	1300	(B)-(2010 gpm)
6	Comm	Suisun Valley Road & Solano College Rd.	Vallejo Water Department, 1	1420	0	0	1420	127	108	3000	3600	(C)-(1792 gpm)
7	Comm	Next on Willotta	Vallejo Water Department, Fairfield	840	0	0	840	57	45	2250	1500	
8	Res	Next up on green valley rd.	Vallejo Water Department, 1	1240	0	0	1240	125	97	1000	2500	
9	Comm	On Site - South of building	Vallejo Water Department, 1	1300	0	0	1300	100	83	1750	3000	Between Bldg. 300 & 400

THE ABOVE LISTED NEEDED FIRE FLOWS ARE FOR PROPERTY INSURANCE PREMIUM CALCULATIONS ONLY AND ARE *NOT* INTENDED TO PREDICT THE MAXIMUM AMOUNT OF WATER REQUIRED FOR A LARGE SCALE FIRE CONDITION.

THE AVAILABLE FLOWS ONLY INDICATE THE CONDITIONS THAT EXISTED AT THE TIME AND AT THE LOCATION WHERE TESTS WERE WITNESSED.

*Comm = Commercial; Res = Residential.

**Needed is the rate of flow for a specific duration for a full credit condition. Needed Fire Flows greater than 3,500 gpm are not considered in determining the classification of the city when using the Fire Suppression Rating Schedule.

*** (A)-Limited by available hydrants to gpm shown. Available facilities limit flow to gpm shown plus consumption for the needed duration of (B)-2 hours, (C)-3 hours or (D)-4 hours.

Hydrant Flow Calculations

Hydrant Flow Equation (NFPA 21):

$$Q_R = Q_F \times \frac{h_r^{0.54}}{h_f^{0.54}}$$

Where:

Q_R = flow preditcted at desired residual pressure (gpm)

Q_F = total flow measure during test (gpm)

h_r = pressure drop to desired residual pressure (psi)

h_f = pressure drop measured during test (psi)

Flow Hydrant #4

Residual Flow at 20 psi						
Q_F (gpm)	Static Pressure (psi)	Desired Pressure (psi)	h_r (psi)	Residual Pressure (psi)	h_f (psi)	Q_R (gpm)
1400	112	20	92	99	13	**4028**

Residual Pressure at 1,500 gpm				
Q_F (gpm)	Desired Flow (gpm)	Static Pressure (psi)	Residual Pressure (psi)	Pressure @ 2,500 gpm (psi)
1400	2500	112	99	**73.96**

Flow Hydrant #6

Residual Flow at 20 psi						
Q_F (gpm)	Static Pressure (psi)	Desired Pressure (psi)	h_r (psi)	Residual Pressure (psi)	h_f (psi)	Q_R (gpm)
1420	127	20	107	108	19	**3611**

Residual Pressure at 1,500 gpm				
Q_F (gpm)	Desired Flow (gpm)	Static Pressure (psi)	Residual Pressure (psi)	Pressure @ 2,500 gpm (psi)
1420	2500	127	108	**72.84**

Flow Hydrant #9

Residual Flow at 20 psi						
Q_F (gpm)	Static Pressure (psi)	Desired Pressure (psi)	h_r (psi)	Residual Pressure (psi)	h_f (psi)	Q_R (gpm)
1300	100	20	80	83	17	**3000**

Residual Pressure at 1,500 gpm				
Q_F (gpm)	Desired Flow (gpm)	Static Pressure (psi)	Residual Pressure (psi)	Pressure @ 2,500 gpm (psi)
1300	2500	100	83	**42.94**

Required Fire Flow Calculations

Existing Condition:

Location	Maximum Gross Square Footage	Construction Type	Minimum Fire Flow @ 20 psi (gpm)[1]	Sprinkler System	% Reduction[2]	Required Fire Flow (gpm)[3]
Building 1700	55,881	IIA	3500	No	No	2500

Future Condition:

Location	Maximum Gross Square Footage	Construction Type	Minimum Fire Flow @ 20 psi (gpm)[1]	Sprinkler System	% Reduction[2]	Required Fire Flow (gpm)[3]
Building 1700	55,881	IIA	3500	No	No	2500

Location	Maximum Gross Square Footage	Construction Type	Minimum Fire Flow @ 20 psi (gpm)[1]	Sprinkler System	% Reduction[2]	Required Fire Flow (gpm)[3]
Library/ LRC	59,252	IIA	3500	Yes	75%	875

1. From California Fire Code Table B105.1
2. From California Fire Code Section B105.2
3. Assumes each hydrant required to supply 2500 gpm individually, and 2 hydrants can act per each building to provide 3500 gpm.

TABLE B105.1
MINIMUM REQUIRED FIRE-FLOW AND FLOW DURATION FOR BUILDINGS

FIRE-FLOW CALCULATION AREA (square feet)					FIRE-FLOW (gallons per minute)[c]	FLOW DURATION (hours)
Type IA and IB[b]	Type IIA and IIIA[b]	Type IV and V-A[b]	Type IIB and IIIB[b]	Type V-B[b]		
0-22,700	0-12,700	0-8,200	0-5,900	0-3,600	1,500	2
22,701-30,200	12,701-17,000	8,201-10,900	5,901-7,900	3,601-4,800	1,750	
30,201-38,700	17,001-21,800	10,901-12,900	7,901-9,800	4,801-6,200	2,000	
38,701-48,300	21,801-24,200	12,901-17,400	9,801-12,600	6,201-7,700	2,250	
48,301-59,000	24,201-33,200	17,401-21,300	12,601-15,400	7,701-9,400	2,500	
59,001-70,900	33,201-39,700	21,301-25,500	15,401-18,400	9,401-11,300	2,750	
70,901-83,700	39,701-47,100	25,501-30,100	18,401-21,800	11,301-13,400	3,000	3
83,701-97,700	47,101-54,900	30,101-35,200	21,801-25,900	13,401-15,600	3,250	
97,701-112,700	54,901-63,400	35,201-40,600	25,901-29,300	15,601-18,000	3,500	
112,701-128,700	63,401-72,400	40,601-46,400	29,301-33,500	18,001-20,600	3,750	
128,701-145,900	72,401-82,100	46,401-52,500	33,501-37,900	20,601-23,300	4,000	4
145,901-164,200	82,101-92,400	52,501-59,100	37,901-42,700	23,301-26,300	4,250	
164,201-183,400	92,401-103,100	59,101-66,000	42,701-47,700	26,301-29,300	4,500	
183,401-203,700	103,101-114,600	66,001-73,300	47,701-53,000	29,301-32,600	4,750	
203,701-225,200	114,601-126,700	73,301-81,100	53,001-58,600	32,601-36,000	5,000	
225,201-247,700	126,701-139,400	81,101-89,200	58,601-65,400	36,001-39,600	5,250	
247,701-271,200	139,401-152,600	89,201-97,700	65,401-70,600	39,601-43,400	5,500	
271,201-295,900	152,601-166,500	97,701-106,500	70,601-77,000	43,401-47,400	5,750	
295,901-Greater	166,501-Greater	106,501-115,800	77,001-83,700	47,401-51,500	6,000	
—	—	115,801-125,500	83,701-90,600	51,501-55,700	6,250	
—	—	125,501-135,500	90,601-97,900	55,701-60,200	6,500	
—	—	135,501-145,800	97,901-106,800	60,201-64,800	6,750	
—	—	145,801-156,700	106,801-113,200	64,801-69,600	7,000	
—	—	156,701-167,900	113,201-121,300	69,601-74,600	7,250	
—	—	167,901-179,400	121,301-129,600	74,601-79,800	7,500	
—	—	179,401-191,400	129,601-138,300	79,801-85,100	7,750	
—	—	191,401-Greater	138,301-Greater	85,101-Greater	8,000	

For SI: 1 square foot = 0.0929 m^2, 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895 kPa.
a. The minimum required fire flow shall be allowed to be reduced by 25 percent for Group R.
b. Types of construction are based on the *California Building Code*.
c. Measured at 20 psi.

Fire Line Capacity Calculations

Fire Line Capacity Calculations

Fire Flow Calculations																					
		Water Main						Water Main Stub					Hydrant Stub								
		Trunk Main			Minor Losses				Service Stub					Service Stub							
Hydrant I.D.[3]	Req'd Flow (gpm)	Length (ft)	Diameter (in)	C-Factor	Bends	$L_{EQUIV.}$ (Ft)	Friction Loss (ft)	Req'd Flow (gpm)	Length (ft)	Diameter (in)	C-Factor	Friction Loss (ft)	Req'd Flow (gpm)	Length (ft)	Diameter (in)	C-Factor	Friction Loss (ft)	ΔZ (ft)	Total Losses (ft)	Total Losses (psi)	Residual Pressure @ 1750 GPM
BFP#1 to Hyd#9	817	3930	8	120	12	85.85	58.70	0	0	8	120	0.00	2500	14	6	120	6.55	-6.50	58.75	25.43	41.57
BFP#2 to Hyd#9	1683	1040	8	120	2	15.95	58.71	0	0	8	120	0.00	2500	14	6	120	6.55	-6.50	58.76	25.44	41.56
BFP#1 to Hyd#1	1154	2830	8	120	10	75.34	80.40	0	0	8	120	0.00	2500	9	6	120	4.21	-7.50	77.11	33.38	33.62
BFP#2 to Hyd#1	1346	2155	8	120	4	30.84	80.41	0	0	8	120	0.00	2500	9	6	120	4.21	-7.50	77.12	33.39	33.61
BFP#1 to Hyd#2	1718	905	8	120	2	15.99	53.20	0	0	8	120	0.00	2500	8	6	120	3.74	-3.50	53.44	23.14	43.86
BFP#2 to Hyd#2	782	3860	8	120	12	85.29	53.18	0	0	8	120	0.00	2500	8	6	120	3.74	-3.50	53.42	23.13	43.87
BFP#1 to Hyd#3	1359	2100	8	120	5	38.61	80.08	2500	460	6	120	215.33	2500	5	6	120	2.34	-2.50	295.26	127.82	-60.82
BFP#2 to Hyd#3	1141	2880	8	120	10	75.21	80.08	2500	460	6	120	215.33	2500	5	6	120	2.34	-2.50	295.26	127.82	-60.82

Notes:
1. C factor for PVC was taken as 140, C factor for ACP was taken as 120
2. See Sample Fire Flow Calculations for methodology
3. See Hydrant Map for Hydrant Locations and Elevations
4. Approximate Pressure In Suisun Valley Road is 74 psi @ 2,500 gpm, a 7 psi loss across the BFP is assumed thus pressure at the BFP @ is 67 psi.

CSW | ST2
CSW/Stuber-Stroeh Engineering Group, Inc. 45 Leveroni Court, Novato, CA 94949 Tel 415.883.9850 Fax 415.883.9835
1310 Redwood Way, Suite 200, Petaluma, CA 94954 Tel 707.795.4764 Fax 707.795.0516

SHEET NO. 1/3
JOB NO. 4116402 JOB Solano College-Fairfield BY JAH DATE 12/13/13
CLIENT _____ SUBJECT Sample Fire Flow Calcs CHK'D _____ DATE _____

Hydrant #9

Requirement: 2,500 gpm @ 20 psi Residual

Analysis Method:

Hazen-Williams Eqn. → (simplified form)

$$h_f = \frac{4.72L}{D^{4.86}}\left(\frac{Q}{C}\right)^{1.85}$$

where: h_f = headloss (ft)
L = pipe length (ft)
D = pipe diameter (ft)
Q = Flow (cfs)
C = Hazen-Williams Coefficient

Minor Losses →

$$h_{minor} = K_m \frac{V^2}{2g}$$

$$\frac{4.72L}{D^{4.86}}\left(\frac{Q}{C}\right)^{1.85} = K_m \frac{V^2}{2g}$$

$$L_{equivalent} = 0.00530\, K_m\, C^{1.85}\, D^{0.87}\, Q^{0.15}$$

where: L = equivalent length (ft)
K_m = minor loss coefficient (0.25)
D = diameter (ft)
Q = Flow (cfs)

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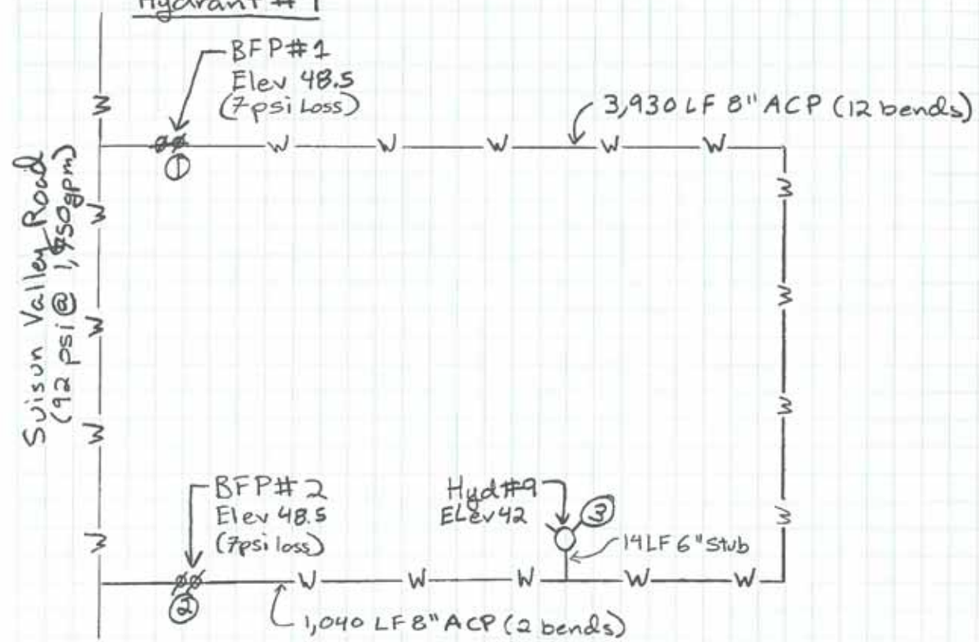
SHEET NO. 2/3
JOB NO. 4116402 JOB Solano College-Fairfield BY JAH DATE 12/13/13
CLIENT _____ SUBJECT Sample Fire Flow Calcs CHK'D _____ DATE _____

Hydrant #9



Balance Flow Across BFPs: $Q_{BFP1} = 817$ gpm $Q_{BFP2} = 1{,}683$ gpm

Minor Losses →

- Use $K_m = 0.25$ for each bend

$\therefore K_{m,1\to3} = (12)(0.25) = 3.0$
$K_{m,2\to3} = (2)(0.25) = 0.5$

$$L_{equiv,1\to3} = 0.00530(3.0)(120)^{1.85}(0.67)^{0.87}(817/448.8)^{0.15} = 86.22\text{ LF}$$

$$L_{equiv} = 0.00530(0.5)(120)^{1.85}(0.67)^{0.87}(1{,}683/448.8)^{0.15} = 16.01\text{ LF}$$

CSW | ST2

CSW/Stuber-Stroeh Engineering Group, Inc. 45 Leveroni Court, Novato, CA 94949 Tel 415.883.9850 Fax 415.883.9835
1310 Redwood Way, Suite 200, Petaluma, CA 94954 Tel 707.795.4764 Fax 707.795.0516

SHEET NO. 3/3

JOB NO. 4116402 JOB Solano College-Fairfield BY JAH DATE 12/13/13
CLIENT _____ SUBJECT Sample Fire Flow Calcs CHK'D _____ DATE _____

Hydrant #9 Continued

Friction Losses (Pt 1 → Pt 3) →

$L_{Total} = 3{,}930\ LF + 86.22\ LF = 4{,}016.22\ LF$

$h_f = \frac{4.72\,(4{,}016.22)}{(8/12)^{4.86}}\left(\frac{817/448.8}{120}\right)^{1.85} = \underline{58.67\ ft}$

Friction Losses (Pt 2 → Pt 3) →

$L_{Total} = 1{,}040\ LF + 16.01\ LF = 1{,}056.01\ LF$

$h_f = \frac{4.72\,(1{,}054.83)}{(8/12)^{4.86}}\left(\frac{1{,}683/448.8}{120}\right)^{1.85} = \underline{58.67\ ft}$ ← use

$h_{f\,1-3} = 58.67\ ft \approx 58.67\ ft = h_{f\,2-3}$ ✓ O.K.

Friction Losses (Pt 3 - Hyd #9) →

$h_f = \frac{4.72\,(14)}{(6/12)^{4.86}}\left(\frac{3{,}500/448.8}{120}\right)^{1.85} = \underline{6.55\ ft}$

Total Head Losses at Hyd #9:

$H_f = h_{f\,2-3} + h_{f\,3-\#9} + (Z_{\#9} - Z_2)$

$H_f = 58.67\ ft + 6.55\ ft + (42 - 48.5)$

$\underline{H_f = 58.72\ ft \approx 25.42\ psi}$

Residual Pressure @ 2,500 gpm:

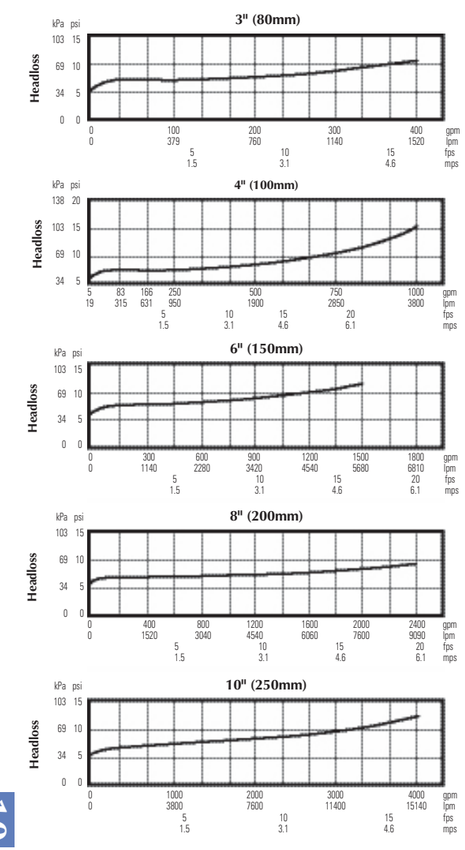
Residual Pressure = 74 psi − 7 psi − 25.42 psi

Residual Pressure = 41.58 psi

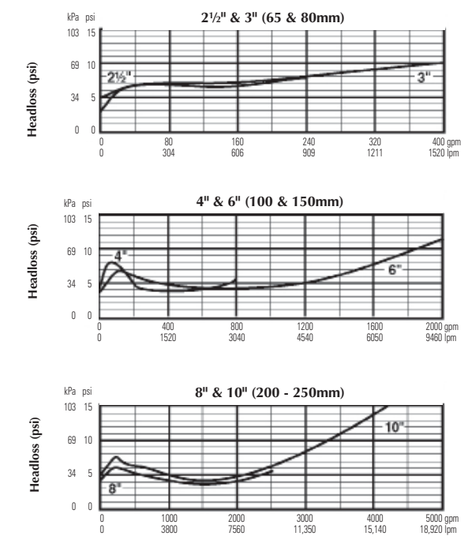
Back Flow Preventer Performance Curve

Flow Charts

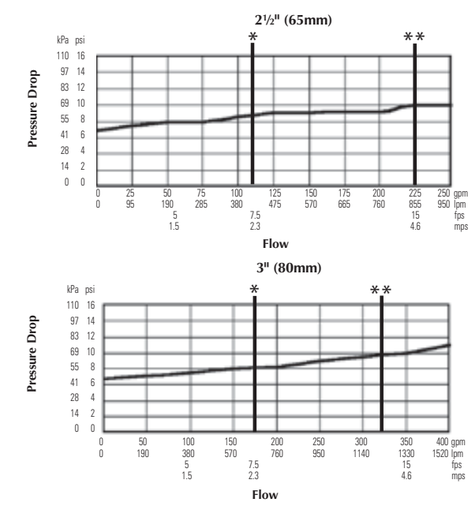
Series 806YD



Series 856



Series 858



Appendix 8.1
– Sanitary Sewer Capacity Calculations

Sa

Design:

- Sanitary Sewer peak flow rates were determined using the following equation from the Vacaville Standard Specifications:

$$Q_d = Q_{pdwf} + I$$

Where: Q_d = Design Flow (gpd)
Q_{pdwf} = Peak Dry Weather Flow (gpd)
I = Infiltration and Inflow (gpd)

$$Q_{pdwf} = Q_a \times 2.5$$

Where: Q_{pdwf} = Peak Dry Weather Flow (gpd)
Q_a = Average Dry Weather Flow (gpd)
2.5 = Peaking Factor

- I/I was taken as 1,000 gallons per day per acre from Vacaville Standard Specifications.
- SF was calculated based on occupancy of each building, with a flow rate of 30 gpd per student (Qa) in a secondary education facility, Vacaville Standard Specifications.
- Utilized Hydraflow Storm Sewers for AutoCAD Civil 3D 2012 to hydraulically model the sanitary sewer systems. The starting HGL of the system outfall was taken as crown of pipe. Please note that Storm Sewers rounds known flows to the hundredths place as a result the total flows are slightly higher than the calculations due to rounding. Calculated Building Flows were applied to the nearest upstream manhole, service stubs were not modeled.
- Hydraulic Model was constructed utilizing the Solano College – Vacaville Campus Landmark Site, prepared by CSW|ST2. Note, that not all plan sets utilized the same datum, therefore inverts have been revised to match datum's.

Assumptions:

General Assumptions:

- Existing and Future available square footages (asf) were taken from a spreadsheet provided by SVT/ VBN.
- Occupancy was determined using square footage and an occupant load factor (OLF) of 50 square feet per occupant.

Existing Condition:

- Existing Condition peak flows are based on occupancy with a flow rate of 30 gpd per occupant.

Future Condition:

- Future Condition peak flows are based on the Campus Master Plan layout.
- Future sewer mains were assumed to slope at 0.5%.
- Future Conditions analysis does not include the Corporate Training Education Center and Training Towers. These buildings will need to be served off of a separate sewer connection to the public main.

Results and Recommendations:

Existing Condition:

See Exhibit S1 for the existing sanitary sewer system. The hydraulic grade line remains more than 2 feet from the surface elevations, which is a standard practice freeboard. As such, the existing sewer system has sufficient capacity to convey the sewage loads at Solano College – Vacaville.

Future Condition:

See Exhibit S2 for the future sanitary sewer system. With the addition of several sewer mains throughout the campus, the existing and future sewer system has sufficient capacity to convey the future sewage loads at Solano College – Vacaville. This analysis does not include the Corporate Training Education Center and Training Towers. These buildings will need to be served off of a separate sewer connection to the public main.

Existing Condition Peak Flow Calculations

	Sanitary Sewer Flow Rates								
Existing Buildings	Area (sf)	No. of Occupant	gpd/ Occupant	Avg. Dry Weather Flow (gpd)	Peaking Factor	Peak Dry Weather Flow (gpd)	Peak Sanitary Flow (gph)*	Peak Sanitary Flow (gpm)	Peak Sanitary Flow (cfs)
Ex. Buildings	32058	641	30.0	19234.8	2.5	48087	6011	100.2	0.223
Total	32058	641	30.0	19234.8	2.5	48087	6011	100.2	0.223

* assumes 8 hour day

Existing Condition Peak Flow Calculations

	Inflow/ Infiltration							Total Flow Rate (cfs)
Existing Buildings	Tributary Area (sf)	Tributary Area (ac)	I/I (gpd)	I/I (gpd)	I/I (gph)*	I/I (gpm)	I/I (cfs)	
Ex. Building	571910	13.1	1000	13129	547.1	9.1	0.020	0.244
Total	571910	13.1	1000	13129	547.1	9.1	0.020	0.244

* Assumes 24 hour day

Future Condition Peak Flow Calculations

	Sanitary Sewer Flow Rates								
Future Buildings	Area (sf)	No. of Occupant	gpd/ Occupant	Avg. Dry Weather Flow (gpd)	Peaking Factor	Peak Dry Weather Flow (gpd)	Peak Sanitary Flow (gph)*	Peak Sanitary Flow (gpm)	Peak Sanitary Flow (cfs)
Ex. Buildings	32058	641	30.0	19234.8	2.5	48087	6011	100.2	0.223
Bio-Tech/Multi Science	39150	783	30.0	23490.0	2.5	58725	7341	122.3	0.273
Forum Cafe	2552	51	30.0	1531.2	2.5	3828	479	8.0	0.018
Corp. Training Center**	47329	947	30.0	28397.4	2.5	70994	8874	147.9	0.330
Training Towers**	4600	92	30.0	2760.0	2.5	6900	863	14.4	0.032
Maint. & Oper.	10000	200	30.0	6000.0	2.5	15000	1875	31.3	0.070
Library LRC	32000	640	30.0	19200.0	2.5	48000	6000	100.0	0.223
Student Services	26000	520	30.0	15600.0	2.5	39000	4875	81.3	0.181
Child Development Center	11320	226	30.0	6792.0	2.5	16980	2123	35.4	0.079
Agr./ Food Science	18000	360	30.0	10800.0	2.5	27000	3375	56.3	0.125
Fitness Center	48596	972	30.0	29157.6	2.5	72894	9112	151.9	0.338
Classroom Building	24770	495	30.0	14862.0	2.5	37155	4644	77.4	0.172
Total	244446	4889	30.0	146667.6	2.5	366669	45834	763.9	1.702

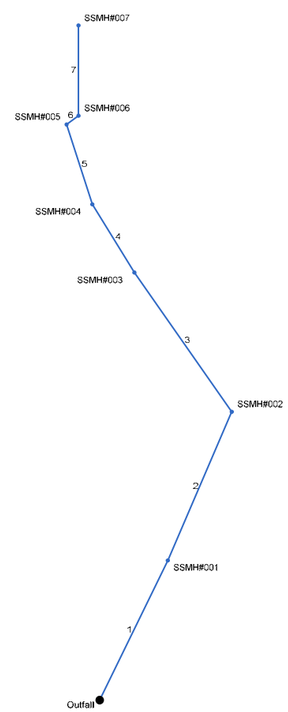
* Assumes 8 hour day, ** Corp. Traning Education Center and Training Towers not included in calculations

Future Condition Peak Flow Calculations

	Inflow/ Infiltration							Total Flow Rate (cfs)
Future Buildings	Tributary Area (sf)	Tributary Area (ac)	I/I (gpd)	I/I (gpd)	I/I (gph)*	I/I (gpm)	I/I (cfs)	
Ex. Building	45268	1.0	1000	1039	43.3	0.7	0.002	0.225
Bio-Tech/Multi Science	36567	0.8	1000	839	35.0	0.6	0.001	0.274
Forum Cafe	23963	0.6	1000	550	22.9	0.4	0.001	0.019
Corp. Training Center**	36769	0.8	1000	844	35.2	0.6	0.001	0.331
Training Towers**	0	0.0	1000	0	0.0	0.0	0.000	0.032
Maint. & Oper.	34294	0.8	1000	787	32.8	0.5	0.001	0.071
Library LRC	56987	1.3	1000	1308	54.5	0.9	0.002	0.225
Student Services	41669	1.0	1000	957	39.9	0.7	0.001	0.183
Child Development Center	26429	0.6	1000	607	25.3	0.4	0.001	0.080
Agr./ Food Science	34286	0.8	1000	787	32.8	0.5	0.001	0.127
Fitness Center	51105	1.2	1000	1173	48.9	0.8	0.002	0.340
Classroom Building	33677	0.8	1000	773	32.2	0.5	0.001	0.174
Total	384245	8.8	1000	8821	367.5	6.1	0.014	1.716

* Assumes 24 hour day, ** Corp. Traning Education Center and Training Towers not included in calculations

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



Project File: Ex Sanitary Sewer.stm	Number of lines: 7	Date: 9/19/2013

Storm Sewers v5.00

Storm Sewer Inventory Report

Page 1

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	243.000	-64.075	MH	0.00	0.00	0.00	0.0	84.28	0.30	85.01	12	Cir	0.015	0.15	95.16	
2	1	252.781	-2.745	MH	0.00	0.00	0.00	0.0	85.14	0.61	86.68	8	Cir	0.012	0.87	93.50	
3	2	265.268	-58.008	MH	0.00	0.00	0.00	0.0	86.78	0.64	88.49	8	Cir	0.012	0.15	94.24	
4	3	125.137	3.266	MH	0.00	0.00	0.00	0.0	88.59	0.70	89.47	8	Cir	0.012	0.28	95.75	
5	4	131.125	13.801	MH	0.00	0.00	0.00	0.0	89.47	0.77	90.48	8	Cir	0.012	0.96	96.07	
6	5	23.050	71.140	MH	0.00	0.00	0.00	0.0	90.56	0.74	90.73	8	Cir	0.012	0.83	95.64	
7	6	141.125	-53.379	MH	0.24	0.00	0.00	0.0	90.79	0.99	92.19	6	Cir	0.012	1.00	95.78	

Project File: Ex Sanitary Sewer.stm	Number of lines: 7	Date: 9/19/2013

Storm Sewers v5.0

Storm Sewer Tabulation

Page

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	243.000	0.00	0.00	0.00	0.00	0.00	0.0	6.9	0.0	0.24	1.69	0.62	12	0.30	84.28	85.01	85.28	85.37	90.00	95.16	
2	1	252.781	0.00	0.00	0.00	0.00	0.00	0.0	5.0	0.0	0.24	1.02	2.23	8	0.61	85.14	86.68	85.37	86.91	95.16	93.50	
3	2	265.268	0.00	0.00	0.00	0.00	0.00	0.0	3.0	0.0	0.24	1.05	2.24	8	0.64	86.78	88.49	87.01	88.72	93.50	94.24	
4	3	125.137	0.00	0.00	0.00	0.00	0.00	0.0	2.1	0.0	0.24	1.10	2.24	8	0.70	88.59	89.47	88.82	89.70	94.24	95.75	
5	4	131.125	0.00	0.00	0.00	0.00	0.00	0.0	1.1	0.0	0.24	1.15	2.24	8	0.77	89.47	90.48	89.70	90.71	95.75	96.07	
6	5	23.050	0.00	0.00	0.00	0.00	0.00	0.0	1.0	0.0	0.24	1.12	2.24	8	0.74	90.56	90.73	90.79	90.96	96.07	95.64	
7	6	141.125	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.24	0.61	2.46	6	0.99	90.79	92.19	91.04	92.44	95.64	95.78	

Project File: Ex Sanitary Sewer.stm | Number of lines: 7 | Run Date: 9/19/2013

NOTES:Known Qs only ; c = cir e = ellip b = box

Storm Sewers v5.0

Hydraulic Grade Line Computations

Page

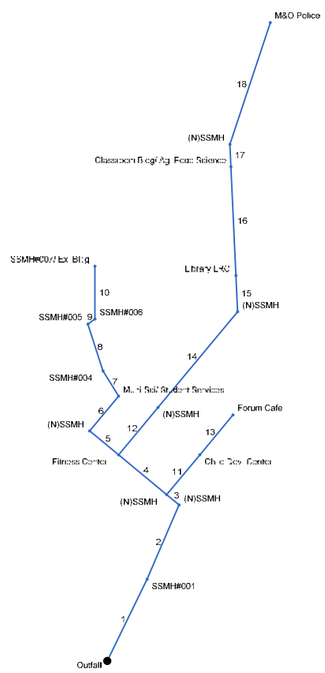
Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minc loss
	(in)	(cfs)	Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	(ft)	Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	Ave Sf (%)	Enrgy loss (ft)	(K)	(ft)
1	12	0.24	84.28	85.28	1.00	0.79	0.31	0.00	85.28	0.006	243.000	85.01	85.37	0.36	0.25	0.94	0.01	85.38	0.079	0.042	0.103	0.15	0.0
2	8	0.24	85.14	85.37	0.23	0.11	2.22	0.08	85.45	0.498	252.78	86.68	86.91 j	0.23**	0.11	2.24	0.08	86.99	0.507	0.502	n/a	0.87	0.0
3	8	0.24	86.78	87.01	0.23*	0.11	2.24	0.08	87.09	0.507	265.26	88.49	88.72	0.23**	0.11	2.24	0.08	88.80	0.507	0.507	n/a	0.15	0.0
4	8	0.24	88.59	88.82	0.23*	0.11	2.24	0.08	88.90	0.507	125.13	89.47	89.70	0.23**	0.11	2.24	0.08	89.78	0.507	0.507	n/a	0.28	0.0
5	8	0.24	89.47	89.70	0.23*	0.11	2.24	0.08	89.78	0.507	131.12	90.48	90.71	0.23**	0.11	2.24	0.08	90.79	0.507	0.507	n/a	0.96	0.0
6	8	0.24	90.56	90.79	0.23*	0.11	2.24	0.08	90.87	0.507	23.050	90.73	90.96	0.23**	0.11	2.24	0.08	91.04	0.507	0.507	n/a	0.83	0.0
7	6	0.24	90.79	91.04	0.25*	0.10	2.46	0.09	91.13	0.635	141.12	92.19	92.44	0.25**	0.10	2.46	0.09	92.53	0.635	0.635	n/a	1.00	0.0

Project File: Ex Sanitary Sewer.stm | Number of lines: 7 | Run Date: 9/19/2013

Notes: * depth assumed.; ** Critical depth.; j-Line contains hyd. jump. ; c = cir e = ellip b = box

Storm Sewers v5

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



Project File: Pro Sanitary Sewer.stm	Number of lines: 18	Date: 1/25/2014

Storm Sewers v5.00

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	243.000	-64.073	MH	0.00	0.00	0.00	0.0	84.28	0.30	85.01	12	Cir	0.015	0.15	95.16	
2	1	215.933	-2.746	MH	0.00	0.00	0.00	0.0	85.14	0.61	86.46	12	Cir	0.012	0.97	93.80	
3	2	42.876	-73.504	MH	0.00	0.00	0.00	0.0	86.56	0.49	86.77	12	Cir	0.012	1.00	93.80	
4	3	166.432	0.051	MH	0.34	0.00	0.00	0.0	86.87	0.50	87.70	12	Cir	0.012	1.00	94.00	
5	4	100.045	-0.051	MH	0.00	0.00	0.00	0.0	87.80	0.50	88.30	8	Cir	0.012	1.00	94.50	
6	5	120.739	89.946	MH	0.46	0.00	0.00	0.0	88.30	0.50	88.90	8	Cir	0.012	0.96	95.00	
7	6	79.344	-71.160	MH	0.00	0.00	0.00	0.0	88.91	0.71	89.47	8	Cir	0.012	0.28	95.75	
8	7	131.125	13.775	MH	0.00	0.00	0.00	0.0	89.47	0.77	90.48	8	Cir	0.012	0.96	96.07	
9	8	23.050	71.140	MH	0.00	0.00	0.00	0.0	90.56	0.74	90.73	8	Cir	0.012	0.83	95.64	
10	9	141.125	-53.379	MH	0.23	0.00	0.00	0.0	90.79	0.99	92.19	6	Cir	0.012	1.00	95.78	
11	3	138.568	90.016	MH	0.08	0.00	0.00	0.0	86.77	0.50	87.46	6	Cir	0.012	0.15	93.90	
12	4	164.592	89.910	MH	0.00	0.00	0.00	0.0	87.70	0.50	88.52	8	Cir	0.012	0.15	94.25	
13	11	138.153	-0.126	MH	0.02	0.00	0.00	0.0	87.46	0.50	88.15	6	Cir	0.012	1.00	94.00	
14	12	332.289	0.004	MH	0.00	0.00	0.00	0.0	88.52	0.50	90.18	8	Cir	0.012	0.72	94.50	
15	14	96.730	-42.309	MH	0.23	0.00	0.00	0.0	90.18	0.50	90.66	8	Cir	0.012	0.15	94.75	
16	15	291.188	0.009	MH	0.30	0.00	0.00	0.0	90.66	0.50	92.12	8	Cir	0.012	0.15	95.00	
17	16	59.927	0.266	MH	0.00	0.00	0.00	0.0	92.12	0.50	92.42	8	Cir	0.012	0.41	95.25	
18	17	342.674	20.674	MH	0.07	0.00	0.00	0.0	92.42	0.50	94.13	6	Cir	0.012	1.00	96.00	

Project File: Pro Sanitary Sewer.stm	Number of lines: 18	Date: 1/25/2014

Storm Sewers v5.0

Storm Sewer Tabulation

Page

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	243.000	0.00	0.00	0.00	0.00	0.00	0.0	12.7	0.0	1.72	1.69	2.20	12	0.30	84.28	85.01	85.28	85.99	90.00	95.16	
2	1	215.933	0.00	0.00	0.00	0.00	0.00	0.0	11.5	0.0	1.72	3.02	3.11	12	0.61	85.14	86.46	86.01	87.02	95.16	93.80	
3	2	42.876	0.00	0.00	0.00	0.00	0.00	0.0	11.3	0.0	1.72	2.70	3.67	12	0.49	86.56	86.77	87.12	87.37	93.80	93.80	
4	3	165.432	0.00	0.00	0.00	0.00	0.00	0.0	10.5	0.0	1.62	2.72	3.28	12	0.50	86.87	87.70	87.56	88.24	93.80	94.00	
5	4	100.045	0.00	0.00	0.00	0.00	0.00	0.0	3.8	0.0	0.69	0.92	2.89	8	0.50	87.80	88.30	88.24	88.72	94.00	94.50	
6	5	120.739	0.00	0.00	0.00	0.00	0.00	0.0	3.0	0.0	0.69	0.92	2.66	8	0.50	88.30	88.90	88.86	89.30	94.50	95.00	
7	6	79.344	0.00	0.00	0.00	0.00	0.00	0.0	2.1	0.0	0.23	1.10	1.48	8	0.71	88.91	89.47	89.45	89.70	95.00	95.75	
8	7	131.125	0.00	0.00	0.00	0.00	0.00	0.0	1.1	0.0	0.23	1.15	2.21	8	0.77	89.47	90.48	89.70	90.71	95.75	96.07	
9	8	23.050	0.00	0.00	0.00	0.00	0.00	0.0	1.0	0.0	0.23	1.12	2.21	8	0.74	90.56	90.73	90.79	90.96	96.07	95.64	
10	9	141.125	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.23	0.61	2.42	6	0.99	90.79	92.19	91.03	92.43	95.64	95.78	
11	3	138.568	0.00	0.00	0.00	0.00	0.00	0.0	3.3	0.0	0.10	0.43	0.86	6	0.50	86.77	87.46	87.56	87.68	93.80	93.90	
12	4	164.592	0.00	0.00	0.00	0.00	0.00	0.0	9.4	0.0	0.60	0.92	2.51	8	0.50	87.70	88.52	88.24	88.88	94.00	94.25	
13	11	138.153	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.02	0.43	0.70	6	0.50	87.46	88.15	87.68	88.22	93.90	94.00	
14	12	332.289	0.00	0.00	0.00	0.00	0.00	0.0	7.4	0.0	0.60	0.92	2.81	8	0.50	88.52	90.18	88.88	90.60	94.25	94.50	
15	14	96.730	0.00	0.00	0.00	0.00	0.00	0.0	6.8	0.0	0.60	0.92	2.59	8	0.50	90.18	90.66	90.68	91.03	94.50	94.75	
16	15	291.188	0.00	0.00	0.00	0.00	0.00	0.0	4.6	0.0	0.37	0.93	2.17	8	0.50	90.66	92.12	91.05	92.41	94.75	95.00	
17	16	59.927	0.00	0.00	0.00	0.00	0.00	0.0	3.6	0.0	0.07	0.93	1.01	8	0.50	92.12	92.42	92.41	92.55	95.00	95.25	
18	17	342.674	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.07	0.43	1.60	6	0.50	92.42	94.13	92.56	94.27	95.25	96.00	

Project File: Pro Sanitary Sewer.stm | Number of lines: 18 | Run Date: 1/25/2014

NOTES:Known Qs only ; c = cir e = ellip b = box

Storm Sewers v5.0

Hydraulic Grade Line Computations

Page

Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minc loss
	(in)	(cfs)	Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	(ft)	Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	Ave Sf (%)	Energy loss (ft)	(K)	(ft)
1	12	1.72	84.28	85.28	1.00	0.79	2.19	0.07	85.35	0.312	243.000	85.01	85.99	0.98	0.78	2.20	0.08	86.07	0.282	0.297	0.722	0.15	0.0
2	12	1.72	85.14	86.01	0.87	0.72	2.38	0.09	86.09	0.183	215.933	86.46	87.02	0.56**	0.45	3.83	0.23	87.25	0.559	0.371	n/a	0.97	n/a
3	12	1.72	86.56	87.12	0.56*	0.45	3.83	0.23	87.35	0.559	42.876	86.77	87.37	0.60	0.49	3.51	0.19	87.56	0.445	0.502	0.215	1.00	0.1
4	12	1.62	86.87	87.56	0.69	0.58	2.81	0.12	87.68	0.262	165.432	87.70	88.24	0.54**	0.43	3.75	0.22	88.46	0.547	0.404	n/a	1.00	0.2
5	8	0.69	87.80	88.24	0.44	0.24	2.81	0.12	88.36	0.461	100.045	88.30	88.72	0.42	0.23	2.97	0.14	88.86	0.528	0.494	0.494	1.00	0.1
6	8	0.69	88.30	88.86	0.56	0.31	2.21	0.08	88.93	0.267	120.739	88.90	89.30	0.40	0.22	3.11	0.15	89.45	0.594	0.430	0.520	0.96	0.1
7	8	0.23	88.91	89.45	0.54	0.30	0.76	0.01	89.46	0.032	79.344	89.47	89.70 j	0.23**	0.10	2.21	0.08	89.77	0.504	0.268	n/a	0.28	n/a
8	8	0.23	89.47	89.70	0.23*	0.10	2.21	0.08	89.77	0.504	131.125	90.48	90.71	0.23**	0.10	2.21	0.08	90.78	0.504	0.504	n/a	0.96	n/a
9	8	0.23	90.56	90.79	0.23*	0.10	2.21	0.08	90.86	0.504	23.050	90.73	90.96	0.23**	0.10	2.21	0.08	91.03	0.504	0.504	n/a	0.83	n/a
10	6	0.23	90.79	91.03	0.24*	0.09	2.42	0.09	91.12	0.627	141.125	92.19	92.43	0.24**	0.09	2.42	0.09	92.52	0.627	0.627	n/a	1.00	n/a
11	6	0.10	86.77	87.56	0.50	0.20	0.51	0.00	87.56	0.027	138.568	87.46	87.68	0.22	0.08	1.21	0.02	87.70	0.173	0.100	0.139	0.15	0.0
12	8	0.60	87.70	88.24	0.54	0.30	1.97	0.06	88.30	0.212	164.592	88.52	88.88	0.36**	0.19	3.06	0.15	89.03	0.620	0.416	n/a	0.15	n/a
13	6	0.02	87.46	87.68	0.22	0.08	0.24	0.00	87.68	0.007	138.153	88.15	88.22	0.07**	0.02	1.15	0.02	88.24	0.549	0.278	n/a	1.00	n/a
14	8	0.60	88.52	88.88	0.36*	0.19	3.06	0.15	89.03	0.620	332.289	90.18	90.60	0.42	0.23	2.55	0.10	90.70	0.389	0.505	1.678	0.72	0.0
15	8	0.60	90.18	90.68	0.50	0.28	2.14	0.07	90.75	0.255	96.730	90.66	91.03	0.37**	0.20	3.04	0.14	91.17	0.611	0.433	0.419	0.15	0.0
16	8	0.37	90.66	91.05	0.39	0.21	1.77	0.05	91.10	0.197	291.188	92.12	92.41 j	0.29**	0.14	2.58	0.10	92.51	0.542	0.370	n/a	0.15	0.0
17	8	0.07	92.12	92.41	0.29	0.14	0.49	0.00	92.41	0.020	59.927	92.42	92.55 j	0.13**	0.05	1.53	0.04	92.58	0.470	0.245	0.147	0.41	0.0
18	6	0.07	92.42	92.56	0.14	0.05	1.55	0.04	92.60	0.442	342.674	94.13	94.27 j	0.14**	0.04	1.65	0.04	94.31	0.532	0.487	n/a	1.00	0.0

Project File: Pro Sanitary Sewer.stm | Number of lines: 18 | Run Date: 1/25/2014

Notes: * depth assumed.; ** Critical depth.; j-Line contains hyd. jump. ; c = cir e = ellip b = box

Storm Sewers v5.0

Source Data

DESIGN STANDARDS

SECTION DS 6

SANITARY SEWER SYSTEM

DS 6-01 GENERAL:

A. INTENT: The intent of these Design Standards is to provide minimum standards for the design of a wastewater system that will dependably and safely collect wastewater from throughout the City and convey it to the wastewater treatment plant.

B. GOVERNING CRITERIA: These Design Standards, in conjunction with the most current edition of the City of Vacaville Sanitary Sewer Master Plan, hereafter referred to as Sewer Master Plan, shall govern the engineering design of all sanitary sewer system improvements within the City of Vacaville. In the event that there is a conflict with the criteria between these two documents or with other "Current Standards" so defined hereafter, the Director of Public Works shall determine which document governs. Additionally, if there are criteria or issues not addressed in these documents the Director of Public Works will determine the criteria to be used in the design.

C. CURRENT STANDARDS: Sanitary sewer design shall be completed in accordance with all current applicable laws, standards, and regulations including but not limited to the California Plumbing Code, American Society For Testing and Materials (ASTM), American Water Works Association (AWWA), California Department of Health Services, and the City of Vacaville: Sewer Master Plan, Municipal Code, and City Standard Specifications which include the Design Standards, Construction Standards and the Standard Drawings.

D. SEWER SYSTEM MASTER PLANNING: Sanitary sewer flows for planning purposes shall be estimated using the criteria included in the Sewer Master Plan. The City of Vacaville, Department of Public Works is responsible for all master planning of the sanitary sewer system. The design flow for Trunk Sewers (12 inch diameter and larger) is determined by Public Works Utilities Division through periodic master planning. Refer to the most current edition of the Sewer Master Plan for applicable design flows. At the discretion of the Director of Public Works, or in the absence of a current Sewer Master Plan, a special study shall be conducted to determine revised design flows, especially where Trunk Sewer alignments or land use assumptions for the development area are substantively different from the Sewer Master Plan. The special study shall be performed by the Department of Public Works or its consultant and shall be paid for by the developer. The special study shall include an analysis of the existing downstream sewer system and any phasing of the proposed project to identify any and all impacts of the proposed development on the existing City system. The analysis shall include recommendations for improvements to mitigate these impacts.

E. DESIGN REQUIREMENTS FOR ADDITIONS TO THE SANITARY SEWER SYSTEM: Additions to the sanitary sewer system shall be contingent on submission of a layout of all proposed sewer facilities and hydraulic calculations which satisfy all the design criteria outlined in these Design Standards. The calculations shall include a node map that depicts the entire area to be served by the subject sewers. For each sewer segment, the calculations shall include the basis of the design flow, pipe diameter, pipe length, inverts, slope, gravity flow capacity flowing full, allowable flow, and percent of the full-pipe capacity used at the design flow. City approval of the proposed design includes approval of the design assumptions and calculations to ensure that new Collection Main system improvements are consistent with system master planning and are properly sized to accommodate all planned flows, including proposed and future growth.

F. CATEGORIES OF SANITARY SEWER SYSTEM PIPING: There are four categories of sanitary sewer system piping included in the public system which is owned and maintained by the City of Vacaville as follows:

1. Service Lateral: piping connecting the sewer Collection Main system to the clean out or manhole at the private property line.
2. Collection Main or Main: piping solely located within the public right-of-way or easement connecting the Service Lateral to the Trunk Sewer.
3. Trunk Sewer: Larger diameter mains solely located within the public right-of-way or easement that deliver flow to the wastewater treatment plant, and generally serve more than one development area.
4. Force Main: Pressure piping solely located within the public right-of-way or easement that delivers flow from a Lift Station to the first downstream Gravity Main or Trunk Sewer at a manhole.

DS 6-02 SYSTEM DESIGN:

A. PIPE SIZING REQUIREMENTS: Pipe sizing in the Trunk Sewer and Collection Main sanitary sewer system shall be based on anticipated Design Flow at buildout for the service area and the hydraulic characteristics of the piping system as required by these Design Standards. The service lateral size shall be based upon the most current edition of the Plumbing Code enforced by the City of Vacaville; however the minimum size shall not be less than four (4) inches in diameter for residential services and six (6) inches for commercial or industrial services.

The City may require the developer to over size the Collection Main or Trunk Sewer beyond both the size required to serve the development and the City minimum size.

The following sizes are allowed in the City Sanitary Sewer system:

1. **Service Lateral** – 4 inch and larger. See Section DS 6.03B, "Sanitary Sewer Appurtenances, Services" of these Design Standards.

2. **Collection Main** - 8 & 10 inch

3. **Trunk Sewer** - 12 inch and larger

B. DESIGN FLOW: Design flow **(Qd)** is defined as peak wet weather flow at buildout for the service area. **Qd** is calculated by summing the peak dry weather flow **(Qpdwf)** and infiltration and inflow **(I)**.

The design flow for a Trunk Sewer is determined by the Department of Public Works using the City's sewer computer model through master planning or special study per Section DS 6-01 D of these Design Standards.

The design flow for a Collection Main shall be computed by the Developer using the following formula and criteria:

Qd = Qpdwf + I

Qd is the design flow in gallons per day

Qpdwf is the peak dry weather flow in gal. per day

I is the infiltration and inflow in gallons per day.

The infiltration and inflow component ***(I)*** shall be 1,000 gallons/acre/day applied to the gross acreage of the service area.

The peak dry weather flow **(Qpdwf)** for Collection Mains is calculated by multiplying the average dry weather flow **(Qa)** based on the factors given in **Table DS 6-1** times a peaking factor of 2.5. This method may also be used to calculate a preliminary Qpdwf for Trunk Sewers until modeling has been performed.

Qpdwf = Qa x 2.5

Table DS 6-1

Average Dry Weather Sanitary Sewer Flow Criteria (Qa)

Description	Residential, gpd/du [a]	Schools, gpd/student	Non-Residential, gpd/acre [a]	Non-Residential, gpd/ft^2
Residential – One Bedroom [b]	120	–	–	–
Residential – Two Bedroom [b]	160	–	–	–
Residential – Three Bedroom [b]	200	–	–	–
Residential – Four (or more) Bedroom	240	–	–	–
Residential [c]	240			
Office	–	–	1,500	0.115
Business Park	–	–	2,000	0.153
Industrial [d]	–	–	2,000	0.153
Retail Sales	–	–	1,900	0.145
Downtown Commercial	–	–	5,000	0.383
Highway Commercial	–	–	5,000	0.383
Service Commercial	–	–	1,900	0.145
Public - Low Water Use	–	–	0	0
Public - Medium Water Use	–	–	1,500	0.115
Public - High Water Use	–	–	1,500	0.115
Park	–	–	0	0
Private Recreation [e]	–	–	1,500	0.115
Elementary School	–	25	–	–
Secondary School	–	30	–	–
School Acreage	–	–	0	0
Open Space	–	–	0	0
Hospitals and Medical offices [f]	–	–	4,000	0.306
Places of Worship			1900	0.145
Agriculture	–	–	0	0

(a) gpd = gallons per day; du = dwelling unit

(b) Applicable only where the actual allowable dwelling unit and bedroom count is known and subject to no further changes by virtue of an executed development agreement or similar instrument. Where an executed development agreement or approved subdivision map applies to the sewer service area, the number of dwelling units shall be equal to the maximum allowed under such documents.

(c) This factor shall be applied where only an approximate dwelling unit count is available, and for predicted future growth in the service area.

(d) Applies only to dry industries. Design flows for industrial developments with the potential to produce above average flows must be computed on a case-by-case basis.

(e) Factor is not applied to golf course areas of play

(f) Qa shall be based upon project-specific flow projection with a minimum of 4,000 gpd/acre.

NOTE: Table DS 6-1 *is subject to periodic revisions based upon updated wastewater flow monitoring studies and master planning.*

Qa shall be computed as follows:

1. For residential land uses, Qa shall be equal to the appropriate factor from column 2 in **Table DS 6-1** multiplied by the number of residential units.

2. For school sites, Qa shall be equal to the appropriate factor from column 3 of **Table DS 6-1** multiplied by the anticipated number of students as determined by the Community Development Director.

3. For all other uses, the minimum value of Qa shall be equal to the appropriate factor from column 4 in **Table DS 6-1** multiplied by the gross area of development, including roadways, parking, and landscape areas in terms of acres. Where the anticipated uses have the potential to generate higher than typical flows for a given land use category, and where the floor-to-parcel area (FAR) is expected to exceed 0.30, Qa shall be projected on a case-by-case basis using the per-square foot factors in column 5 of **Table DS 6-1**, or another appropriate method approved by the Director of Public Works.

4. Qa must reflect anticipated actual flows where actual flows are expected to be higher than predicted using the standard factors. In no case shall Qa be less than the minimum value defined in the preceding paragraphs.

C. PIPE SIZE SELECTION: Pipe size shall be selected such that design flow (**Qd**) is limited to the percentage of full pipe capacity specified in **Table DS 6-2**. Depth of flow and velocity for gravity flow conditions shall be calculated using Manning's Equation shown below:

$$Q = A(1.49/n)R^{2/3} s^{1/2}$$

Where: Q = Flow rate in cubic feet per second, A = The cross sectional area of the flow in the pipe in square feet, n = the roughness coefficient of the pipe and is not less than .013 for all pipe materials, R = Hydraulic radius in feet, and s = slope of the pipe.

D. VERTICAL ALIGNMENT: Unless otherwise authorized by the Director of Public Works, sanitary sewer line grades shall be set as follows:

1. **Minimum Slope:** Minimum slopes and other design criteria for various pipe diameters are shown in **Table DS 6-2**.

Table DS 6-2. Allowable Utilization of Capacity in New Sewers

Pipe Diameter, Inches	Maximum Allowable Utilization of Capacity		Minimum Slope [(a)], ft/ft	Equivalent Maximum Allowable Flow Qd at Minimum Slope[(a)], mgd
	As Percent of Full Pipe Gravity Flow Capacity	As Depth to Diameter Ratio, d/D		
8	70	0.62	0.0035	0.33
10	70	0.62	0.0025	0.50
12	80	0.68	0.0019	0.80
15	80	0.68	0.0015	1.29
18	80	0.68	0.0011	1.80
21	90	0.74	0.0010	2.77
24	90	0.74	0.0009	3.72
27	90	0.74	0.0009	4.77
30	90	0.74	0.0009	5.85
33	90	0.74	0.0009	6.88
36	90	0.74	0.0009	8.68
42 & up	90	0.74	0.0009	11.7 (42")

[(a)] A slope greater than minimum may be required for Trunk Sewers where the projected flows do not produce the required minimum velocity and/or where higher allowable flows are required. See Section DS 6.02.D.2 for the minimum Trunk Sewer velocity requirements.

2. **Minimum Velocity:** Additionally, the minimum velocity in new Trunk Sewers is two (2) feet per second (fps) at **Qpdwf**. **Qpdwf** is equal to **Qd** excluding Infiltration (I). The minimum velocity standard is independent of the minimum slope requirement. Special consideration shall be given in instances where predicted peak flows will not achieve a velocity of two (2) fps for more than the first five (5) years of the life of the pipeline. Steeper slopes, manhole liners, or other modification to these City Standards may be required by the Director of Public Works to prevent odor and corrosion problems where low flows are anticipated.

3. **Maximum Velocity:** A maximum velocity of ten (10) fps is allowed at design flow.

4. **Steep Sewers:** Steep sewers are defined as sewers having a slope greater than or equal to 3%, and shall not be permitted without prior approval by the Director of Public Works. The design submittal for approval by the Director of Public Works shall include the following:

   a. A hydraulic jump analysis shall be performed at the transitions from steep to flatter slopes and special manhole designs shall be provided to accommodate excessive energy dissipation and corrosion control where high velocities occur.

   b. Concrete cut-off walls shall be designed to prevent longitudinal groundwater flow in the pipe bedding material of steep sewers.

   c. Geotechnical soils reports are required where sewers are proposed in hillside developments when the slope exceeds 10%. The report at a minimum shall address the following:

      i. General soils and bedrock conditions and recommended trench, bedding and backfill requirements.

      ii. Stability or instability of selected sewer alignment

      iii. Potential groundwater problems and mitigation measures.

5. **Vertical Curves –** Vertical curves may be allowed if approved by the Director of Public Works when the change in the surface profile grades exceeds 5%.

6. **Change of Direction –** The flow line of the upstream sewer pipe shall be 0.10 feet above the flow line of the downstream pipe at all manholes where a horizontal change of direction of more than 20º occurs.

7. **Change in Size** – Pipe connections solely between Collection Main piping or solely between Trunk Sewer Piping shall be made such that the crown of the smaller main is no lower than the crown of the larger pipe. Connections to Trunk Sewers by a new Collection Main shall be made so that the invert grade of the new main will be no lower than the crown of the Trunk Sewer unless otherwise approved by the Director of Public Works.

8. **Depth –** The depth of any sanitary sewer shall be adequate to obtain a minimum cover of three (3) feet for each service lateral at the flow line of the gutter. Cover in excess of 12 feet must be approved by the Director of Public Works or a parallel more shallow Collection Main system shall be installed in addition to the deep sewer main.

E. PIPE LAYOUT REQUIREMENTS: The sanitary sewer system layout shall conform to the Sewer Master Plan and the following requirements:

1. **Trunk Sewer and Collection Main location:** All Trunk sewers and Collection Mains shall be installed within public right-of-ways or, with the approval of the Director of Public Works, in dedicated easements. Where a Trunk Sewer or Collection Main is installed in an easement, the easement shall be 15 feet wide and be located on a single lot with the main centered in the easement. The preferable location for sewer mains shall be six (6) feet from centerline of the street, on the opposite side of the street centerline from the water main. The alignment shall be parallel to the street centerline wherever possible. Where the street centerline is curvilinear in alignment, curved sewer main alignments are preferred and allowed when the deflection at each pipe, coupling, and fitting joint conforms to the criteria specified in Section CS 9 Sanitary Sewer, of the Construction Standards.

2. **Cross-country pipelines:** Cross-country pipelines are defined as pipeline locations located outside of the limits of the public street right-of-way. Cross-country pipelines shall be avoided whenever possible and are only allowed with the approval by the Director of Public Works. If approved, the cross-country pipelines shall be constructed on ground slopes less than 20% with an all-weather access road. The access road shall be provided over the entire length of the cross country pipeline alignment. Where the all weather access road exceeds 10% in grade, the road shall be paved. Paving shall consist of Portland cement concrete or Asphalt Concrete. The pavement structural section shall be approved by the Director pf Public Works.

3. **Requirements for Sewer Main Separation from other utilities:**

   Clearances for sewer main installation are illustrated on the "Separation of Water and Sewer Lines" Standard Drawing.

   Any deviation in clearances from the following requirements and the Standard Drawing must conform to the criteria for the separation of water mains and sanitary sewers set forth in the California Water Works Standards contained in the California Administrative Code and must be approved in advance of plan submittal by the Director of Public Works. Additional requirements may be imposed for such deviations.

   Sewer mains shall be installed as follows:

   a. At least ten (10) feet horizontally from and one (1) foot lower than water mains located parallel to the main (measured from the nearest edge of the main).

   b. At least five (5) feet horizontally from all other facilities.

   c. At least one (1) foot lower than water mains crossing the sewer main (measured from the nearest edge of each main). However, a two (2) foot

vertical separation is required between a sanitary sewer force main and a water main.

d. At least nine (9) feet from the water main joints where the sewer crosses the water main.

e. In a separate trench from the water main.

F. ALLOWABLE MAIN LINE PIPE MATERIALS:

1. **General:** The pipe material used in construction for Sanitary Sewers shall conform to Section CS 9, of these City Standards and the following requirements.

2. **Gravity Sewers:** The pipe material for sanitary sewers shall conform to the following:

   a. The pipe material used in the construction of gravity sewers of eight (8) inch diameter up to and including 12 shall be vitrified clay, ductile iron, or polyvinyl chloride (PVC) SDR26; unless a particular pipe material is specified by the Director of Public Works. Vitrified Clay Pipe (VCP) shall be at a minimum "Extra Strength". If greater bearing strength is required, "High Strength" VCP shall be specified on the Project Plans.

   b. Pipe sizes greater than 12 inches up to 42 inches in diameter shall be Vitrified Clay Pipe (VCP), "High Strength".

   c. Ductile Iron Pipe (DIP) shall be used where inadequate depth, limited separation from other facilities, or other special constraint is present.

   d. DIP used in construction of gravity sewer applications shall be lined in accordance with Section CS 9, "Sanitary Sewer Construction Standards".

   e. Mains 42 inches in diameter and greater shall be designed on a case-by-case basis as approved by the Director of Public Works.

3. **Force Mains –** Force mains (pressure mains) shall be ductile iron with polyethylene encasing. At the sole discretion of the Director of Public Works, PVC per AWWA C 900 (class 150) or High Density Polyethylene (HDPE) with butt-fused joints and wall thickness of not less than DR11may be considered as an alternative for force mains up to 12 inches in diameter.

   a. Thrust restraint shall be provided at all bends and valves as well as at designated lengths of pipe upstream and downstream of each bend or valve to accommodate the thrust restraint requirements. The length of restrained joint pipe shall be calculated using the Ductile Iron Pipe Research Association (DIPRA) Thrust restraint for Ductile Iron Pipe formulas or the EBAA restraint software.

   b. The calculations for restraining joints shall be based upon a pressure of 150 percent of the test pressure or 150 psi, whichever is greater. A factor of safety of 1.5 shall be applied to the calculated length to determine the required restrained length. Additionally**,** the calculations shall include consideration for polyethylene encasement when using DIP.

   c. Thrust blocks shall not be used unless approved by the Director of Public Works. Where allowed by the Director of Public Works, thrust blocks shall be installed per Standard Drawings 5-02, 5-03, & 5-04. The dimensions for thrusts blocks for pipe sizes less than eight (8) inches shall be calculated and detailed on the Project Plans.

   d. The design for force mains with DIP shall include lining with amine cured quartz filled ceramic epoxy in accordance with Section CS 9, "Sanitary Sewer Construction Standards" for any portion of the pipe that will not always remain full (even with the pump in the off mode). The Design Engineer shall designate the length of pipe on the Project Plans that requires the ceramic lining.

DS 6-03 SANITARY SEWER APPURTENANCES

A. MANHOLES:

1. Manholes shall be located on the sewer main at the following points:

   a. At intervals not to exceed 400 feet.

   b. At changes of pipe size, slope or direction.

   c. At six (6) inch and larger service lateral connections to the main.

   d. At service lateral connection to a 15 inch Trunk Sewer or larger.

   e. At the end of the sewer main.

   f. At transitions between PVC and other pipe materials.

2. Manholes shall be 48-inch inside diameter and conform to the Standard Drawings for pipe sizes 24 inches and less.

3. A specific manhole design shall be included with the Project Plans for pipe diameters larger than 24 inches. The minimum inside diameter for the manhole shall be 60 inches for pipe sizes greater than 24 inches.

4. Hinged frames and covers with locking devices as specified in Section CS 9, "Sanitary Sewer Construction Standards" shall be provided on all manholes located outside the paved area of the public street right-of-way.

5. Cleanouts shall not be used at the ends of sewers unless the sewer is to be extended in the future <u>and</u> the line is less than 200 feet long.

6. Piping for inside drop manholes shall be PVC SDR 26 only.

B. SERVICES:

1. **Slope:** Sewer service laterals shall have a minimum slope of 2% unless otherwise approved by the Director of Public Works.

2. **Location and Alignment:** Sewer service laterals shall conform to the following criteria:

   a. Be at right angles or radial to street right-of-way unless connecting to a manhole.

   b. Be located a minimum of five (5) feet from any driveway or property line.

   c. Be placed a minimum of five (5) feet horizontally from other utility facilities, such as water services, streetlights, storm drains, etc. Clearance from fire hydrants shall be ten (10) feet. In cul-de-sac bulbs, services should enter manholes and should enter at or near the base of the manhole.

3. **Size:** The size of the service shall not exceed the size of the main. The minimum size for single residential units shall be four (4) inches. Minimum size for multi-family residential units, commercial and industrial developments shall be six (6) inches.

4. **Depth:** Sewer service laterals shall have three (3) feet minimum cover at the flow line of the gutter (see Standard Drawing 6-05).

5. **Cleanouts –** Cleanouts shall be installed on all sewer services, and their location shall be within the public right-of-way (see Standard Drawings 6-05 and 6-06).

6. **Connections to Large Mains – Four (**4) inch sewer laterals may be directly connected to sewer lines 12 inches in diameter or smaller (per Standard Drawing 6-05). For Trunk Sewers 15 inches in diameter and larger, the sewer service lateral must be connection at a manhole.

7. **Type of Pipe:** PVC SDR 26 or VCP.

C. METERING MANHOLES: Metering Manholes shall be provided in new Trunk Sewers at locations designated by Public Works Utilities Division. Requirements shall be provided by the Director of Public Works on a project-by-project basis.

DS 6-04 LIFT STATIONS: Lift stations shall not be permitted unless specifically approved by the Director of Public Works in advance of the submittal for the Tentative Map or Planning Approval process. Refer to the City's current Sanitary Sewer Master Plan for lift station design criteria.

DS 6-05 MISCELLANEOUS DESIGN CRITERIA:

A. STUDY MAP: A study map shall be required prior to review of the sewer design if there is a possibility that upstream or adjacent areas might require service through the subject property. The map should show the entire service area including upstream tributary and adjacent areas, and all other data necessary to determine anticipated service area, including pipe sizes and slopes, shall be shown to the extent necessary to determine the mitigations and improvements required within and offsite of the subject property. Any required study map shall be paid for by the project Developer.

B. PROJECT PLANS REQUIREMENTS: The Project Plans shall depict the sanitary sewer in plan and profile views, and typical cross sections. The type and size of pipe material and all appurtenances shall be noted on the plans. The requirements for joint restraints for piping, bends and valves on force mains shall be designated on the plans. The Project Plans shall also show the sewer main crossings with other utilities including vertical clearances; horizontal distances to the roadway centerline, water main and storm drain pipes; flow line of pipe elevations at all grade changes and manholes; service lateral locations, and existing and proposed grades at ground surface. The locations shall be stationed or dimensioned on the plans**.**

C. EASEMENTS: If public sanitary sewer mains are to be located outside of the public street right-of-way, the sewer main shall be located in an easement of a minimum width of 15 feet. Legal descriptions of the easement shall be submitted with the Project Plans for review and approval by the City prior to approval of the Project Plans.

D. TRENCH LOADING:

1. Minimum Standards for pipe material, trench excavation, and trench bedding, foundation, and backfill are included in the Construction Standards of these City Standard Specifications. However, the Design Engineer responsible for the preparation of the Project Plans shall evaluate the actual site conditions and prepare calculations to ensure that the proposed pipe material, trench width, and the design of bedding and backfill material are adequate based upon the criteria specified below. When certain site conditions and design criteria require a pipe material with greater strength or stiffness, or a trench design, bedding or backfill more stringent than the City minimum standards, these factors shall be included on the Project Plans.

2. Calculations shall be submitted to the City Engineer/Director of Public Works for review and approval for all Trunk Sewer pipe design. Calculations shall also be submitted for Collection Main and Service Lateral piping that do not conform to **Table DS 6-3. Table DS 6-3** shows the maximum depth of the various Collection Main and Service Lateral pipe material using Crushed Rock bedding as defined in these City Standard Specifications. If the design

conditions do not conform to criteria used to establish the maximum cover shown in **Table DS 6-3**, then calculations shall be submitted to the Director of Public Works/City Engineer for review and approval.

Table DS 6-3

Pipe Size	Pipe Material	Maximum Cover Over Top of Pipe
4 to 8 inch	Extra Strength VCP[1]	20 feet
4 to 8 inch	High Strength VCP[1]	20 feet
10 inch	Extra Strength VCP[1]	18 feet
10 inch	High Strength VCP[1]	19 feet
4 thru 10 inch	PVC SDR 26[2]	20 feet
4 thru 10 inch	DIP[3]	20 feet

[1]The maximum cover over the pipe was calculated using Marston's Formula in accordance with the ASCE Manual of Engineering Practice No. 60/WPCF Manual of Practice No. FD-5, backfill weighing 140 lbs per cubic foot, H-20 loading, trench load calculated using "transition width", a load factor of 2.2, a $r_{sd}p$ factor of 0.75, and a Factor of Safety of 1.25.

[2]The maximum cover over the pipe was calculated using the Modified Iowa Formula in accordance with the ASCE Manual of Engineering Practice No. 60/WPCF Manual of Practice No. FD-5, backfill weighing 140 lbs per cubic foot, H-20 loading, trench load calculated using "prism load", a Deflection Lag (D_L) factor of 1.0, a bedding constant (K_b) factor of 0.1, the modulus of soil reaction (E') for Crushed Rock bedding equal to 1000 lb/in^2, the modulus of tensile elasticity (E) of the PVC pipe equal to 400,000 lb/in^2, the maximum calculated deflection of the PVC pipe equal to 3-1/3% (with a Factor of Safety of 1.5) to achieve an in place maximum deflection of 5%.

[3]The maximum cover over the pipe was calculated using the latest revision of American Water Works Association/American National Standards Institute C-150/A21.50 – Thickness Design of Ductile Iron Pipe and AWWA Manual M-41 – Ductile Iron Pipe and Fittings, backfill weighing 140 lbs per cubic foot, H-20 loading, trench load calculated using "prism load", the maximum in place deflection of the pipe equal to 3% (unless flexible lining is used where the maximum deflection is 5%), and a Factor of Safety of 1.5.

3. VCP Pipe Calculations: Marston's formula shall be used to determine the load placed on the pipe by the backfill. The design procedure for this pipe material shall be in accordance with the ASCE Manual of Engineering Practice No. 60 / WPCF Manual FD-5, "Gravity Sanitary Design and Construction", and the Clay Pipe Engineering Manual. The following criteria shall apply when calculating the loads on VCP pipe:

a. The pipe and trench design for Collection Main and Service Lateral pipe shall be calculated using the Transition Width. The pipe and trench design

for Trunk Sewer pipe may be designed at Transition Width. The calculated safety factor shall be a minimum of 1.25 when the trench load is calculated at Transition Width.

b. The calculated safety factor shall be a minimum of 1.5 when using specific trench width design maximums that are less than Transition Width for Trunk Sewer pipe and trench design. The maximum trench width is controlled by the ability of the pipe and bedding to resist the vertical external load and shall be subject to the approval of the City Engineer/Director of Public Works and the maximum trench width shall be clearly designated on the Project Plans with notations of the requirements if the maximum width is exceeded in construction.

c. When using Crushed Rock for bedding, a maximum load factor of 2.2 shall be utilized to calculate the allowable load.

d. The earth load (dead load) shall be calculated based upon the conservative prism load condition (also referred to as "transition width" or embankment condition) unless maximum trench widths are specified on the Project Plans in accordance with "b" above. A minimum soil weight of 140 pounds per cubic foot shall be assumed for trenches unless geotechnical soils report data can substantiate other values.

e. All pipes with less than nine (9) feet of cover (including areas not intended for vehicular traffic) shall be designed with AASHTO H-20 truck loading.

4. PVC Pipe Calculations: The method for calculating loads and determining the design requirements for PVC sewer pipe shall be in accordance with the latest published edition of ASCE Manual and Report of Engineering Practice No. 60 / WPCF Manual FD-5, "Gravity Sanitary Sewer Design and Construction." The Modified Iowa Formula shall be used to estimate the deflection of the pipe under load conditions. The following factors shall be taken into account for calculating the design loads and deflection:

a. The assumed modulus of soil reaction (E') used in the deflection calculation shall be 1000 psi, for Crushed Rock bedding. The Deflection Lag factor (D_L) shall be assumed as 1.0 and the Bedding Constant (K) as 0.1. The modulus of elasticity (E) of the PVC pipe shall be assumed to be 400,000 psi.

b. The earth load (dead load) shall be calculated based upon the conservative prism load condition. A minimum soil weight of 140 pounds per cubic foot shall be assumed for trenches unless geotechnical soils report data can substantiate other values.

c. All pipes with less than nine (9) feet of cover (including areas not intended for vehicular traffic) shall be designed with AASHTO H-20 truck loading.

d. For installation, the maximum allowable deflection shall be 5.0 percent of the pipe's "Average Inside Diameter" as defined by ASTM 3034 when measured not less than 30 days following completion of the trench backfill. For design purposes, a safety factor of 1.5 shall be assumed. Therefore, the calculated deflection shall not be more than 3-1/3 percent.

5. **DIP Calculations:** The Thickness Design of DIP is based on the flexible conduit theory. Earth load is based on the conservative Prism design theory. Truck loading is based on AASHTO (American Association of State Highway and Transportation Officials) H-20 Truck loading (16,000 lb wheel load.) Specific formulas and methods for determining appropriate design thickness shall be in accordance with the latest revision of American Water Works Association/American National Standards Institute C-150/A21.50 – Thickness Design of Ductile Iron Pipe and AWWA Manual M-41 – Ductile Iron Pipe and Fittings.

E. BEDDING AND INITIAL BACKFILL: Bedding and initial backfill type shall be as necessitated by height of cover over the pipe, trench width, pipe strength, and other factors used to determine safe pipe loading. Any special backfill requirements shall be noted on the plans. The minimum design for bedding and backfill shall conform to Standard Drawings and Section CS 3 Trench Bedding and Backfill of the Construction Standards contained in the City Standard Specifications.

Appendix 8.2
– Domestic Water Capacity Calculations

Domestic Water

Design:

- The pipe sizes were analyzed/determined using the Energy Equation and Simplified Hazen-Williams Equation.

Energy Equation:

$$Z_1 + \frac{P_1}{\delta} + \frac{V_1^2}{2g} = Z_2 + \frac{P_2}{\delta} + \frac{V_2^2}{2g} + \sum \Delta h$$

Where: Z = Elevation
P = Pressure (ft)
V = Velocity (ft/s)
g = Acceleration due to gravity
Δh = Friction Headloss (ft)

Simplified Hazen Williams Equation:

$$h_f = \frac{4.72\,L}{D^{4.86}}\left(\frac{Q}{C}\right)^{1.85}$$

Where: h_f = Friction Headloss (ft)
L = Pipe Length (ft)
D = Pipe Diameter (ft)
Q = Flow Rate (cfs)
C = Hazen-Williams coefficient

Assumptions:

General Assumptions:

- Domestic water main capacity was analyzed under the following assumptions: the proposed domestic water main is 8" PVC and configured in a loop, if that water main had sufficient capacity to convey the calculated demand the system as a whole had sufficient capacity.
- Existing demand was assumed to be 30.0 gallons per day (gpd) per occupant, based on the sanitary sewer demand on the system.
- A peak factor of 2.0 was used for all demand calculations.

- Occupancy was determined using square footage and an occupant load factor (OLF) of 50 square feet per occupant.
- Calculations exclude any irrigation demand on the system.
- The Future Conditions analysis exclude the Corporate Training Education Center and Training Towers as these buildings will be served off of a separate service then the remainder of the campus.

Results and Recommendations:

Existing Condition:

See Exhibit W1 for the existing domestic water system. The existing domestic water system has sufficient capacity to convey the water demand at Solano College – Vacaville Campus.

Future Condition:

See Exhibit W2 for the future domestic water system. The existing domestic water system is insufficient to convey the future water demands. A combined private domestic and fire water supply system is recommended for the campus expansion. A 3,000 linear foot 8-inch water main, which ties into the existing 8-inch fire main, installed in a loop is recommended to provide the necessary capacity to convey the water demand at Solano College – Vacaville Campus. The Corporate Training Education Center and Training Towers were excluded from this analysis, as these buildings will be served off of a separate service then the remainder of the campus.

Existing Condition Demand Calculations

Existing Condition Demand Calculations

Existing Buildings	Area (sf)	No. of Occupant	gpd/ Occupant	Demand (gpd)	Demand (gph)*	Demand (gpm)	Peaking Factor	Demand (gpm)	Demand (cfs)
Ex. Buildings	32058	641	30.0	19234.8	2404.4	40.1	2.0	80.1	0.179
Total	32058	641	30.0	19234.8	2404.4	40.1	2.0	80.1	0.179

* assumes 8 hour day

Future Conditions Demand Calculations

Future Condition Demand Calculations

Existing Buildings	Area (sf)	No. of Occupant	gpd/ Occupant	Demand (gpd)	Demand (gph)*	Demand (gpm)	Peaking Factor	Demand (gpm)	Demand (cfs)
Ex. Buildings	32058	641	30.0	19234.8	2404.4	40.1	2.0	80.1	0.179
Total	32058	641	30.0	19234.8	2404.4	40.1	2.0	80.1	0.179

Future Buildings	Area (sf)	No. of Occupant	gpd/ Occupant	Demand (gpd)	Demand (gph)*	Demand (gpm)	Peaking Factor	Demand (gpm)	Demand (cfs)
Bio-Tech/Multi Science	39150	783	30.0	23490	2936.3	48.9	2.0	97.9	0.218
Forum Cafe	2552	51	30.0	1531	191.4	3.2	2.0	6.4	0.014
Corp. Training Center**	47329	947	30.0	28397	3549.7	59.2	2.0	118.3	0.264
Training Towers**	4600	92	30.0	2760	345.0	5.8	2.0	11.5	0.026
Maint. & Oper.	10000	200	30.0	6000	750.0	12.5	2.0	25.0	0.056
Library LRC	32000	640	30.0	19200	2400.0	40.0	2.0	80.0	0.178
Student Services	26000	520	30.0	15600	1950.0	32.5	2.0	65.0	0.145
Child Development Center	11320	226	30.0	6792	849.0	14.2	2.0	28.3	0.063
Agr./ Food Science	18000	360	30.0	10800	1350.0	22.5	2.0	45.0	0.100
Fitness Center	48596	972	30.0	29158	3644.7	60.7	2.0	121.5	0.271
Classroom Building	24770	495	30.0	14862	1857.8	31.0	2.0	61.9	0.138
Total	212388	4248	30.0	127433	15929	265.5	2.0	531.0	1.183

* Assumes 8 hour day, ** Corp. Traning Education Center and Training Towers not included in calculations **Total = 611.1 1.362**

Capacity & Sizing Calculations

Sizing Calculations

Energy Equation:

$$Z_1 + \frac{P_1}{\delta} + \frac{V_1^2}{2g} = Z_2 + \frac{P_2}{\delta} + \frac{V_2^2}{2g} + \sum \Delta h$$

$P_1 = P_2 = 0$ "gage pressure"

$V_1 = V_2 = 0$

$Z_1 - Z_2 = \Delta$ Elevation

Simplified Hazen-Williams Equation:

$$hf = \frac{4.72\ L}{D^{4.86}} \left(\frac{Q}{C}\right)^{1.85}$$

Combind Equation:

$$Z_1 - Z_2 = \frac{4.72\ L}{D^{4.86}} \left(\frac{Q}{C}\right)^{1.85}$$

Existing Condition:

3" Water Service

Ex. Dia. (ft)	Δ El	Length (ft)	C-Factor	Capacity (cfs)	Demand (cfs)	Capacity Sufficient
0.25	5.0	241	140	0.20	0.179	Yes

Future Condition:

8" Water Main

Pro. Dia. (ft)	Δ El	Length (ft)*	C-Factor	Capacity (cfs)	Demand (cfs)	Capacity Sufficient
0.67	6.0	1400	150	1.19	1.183	Yes

* Longest reach of 8" PVC is 1,400 LF

Appendix 8.3
– Fire Protection Capacity Calculations

Fire Protection Water

Design:

- The residual pressure at 1,500 gpm and resulting flow at 20 psi was determined using the following equation from NFPA 291:

  Hydrant Flow Equation (NFPA 21):

$$Q_R = Q_F\ x\ \frac{hr^{0.54}}{h_f^{0.54}}$$

  Where: Q_R = Flow predicted at desired residual pressure (gpm)
  Q_F = Total flow measured during test (gpm)
  h_R = Pressure drop to desired residual pressure (psi)
  h_R = Pressure drop measured during test (psi)

- The pipe sizes were analyzed/determined using the Energy Equation and Simplified Hazen-Williams Equation.

  Energy Equation:

$$Z_1 + \frac{P_1}{\delta} + \frac{V_1^2}{2g} = Z_2 + \frac{P_2}{\delta} + \frac{V_2^2}{2g} + \sum \Delta h$$

  Where: Z = Elevation
  P = Pressure (ft)
  V = Velocity (ft/s)
  g = Acceleration due to gravity
  Δh = Friction Headloss (ft)

  Simplified Hazen Williams Equation:

$$h_f = \frac{4.72\ L}{D^{4.86}} \left(\frac{Q}{C}\right)^{1.85}$$

  Where: h_f = Friction Headloss (ft)
  L = Pipe Length (ft)
  D = Pipe Diameter (ft)
  Q = Flow Rate (cfs)
  C = Hazen-Williams coefficient

$$L_{equivalent} = 0.00530\, K_m\, C^{1.85}\, D^{0.87}\, Q^{0.15}$$

Where: L = Equivalent Length (ft)
Km = Minor Loss Coefficient (0.25)
D = Pipe Diameter (ft)
C = Hazen-Williams coefficient (140 for PVC, 120 for ACP)

Assumptions:

- Assume all buildings are Type IIA construction or higher (i.e. Type IA or IB).
- Assume all buildings have fire sprinkler systems that qualify for the reduction in fire flow of up to 75% allowed by the California Fire Code. For the purposes of this analysis a 75% reduction was assumed.
- Assume all hydrants require 1,500 gpm at 20 psi minimum, this is the requirement set for onsite hydrants during the insurance premium hydrant tests, see Hydrant Flow Data.
- Calculations for the existing conditions were performed on Hydrants #1, #1, and #3. These calculations were performed as a straight line analysis.
- Calculations for the future conditions were performed assuming a straight line analysis, which is more conservative than the proposed condition which is a looped system.
- Pressure loss across the back flow preventer (BFP) was assumed to be 7 psi.
- The Future Conditions analysis exclude the Corporate Training Education Center and Training Towers as these buildings will be served off of a separate service then the remainder of the campus.

Results and Recommendations:

Existing Condition:

See Exhibit FW1 for the existing fire protection water supply system map. The existing water supply system at the Solano College Vacaville Campus has sufficient capacity to convey 1,500 gpm at a minimum 20 psi residual pressure to all fire hydrant on-site.

Future Condition:

See Exhibit FW2 for the future fire protection water supply system map. The existing fire water system is sufficiently protects the existing building, however, and extension to the fire service is necessary to protect the proposed buildings. A combined private domestic and fire water supply system is recommended for the campus expansion. A 3,000 linear foot 8-inch water main, which ties into the existing 8-inch fire main, installed in a loop is recommended to provide the necessary capacity to convey the domestic and fire water demand at Solano College – Vacaville Campus. The Corporate Training Education Center and Training Towers were excluded from this analysis, as these buildings will be served off of a separate service then the remainder of the campus.

Fire Hydrant Flow Data

Utilities Department
650 Merchant Street
Vacaville, CA 95688
707-469-6400
707-469-6480

Date: January 27, 2014

To: CSW/Stuber-Stroeh Engineering Group, Inc.
45 Leveroni Court
Novato, CA 94949

From: Calvin H. Teraura

Subject: Water distribution system pressures and flows in the 12-inch water main in North Village Parkway in the vicinity of 2001 North Village Parkway

Project Name & Location: Solano Community College
2001 North Village Parkway

Contact: Kirk Bovitz, P.E.

Telephone: 415.883.9852, Fax: 415.883.9836

We estimate the water distribution system conditions in the looped 12-inch water main in North Village Parkway in the vicinity of 2001 North Village Parkway as follows:

System Static Pressure:

90 pounds per square inch (PSI)

Fireflow & Residual Pressure:

4,500 gallons per minute (GPM) @ 75 PSI residual.

Comments:

Please note that this information is calculated using the City of Vacaville's water distribution system computer model for the pipe network node at the intersection noted. You will need to estimate the losses through the service lateral, any backflow devices or appurtenances, on-site piping and elevation gain. This would be included in your engineer's calculations to the Fire Department.

Faxed ☐ Or E-Mailed ☒

Pc:

File # 205-13

Hydrant Flow Calculations

Hydrant Flow Equation (NFPA 21):

$$Q_R = Q_F \times \frac{h_r^{0.54}}{h_f^{0.54}}$$

Where:

Q_R = flow preditcted at desired residual pressure (gpm)

Q_F = total flow measure during test (gpm)

h_r = pressure drop to desired residual pressure (psi)

h_f = pressure drop measured during test (psi)

Existing Flow Data

Residual Flow at 20 psi						
Q_F (gpm)	**Static Pressure (psi)**	**Desired Pressure (psi)**	**h_r (psi)**	**Residual Pressure (psi)**	**h_f (psi)**	**Q_R (gpm)**
4500	90	20	70	75	15	**10339**

Residual Pressure at 1,500 gpm				
Q_F (gpm)	**Desired Flow (gpm)**	**Static Pressure (psi)**	**Residual Pressure (psi)**	**Pressure @ 1,500 gpm (psi)**
4500	1500	90	75	**88.04**

Required Fire Flow Calculations

Existing Condition:

Location	Maximum Gross Square Footage	Construction Type	Minimum Fire Flow @ 20 psi (gpm)[1]	Sprinkler System	% Reduction[2]	Required Fire Flow (gpm)[3]
Ex. Building	47,764	IIA	3000	Yes	75%	750

Future Condition:

Location	Maximum Gross Square Footage	Construction Type	Minimum Fire Flow @ 20 psi (gpm)[1]	Sprinkler System	% Reduction[2]	Required Fire Flow (gpm)[3]
Fitness Center	48,596	IIA	3250	Yes	75%	813

1. From California Fire Code Table B105.1
2. From California Fire Code Section B105.2
3. From California Fire Code Section B105.2 requires a minimum fire flow of 1,500 gpm.

APPENDIX B

TABLE B105.1
MINIMUM REQUIRED FIRE-FLOW AND FLOW DURATION FOR BUILDINGS

FIRE-FLOW CALCULATION AREA (square feet)					FIRE-FLOW (gallons per minute)[c]	FLOW DURATION (hours)
Type IA and IB[b]	Type IIA and IIIA[b]	Type IV and V-A[b]	Type IIB and IIIB[b]	Type V-B[b]		
0-22,700	0-12,700	0-8,200	0-5,900	0-3,600	1,500	2
22,701-30,200	12,701-17,000	8,201-10,900	5,901-7,900	3,601-4,800	1,750	
30,201-38,700	17,001-21,800	10,901-12,900	7,901-9,800	4,801-6,200	2,000	
38,701-48,300	21,801-24,200	12,901-17,400	9,801-12,600	6,201-7,700	2,250	
48,301-59,000	24,201-33,200	17,401-21,300	12,601-15,400	7,701-9,400	2,500	
59,001-70,900	33,201-39,700	21,301-25,500	15,401-18,400	9,401-11,300	2,750	
70,901-83,700	39,701-47,100	25,501-30,100	18,401-21,800	11,301-13,400	3,000	3
83,701-97,700	47,101-54,900	30,101-35,200	21,801-25,900	13,401-15,600	3,250	
97,701-112,700	54,901-63,400	35,201-40,600	25,901-29,300	15,601-18,000	3,500	
112,701-128,700	63,401-72,400	40,601-46,400	29,301-33,500	18,001-20,600	3,750	
128,701-145,900	72,401-82,100	46,401-52,500	33,501-37,900	20,601-23,300	4,000	4
145,901-164,200	82,101-92,400	52,501-59,100	37,901-42,700	23,301-26,300	4,250	
164,201-183,400	92,401-103,100	59,101-66,000	42,701-47,700	26,301-29,300	4,500	
183,401-203,700	103,101-114,600	66,001-73,300	47,701-53,000	29,301-32,600	4,750	
203,701-225,200	114,601-126,700	73,301-81,100	53,001-58,600	32,601-36,000	5,000	
225,201-247,700	126,701-139,400	81,101-89,200	58,601-65,400	36,001-39,600	5,250	
247,701-271,200	139,401-152,600	89,201-97,700	65,401-70,600	39,601-43,400	5,500	
271,201-295,900	152,601-166,500	97,701-106,500	70,601-77,000	43,401-47,400	5,750	
295,901-Greater	166,501-Greater	106,501-115,800	77,001-83,700	47,401-51,500	6,000	
—	—	115,801-125,500	83,701-90,600	51,501-55,700	6,250	
—	—	125,501-135,500	90,601-97,900	55,701-60,200	6,500	
—	—	135,501-145,800	97,901-106,800	60,201-64,800	6,750	
—	—	145,801-156,700	106,801-113,200	64,801-69,600	7,000	
—	—	156,701-167,900	113,201-121,300	69,601-74,600	7,250	
—	—	167,901-179,400	121,301-129,600	74,601-79,800	7,500	
—	—	179,401-191,400	129,601-138,300	79,801-85,100	7,750	
—	—	191,401-Greater	138,301-Greater	85,101-Greater	8,000	

For SI: 1 square foot = 0.0929 m^2, 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895 kPa.
a. The minimum required fire flow shall be allowed to be reduced by 25 percent for Group R.
b. Types of construction are based on the *California Building Code*.
c. Measured at 20 psi.

Fire Line Capacity Calculations

Fire Line Capacity Calculations

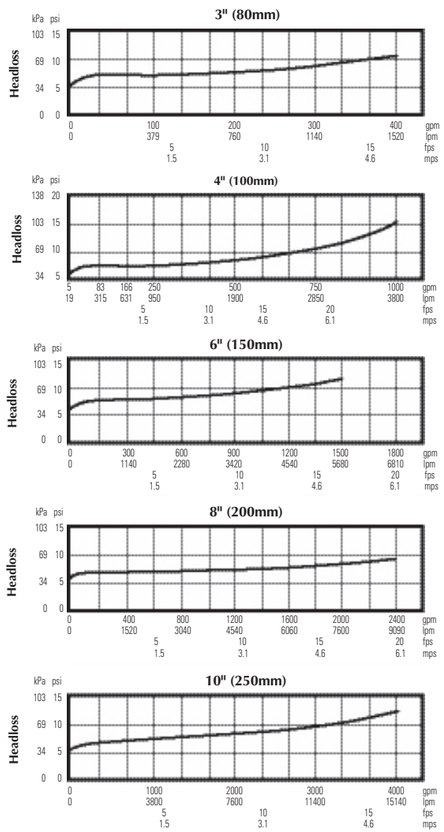
Fire Flow Calculations																						
		Water Main						Water Main Stub					Hydrant Stub									
		Trunk Main			Minor Losses				Service Stub					Service Stub								
Hydrant I.D.[3]	Req'd Flow (gpm)	Length (ft)	Diameter (in)	C-Factor	Bends	$L_{EQUIV.}$ (Ft)	Friction Loss (ft)	Req'd Flow (gpm)	Length (ft)	Diameter (in)	C-Factor	Friction Loss (ft)	Req'd Flow (gpm)	Length (ft)	Diameter (in)	C-Factor	Friction Loss (ft)	ΔZ (ft)	Total Losses (ft)	Total Losses (psi)	Residual Pressure @ 1500 GPM
BFP to Hyd#1	1500	420	8	140	3	31.27	15.25	0	0	8	120	0.00	1500	22	6	120	4.00	-4.00	15.25	6.60	74.40
BFP to Hyd#2	1500	182	8	140	2	20.84	6.86	0	0	8	120	0.00	1500	28	6	120	5.09	-5.00	6.95	3.01	77.99
BFP to Hyd#3	1500	548	8	140	3	31.27	19.58	0	0	8	120	0.00	1500	8	6	120	1.46	-5.00	16.03	6.94	74.06
BFP to Hyd#4	1500	2062	8	140	7	72.96	72.16	0	0	8	120	0.00	1500	138	6	120	25.11	-5.00	92.26	39.94	41.06

Notes:
1. C factor for PVC was taken as 140, C factor for ACP was taken as 120
2. See Sample Fire Flow Calculations for methodology
3. See Hydrant Map for Hydrant Locations and Elevations
4. Approximate Pressure In N. Village Parkway is 88 psi @ 1,500 gpm, a 7 psi loss across the BFP is assumed thus pressure at the BFP @ is 81 psi.
5. Hyd#1, #2, #3 were analyzed in the existing condition, Hyd#4 was analyzed in the proposed condition as a single line analysis.

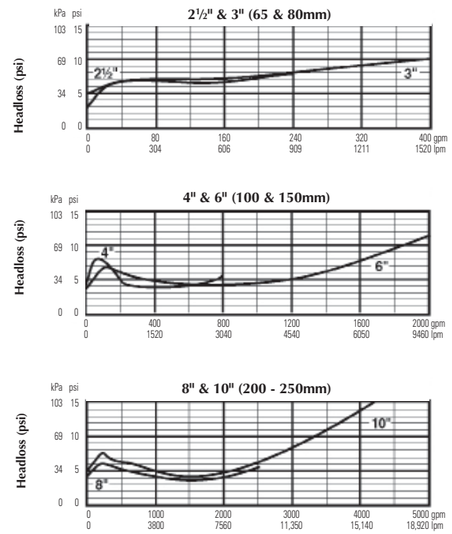
Back Flow Preventer Performance Curve

Flow Charts

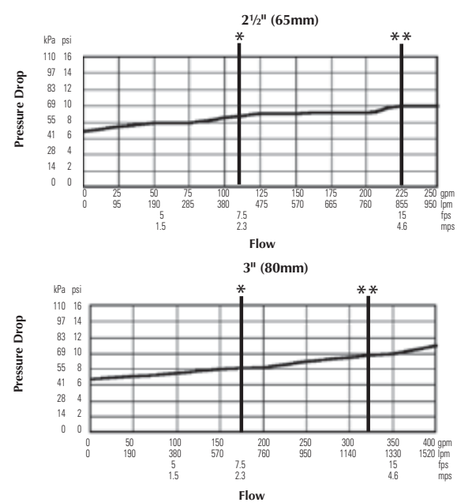
Series 806YD



Series 856



Series 858



Appendix 8.1
– Sanitary Sewer Capacity Calculations

Sanitary Sewer

Design:

- Sanitary Sewer peak flow rates were determined using the following equation from Vallejo Sanitation and Flood Control Department Master Bid Document and Project Specific Supplement, Appendix 2 (VSFCD):

$$PSF = (SF) + e$$

Where: PSF = Peak Sanitary Flow (mgd)
SF = Average Sanitary Flow (mgd)
e = Natural Log (2.7813)

- I/I was taken as 600 gallons per day per acre VSFCD for buildings built after 1970.
- SF was calculated based on occupancy of each building, with a flow rate of 20 gpd per student, taken from VSFCD.
- Utilized Hydraflow Storm Sewers for AutoCAD Civil 3D 2012 to hydraulically model the sanitary sewer systems. The starting HGL of the system outfall was taken as crown of pipe. Please note that Storm Sewers rounds known flows to the hundredths place as a result the total flows are slightly higher than the calculations due to rounding. Calculated Building Flows were applied to the nearest upstream manhole, service stubs were not modeled.
- Hydraulic Model was constructed utilizing the Solano College – Vallejo Campus Landmark Site, prepared by CSW|ST2. Note, that not all plan sets utilized the same datum, therefore inverts have been revised to match datum's.

Assumptions:

General Assumptions:

- Existing and Future available square footages (asf) were taken from a spreadsheet provided by SVT/ VBN.
- PSF was distributed to each discharge point based on plan view square footage.

Description	SSCO#009	SSCO#009
Area (sf)	9,278	14,279
%	39	61
PSF (cfs)	0.06	0.09

- Occupancy was determined using square footage and an occupant load factor (OLF) of 50 square feet per occupant.

Existing Condition:

- Existing Condition peak flows are based on occupancy with a flow rate of 20 gpd per occupant.

Future Condition:

- Future Condition peak flows are based on the Campus Master Plan layout.

Results and Recommendations:

Existing Condition:

See Exhibit SS1 for existing sanitary sewer system. The hydraulic grade line remains more than 2 feet from the surface elevations, which is a standard practice freeboard. As such, the existing sewer system has sufficient capacity to convey the sewage loads at Solano College – Vallejo.

Future Condition:

See Exhibit SS2 for future sanitary sewer system. The hydraulic grade line remains more than 2 feet from the surface elevations, which is a standard practice freeboard. As such, the existing sewer system, the with the addition of a 6-inch service lateral to the new building and modifications to the existing 6-inch main slope, has sufficient capacity to convey the sewage loads at Solano College – Vallejo. However, the final new 6-inch sewer pipe in the system has only three (3) feet of cover. As such, an alternative recommendation is to leave the existing sanitary sewer system in place and provide a new 6-inch service lateral directly to Columbus Parkway, see Exhibit SS3 for alternative future sewer system.

Load Calculations Capacity

Existing Condition Peak Flow Calculations

Existing Buildings	Sanitary Sewer Flow Rates									
	Area (sf)	No. of Occupant	gpd/ Occupant	Avg. Saintary Flow (gpd)	Avg. Saintary Flow (mgd)	Peak Sanitary Flow (mgd)	Peak Sanitary Flow (gpd)	Peak Sanitary Flow (gph)*	Peak Sanitary Flow (gpm)	Peak Sanitary Flow (cfs)
Ex. Building	28427	569	20.0	11370.8	0.01	0.03	31626	3953.2	65.9	0.147
Total	28427	569	20.0	11370.8	0.01	0.03	31626	3953.2	65.887	0.147

* assumes 8 hour day

Existing Condition Peak Flow Calculations

Existing Buildings	Inflow/ Infiltration							Total Flow Rate (cfs)
	Tributary Area (sf)	Tributary Area (ac)	I/I (gpd)	I/I (gpd)	I/I (gph)*	I/I (gpm)	I/I (cfs)	
Ex. Building	152653	3.5	600	2103	87.6	1.5	0.003	0.150
Total	152653	3.5	600	2103	87.6	1.5	0.003	0.150

* Assumes 24 hour day

Future Condition Peak Flow Calculations

Future Buildings	Sanitary Sewer Flow Rates									
	Area (sf)	No. of Occupant	gpd/ Occupant	Avg. Saintary Flow (gpd)	Avg. Saintary Flow (mgd)	Peak Sanitary Flow (mgd)	Peak Sanitary Flow (gpd)	Peak Sanitary Flow (gph)*	Peak Sanitary Flow (gpm)	Peak Sanitary Flow (cfs)
Ex. Building	28427	569	20.0	11370.8	0.01	0.03	31626	3953.2	65.9	0.147
Educ.Partner Bldg	34620	692	20.0	13848.0	0.01	0.04	38515	4814.4	80.2	0.179
M&O Building	2000	40	20.0	800.0	0.00	0.00	2225	278.1	4.6	0.010
AutoTech Center	11000	220	20.0	4400.0	0.00	0.01	12238	1529.7	25.5	0.057
Const Trade Center	22000	440	20.0	8800.0	0.01	0.02	24475	3059.4	51.0	0.114
Total	98047	1961	20.0	39218.8	0.04	0.11	109079	13634.9	227.2	0.506

* assumes 8 hour day

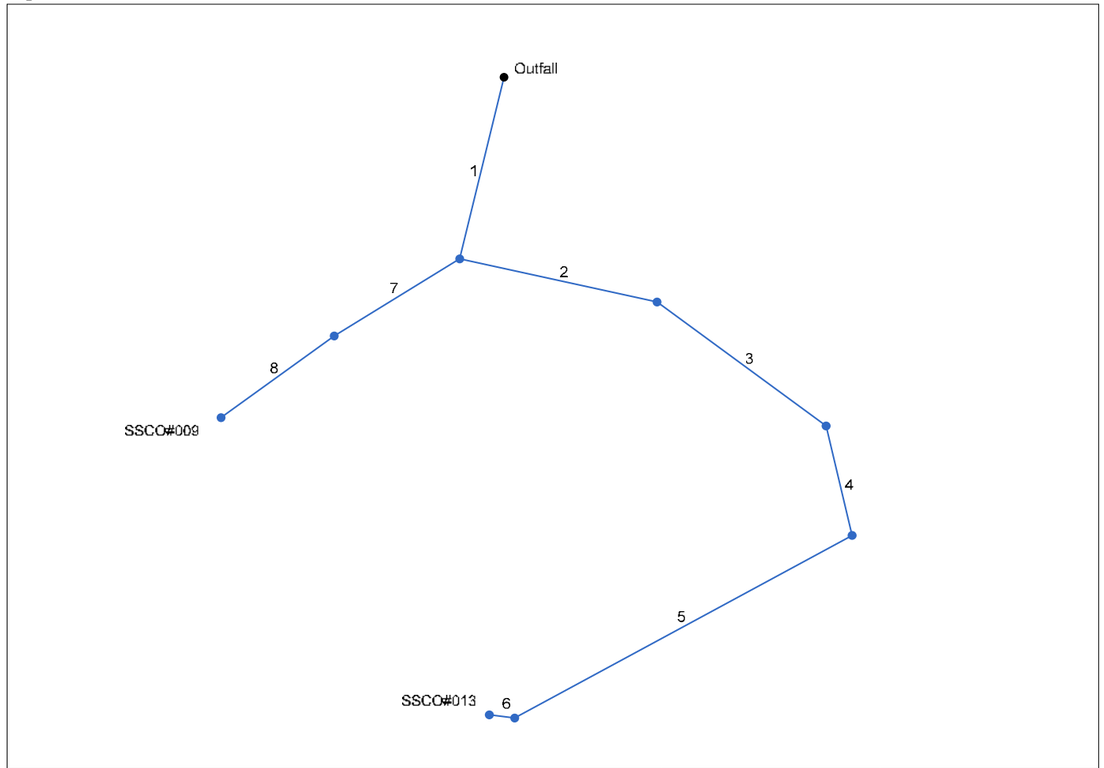
Future Condition Peak Flow Calculations

Future Buildings	Inflow/ Infiltration							Total Flow Rate (cfs)
	Tributary Area (sf)	Tributary Area (ac)	I/I (gpd)	I/I (gpd)	I/I (gph)*	I/I (gpm)	I/I (cfs)	
Ex. Building	152653	3.5	600	2103	87.6	1.5	0.003	0.150
Educ.Partner Bldg	17800	0.4	600	245	10.2	0.2	0.000	0.179
M&O Building	17800	0.4	600	245	10.2	0.2	0.000	0.011
AutoTech Center	17800	0.4	600	245	10.2	0.2	0.000	0.057
Const Trade Center	17800	0.4	600	245	10.2	0.2	0.000	0.114
Total	223852	5.1	600	3083	128.5	2.1	0.005	0.511

* Assumes 24 hour day

Hydraulic Model Results – Existing Condition

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



Project File: Ex Sanitary Sewer.stm	Number of lines: 8	Date: 9/18/2013

Storm Sewers v8.00

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	108.000	102.979	MH	0.00	0.00	0.00	0.0	216.75	1.43	218.29	8	Cir	0.015	1.00	228.50	
2	1	111.000	-69.987	MH	0.00	0.00	0.00	0.0	218.29	0.86	219.25	8	Cir	0.015	0.48	229.50	
3	2	117.212	24.800	MH	0.00	0.00	0.00	0.0	219.25	1.10	220.54	8	Cir	0.015	0.69	230.00	
4	3	65.000	39.566	MH	0.00	0.00	0.00	0.0	220.54	0.97	221.17	8	Cir	0.015	0.96	230.00	
5	4	212.991	72.868	MH	0.00	0.00	0.00	0.0	221.17	1.06	223.42	8	Cir	0.015	0.66	230.00	
6	5	14.000	37.174	MH	0.09	0.00	0.00	0.0	223.42	0.79	223.53	8	Cir	0.015	1.00	230.00	
7	1	82.000	44.036	MH	0.00	0.00	0.00	0.0	218.29	3.55	221.20	6	Cir	0.015	0.15	228.00	
8	7	78.000	-4.362	MH	0.06	0.00	0.00	0.0	221.20	6.05	225.92	6	Cir	0.015	1.00	230.00	

Project File: Ex Sanitary Sewer.stm | Number of lines: 8 | Date: 9/18/2013

Storm Sewers v5.0

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	108.000	0.00	0.00	0.00	0.00	0.00	0.0	5.4	0.0	0.15	1.25	1.18	8	1.43	216.75	218.29	217.42	218.47	226.00	228.50	
2	1	111.000	0.00	0.00	0.00	0.00	0.00	0.0	4.1	0.0	0.09	0.97	1.41	8	0.86	218.29	219.25	218.47	219.39	228.50	229.50	
3	2	117.212	0.00	0.00	0.00	0.00	0.00	0.0	2.9	0.0	0.09	1.10	1.67	8	1.10	219.25	220.54	219.39	220.68	229.50	230.00	
4	3	65.000	0.00	0.00	0.00	0.00	0.00	0.0	2.3	0.0	0.09	1.03	1.67	8	0.97	220.54	221.17	220.68	221.31	230.00	230.00	
5	4	212.991	0.00	0.00	0.00	0.00	0.00	0.0	0.1	0.0	0.09	1.08	1.67	8	1.06	221.17	223.42	221.31	223.56	230.00	230.00	
6	5	14.000	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.09	0.93	1.65	8	0.79	223.42	223.53	223.56	223.67	230.00	230.00	
7	1	82.000	0.00	0.00	0.00	0.00	0.00	0.0	0.8	0.0	0.06	0.92	1.25	6	3.55	218.29	221.20	218.47	221.32	228.50	228.00	
8	7	78.000	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.06	1.20	1.57	6	6.05	221.20	225.92	221.32	226.04	228.00	230.00	

Project File: Ex Sanitary Sewer.stm | Number of lines: 8 | Run Date: 9/18/2013

NOTES:Known Qs only ; c = cir e = ellip b = box

Storm Sewers v5.0

Hydraulic Grade Line Computations

Page 1

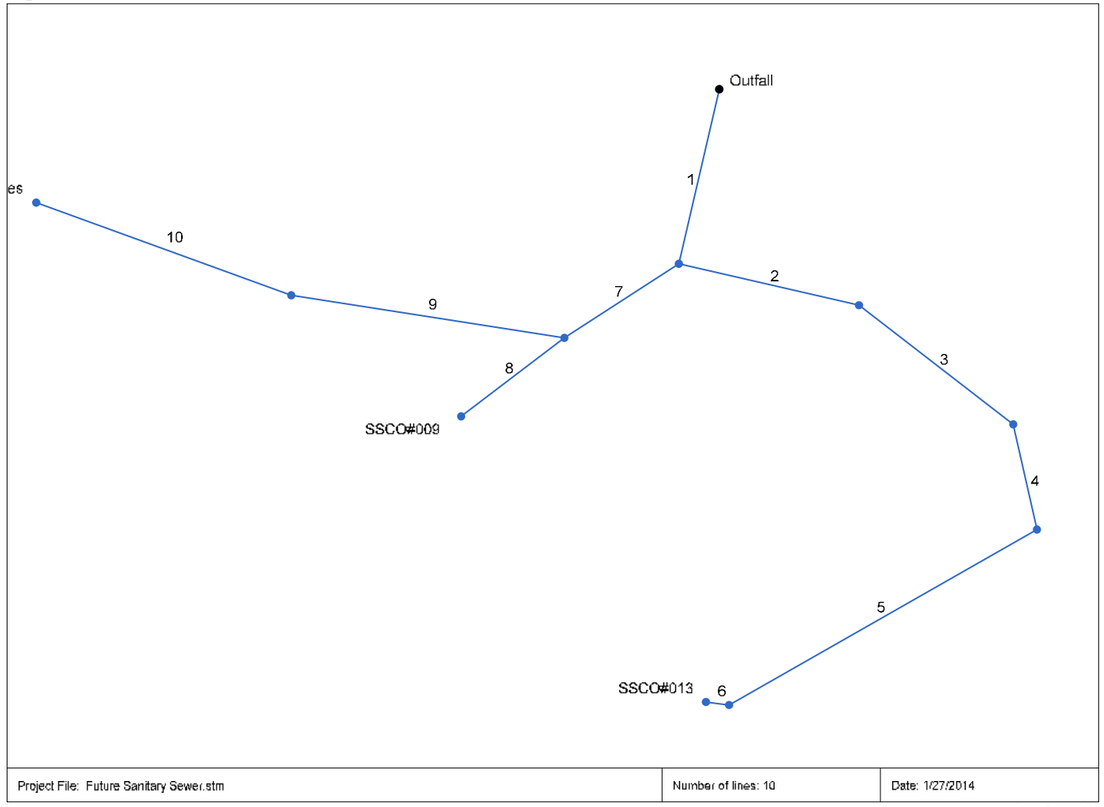
Line	Size (in)	Q (cfs)	Downstream Invert elev (ft)	Downstream HGL elev (ft)	Downstream Depth (ft)	Downstream Area (sqft)	Downstream Vel (ft/s)	Downstream Vel head (ft)	Downstream EGL elev (ft)	Downstream Sf (%)	Len (ft)	Upstream Invert elev (ft)	Upstream HGL elev (ft)	Upstream Depth (ft)	Upstream Area (sqft)	Upstream Vel (ft/s)	Upstream Vel head (ft)	Upstream EGL elev (ft)	Upstream Sf (%)	Check Ave Sf (%)	Check Enrgy loss (ft)	JL coeff (K)	Minor loss (ft)
1	8	0.15	216.75	217.42	0.67	0.35	0.43	0.00	217.42	0.021	108.000	218.29	218.47 j	0.18**	0.08	1.93	0.06	218.53	0.765	0.393	n/a	1.00	0.06
2	8	0.09	218.29	218.47	0.18	0.08	1.16	0.02	218.49	0.275	111.000	219.25	219.39 j	0.14**	0.05	1.67	0.04	219.43	0.761	0.518	n/a	0.48	0.02
3	8	0.09	219.25	219.39	0.14*	0.05	1.67	0.04	219.43	0.761	117.212	220.54	220.68	0.14**	0.05	1.67	0.04	220.72	0.761	0.761	n/a	0.69	0.03
4	8	0.09	220.54	220.68	0.14*	0.05	1.67	0.04	220.72	0.761	65.000	221.17	221.31	0.14**	0.05	1.67	0.04	221.35	0.761	0.761	n/a	0.96	0.04
5	8	0.09	221.17	221.31	0.14*	0.05	1.67	0.04	221.35	0.761	212.991	223.42	223.56	0.14**	0.05	1.67	0.04	223.60	0.761	0.761	n/a	0.66	0.03
6	8	0.09	223.42	223.56	0.14*	0.05	1.67	0.04	223.60	0.761	14.000	223.53	223.67	0.14**	0.05	1.64	0.04	223.71	0.732	0.747	0.105	1.00	0.04
7	6	0.06	218.29	218.47	0.18	0.06	0.93	0.01	218.49	0.188	82.000	221.20	221.32 j	0.12**	0.04	1.57	0.04	221.36	0.828	0.508	n/a	0.15	0.01
8	6	0.06	221.20	221.32	0.12*	0.04	1.57	0.04	221.36	0.828	78.000	225.92	226.04	0.12**	0.04	1.57	0.04	226.08	0.828	0.828	n/a	1.00	0.04

Project File: Ex Sanitary Sewer.stm | Number of lines: 8 | Run Date: 9/18/2013

Notes: * depth assumed.; ** Critical depth.; j-Line contains hyd. jump. ; c = cir e = ellip b = box

Storm Sewers v5.00

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



Project File: Future Sanitary Sewer.stm | Number of lines: 10 | Date: 1/27/2014

Storm Sewers v5.00

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	108.000	102.979	MH	0.00	0.00	0.00	0.0	216.75	1.43	218.29	8	Cir	0.015	1.00	228.50	
2	1	111.000	-69.987	MH	0.00	0.00	0.00	0.0	218.29	0.86	219.25	8	Cir	0.015	0.48	229.50	
3	2	117.212	24.800	MH	0.00	0.00	0.00	0.0	219.25	1.10	220.54	8	Cir	0.015	0.69	230.00	
4	3	65.000	39.566	MH	0.00	0.00	0.00	0.0	220.54	0.97	221.17	8	Cir	0.015	0.96	230.00	
5	4	212.991	72.868	MH	0.00	0.00	0.00	0.0	221.17	1.06	223.42	8	Cir	0.015	0.66	230.00	
6	5	14.000	37.174	MH	0.09	0.00	0.00	0.0	223.42	0.79	223.53	8	Cir	0.015	1.00	230.00	
7	1	82.000	44.036	MH	0.00	0.00	0.00	0.0	218.29	0.50	218.70	8	Cir	0.015	0.71	228.00	
8	7	78.000	-4.362	MH	0.06	0.00	0.00	0.0	221.20	6.05	225.92	6	Cir	0.015	1.00	230.00	
9	7	165.000	41.880	MH	0.00	0.00	0.00	0.0	218.70	0.50	219.53	6	Cir	0.012	0.23	230.00	
10	9	163.000	11.150	MH	0.36	0.00	0.00	0.0	219.53	0.50	220.35	6	Cir	0.012	1.00	224.00	

Project File: Future Sanitary Sewer.stm | Number of lines: 10 | Date: 1/27/2014

Storm Sewers v9.0

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	108.000	0.00	0.00	0.00	0.00	0.00	0.0	5.8	0.0	0.51	1.25	2.17	8	1.43	216.75	218.29	217.42	218.63	226.00	228.50	
2	1	111.000	0.00	0.00	0.00	0.00	0.00	0.0	4.1	0.0	0.09	0.97	1.09	8	0.86	218.29	219.25	218.63	219.39	228.50	229.50	
3	2	117.212	0.00	0.00	0.00	0.00	0.00	0.0	2.9	0.0	0.09	1.10	1.67	8	1.10	219.25	220.54	219.39	220.68	229.50	230.00	
4	3	65.000	0.00	0.00	0.00	0.00	0.00	0.0	2.3	0.0	0.09	1.03	1.67	8	0.97	220.54	221.17	220.68	221.31	230.00	230.00	
5	4	212.991	0.00	0.00	0.00	0.00	0.00	0.0	0.1	0.0	0.09	1.08	1.67	8	1.06	221.17	223.42	221.31	223.56	230.00	230.00	
6	5	14.000	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.09	0.93	1.65	8	0.79	223.42	223.53	223.56	223.67	230.00	230.00	
7	1	82.000	0.00	0.00	0.00	0.00	0.00	0.0	2.3	0.0	0.42	0.74	2.21	8	0.50	218.29	218.70	218.63	219.08	228.50	228.00	
8	7	78.000	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.06	1.20	1.57	6	6.05	221.20	225.92	221.32	226.04	228.00	230.00	
9	7	165.000	0.00	0.00	0.00	0.00	0.00	0.0	1.1	0.0	0.36	0.43	2.34	6	0.50	218.70	219.53	219.13	219.86	228.00	230.00	
10	9	163.000	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.36	0.43	2.46	6	0.50	219.53	220.35	219.88	220.70	230.00	224.00	

Project File: Future Sanitary Sewer.stm | Number of lines: 10 | Run Date: 1/27/2014

NOTES:Known Qs only ; c = cir e = ellip b = box

Storm Sewers

Source Data

Hydraulic Grade Line Computations

Page 1

Line	Size (in)	Q (cfs)	Downstream Invert elev (ft)	Downstream HGL elev (ft)	Downstream Depth (ft)	Downstream Area (sqft)	Downstream Vel (ft/s)	Downstream Vel head (ft)	Downstream EGL elev (ft)	Downstream Sf (%)	Len (ft)	Upstream Invert elev (ft)	Upstream HGL elev (ft)	Upstream Depth (ft)	Upstream Area (sqft)	Upstream Vel (ft/s)	Upstream Vel head (ft)	Upstream EGL elev (ft)	Upstream Sf (%)	Check Ave Sf (%)	Check Enrgy loss (ft)	JL coeff (K)	Minor loss (ft)
1	8	0.51	216.75	217.42	0.67	0.35	1.46	0.03	217.45	0.238	108.000	218.29	218.63 j	0.34**	0.18	2.89	0.13	218.76	0.919	0.578	n/a	1.00	0.13
2	8	0.09	218.29	218.63	0.34	0.18	0.51	0.00	218.63	0.029	111.000	219.25	219.39 j	0.14**	0.05	1.67	0.04	219.43	0.761	0.395	n/a	0.48	0.02
3	8	0.09	219.25	219.39	0.14*	0.05	1.67	0.04	219.43	0.761	117.212	220.54	220.68	0.14**	0.05	1.67	0.04	220.72	0.761	0.761	n/a	0.69	0.03
4	8	0.09	220.54	220.68	0.14*	0.05	1.67	0.04	220.72	0.761	65.000	221.17	221.31	0.14**	0.05	1.67	0.04	221.35	0.761	0.761	n/a	0.96	0.04
5	8	0.09	221.17	221.31	0.14*	0.05	1.67	0.04	221.35	0.761	212.991	223.42	223.56	0.14**	0.05	1.67	0.04	223.60	0.761	0.761	n/a	0.66	0.03
6	8	0.09	223.42	223.56	0.14*	0.05	1.67	0.04	223.60	0.761	14.000	223.53	223.67	0.14**	0.05	1.64	0.04	223.71	0.732	0.747	0.105	1.00	0.04
7	8	0.42	218.29	218.63	0.34	0.18	2.38	0.09	218.71	0.623	82.000	218.70	219.08	0.38	0.20	2.05	0.07	219.14	0.424	0.523	0.429	0.71	0.05
8	6	0.06	221.20	221.32	0.12*	0.04	1.57	0.04	221.36	0.828	78.000	225.92	226.04	0.12**	0.04	1.57	0.04	226.08	0.828	0.828	n/a	1.00	0.04
9	6	0.36	218.70	219.13	0.43	0.18	2.02	0.06	219.19	0.331	165.000	219.53	219.86	0.33	0.14	2.65	0.11	219.97	0.606	0.468	0.778	0.23	0.03
10	6	0.36	219.53	219.88	0.35	0.15	2.44	0.09	219.97	0.495	163.000	220.35	220.70	0.35	0.15	2.47	0.09	220.79	0.510	0.503	0.820	1.00	0.09

Project File: Future Sanitary Sewer.stm | Number of lines: 10 | Run Date: 1/27/2014

Notes: * depth assumed.; ** Critical depth.; j-Line contains hyd. jump. ; c = cir e = ellip b = box

Storm Sewers v5.00

MEANS OF EGRESS

1004.5 Outdoor areas. Yards, patios, courts and similar outdoor areas accessible to and usable by the building occupants shall be provided with means of egress as required by this chapter. The occupant load of such outdoor areas shall be assigned by the building official in accordance with the anticipated use. Where outdoor areas are to be used by persons in addition to the occupants of the building, and the path of egress travel from the outdoor areas passes through the building, means of egress requirements for the building shall be based on the sum of the occupant loads of the building plus the outdoor areas.

Exceptions:

1. Outdoor areas used exclusively for service of the building need only have one means of egress.
2. Both outdoor areas associated with Group R-3 and individual dwelling units of Group R-2.

1004.6 Multiple occupancies. Where a building contains two or more occupancies, the means of egress requirements shall apply to each portion of the building based on the occupancy of that space. Where two or more occupancies utilize portions of the same means of egress system, those egress components shall meet the more stringent requirements of all occupancies that are served.

SECTION 1005
MEANS OF EGRESS SIZING

1005.1 General. All portions of the means of egress system shall be sized in accordance with this section.

Exception: Means of egress complying with Section 1028.

1005.2 Minimum width based on component. The minimum width, in inches (mm), of any means of egress components shall not be less than that specified for such component, elsewhere in this code.

1005.3 Required capacity based on occupant load. The required capacity, in inches (mm), of the means of egress for any room, area, space or story shall not be less than that determined in accordance with Sections 1005.3.1 and 1005.3.2:

1005.3.1 Stairways. The capacity, in inches (mm), of means of egress stairways shall be calculated by multiplying the occupant load served by such stairway by a means of egress capacity factor of 0.3 inch (7.6 mm) per occupant. Where stairways serve more than one story, only the occupant load of each story considered individually shall be used in calculating the required capacity of the stairways serving that story.

Exceptions:

1. For other than Group H and I-2 occupancies, the capacity, in inches (mm), of means of egress stairways shall be calculated by multiplying the occupant load served by such stairway by a means of egress capacity factor of 0.2 inch (5.1 mm) per occupant in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2 and an emergency

TABLE 1004.1.2
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR[a]
Accessory storage areas, mechanical equipment room	300 gross
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport terminal	
Baggage claim	20 gross
Baggage handling	300 gross
Concourse	100 gross
Waiting areas	15 gross
Assembly	
Gaming floors (keno, slots, etc.)	11 gross
Exhibit Gallery and Museum	30 net
Assembly with fixed seats	See Section 1004.4
Assembly without fixed seats	
Concentrated (chairs only-not fixed)	7 net
Standing space	5 net
Unconcentrated (tables and chairs)	15 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net
Business areas	100 gross
Courtrooms—other than fixed seating areas	40 net
Day care	35 net
Dormitories	50 gross
Educational	
Classroom area	20 net
Shops and other vocational room areas	50 net
Exercise rooms	50 gross
Group H-5 Fabrication and manufacturing areas	200 gross
Industrial areas	100 gross
Institutional areas	
Inpatient treatment areas	240 gross
Outpatient areas	100 gross
Sleeping areas	120 gross
Kitchens, commercial	200 gross
Laboratory	
Educational	*50 net*
Laboratories, non-educational	*100 net*
Laboratory suite[b]	*200 gross*
Library	
Reading rooms	50 net
Stack area	100 gross
Mall buildings—covered and open	See Section 402.8.2
Mercantile	
Areas on other floors	60 gross
Basement and grade floor areas	30 gross
Storage, stock, shipping areas	300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools	
Rink and pool	50 gross
Decks	15 gross
Stages and platforms	15 net
Warehouses	500 gross

For SI: 1 square foot = 0.0929 m^2.

a. Floor area in square feet per occupant.

b. See Section 443.2.

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Appendix 8.2
– Domestic Water Capacity Calculations

Domestic Water

Design:

- The pipe sizes were analyzed/determined using the Energy Equation and Simplified Hazen-Williams Equation.

Energy Equation:

$$Z_1 + \frac{P_1}{\delta} + \frac{V_1^2}{2g} = Z_2 + \frac{P_2}{\delta} + \frac{V_2^2}{2g} + \sum \Delta h$$

Where: Z = Elevation
P = Pressure (ft)
V = Velocity (ft/s)
g = Acceleration due to gravity
Δh = Friction Headloss (ft)

Simplified Hazen Williams Equation:

$$h_f = \frac{4.72\,L}{D^{4.86}}\left(\frac{Q}{C}\right)^{1.85}$$

Where: h_f = Friction Headloss (ft)
L = Pipe Length (ft)
D = Pipe Diameter (ft)
Q = Flow Rate (cfs)
C = Hazen-Williams coefficient

$$L_{equivalent} = 0.00530\,K_m\,C^{1.85}\,D^{0.87}\,Q^{0.15}$$

Where: L = Equivalent Length (ft)
Km = Minor Loss Coefficient (0.25)
D = Pipe Diameter (ft)
C = Hazen-Williams coefficient (140 for PVC, 120 for ACP)

Assumptions:

General Assumptions:

- Existing demand was assumed to be 20.0 gallons per day (gpd) per occupant, based on the sanitary sewer demand on the system.
- A peak factor of 2.0 was used for all demand calculations.
- Occupancy was determined using square footage and an occupant load factor (OLF) of 50 square feet per occupant.
- Calculations exclude any irrigation demand on the system.
- A required residual pressure of 40 psi was assumed at the building stub.
- Pressure loss across the back flow preventer (BFP) was assumed to be 7 psi.

Results and Recommendations:

Existing Condition:

See Exhibit W1 for the existing domestic water system. The existing domestic water system has sufficient capacity to convey the water demand at Solano College – Vallejo Campus.

Future Condition:

See Exhibit W2 for the future domestic water system. The existing domestic water system has sufficient capacity to convey the water demand to the existing and future buildings at Solano College – Vallejo Campus. A new 620 linear foot 4-inch water line is needed to extend the service to the new building.

Existing Condition Demand Calculations

Existing Condition Demand Calculations

Existing Buildings	Area (sf)	No. of Occupant	gpd/ Occupant	Demand (gpd)	Demand (gph)*	Demand (gpm)	Peaking Factor	Demand (gpm)	Demand (cfs)
Ex. Building	28427	569	20.0	11370.8	1421.4	23.7	2.0	47.4	0.106
Total	28427	569	20.0	11370.8	1421.4	23.7	2.0	47.4	0.106

* assumes 8 hour day

Future Conditions Demand Calculations

Future Condition Demand Calculations

Existing Buildings	Area (sf)	No. of Occupant	gpd/ Occupant	Demand (gpd)	Demand (gph)*	Demand (gpm)	Peaking Factor	Demand (gpm)	Demand (cfs)
Ex. Buildings	32058	641	30.0	19234.8	2404.4	40.1	2.5	100.2	0.223
Total	32058	641	30.0	19234.8	2404.4	40.1	2.5	100.2	0.223

Future Buildings	Area (sf)	No. of Occupant	gpd/ Occupant	Demand (gpd)	Demand (gph)*	Demand (gpm)	Peaking Factor	Demand (gpm)	Demand (cfs)
Educ.Partner Bldg	34620	692	30.0	1680	210	3.5	2.5	8.75	0.019
M&O Building	2000	40	30.0	1200	150	2.5	2.5	6.3	0.014
AutoTech Center	11000	220	30.0	6600	825	13.8	2.5	34.4	0.077
Const Trade Center	22000	440	30.0	13200	1650	27.5	2.5	68.8	0.153
Total	69620	1392	30.0	22680	2835	47.3	2.5	118.1	0.263

*assumes 8 hour day

Total = 218.3 0.486

Domestic Water Line Capacity Calculations

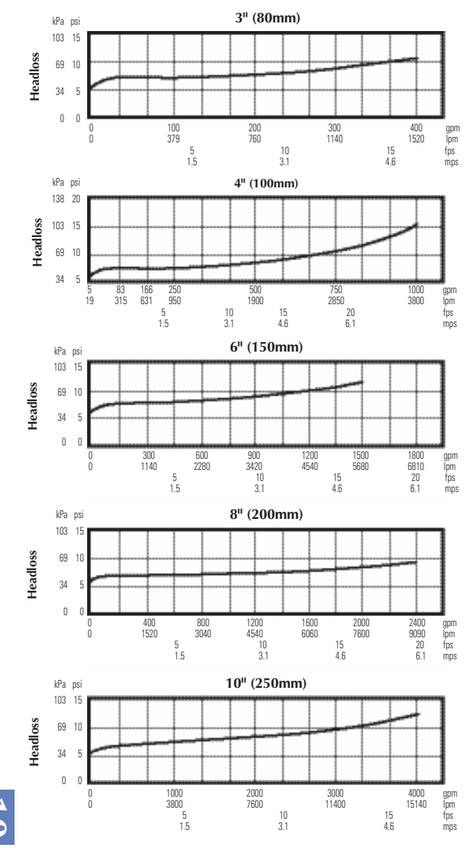
Domestic Water Line Capacity Calculations											
		Water Main									
		Trunk Main			Minor Losses						
Hydrant I.D.	Req'd Flow (gpm)	Length (ft)	Diameter (in)	C-Factor	Bends	$L_{EQUIV.}$ (Ft)	Friction Loss (ft)	ΔZ (ft)	Total Losses (ft)	Total Losses (psi)	Residual Pressure @ 50 GPM
Ex. BFP to Stub	218	675	4	140	6	25.62	19.40	8.00	27.40	11.86	48.14
Ex. Stub to Pro. Stub	118	620	4	140	3	11.68	5.62	-6.00	-0.38	-0.17	48.30

Notes:

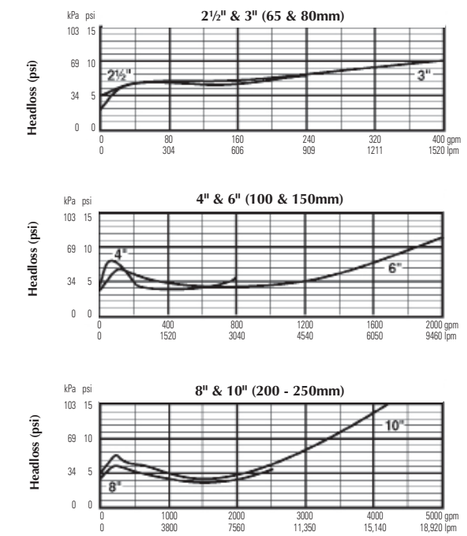
1. C factor for PVC was taken as 140
2. Approximate Static Pressure In Columbus Parkway is 67 psi @ 50 gpm, a 7 psi loss across the BFP is assumed thus pressure at the BFP @ is 60 psi.

Flow Charts

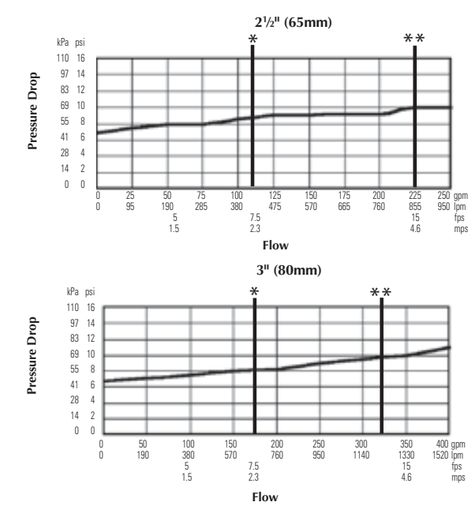
Series 806YD



Series 856



Series 858



Appendix 8.3
– Fire Protection Capacity Calculations

Fire Protection Water

Design:

- The residual pressure at 1,500 gpm and resulting flow at 20 psi was determined using the following equation from NFPA 291:

Hydrant Flow Equation (NFPA 21):

$$Q_R = Q_F \; x \; \frac{hr^{0.54}}{h_f{}^{0.54}}$$

Where: Q_R = Flow predicted at desired residual pressure (gpm)
Q_F = Total flow measured during test (gpm)
h_R = Pressure drop to desired residual pressure (psi)
h_R = Pressure drop measured during test (psi)

- The pipe sizes were analyzed/determined using the Energy Equation and Simplified Hazen-Williams Equation.

Energy Equation:

$$Z_1 + \frac{P_1}{\delta} + \frac{V_1^2}{2g} = Z_2 + \frac{P_2}{\delta} + \frac{V_2^2}{2g} + \sum \Delta h$$

Where: Z = Elevation
P = Pressure (ft)
V = Velocity (ft/s)
g = Acceleration due to gravity
Δh = Friction Headloss (ft)

Simplified Hazen Williams Equation:

$$h_f = \frac{4.72\,L}{D^{4.86}}\left(\frac{Q}{C}\right)^{1.85}$$

Where: h_f = Friction Headloss (ft)
L = Pipe Length (ft)
D = Pipe Diameter (ft)
Q = Flow Rate (cfs)
C = Hazen-Williams coefficient

$$L_{equivalent} = 0.00530\; K_m\; C^{1.85}\; D^{0.87}\; Q^{0.15}$$

Where: L = Equivalent Length (ft)
Km = Minor Loss Coefficient (0.25)
D = Pipe Diameter (ft)
C = Hazen-Williams coefficient (140 for PVC, 120 for ACP)

Assumptions:

- Assume all buildings are Type IIA construction or higher (i.e. Type IA or IB).
- Assume all buildings have fire sprinkler systems that qualify for the reduction in fire flow of up to 75% allowed by the California Fire Code. For the purposes of this analysis a 75% reduction was assumed.
- Assume all hydrants require 1,500 gpm at 20 psi minimum, this is the requirement set forth in the California Fire Code.
- Calculations were performed assuming a looped analysis, except where elevation difference prohibits such analysis. In such cases, a single source analysis was performed. Also all calculations were run from the point of connection (BFP#1 and BFP#2) to the City water main off of Columbus Parkway.
- Pressure loss across the back flow preventer (BFP) was assumed to be 6 psi.

Results and Recommendations:

Existing Condition:

The existing water supply system at the Solano College Vallejo Campus has sufficient capacity to convey 1,500 gpm at a minimum 20 psi residual pressure to all fire hydrants on-site. See FW1 for the existing fire water supply system map.

Future Condition:

The existing water supply system at the Solano College Vallejo Campus has sufficient capacity to convey 1,500 gpm at a minimum 20 psi residual pressure to all fire hydrants on-site. One (1) additional fire hydrant will be required, adjacent to the new building, to meet fire hydrant coverage code requirements. See FW2 for the future fire water supply system map.

Fire Hydrant Flow Data

UTILITIES DEPARTMENT
WATER DIVISION
CITY OF VALLEJO

DATE 8/8/07

TO: GARRY MILLER, ACTING PM UTILITY SUPERVISOR

FROM: ERIC JANSEN, SENIOR CIVIL ENGINEER

SUBJECT: REQUEST FOR WATER FLOW DATA

FILE: WATER FLOW DATA - 2007

THE WATER DIVISION HAS BEEN REQUESTED TO CONDUCT A WATER FLOW TEST ✓ OR DETERMINE THE STATIC PRESSURE _____ FOR THE _____ DEVELOMENT AT

SOLANO COMM COLLEGE.

WHEN DONE PLEASE REPORT THE FINDINGS TO THE WATER DIVISION AND THE FIRE PREVENTION DIVISION.

----------LOCATION OF FIRE HYDRANTS TO BE TESTED----------

FLOW FIRE HYDRANT AT COL PKWY & ST JOHN'S MIRE RD SEE MAP

READ FIRE HYDRANT AT ON SITE— SEE MAP

----------TEST RESULTS----------

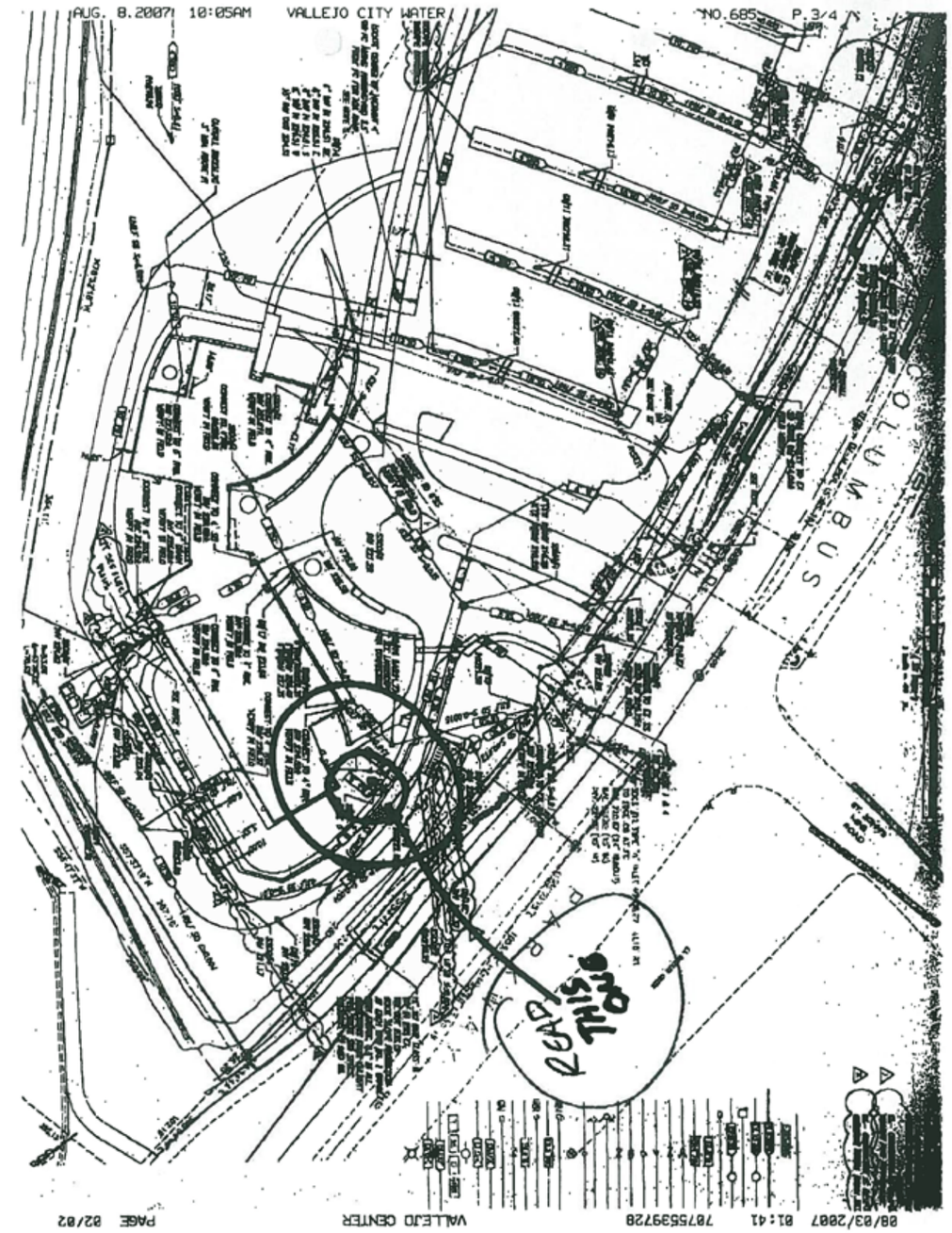
STATIC PRESSURE IN PSI 67 RESIDUAL PRESSURE IN PSI 65

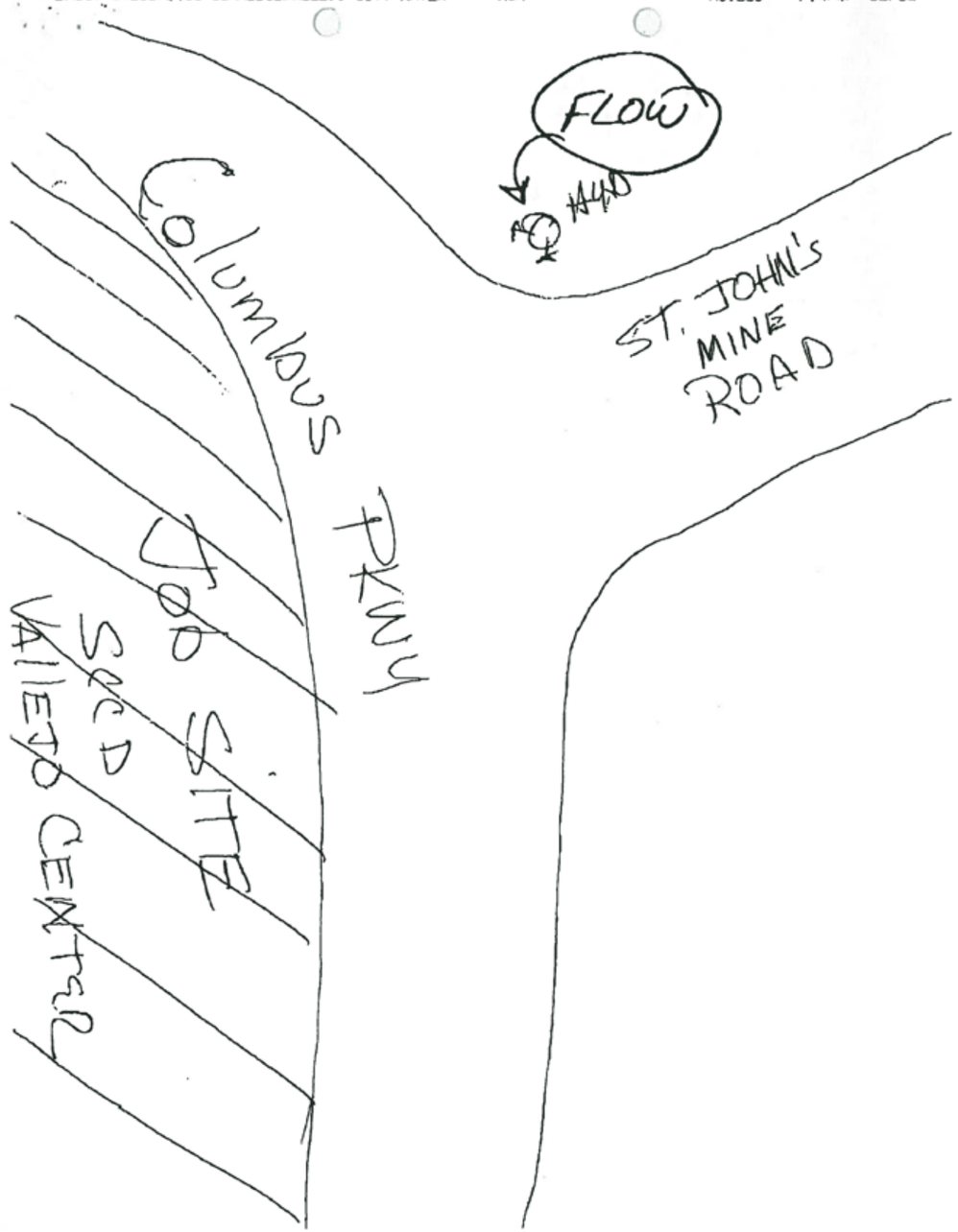
FLOW (GPM) 1244 PITOT READING (PSI) 55 ORIFICE DIA (INCH) 2½"

TEST DONE BY Kevin O'Brien DATE 8-13-07

REMARKS _____

IF A DIAGRAM IS NEEDED FOR CLARIFICATION ATTACHED A SHEET.
Computer File EFJ00067.DOC Rev 11/08/06




FLOW
ST. JOHN'S
MINE
ROAD
Columbus PKWY
Zoo SITE
SCD
VALLEJO CENTER

Google earth
feet 300
meters 100

Hydrant Flow Calculations

Hydrant Flow Equation (NFPA 21):

$$Q_R = Q_F \times \frac{h_r^{0.54}}{h_f^{0.54}}$$

Where:

Q_R = flow preditcted at desired residual pressure (gpm)

Q_F = total flow measure during test (gpm)

h_r = pressure drop to desired residual pressure (psi)

h_f = pressure drop measured during test (psi)

Flow Public Hydrant

Residual Flow at 20 psi						
Q_F (gpm)	Static Pressure (psi)	Desired Pressure (psi)	h_r (psi)	Residual Pressure (psi)	h_f (psi)	Q_R (gpm)
1244	67	20	47	65	2	**6842**

Residual Pressure at 1,500 gpm				
Q_F (gpm)	Desired Flow (gpm)	Static Pressure (psi)	Residual Pressure (psi)	Pressure @ 1,500 gpm (psi)
1244	1500	67	65	**64.17**

Required Fire Flow Calculations

Existing Condition:

Location	Maximum Gross Square Footage	Construction Type	Minimum Fire Flow @ 20 psi (gpm)[1]	Sprinkler System	% Reduction[2]	Required Fire Flow (gpm)[3]
Existing Building	40,600	IIA	3000	Yes	75%	750

Future Condition:

Location	Maximum Gross Square Footage	Construction Type	Minimum Fire Flow @ 20 psi (gpm)[1]	Sprinkler System	% Reduction[2]	Required Fire Flow (gpm)[3]
Future Building	69,620	IIA	3750	Yes	75%	938

1. From California Fire Code Table B105.1
2. From California Fire Code Section B105.2
3. From California Fire Code Section B105.2 requires a minimum fire flow of 1,500 gpm.

TABLE B105.1
MINIMUM REQUIRED FIRE-FLOW AND FLOW DURATION FOR BUILDINGS

FIRE-FLOW CALCULATION AREA (square feet)					FIRE-FLOW (gallons per minute)[c]	FLOW DURATION (hours)
Type IA and IB[b]	Type IIA and IIIA[b]	Type IV and V-A[b]	Type IIB and IIIB[b]	Type V-B[b]		
0-22,700	0-12,700	0-8,200	0-5,900	0-3,600	1,500	2
22,701-30,200	12,701-17,000	8,201-10,900	5,901-7,900	3,601-4,800	1,750	
30,201-38,700	17,001-21,800	10,901-12,900	7,901-9,800	4,801-6,200	2,000	
38,701-48,300	21,801-24,200	12,901-17,400	9,801-12,600	6,201-7,700	2,250	
48,301-59,000	24,201-33,200	17,401-21,300	12,601-15,400	7,701-9,400	2,500	
59,001-70,900	33,201-39,700	21,301-25,500	15,401-18,400	9,401-11,300	2,750	
70,901-83,700	39,701-47,100	25,501-30,100	18,401-21,800	11,301-13,400	3,000	3
83,701-97,700	47,101-54,900	30,101-35,200	21,801-25,900	13,401-15,600	3,250	
97,701-112,700	54,901-63,400	35,201-40,600	25,901-29,300	15,601-18,000	3,500	
112,701-128,700	63,401-72,400	40,601-46,400	29,301-33,500	18,001-20,600	3,750	
128,701-145,900	72,401-82,100	46,401-52,500	33,501-37,900	20,601-23,300	4,000	4
145,901-164,200	82,101-92,400	52,501-59,100	37,901-42,700	23,301-26,300	4,250	
164,201-183,400	92,401-103,100	59,101-66,000	42,701-47,700	26,301-29,300	4,500	
183,401-203,700	103,101-114,600	66,001-73,300	47,701-53,000	29,301-32,600	4,750	
203,701-225,200	114,601-126,700	73,301-81,100	53,001-58,600	32,601-36,000	5,000	
225,201-247,700	126,701-139,400	81,101-89,200	58,601-65,400	36,001-39,600	5,250	
247,701-271,200	139,401-152,600	89,201-97,700	65,401-70,600	39,601-43,400	5,500	
271,201-295,900	152,601-166,500	97,701-106,500	70,601-77,000	43,401-47,400	5,750	
295,901-Greater	166,501-Greater	106,501-115,800	77,001-83,700	47,401-51,500	6,000	
—	—	115,801-125,500	83,701-90,600	51,501-55,700	6,250	
—	—	125,501-135,500	90,601-97,900	55,701-60,200	6,500	
—	—	135,501-145,800	97,901-106,800	60,201-64,800	6,750	
—	—	145,801-156,700	106,801-113,200	64,801-69,600	7,000	
—	—	156,701-167,900	113,201-121,300	69,601-74,600	7,250	
—	—	167,901-179,400	121,301-129,600	74,601-79,800	7,500	
—	—	179,401-191,400	129,601-138,300	79,801-85,100	7,750	
—	—	191,401-Greater	138,301-Greater	85,101-Greater	8,000	

For SI: 1 square foot = 0.0929 m^2, 1 gallon per minute = 3.785 L/m, 1 pound per square inch = 6.895 kPa.
a. The minimum required fire flow shall be allowed to be reduced by 25 percent for Group R.
b. Types of construction are based on the *California Building Code*.
c. Measured at 20 psi.

Fire Line Capacity Calculations

Fire Line Capacity Calculations

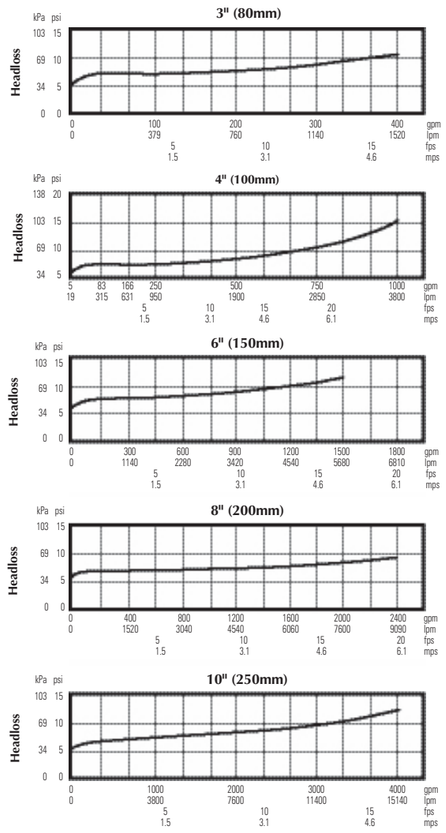
Hydrant I.D.[3]	Req'd Flow (gpm)	Water Main: Trunk Main: Length (ft)	Water Main: Trunk Main: Diameter (in)	Water Main: Trunk Main: C-Factor	Water Main: Minor Losses: Bends	Water Main: Minor Losses: $L_{EQUIV.}$ (Ft)	Water Main: Friction Loss (ft)	Req'd Flow (gpm)	Water Main Stub: Service Stub: Length (ft)	Water Main Stub: Service Stub: Diameter (in)	Water Main Stub: Service Stub: C-Factor	Water Main Stub: Friction Loss (ft)	Req'd Flow (gpm)	Hydrant Stub: Service Stub: Length (ft)	Hydrant Stub: Service Stub: Diameter (in)	Hydrant Stub: Service Stub: C-Factor	Hydrant Stub: Friction Loss (ft)	ΔZ (ft)	Total Losses (ft)	Total Losses (psi)	Residual Pressure @ 1500 GPM
Fire Flow Calculations																					
BFP#1 to Hyd#1	395	1338	10	140	7	72.52	1.37	0	0	8	120	0.00	1500	9	6	120	1.64	1.00	4.00	1.73	56.27
BFP#2 to Hyd#1	1105	196	10	140	1	12.09	1.35	0	0	8	120	0.00	1500	9	6	120	1.64	1.00	3.99	1.73	56.27
BFP#1 to Hyd#2	0	1018	10	140	4	0.00	0.00	0	0	8	120	0.00	1500	12	6	120	2.18	16.00	18.18	7.87	n/a
BFP#2 to Hyd#2	1500	516	10	140	4	50.62	6.47	0	0	8	120	0.00	1500	12	6	120	2.18	2.00	10.66	4.61	53.39
BFP#1 to Hyd#3	0	529	10	140	2	0.00	0.00	0	0	8	120	0.00	1500	14	6	120	2.55	13.00	15.55	6.73	n/a
BFP#2 to Hyd#3	1500	1005	10	140	6	75.93	12.35	0	0	8	120	0.00	1500	14	6	120	2.55	2.00	16.90	7.32	50.68
BFP#1 to Hyd#4	35	330	10	140	2	14.40	0.00	0	0	8	120	0.00	1500	14	6	120	2.55	10.00	12.55	5.43	52.57
BFP#2 to Hyd#4	1465	1204	10	140	6	75.66	14.00	0	0	8	120	0.00	1500	14	6	120	2.55	-4.00	12.54	5.43	52.57

Notes:
1. C factor for PVC was taken as 140
2. See Sample Fire Flow Calculations for methodology
3. See Hydrant Map for Hydrant Locations and Elevations
4. Approximate Pressure In Columbus Parkway is 64 psi @ 1,500 gpm, a 6 psi loss across the BFP is assumed thus pressure at the BFP @ is 58 psi.

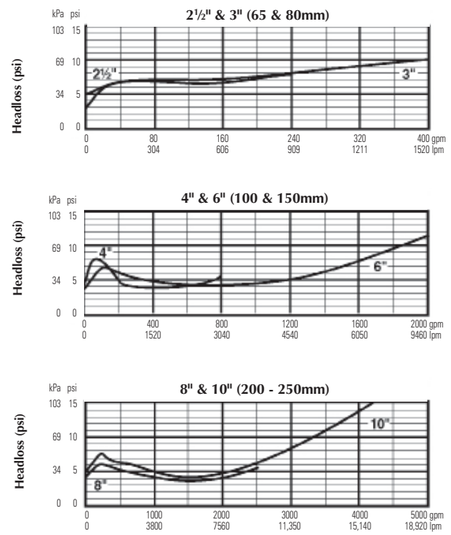
Back Flow Preventer Performance Curve

Flow Charts

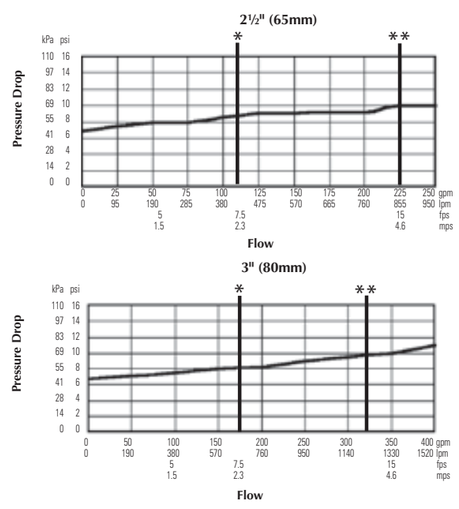
Series 806YD



Series 856



Series 858



Fairfield Physical Assessments Appendix

TABLE OF CONTENTS

1. Introduction 1

2. Evaluation 1
   - 2.1 Criteria
   - 2.2 Process
   - 2.3 Summary of Sanitary Sewer findings
   - 2.4 Summary of Storm Drain findings

3. Recommendations 2
   - 3.1 Sanitary Sewer
   - 3.2 Storm Drain

4. Exhibits
   - SS1 – Sanitary Sewer Physical Assessment Map
   - SS2 – Sanitary Sewer Keynotes
   - SD1 – Storm Drain Physical Assessment Map
   - SD2 – Storm Drain Keynotes

5. Appendices
   - 5.1 Sanitary Sewer Video Inspection Report
   - 5.2 Storm Drain Video Inspection Report

1. INTRODUCTION

Solano Community College is located at 4000 Suisun Valley road in Fairfield, California. The original campus buildings, including buildings 100 (Library Complex), 300 (Science Complex), 500 (Business Ed.), 600 (Administration), 700 (Humanities), 1400 (Student Center), 1500 (Mathematics), 1600 (Vocational Arts), 1700 (Physical Ed.), 1800 (Vocational Complex), 1900 (Facilities and Maintenance), 2000 (Central Plant), and associated site improvements were constructed in 1969. Subsequent additions were made to the campus over the years. In 1973, building 1200 (Theater) was added. In 1976, building 1000 (Horticulture) was added. In 1977, buildings 800 (Multi-Disipline) and 1300 (Fine Arts) were added. In 1993, building 200 (Child Care Center) was added. In 2005, building 2600 (Restroom Building) was added. In 2006, building 400 (Student Services) was added.

The purpose of this report is to document the findings of the physical assessment performed on portions of the campus Sanitary Sewer and Storm Drain facilities and then make recommendations on the condition of the pipes.

2. EVALUATION

2.1 Criteria

The sanitary sewer pipes and storm drain pipes chosen to be evaluated were based on the following criteria:

Sewer pipes - older pipes, pipes with less than minimum standard slopes (needed for self-flushing), pipes that will directly serve the new buildings, and pipes identified by facilities staff that have a history of maintenance issues.

Storm drain pipes - older pipes, mains that serve the three major areas of the campus (main campus, north parking lot, south parking lot), and pipes identified by facilities staff that have a history of maintenance issues.

2.2 Process

The pipes were assessed by placing a mobile video camera inside a manhole or drainage structure and moving the camera along the length of the pipe between the structures. Any sewer pipes that had debris obstructions were flushed to make a clear path for the camera. Any sewer pipes that had root balls large enough to obstruct access were rodded to cut and remove the obstruction.

Copies of the videos will be provided to the Facilities Director for their records.

2.3 Summary of Sanitary Sewer Findings

- Sags in the pipes
- Root intrusions at pipe joints
- Breaks in the pipe
- Offset Joints
- Root Balls

See exhibits SS1 and SS2 for location and description of specific findings.

2.4 Summary of Storm Drain Findings

- Root intrusions at pipe joints
- Breaks in the pipe
- Sediment in bottom of Corrugated Metal pipe
- Offset Joint

See exhibits SD1 and SD2 for location and description of specific findings.

3. RECOMMENDATIONS

3.1 Sanitary Sewer

- The sanitary sewer pipes that were observed to have sags should either be flushed on an annual basis to remove any potential blockages or replaced with new PVC sewer pipes laid on a constant slope between manholes.

- The pipes with root intrusions at the pipe joint are not an immediate maintenance issue, but will eventually grow into a root ball and obstruct the flow of waste water. We recommend these pipe segments either be monitored on an annual bases for severity of root intrusion or replaced with new pipe segments.

- The pipes with breaks can cause infiltration of ground water into the system, wastewater leakage into the surrounding soils, and potential collapse of pipe.
  We recommend these pipe segments be replaced.

- The pipes with offset joints have the potential of ground water infiltration, wastewater leakage, and disruption of flow.
  We recommend these pipe segments be replaced.

- The pipes with root balls can cause blockage of the pipes and potential upstream backups in the system.
  We recommend these pipe segments be replaced.

3.2 Storm Drain

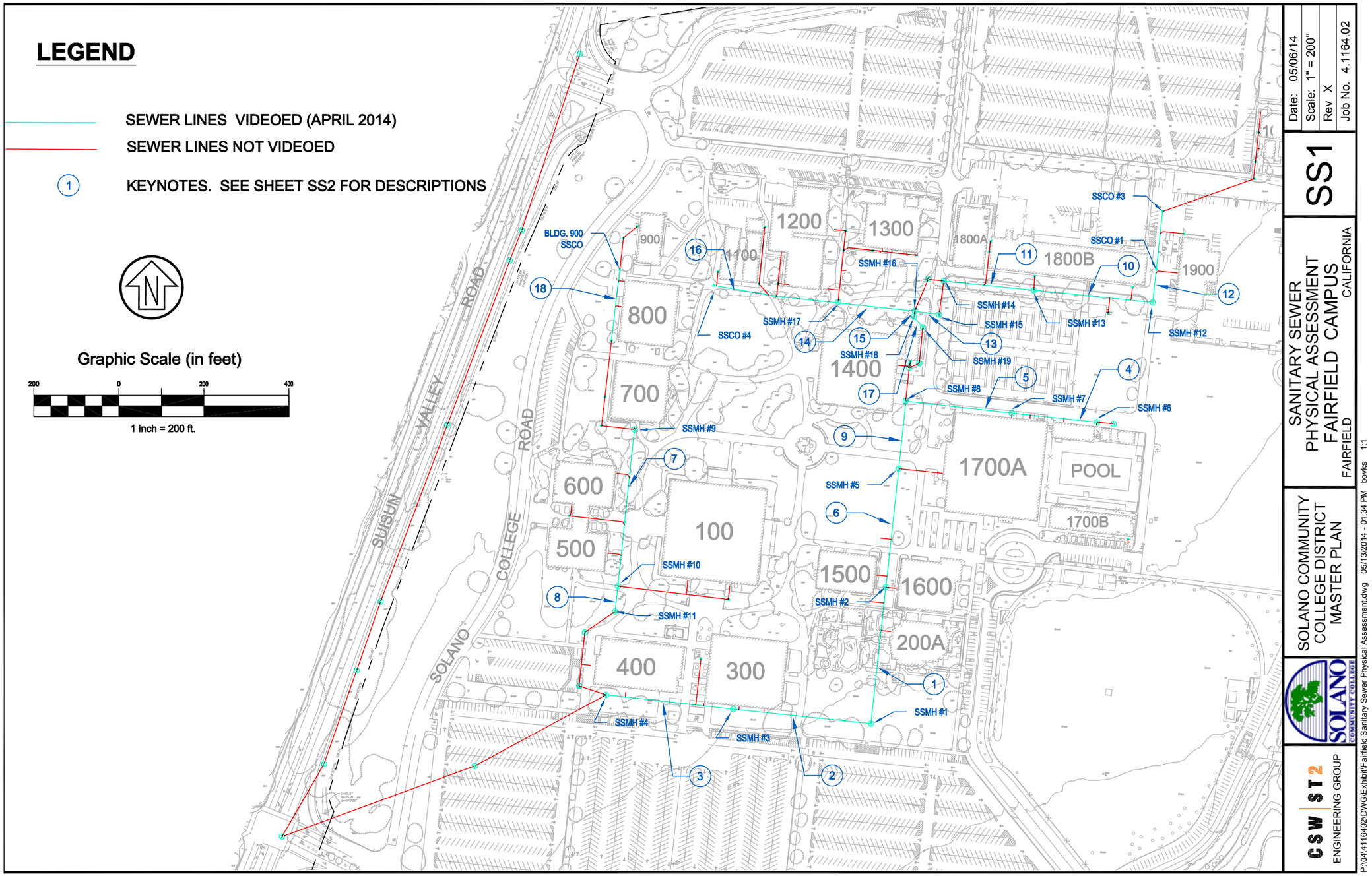
- The pipes with root intrusions at the pipe joint can cause ground water and sediment intrusion in the pipe.
  We recommend to roots be removed from inside the pipe and the joints regrouted for RCP pipes and welded for CMP pipes to mitigate future root intrusion.

- The pipe with the break occurred in the 42" diameter RCP pipe in the south parking lot.
  We recommend the break be grouted from inside the pipe.

- The corrugated metal pipes with accumulated sediment can restrict storm water flow and decrease capacity of the pipe.
  We recommend flushing these lines.

- The pipe with the offset joint occurred in the 36" arch CMP pipe in the south parking lot.
  We recommend the joint be patched or welded to keep sediment from entering the drainage system.

4.0 EXHIBITS


LEGEND
SEWER LINES VIDEOED (APRIL 2014)
SEWER LINES NOT VIDEOED
1 KEYNOTES. SEE SHEET SS2 FOR DESCRIPTIONS
Graphic Scale (in feet)
200 0 200 400
1 inch = 200 ft.
SUISUN VALLEY ROAD
SOLANO COLLEGE ROAD
BLDG. 900 SSCO
900
800
700
600
500
400
300
100
1100
1200
1300
1400
1500
1600
1700A
1700B
1800A
1800B
1900
200A
POOL
SSCO #1
SSCO #3
SSCO #4
SSMH #1
SSMH #2
SSMH #3
SSMH #4
SSMH #5
SSMH #6
SSMH #7
SSMH #8
SSMH #9
SSMH #10
SSMH #11
SSMH #12
SSMH #13
SSMH #14
SSMH #15
SSMH #16
SSMH #17
SSMH #18
SSMH #19
Date: 05/06/14
Scale: 1" = 200'
Rev X
Job No. 4.1164.02
SS1
SANITARY SEWER
PHYSICAL ASSESSMENT
FAIRFIELD CAMPUS
FAIRFIELD CALIFORNIA
SOLANO COMMUNITY
COLLEGE DISTRICT
MASTER PLAN
SOLANO COMMUNITY COLLEGE
CSW ST2
ENGINEERING GROUP
P:\04\4116402\DWG\Exhibit\Fairfield Sanitary Sewer Physical Assessment.dwg 05/13/2014 - 01:34 PM bovks 1:1

KEYNOTES	DESCRIPTION	REMARKS
1	CRACK IN PIPE (19' SOUTH OF SSMH#2). SAGS IN PIPE - 24' to 121', 137' to 160', 225' to 312' (SOUTH OF SSMH#2). OFFSET JOINT (311' SOUTH OF SSMH#2). BREAK IN PIPE AND ROOT INTRUSION (320' SOUTH OF SSMH#2)	FLUSHED LINE TO REMOVE DEBRIS
2	SAGS IN PIPE - 124' to 150', 183' to 192', 272' to 321' (WEST OF SSMH #1). ROOT INTRUSION IN BLDG 300 LATERALS.	
3	SAG IN PIPE - 8' to 305' (EAST OF SSMH #4)	
4	OFFSET JOINT (118' WEST OF SSMH #6). SAG IN PIPE - 137' to 189' (WEST OF SSMH #6)	FLUSHED LINE TO REMOVE GRAVEL
5	SAG IN PIPE - 28' to 38' (WEST OF SSMH #7). ROOT INTRUSION AT JOINT (229' WEST OF SSMH #7)	FLUSHED LINE TO REMOVE GRAVEL
6	SAGS IN PIPE - 132' to 150, 210' to 240', and 260 to 275" (SOUTH OF SSMH #5). OFFSET JOINT (168' SOUTH OF SSMH#5)	
7	SAG IN PIPE - 0' to 40' (NORTH OF SSMH#10). ROOT INTRUSION AT JOINT (103' NORTH OF SSMH #10). SAG IN PIPE - 109' to 144' (NORTH OF SSMH #10). OFFSET JOINT (153' AND 156' NORTH OF SSMH #10.) ROOT INTRUSION AT JOINT (218' NORTH OF SSMH #10). SAG IN PIPE - 244' to 256' (NORTH OF SSMH #10). OFFSET JOINT (331' NORTH OF SSMH #10).	
8	BREAK IN PIPE (24' SOUTH OF SSMH #10). MATERIAL CHANGE - VCP TO PVC (31' SOUTH OF SSMH #10). MATERIAL CHANGE - PVC TO VCP (41' SOUTH OF SSMH #10). BREAK IN PIPE (49' SOUTH OF SSMH #10)	
9	SAG IN PIPE - 32' to 71' (SOUTH OF SSMH #8). ROOT INTRUSION AT JOINT (52' SOUTH OF SSMH #8). SAG IN PIPE - 140' to 162' (SOUTH OF SSMH #8).	
10	SAGS IN PIPE - 9' to 29', 36' to 68', 77' to 202', 214' to 273' (WEST OF SSMH #12). ROOT INTRUSION AT JOINT (42' AND 46' WEST OF SSMH #12).	
11	ROOT INTRUSION AT JOINT (3' WEST OF SSMH #13). SAG IN PIPE - 13' to 225' (WEST OF SSMH #13). ROOT INTRUSION AT JOINT (33', 111', and 166' WEST OF SSMH#13). OFFSET JOINT (202' WEST OF SSMH#13).	
12	SAG IN PIPE - 70' to 152' NORTH OF SSMH #12). OFFSET JOINT (74' NORTH OF SSMH #12). OFFSET JOINT (170' NORTH OF SSMH #12). MATERIAL CHANGE - VCP TO PVC (170' NORTH OF SSMH #12). MATERIAL CHANGE - PVC TO VCP (173' NORTH OF SSMH #12).	FLUSHED LINE TO REMOVE GRAY SLUDGE
13	SAG IN PIPE - 0' to 31' (WEST OF SSMH #15).	
14	ROOT BALL AT JOINT (174' EAST OF SSMH #17)	FLUSHED LINE AND REMOVED ROOT BALL
15	SAG IN PIPE - 0' to 13' (SOUTH OF SSMH #16). ROOT BALL AT JOINT (8' SOUTH OF SSMH #16). MATERIAL CHANGE - VCP TO PVC (8' SOUTH OF SSMH #16)	FLUSHED LINE AND REMOVED ROOT BALL
16	SAGS IN PIPE - 15' to 56', 68' to 104', 113' to 131', 154' to 167', and 180' to 210' (WEST OF SSMH #17). OFFSET JOINT (143' WEST OF SSMH #17).	FLUSHED LINE
17	SAG IN PIPE - 0' to 34' (NORTHWEST OF SSMH #19)	
18	ROOT INTRUSION AT JOINT (9' SOUTH OF BLDG 900 CLEANOUT)	FLUSHED LINE

Date: 05/06/14
Scale: 1" = 200'
Rev X
Job No. 4.1164.02

SS2

SANITARY SEWER
PHYSICAL ASSESSMENT
FAIRFIELD CAMPUS
FAIRFIELD CALIFORNIA

SOLANO COMMUNITY
COLLEGE DISTRICT
MASTER PLAN

SOLANO COMMUNITY COLLEGE

CSW | ST2
ENGINEERING GROUP

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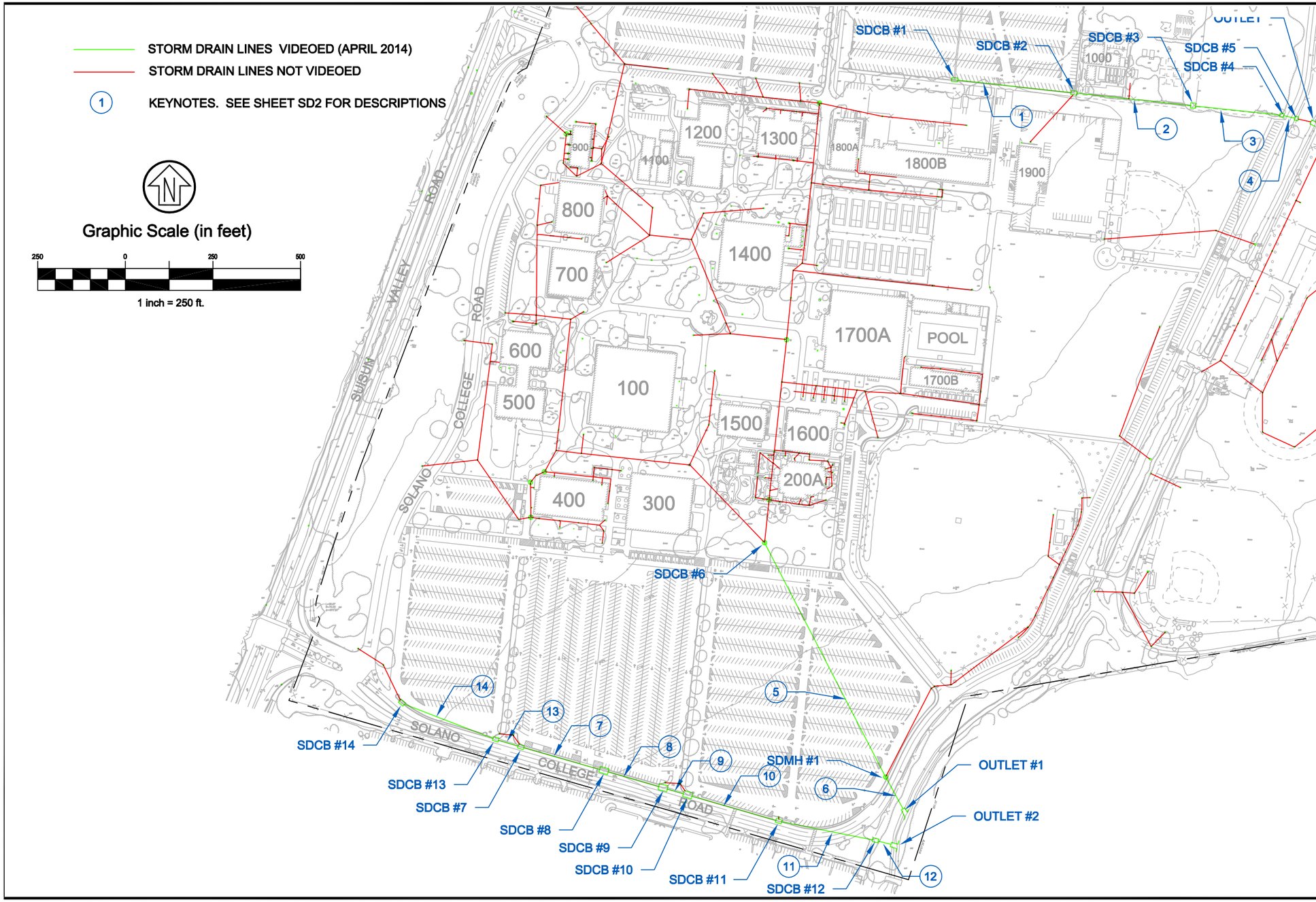

Date: 05/06/14
Scale: 1" = 200'
Rev X
Job No. 4.1164.02

SD1

STORM DRAIN
PHYSICAL ASSESSMENT
FAIRFIELD CAMPUS
FAIRFIELD CALIFORNIA

SOLANO COMMUNITY
COLLEGE DISTRICT
MASTER PLAN

CSW | ST2
ENGINEERING GROUP

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KEYNOTES	DESCRIPTION	REMARKS
1	SEDIMENT IN PIPE.	COULD ONLY VIDEO PORTION OF PIPE. CAMERA COULDN'T GET BY EXCESS MORTAR AT JOINT AND SEDIMENT. STORM DRAIN LINE SHOULD BE FLUSHED.
2	ROOT INTRUSION AT JOINTS (198', 205', 215', 228' 240', 270', 276', AND 320' EAST OF SDCB#2)	
3	NO ISSUES WITH PIPE	
4	SEDIMENT IN PIPE.	STORM DRAIN LINE SHOULD BE FLUSHED.
5	BREAK IN PIPE (683' NORTH OF SDMH #1), CRACK IN PIPE (688' NORTH OF SDMH#)	
6	ROOT INTRUSION AT JOINTS (33', 57', 71', AND 96' SOUTHEAST OF SDMH #1)	
7	NO ISSUES WITH PIPE	
8	NO ISSUES WITH PIPE	
9	NO ISSUES WITH PIPE	
10	OFFSET JOINT (230' EAST OF SDCB #10)	
11	ROOT INTRUSION AT JOINTS (162', 202', AND 222' EAST OF SDCB #11).	
12	NO ISSUES WITH PIPE	
13	SEDIMENT IN PIPE	STORM DRAIN LINE SHOULD BE FLUSHED.
14	SEDIMENT IN PIPE	STORM DRAIN LINE SHOULD BE FLUSHED.

Date: 05/06/14
Scale: 1" = 200'
Rev X
Job No. 4.1164.02

SD2

STORM DRAIN
PHYSICAL ASSESSMENT
FAIRFIELD CAMPUS
FAIRFIELD CALIFORNIA

SOLANO COMMUNITY
COLLEGE DISTRICT
MASTER PLAN

CSW | ST2
ENGINEERING GROUP

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CSW/STUBER-STROEH
&
SOLANO COMMUNITY COLLEGE

SOLANO COMMUNITY COLLEGE
SOLANO COLLEGE ROAD
FAIRFIELD, CA

CCTV INSPECTION
EXISTING SEWER MAINS

APRIL 21 - 23, 2014

ROY'S SEWER SERVICE, INC.
P.O. BOX 763
NOVATO, CA 94948
(415) 892-5480
(707) 795-5656

Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSS-1	Stuber-Stroeh Solano Community College	4/21/2014 1:06:49 PM		

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SSMH-#2		SSMH-#1			

Comments
Stuber-Stroeh/Solano Community College - CCTV existing sewer lines

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
19.0		CL	No	5 /		
23.8		MWLS	No	/		MWLS S1
37.3		TFA	No	3 /		
106.7		TFA	No	9 /		
121.0		MWLS	No	/		MWLS F1
137.7		MWLS	No	/		MWLS S2
160.2		MWLS	No	/		MWLS F2
225.6		MWLS	No	/		MWLS S3
311.3		JOM	No	3 / 9		
320.8		RFJ	No	5 /		
321.0		H	No	9 /		
321.0		CL	No	8 /		
326.8		MWLS	No	/		MWLS F3
326.8		AMH	No	/		SSMH-#1
326.8		-STOP-	No	/		

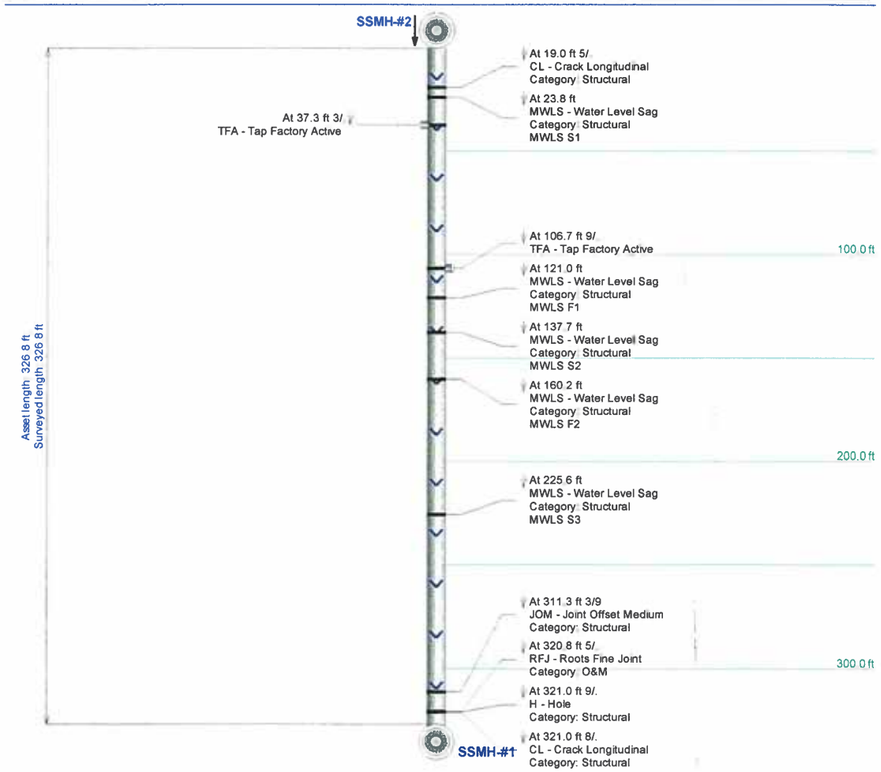
ROY'S SEWER SERVICE, INC.
P.O. BOX 763
NOVATO, CA 94948
(415) 892-5480
(707) 795-5656

Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSS-1	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:	Weather:
4/21/2014		10	VCP	Z	

Direction:	Surveyed footage:	Operator:	Comments
Towards Downstream	326.8		Stuber-Stroeh/Solano Community College - CCTV existing sewer lines



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(707) 795-5656

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSS-1	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:	Weather:
4/21/2014		10	VCP	Z	

Direction:	Surveyed footage:	Operator:	Comments
Towards Downstream	326.8		Stuber-Stroeh/Solano Community College - CCTV existing sewer lines

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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSS-2	Stuber-Stroeh Solano Community College	4/21/2014 7:43:00 AM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SSMH-#1		SSMH-#3			

Comments
Stuber-Stroeh/Solano Community College - CCTV existing sewer lines

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
123.7		MWLS	No	/		MWLS S1
150.0		MWLS	No	/		MWLS F1
182.6		MWLS	No	/		MWLS S2
192.0		MWLS	No	/		MWLS F2
260.2		TFA	No	3 /		
272.6		MWLS	No	/		MWLS S3
320.7		TFA	No	3 /		
321.5		MWLS	No	/		MWLS F3
332.0		AMH	No	/		SSMH-#3
332.0		-STOP-	No	/		SSMH-#3

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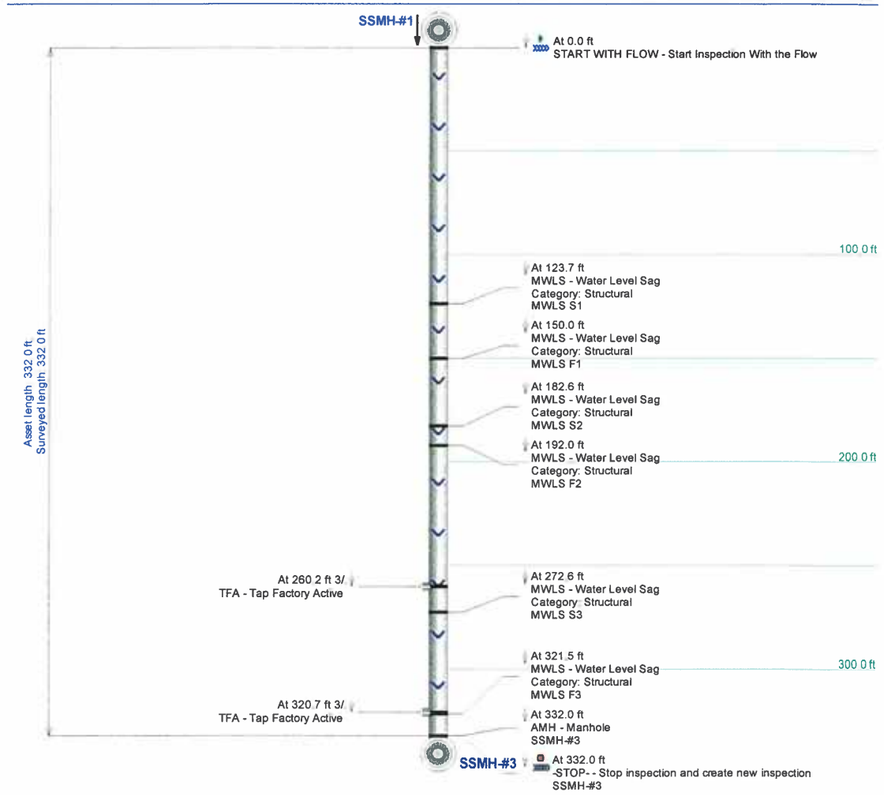
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSS-2	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:	Weather:
4/21/2014		10	VCP	Z	1

Direction:	Surveyed footage:	Operator:	Comments
Towards Downstream	332.0	Kevin Berry	Stuber-Stroeh/Solano Community College - CCTV existing sewer lines



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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSS-3	Stuber-Stroeh Solano Community College	4/21/2014 8:45:06 AM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SSMH-#3		SSMH-#4			

Comments
Stuber-Stroeh/Solano Community College - CCTV existing sewer lines

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START AGAINST FLOW	Yes	/		
8.0		MWLS	Yes	/		MWLS S1
42.5		TFA	Yes	9 /		
213.9		TFA	Yes	9 /		
231.6		TFA	Yes	9 /		
305.3		MWLS	Yes	/		MWLS F1
305.4		AMH	Yes	/		SSMH-#3
305.4		-STOP-	Yes	/		

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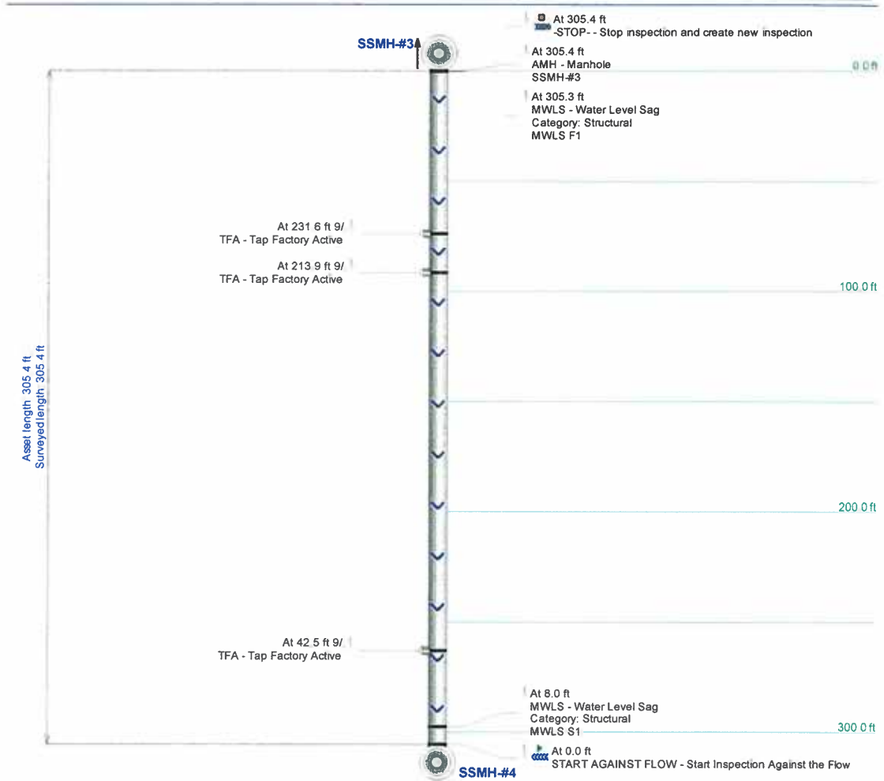
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSS-3	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:	Weather:
4/21/2014		10	VCP	Z	1

Direction:	Surveyed footage:	Operator:	Comments
Towards Upstream	305.4	Kevin Berry	Stuber-Stroeh/Solano Community College - CCTV existing sewer lines



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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSS-4	Stuber-Stroeh Solano Community College	4/21/2014 10:51:57 AM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SSMH-#6		SSMH-#7			

Comments
Stuber-Stroeh/Solano Community College - CCTV existing sewer lines

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
77.8		TFA	No	9 /		
118.2		JOM	No	7 / 2		
120.2		TFA	No	12 /		
137.4		MWLS	No	/		MWLS S1
158.3		TFA	No	9 /		
188.8		MWLS	No	/		MWLS F1
204.7		AMH	No	/		SSMH-#7
204.7		-STOP-	No	/		

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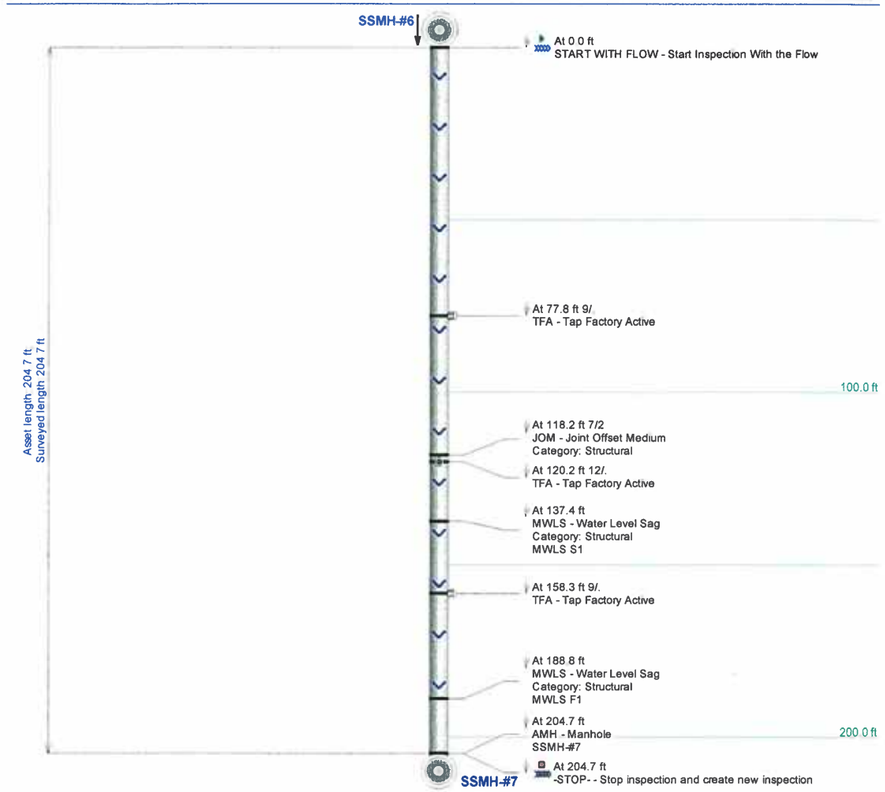
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSS-4	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:	Weather:
4/21/2014		8	VCP	Z	1

Direction:	Surveyed footage:	Operator:	Comments
Towards Downstream	204.7	Kevin Berry	Stuber-Stroeh/Solano Community College - CCTV existing sewer lines



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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSS-5	Stuber-Stroeh Solano Community College	4/21/2014 11:37:29 AM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SSMH-#7		SSMH-#8			

Comments
Stuber-Stroeh/Solano Community College - CCTV existing sewer lines

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
28.2		MWLS	No	/		MWLS S1
38.7		MWLS	No	/		MWLS F1
228.6		RFJ	No	5 /		
255.3		AMH	No	/		SSMH-#8
255.3		-STOP-	No	/		

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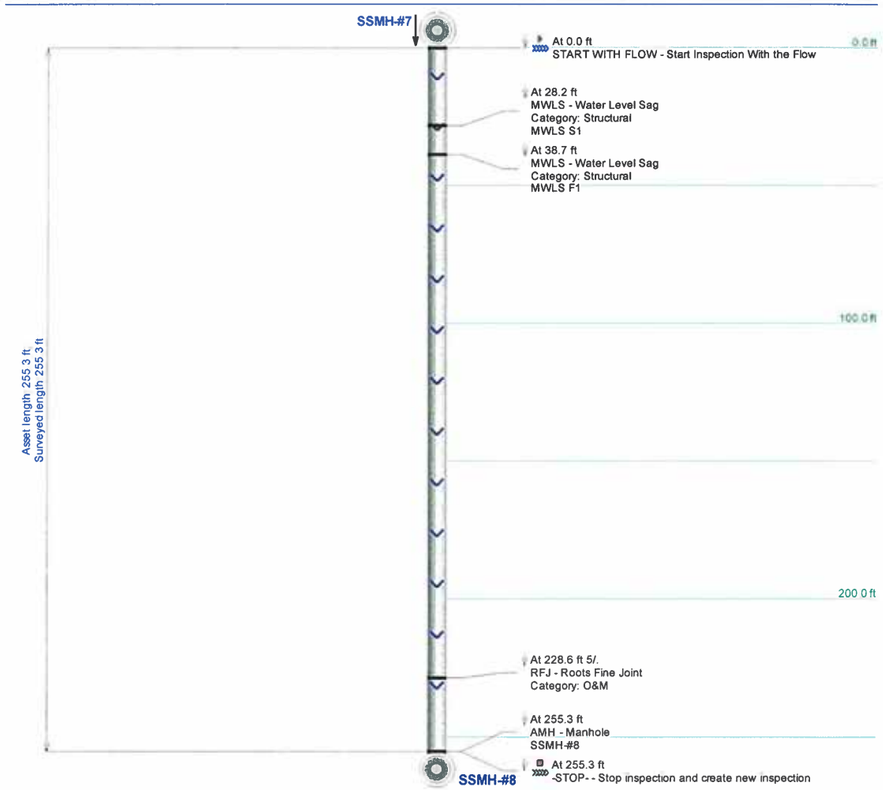
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSS-5	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:	Weather:
4/21/2014		8	VCP	Z	1

Direction:	Surveyed footage:	Operator:	Comments
Towards Downstream	255.3	Kevin Berry	Stuber-Stroeh/Solano Community College - CCTV existing sewer lines



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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSS-6	Stuber-Stroeh Solano Community College	4/22/2014 9:01:19 AM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SSMH-#5		SSMH-#2			

Comments
Stuber-Stroeh/Solano Community College - CCTV existing sewer lines

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
32.5		MWLS	No	/		MWLS S1
168.3		JOM	No	9 / 3		
171.6		TFA	No	3 /		
259.5		TFA	No	3 /		
279.6		MWLS	No	/		MWLS F1
285.5		AMH	No	/		SSMH-#2
285.5		-STOP-	No	/		

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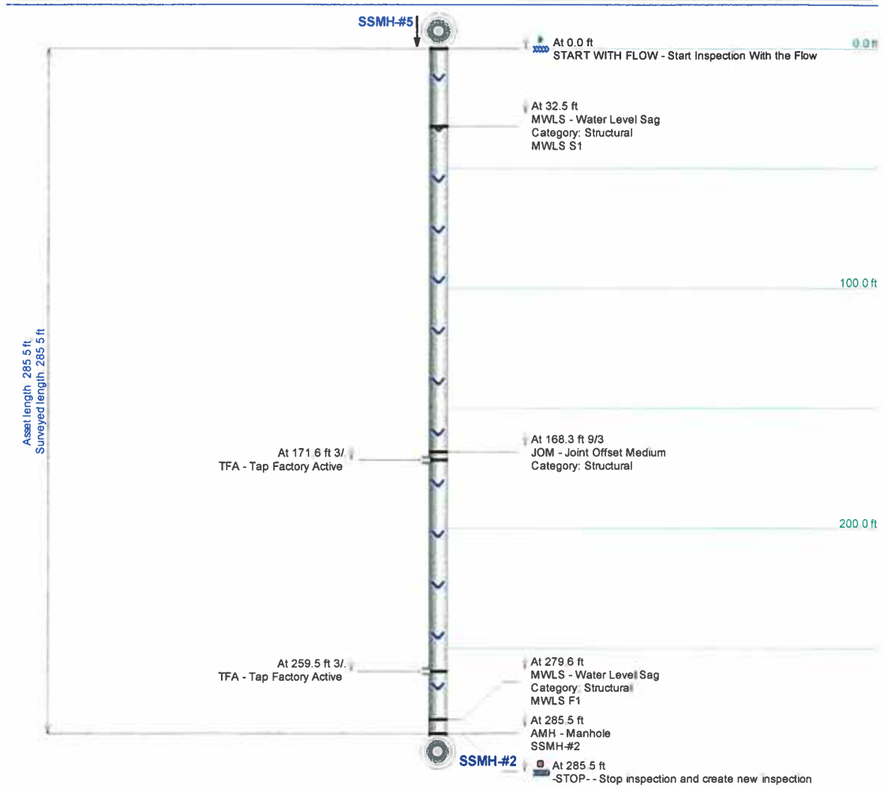
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSS-6	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:	Weather:
4/22/2014		10	VCP	Z	1

Direction:	Surveyed footage:	Operator:	Comments
Towards Downstream	285.5	Kevin Berry	Stuber-Stroeh/Solano Community College - CCTV existing sewer lines



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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSS-7	Stuber-Stroeh Solano Community College	4/22/2014 7:30:20 AM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SSMH-#9		SSMH-#10			

Comments
Stuber-Stroeh/Solano Community College - CCTV existing sewer lines

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START AGAINST FLOW	Yes	/		
0.0		MWLS	Yes	/		MWLS S1
40.0		MWLS	Yes	/		MWLS F1
81.1		TFA	Yes	9 /		
103.1		RFJ	Yes	/		
108.6		MWLS	Yes	/		MWLS S2
143.6		MWLS	Yes	/		MWLS F2
153.3		JOM	Yes	6 /		
155.8		TFA	Yes	9 /		
156.1		JOM	Yes	2 / 5		
157.3		ACOM	Yes	12 /		
217.8		RMJ	Yes	6 / 12		
217.8		JOM	Yes	6 /		
243.7		MWLS	Yes	/		MWLS S3
256.1		MWLS	Yes	/		MWLS F3
268.8		TFA	Yes	9 /		
330.8		JOM	Yes	2 / 5		
370.8		AMH	Yes	/		SSMH-#9
370.8		-STOP-	Yes	/		

ROY'S SEWER SERVICE, INC.
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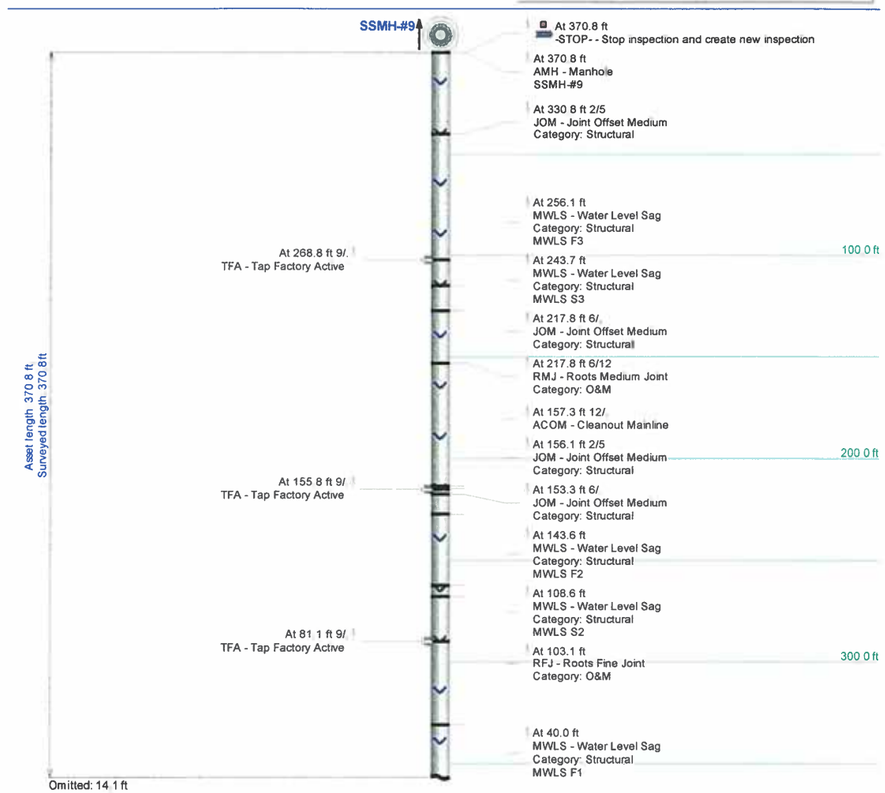
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSS-7	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:	Weather:
4/22/2014		6	VCP		1

Direction:	Surveyed footage:	Operator:	Comments
Towards Upstream	370.8	Kevin Berry	Stuber-Stroeh/Solano Community College - CCTV existing sewer lines



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Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSS-7	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:	Weather:
4/22/2014		6	VCP		1

Direction:	Surveyed footage:	Operator:	Comments
Towards Upstream	370.8	Kevin Berry	Stuber-Stroeh/Solano Community College - CCTV existing sewer lines

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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSS-8	Stuber-Stroeh Solano Community College	4/22/2014 7:57:52 AM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SSMH-#10		SSMH-#11			

Comments
Stuber-Stroeh/Solano Community College - CCTV existing sewer lines

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
24.3		B	No	3 / 7		
31.1		MMC	No	/		VCP TO PVC
41.2		MMC	No	/		PVC TO VCP
49.4		B	No	3 / 7		
61.3		-STOP-	No	/		
61.6		AMH	No	/		SSMH-#11

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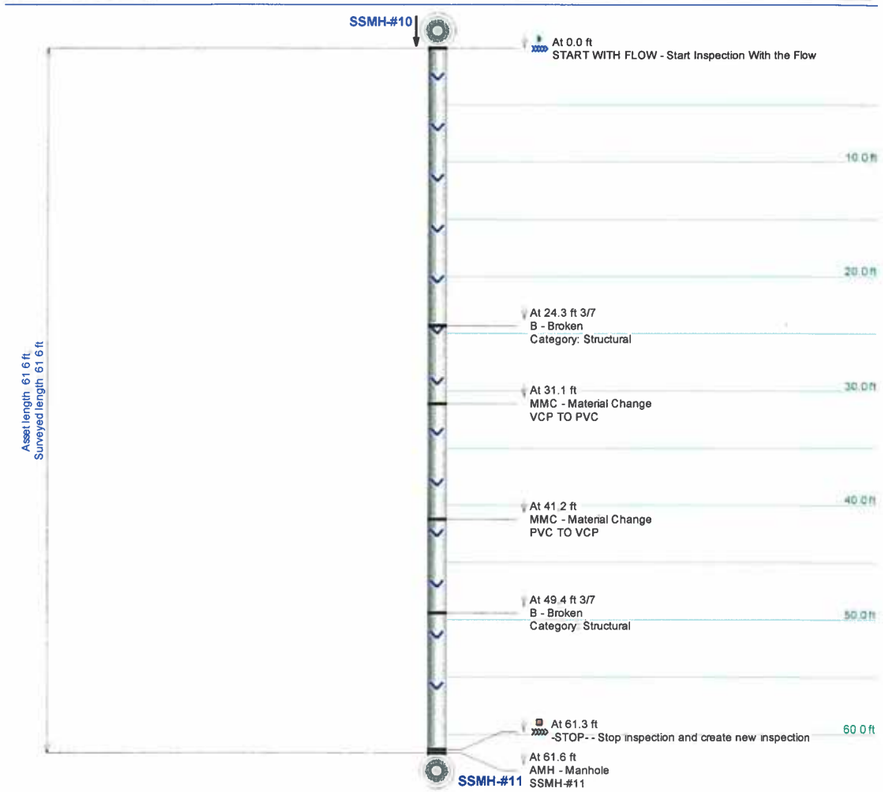
(415) 892-5480
(707) 795-5656

Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSS-8	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:	Weather:
4/22/2014		8	VCP	Z	1

Direction:	Surveyed footage:	Operator:	Comments
Towards Downstream	61.6	Kevin Berry	Stuber-Stroeh/Solano Community College - CCTV existing sewer lines



ROY'S SEWER SERVICE, INC.
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NOVATO, CA 94948
(415) 892-5480
(707) 795-5656

Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSS-9	Stuber-Stroeh Solano Community College	4/22/2014 8:26:56 AM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SSMH-#8		SSMH-#5			

Comments
Stuber-Stroeh/Solano Community College - CCTV existing sewer lines

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
32.4		MWLS	No	/		MWLS S1
51.6		RFJ	No	9 /		
71.3		MWLS	No	/		MWLS F1
108.8		ACOM	No	12 /		
139.6		MWLS	No	/		MWLS S2
162.0		MWLS	No	/		MWLS F2
162.0		AMH	No	/		SSMH-#5
162.1		-STOP-	No	/		

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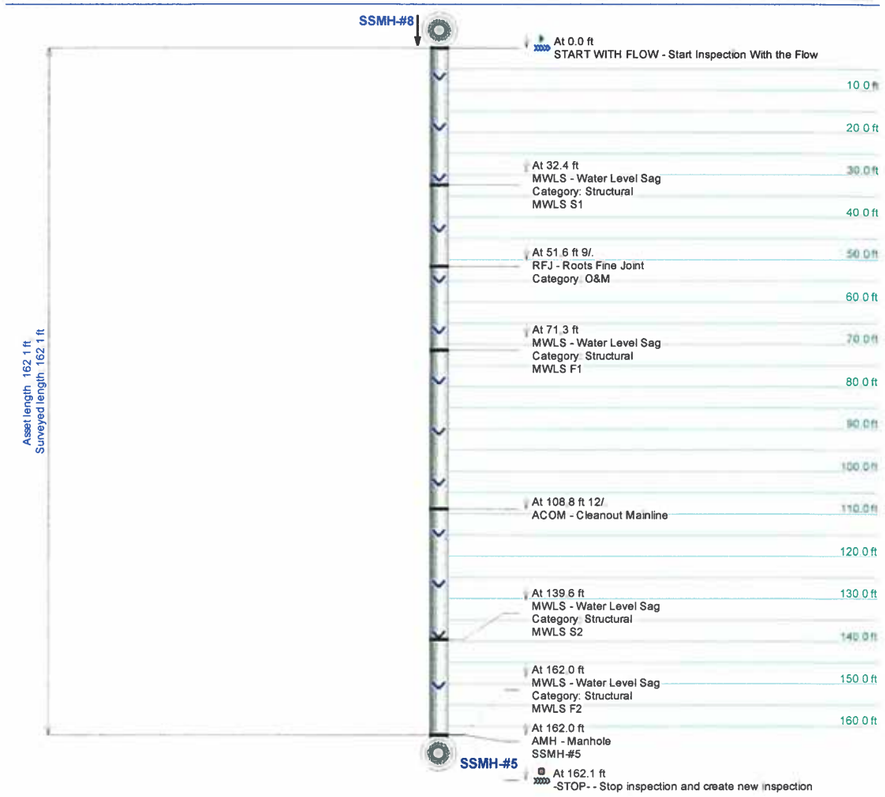
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSS-9	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:	Weather:
4/22/2014		10	VCP	Z	1

Direction:	Surveyed footage:	Operator:	Comments
Towards Downstream	162.1	Kevin Berry	Stuber-Stroeh/Solano Community College - CCTV existing sewer lines



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(415) 892-5480
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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSS-10	Stuber-Stroeh Solano Community College	4/22/2014 9:32:13 AM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SSMH-#12		SSMH-#13			

Comments
Stuber-Stroeh/Solano Community College - CCTV existing sewer lines

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
9.5		MWLS	No	/		MWLS S1
29.4		MWLS	No	/		MWLS F1
35.6		MWLS	No	/		MWLS S2
42.2		RMJ	No	12 / 12		
46.6		RFJ	No	9 /		
68.3		MWLS	No	/		MWLS F2
76.6		MWLS	No	/		MWLS S3
104.3		TFA	No	9 /		
162.7		TFA	No	3 /		
201.6		MWLS	No	/		MWLS F3
214.2		MWLS	No	/		MWLS S4
273.5		MWLS	No	/		MWLS F4
273.5		AMH	No	/		SSMH-#13
273.5		-STOP-	No	/		

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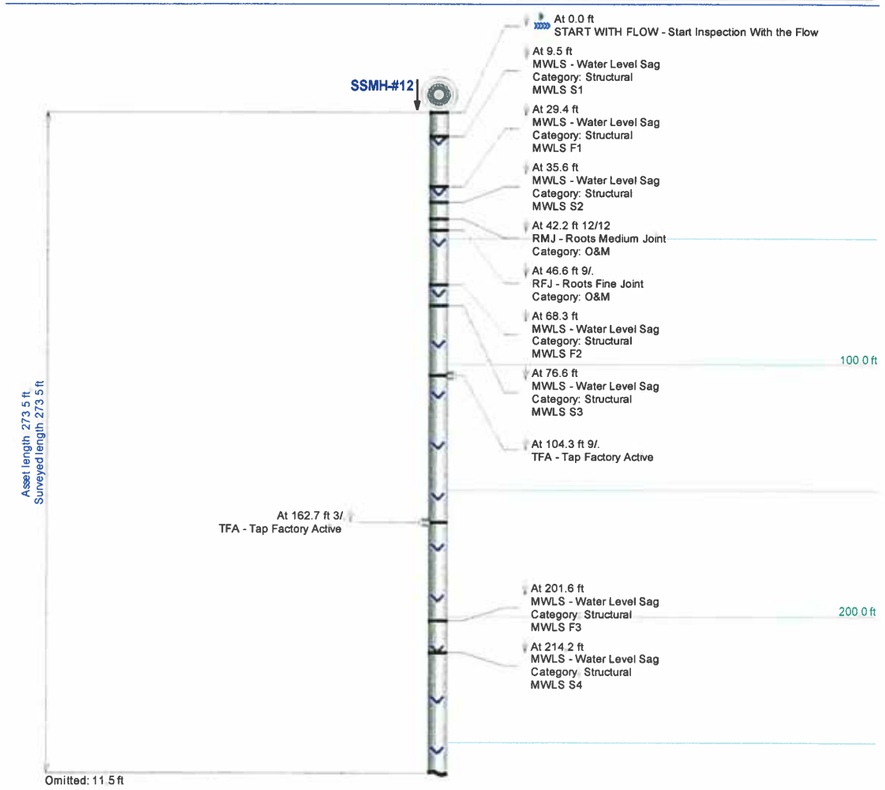
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSS-10	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:	Weather:
4/22/2014		6	VCP	Z	1

Direction:	Surveyed footage:	Operator:	Comments
Towards Downstream	273.5	Kevin Berry	Stuber-Stroeh/Solano Community College - CCTV existing sewer lines



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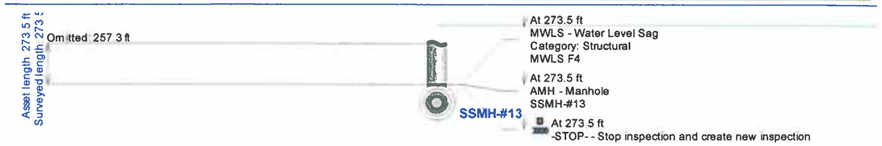
(415) 892-5480
(707) 795-5656

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSS-10	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:	Weather:
4/22/2014		6	VCP	Z	1

Direction:	Surveyed footage:	Operator:	Comments
Towards Downstream	273.5	Kevin Berry	Stuber-Stroeh/Solano Community College - CCTV existing sewer lines



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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSS-11	Stuber-Stroeh Solano Community College	4/22/2014 9:49:47 AM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SSMH-#13		SSMH-#14			

Comments
Stuber-Stroeh/Solano Community College - CCTV existing sewer lines

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
2.5		RMJ	No	9 / 3		
12.7		MWLS	No	/		MWLS S1
32.9		RMJ	No	2 / 9		
111.1		RFJ	No	9 / 3		
115.1		TFA	No	3 /		
166.4		RMJ	No	4 / 6		
199.2		TFA	No	3 /		
201.9		JOM	No	/		
225.0		MWLS	No	/		MWLS F1
225.7		AMH	No	/		SSMH-#14
225.7		-STOP-	No	/		

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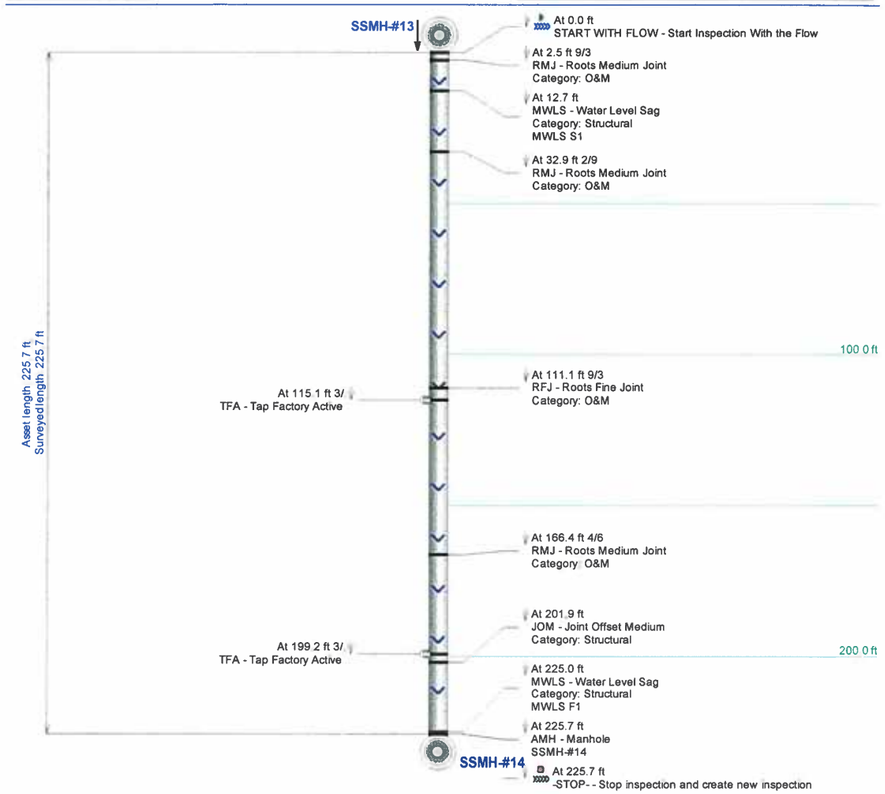
(707) 795-5656

Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSS-11	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:	Weather:
4/22/2014		6	VCP	Z	1

Direction:	Surveyed footage:	Operator:	Comments
Towards Downstream	225.7	Kevin Berry	Stuber-Stroeh/Solano Community College - CCTV existing sewer lines



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(415) 892-5480
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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSS-12	Stuber-Stroeh Solano Community College	4/22/2014 11:17:49 AM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SSCO-#3		SSMH-#12			

Comments
Stuber-Stroeh/Solano Community College - CCTV existing sewer lines

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START AGAINST FLOW	Yes	/		
70.1		MWLS	Yes	/		MWLS S1
74.0		JOM	Yes	3 /		
75.7		TFA	Yes	3 /		
79.5		ACOM	Yes	12 /		SSCO-#1
151.1		ACOM	Yes	12 /		SSCO-#2
152.0		MWLS	Yes	/		MWLS F1
170.3		JOM	Yes	/		
170.3		MMC	Yes	/		VCP TO PVC
171.7		TFA	Yes	3 /		
173.3		MMC	Yes	/		PVC TO VCP
216.9		TFC	Yes	3 /		
219.1		ACOM	Yes	12 /		SSCO-#3
221.1		LR	Yes	/		90 DEGREE BEND
221.1		-STOP-	Yes	/		

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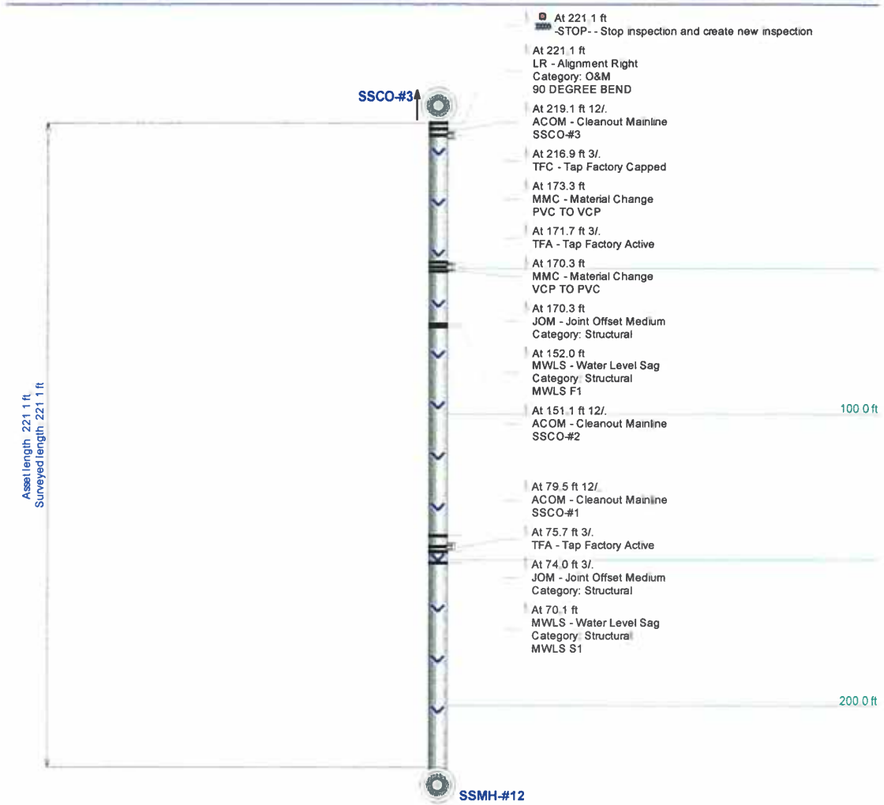
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSS-12	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:	Weather:
4/22/2014		6	VCP	Z	1

Direction:	Surveyed footage:	Operator:	Comments
Towards Upstream	221.1	Kevin Berry	Stuber-Stroeh/Solano Community College - CCTV existing sewer lines



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Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSS-12	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:	Weather:
4/22/2014		6	VCP	Z	1

Direction:	Surveyed footage:	Operator:	Comments
Towards Upstream	221.1	Kevin Berry	Stuber-Stroeh/Solano Community College - CCTV existing sewer lines

Asset length 221
Surveyed length 2

Omitted 220.7 ft

SSMH-#12

At 0.0 ft
START AGAINST FLOW - Start Inspection Against the Flow

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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSS-13	Stuber-Stroeh Solano Community College	4/22/2014 12:55:55 PM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SSMH-#15		SSMH-#16			

Comments
Stuber-Stroeh/Solano Community College - CCTV existing sewer lines

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
0.0		MWLS	No	/		MWLS S1
31.0		MWLS	No	/		MWLS F1
31.3		MSA	No	/		SIDES OF PIPE NARROWS
31.3		MMC	No	/		VCP TO CONCRETE?
31.3		-STOP-	No	/		

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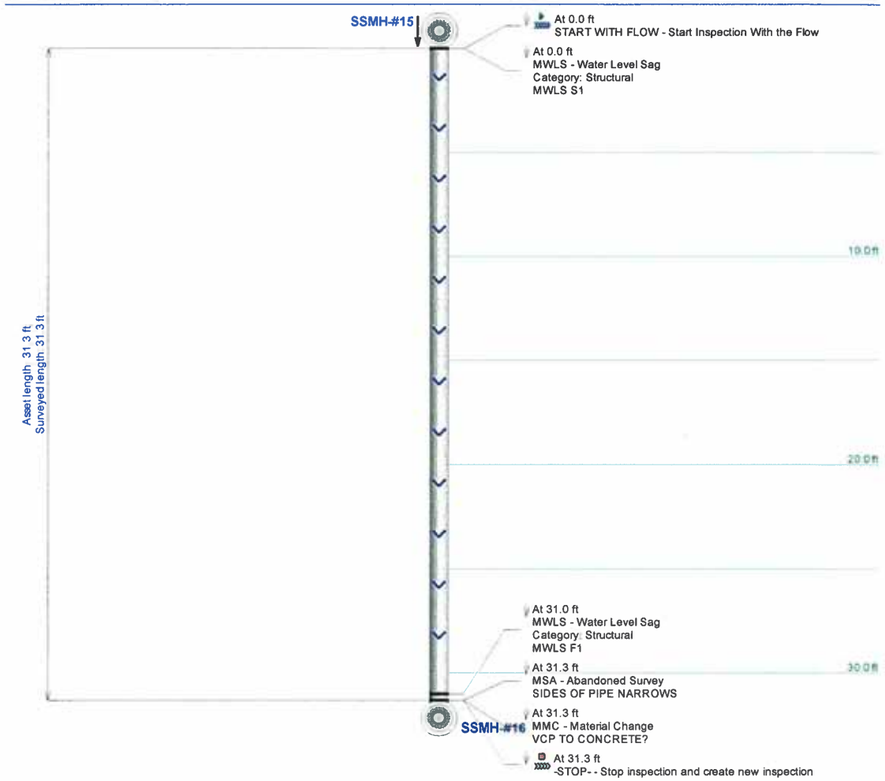
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSS-13	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:	Weather:
4/22/2014		6	VCP	Z	1

Direction:	Surveyed footage:	Operator:	Comments
Towards Downstream	31.3	Kevin Berry	Stuber-Stroeh/Solano Community College - CCTV existing sewer lines



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(707) 795-5656

Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSS-14	Stuber-Stroeh Solano Community College	4/23/2014 8:22:27 AM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SSMH-#17		SSMH-#16			

Comments
Stuber-Stroeh/Solano Community College - CCTV existing sewer lines

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
173.9		RBJ	No	3 /		
183.8		AMH	No	/		SSMH-#16
183.8		-STOP-	No	/		

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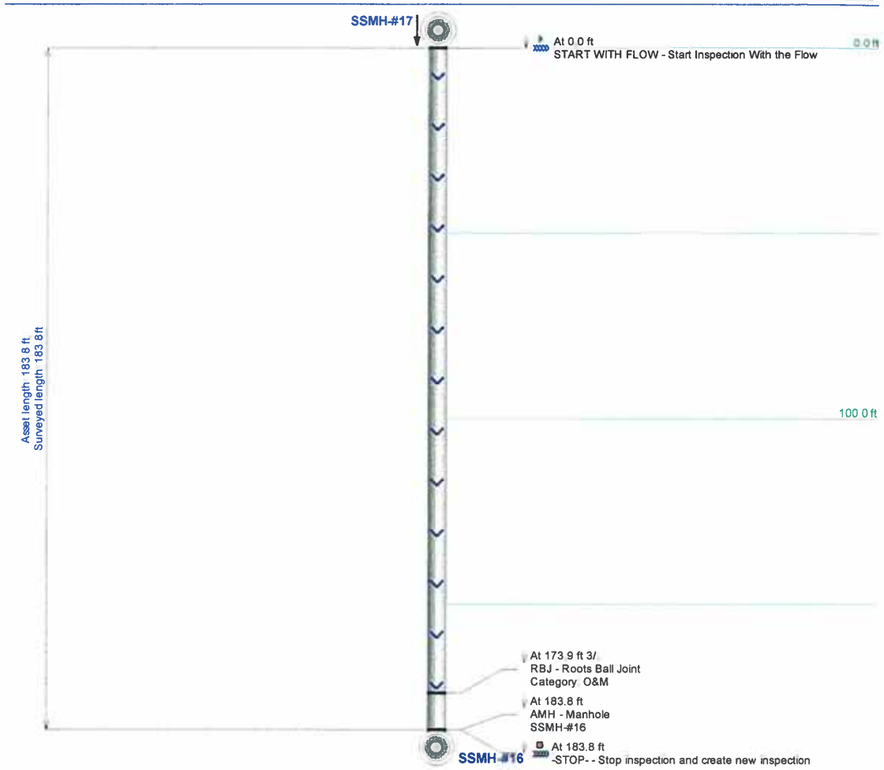
(415) 892-5480
(707) 795-5656

Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSS-14	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:	Weather:
4/23/2014		6	VCP	Z	1

Direction:	Surveyed footage:	Operator:	Comments
Towards Downstream	183.8	Kevin Berry	Stuber-Stroeh/Solano Community College - CCTV existing sewer lines



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(415) 892-5480
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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSS-15	Stuber-Stroeh Solano Community College	4/23/2014 7:42:45 AM	1	

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SSMH-#16		SSMH-#18			

Comments
Stuber-Stroeh/Solano Community College - CCTV existing sewer lines

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
0.0		MWLS	No	/		MWLS S1
8.0		RBJ	No	9 / 2		
8.0		MMC	No	/		VCP TO PVC
13.0		MWLS	No	/		MWLS F1
13.4		AMH	No	/		SSMH-#18
13.4		-STOP-	No	/		

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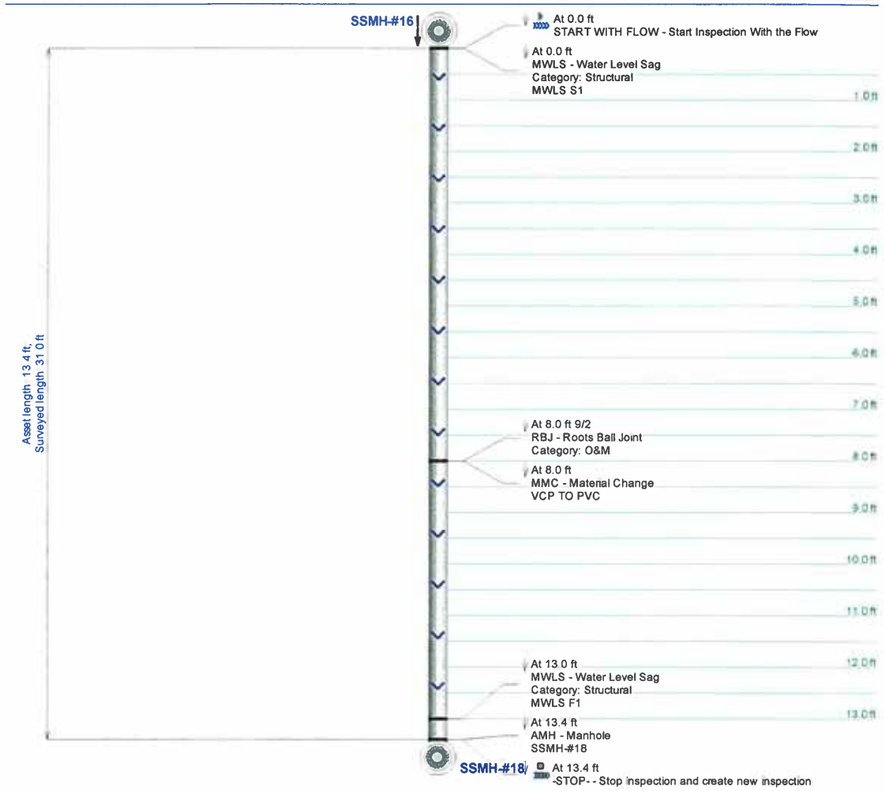
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSS-15	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:	Weather:
4/23/2014		8	VCP		1

Direction:	Surveyed footage:	Operator:	Comments
Towards Downstream	31.0		Stuber-Stroeh/Solano Community College - CCTV existing sewer lines



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(707) 795-5656

Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSS-16	Stuber-Stroeh Solano Community College	4/22/2014 2:45:42 PM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SSCO-#4		SSMH-#17			

Comments
Stuber-Stroeh/Solano Community College - CCTV existing sewer lines

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START AGAINST FLOW	Yes	/		
15.0		MWLS	Yes	/		MWLS S1
56.4		MWLS	Yes	/		MWLS F1
68.4		MWLS	Yes	/		MWLS S2
103.8		MWLS	Yes	/		MWLS F2
113.3		MWLS	Yes	/		MWLS S3
130.9		MWLS	Yes	/		MWLS F3
143.2		JOM	Yes	9 /		
147.9		TFA	Yes	3 /		
149.9		TFA	Yes	12 /		
153.9		MWLS	Yes	/		MWLS S4
159.0		TFA	Yes	3 /		
166.7		MWLS	Yes	/		MWLS F4
179.8		MWLS	Yes	/		MWLS S5
210.3		MWLS	Yes	/		MWLS F5
295.6		TFA	Yes	3 /		
297.7		ACOM	Yes	/		SSCO-#4
297.8		-STOP-	Yes	/		

ROY'S SEWER SERVICE, INC.
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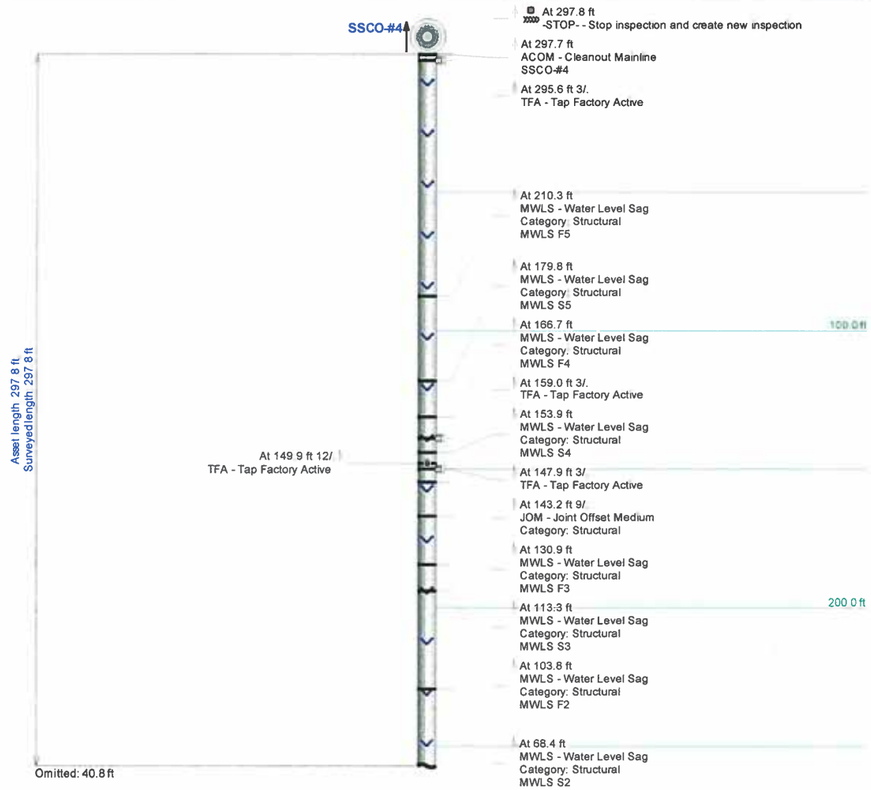
NOVATO, CA 94948
(415) 892-5480
(707) 795-5656

Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSS-16	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:	Weather:
4/22/2014		6	VCP	Z	1

Direction:	Surveyed footage:	Operator:	Comments
Towards Upstream	297.8	Kevin Berry	Stuber-Stroeh/Solano Community College - CCTV existing sewer lines



ROY'S SEWER SERVICE, INC.
P.O. BOX 763
NOVATO, CA 94948
(415) 892-5480
(707) 795-5656

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSS-16	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:	Weather:
4/22/2014		6	VCP	Z	1

Direction:	Surveyed footage:	Operator:	Comments
Towards Upstream	297.8	Kevin Berry	Stuber-Stroeh/Solano Community College - CCTV existing sewer lines

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(415) 892-5480
(707) 795-5656

Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSS-17	Stuber-Stroeh Solano Community College	4/23/2014 8:53:49 AM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SSMH-#18		SSMH-#19			

Comments
Stuber-Stroeh/Solano Community College - CCTV existing sewer lines

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START AGAINST FLOW	Yes	/		
0.0		MWLS	Yes	/		mwls s1
34.3		MWLS	Yes	/		mwls f1
34.3		AMH	Yes	/		SSMH-#18
34.3		-STOP-	Yes	/		

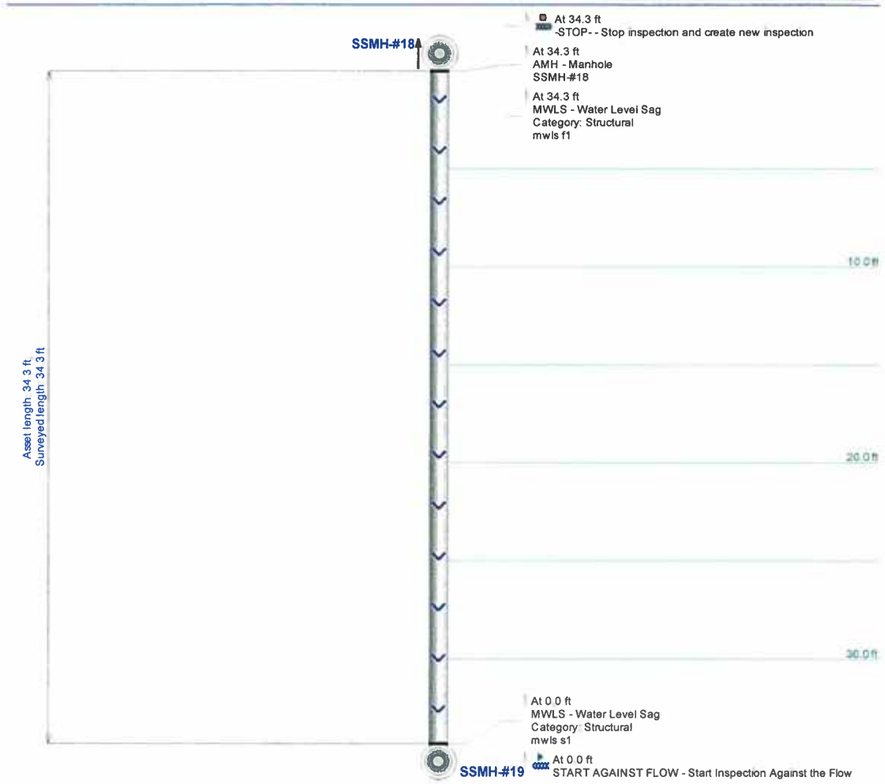
ROY'S SEWER SERVICE, INC.
P.O. BOX 763
NOVATO, CA 94948
(415) 892-5480
(707) 795-5656

Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSS-17	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:	Weather:
4/23/2014		8	PVC		1

Direction:	Surveyed footage:	Operator:	Comments
Towards Upstream	34.3	Kevin Berry	Stuber-Stroeh/Solano Community College - CCTV existing sewer lines



STUBER STROEH
&
SOLANO COMMUNITY COLLEGE
SOLANO COLLEGE ROAD
FAIRFIELD, CA
CCTV INSPECTION EXISTING 6" SEWER MAIN
APRIL 23, 2014

RUN	LOCATION	FINAL FTG	REMARKS
1	FROM: C/O BETWEEN BLDG 700 & 800 TO: C/O IN FRONT OF BLDG 900 6" PVC	186.9	186.9' LATERAL 12 O' CLOCK – C/O BETWEEN BLDG 700 & 800 96.7' LATERAL 9 O' CLOCK 89.4' LATERAL 12 O' CLOCK 39.0 LATERAL 9 O' CLOCK 9.0'-11.5' ROOTS IN JOINT

Appendix 5.2
– Storm Drain Video Inspection Report

CSW/STUBER-STROEH
&
SOLANO COMMUNITY COLLEGE

SOLANO COMMUNITY COLLEGE
SOLANO COLLEGE ROAD
FAIRFIELD, CA

CCTV INSPECTION
EXISTING STORM MAINS

APRIL 23 & 24, 2014

ROY'S SEWER SERVICE, INC.
P.O. BOX 763
NOVATO, CA 94948
CONTRACTOR'S LICENSE #491815
(707) 892-5480

Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSD1	Stuber-Stroeh Solano Community College	4/23/2014 9:26:55 AM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SDCB-1		SDCB-2		47.5	

Comments
Stuber-Stroeh/Solano Community College - CCTV existing storm mains

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
47.4		MSA	No	/		mortar on concrete joints - unable to get camera thru
47.5		-STOP-	No	/		

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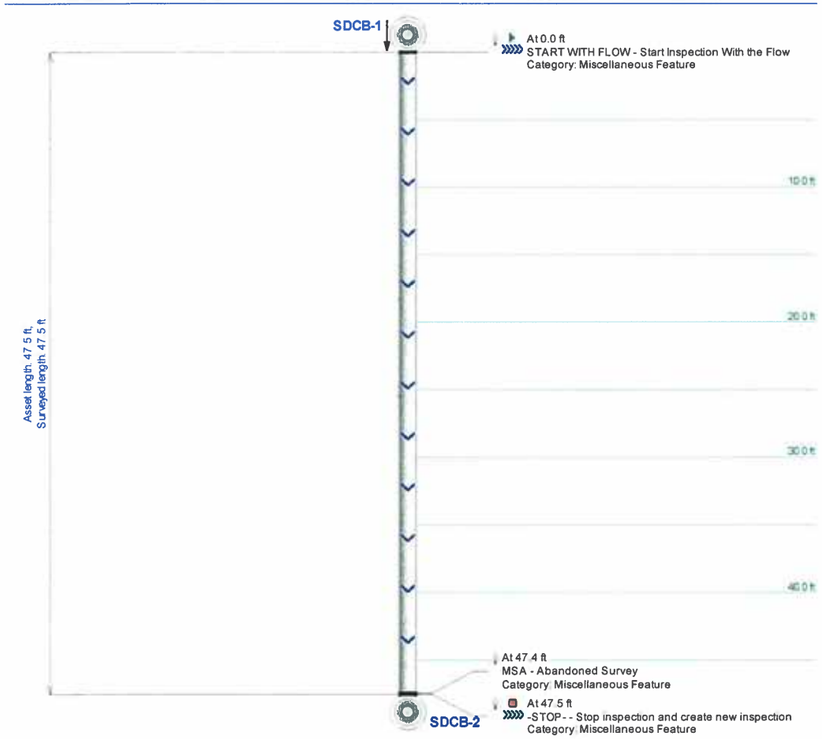
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSD1	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:
4/23/2014		18	RCP	

Direction:	Surveyed footage:	Weather:	MEDIA_LABEL
Towards Downstream	47.5	1	



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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSD1	Stuber-Stroeh Solano Community College	4/23/2014 9:42:47 AM	1	

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SDCB-1		SDCB-2		16.4	

Comments
Stuber-Stroeh/Solano Community College - CCTV existing storm mains

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START AGAINST FLOW	Yes	/		
16.4		MSA	Yes	/		too much dirt
16.4		-STOP-	Yes	/		

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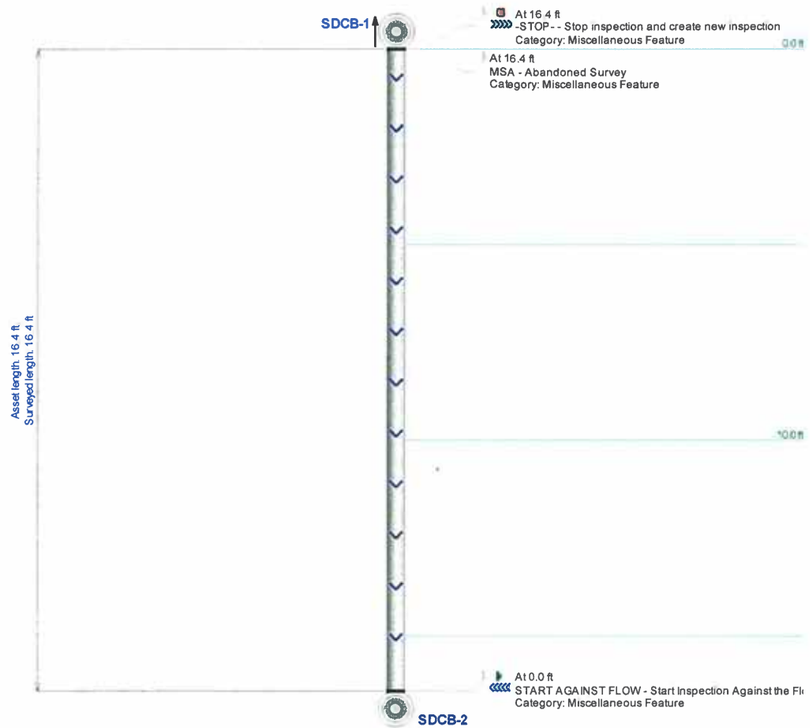
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSD1	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:
4/23/2014		18	RCP	

Direction:	Surveyed footage:	Weather:	MEDIA_LABEL
Towards Upstream	16.4	1	



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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSD2	Stuber-Stroeh Solano Community College	4/23/2014 10:02:01 AM	1	

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SDCB-2		SDCB-3		346.1	

Comments
Stuber-Stroeh/Solano Community College - CCTV existing storm mains

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
154.1		TFA	No	10 /		
197.6		RMJ	No	7 /		
204.6		RMJ	No	7 /		
204.8		RBB	No	/		
215.3		RMJ	No	5 /		
227.8		RMJ	No	7 /		
239.7		RMJ	No	7 /		
269.7		RMJ	No	5 /		
275.8		RMJ	No	5 / 7		
320.5		RMJ	No	5 / 8		
346.1		ACB	No	/		SDCB-3
346.1		-STOP-	No	/		

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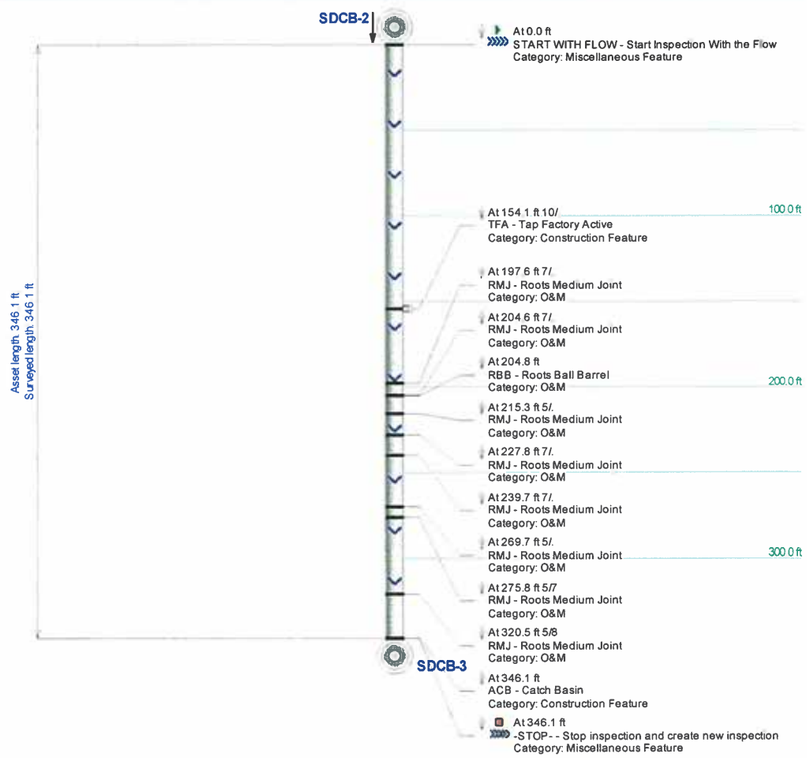
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSD2	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:
4/23/2014		24	RCP	

Direction:	Surveyed footage:	Weather:	MEDIA_LABEL
Towards Downstream	346.1	1	



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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSD3	Stuber-Stroeh Solano Community College	4/23/2014 10:16:50 AM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SDCB-3		SDCB-4		257.1	

Comments
Stuber-Stroeh/Solano Community College - CCTV existing storm mains

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
257.1		ACB	No	/		SDCB-4
257.1		-STOP-	No	/		

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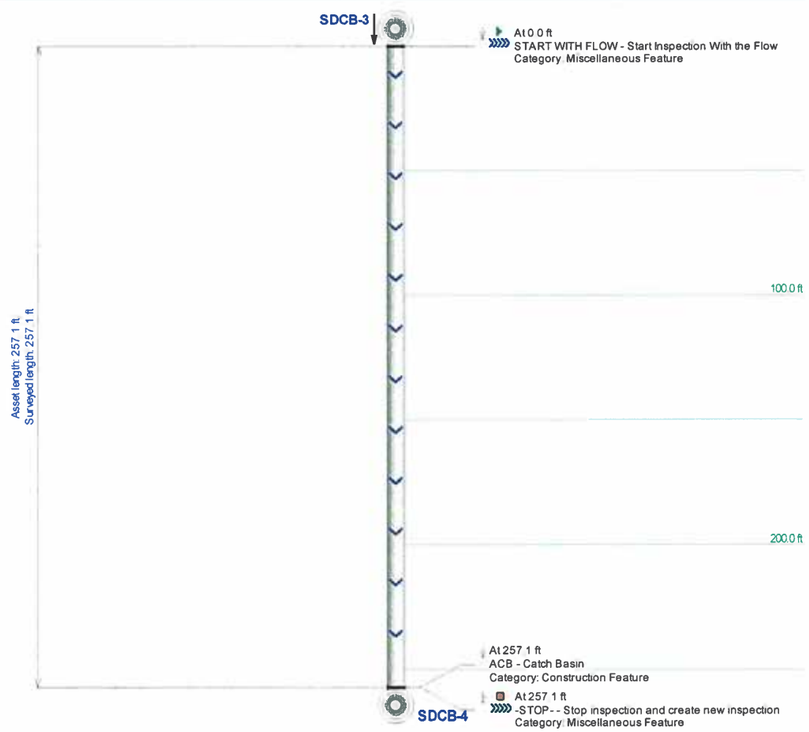
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSD3	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:
4/23/2014		30	RCP	

Direction:	Surveyed footage:	Weather:	MEDIA_LABEL
Towards Downstream	257.1	1	



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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSD4	Stuber-Stroeh Solano Community College	4/23/2014 10:24:50 AM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SDCB-4		SDCB-5		23.4	

Comments
Stuber-Stroeh/Solano Community College - CCTV existing storm mains - 27" Arch CMP

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
23.4		MSA	No	/		too much dirt
23.4		-STOP-	No	/		

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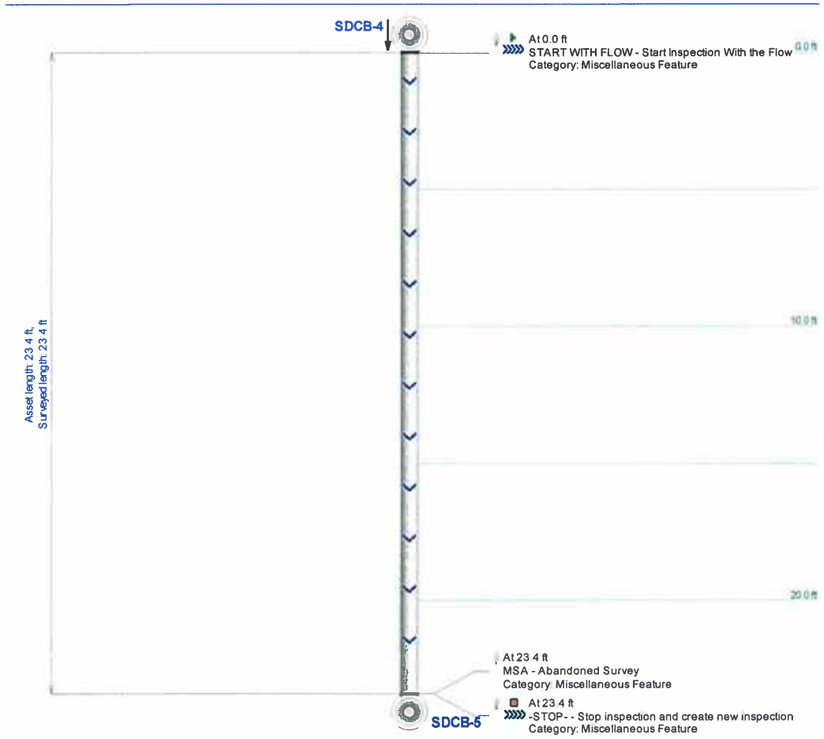
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSD4	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:
4/23/2014		24	CMP	

Direction:	Surveyed footage:	Weather:	MEDIA_LABEL
Towards Downstream	23.4	1	



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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSD5	Stuber-Stroeh Solano Community College	4/23/2014 11:56:06 AM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SDCB-6		SDMH-1		761.8	

Comments
Stuber-Stroeh/Solano Community College - CCTV existing storm mains -

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START AGAINST FLOW	Yes	/		
438.1		TBA	Yes	10 /		
682.7		H	Yes	12 /		
688.1		CC	Yes	/		CRACK - ROOTS GROWING THRU
761.6		ACB	Yes	/		SDCB-6
761.8		-STOP-	Yes	/		

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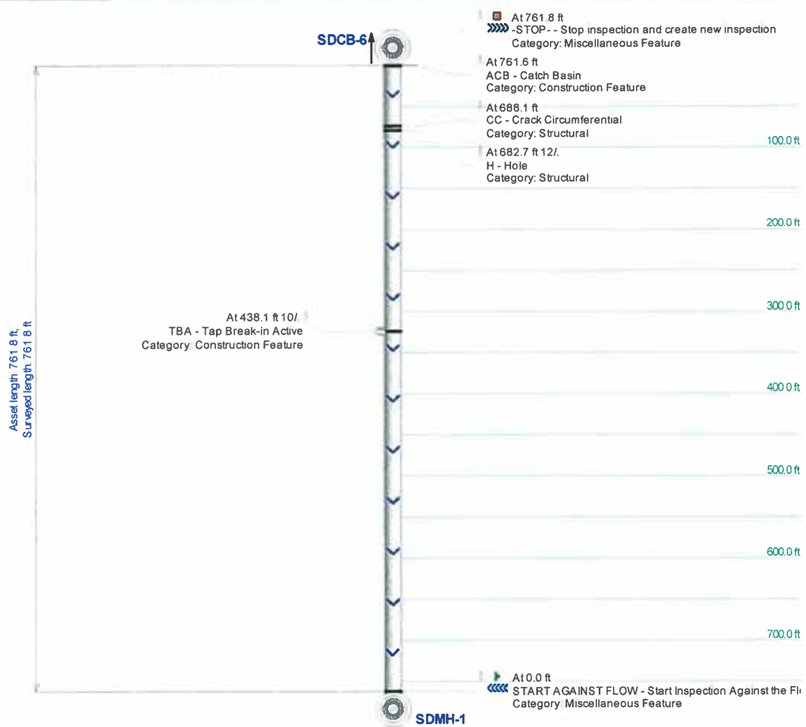
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSD5	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:
4/23/2014		42	RCP	

Direction:	Surveyed footage:	Weather:	MEDIA_LABEL
Towards Upstream	761.8	1	



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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSD6	Stuber-Stroeh Solano Community College	4/23/2014 12:43:16 PM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SDMH-1		OUTLET-1		102.5	

Comments
Stuber-Stroeh/Solano Community College - CCTV existing storm mains -

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
33.5		RFJ	No	5 /		
40.1		RFJ	No	5 /		
56.7		RMJ	No	5 / 7		
71.2		RFJ	No	7 /		
95.6		RMJ	No	5 /		
102.4		AEP	No	/		OUTLET W/ FLAP GATE
102.5		-STOP-	No	/		

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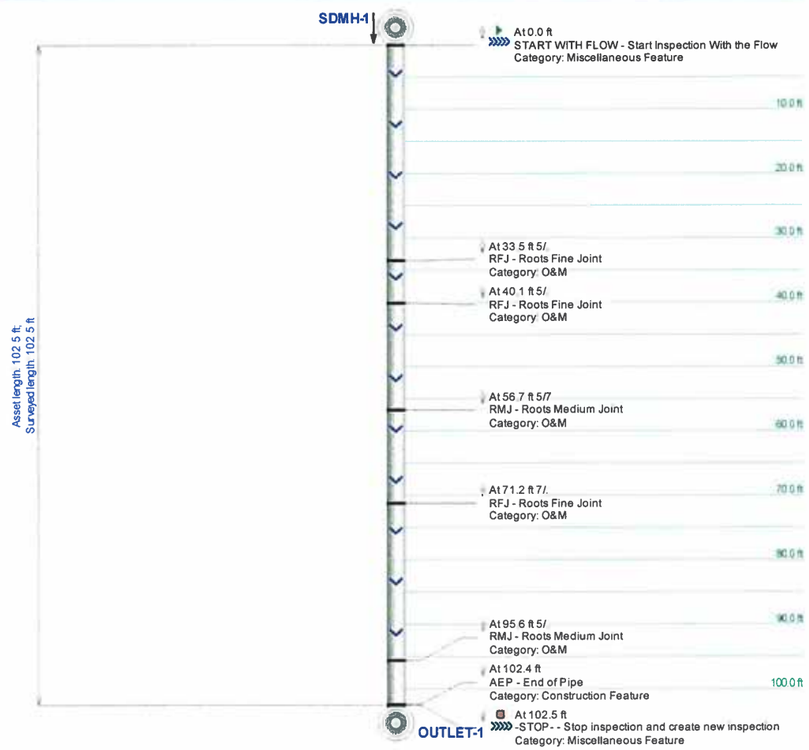
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSD6	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:
4/23/2014		42	RCP	

Direction:	Surveyed footage:	Weather:	MEDIA_LABEL
Towards Downstream	102.5	1	



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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSD7	Stuber-Stroeh Solano Community College	4/23/2014 1:08:33 PM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SDCB-7		SDCB-8		248.8	

Comments
Stuber-Stroeh/Solano Community College - CCTV existing storm mains -

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
248.8		ACB	No	/		SDCB-8
248.8		-STOP-	No	/		

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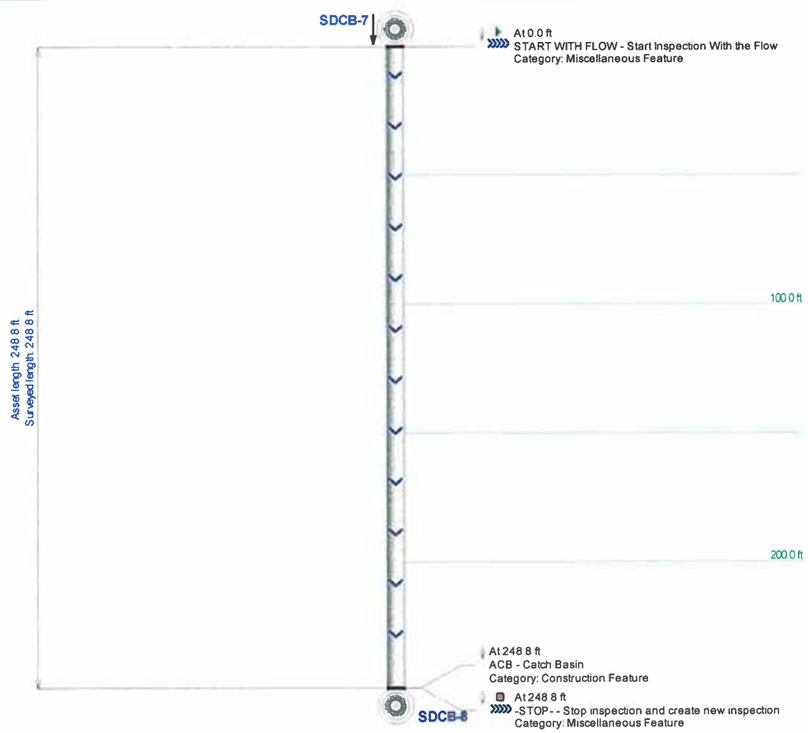
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSD7	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:
4/23/2014		36	RCP	

Direction:	Surveyed footage:	Weather:	MEDIA_LABEL
Towards Downstream	248.8	1	



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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSD8	Stuber-Stroeh Solano Community College	4/23/2014 1:16:50 PM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SDCB-8		SDCB-9		176.8	

Comments
Stuber-Stroeh/Solano Community College - CCTV existing storm mains -

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
176.8		ACB	No	/		SDCB-9
176.8		-STOP-	No	/		

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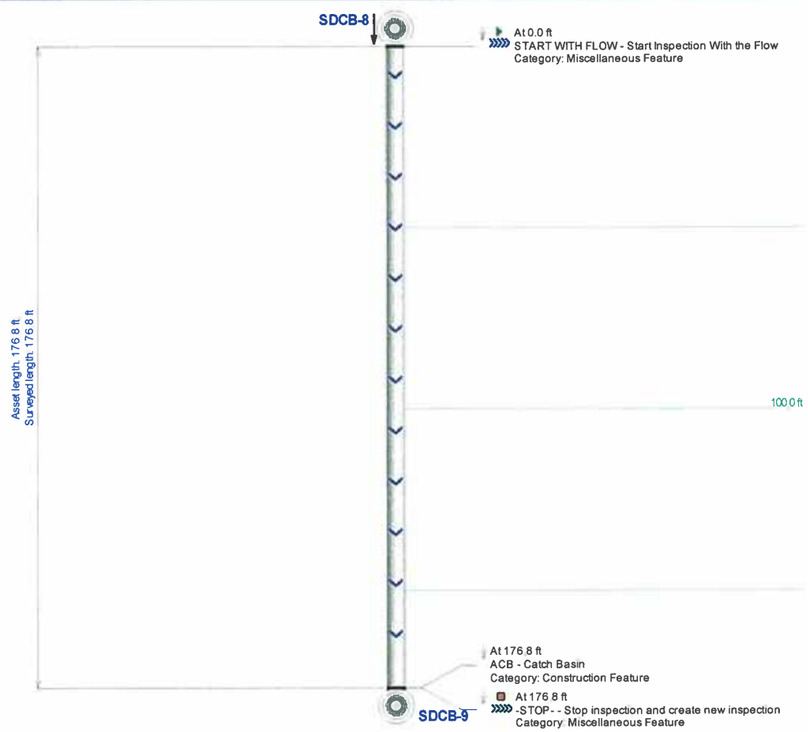
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSD8	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:
4/23/2014		36	CMP	

Direction:	Surveyed footage:	Weather:	MEDIA_LABEL
Towards Downstream	176.8	1	



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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSD9	Stuber-Stroeh Solano Community College	4/23/2014 1:21:57 PM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SDCB-9		SDCB-10		73.7	

Comments
Stuber-Stroeh/Solano Community College - CCTV existing storm mains -

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
73.7		ACB	No	/		SDCB-10
73.7		-STOP-	No	/		

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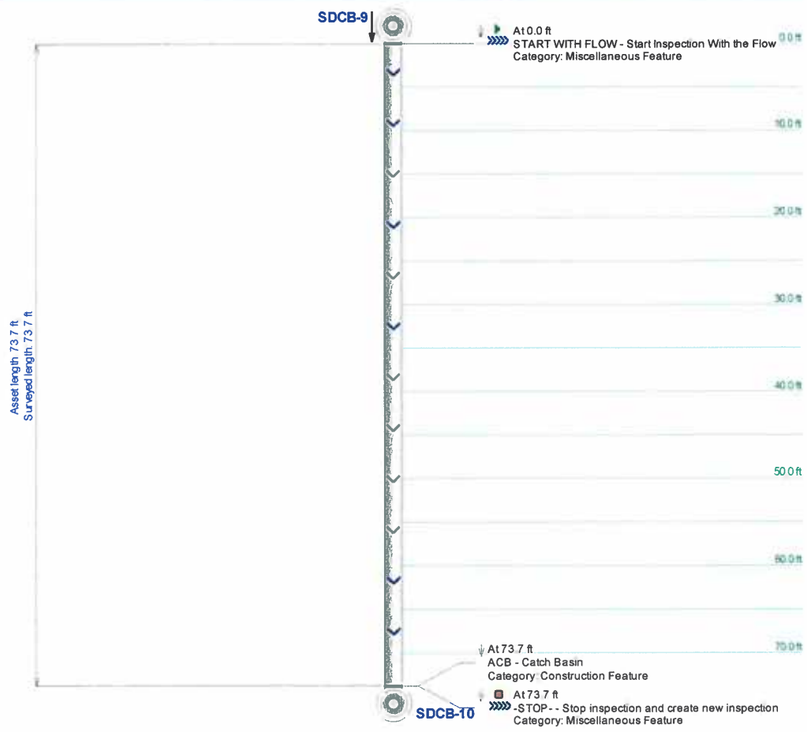
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSD9	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:
4/23/2014		36	CMP	

Direction:	Surveyed footage:	Weather:	MEDIA_LABEL
Towards Downstream	73.7	1	



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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSD10	Stuber-Stroeh Solano Community College	4/23/2014 1:25:32 PM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SDCB-10		SDCB-11		273.8	

Comments
Stuber-Stroeh/Solano Community College - CCTV existing storm mains -

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
229.6		JOM	No	7 /		
273.8		ACB	No	/		SDCB-11
273.8		-STOP-	No	/		

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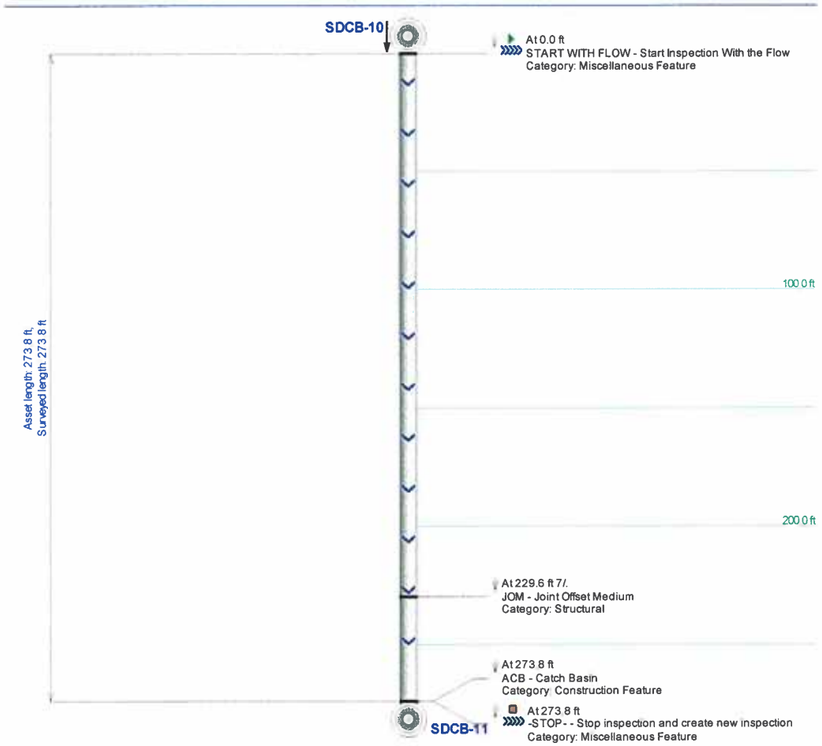
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSD10	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:
4/23/2014		36	CMP	

Direction:	Surveyed footage:	Weather:	MEDIA_LABEL
Towards Downstream	273.8	1	



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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSD11	Stuber-Stroeh Solano Community College	4/23/2014 1:33:54 PM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SDCB-11		SDCB-12		283.5	

Comments
Stuber-Stroeh/Solano Community College - CCTV existing storm mains -

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
161.9		RMJ	No	5 /		
202.0		RMJ	No	7 /		
222.5		RMJ	No	7 /		
283.5		ACB	No	/		SDCB-12
283.5		-STOP-	No	/		

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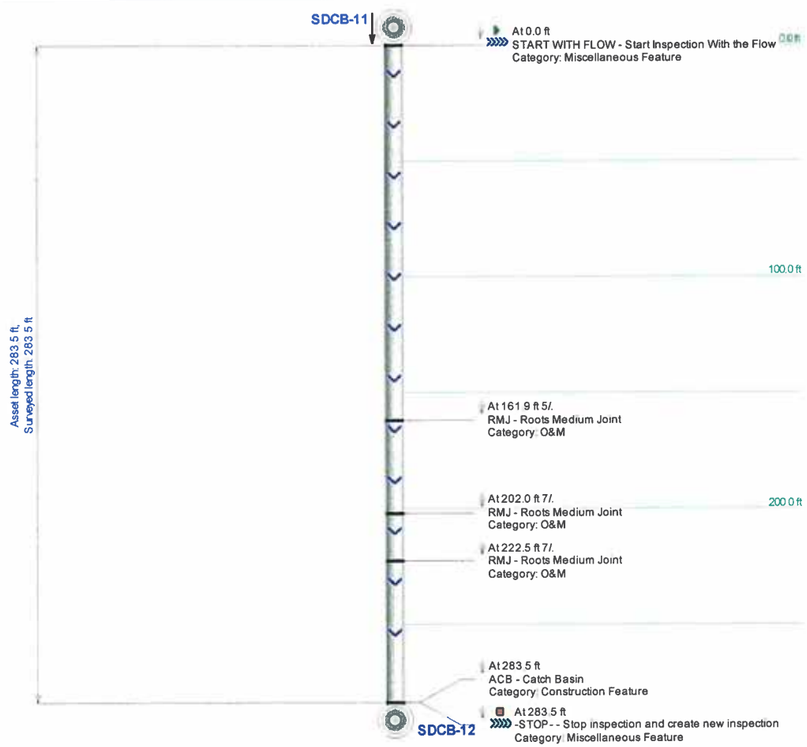
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSD11	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:
4/23/2014		36	CMP	

Direction:	Surveyed footage:	Weather:	MEDIA_LABEL
Towards Downstream	283.5	1	



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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSD12	Stuber-Stroeh Solano Community College	4/23/2014 1:44:30 PM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SDCB-12		OUTLET-2		42.1	

Comments
Stuber-Stroeh/Solano Community College - CCTV existing storm mains -

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
42.0		AEP	No	/		OUTLET W/ FLAPPER
42.1		-STOP-	No	/		

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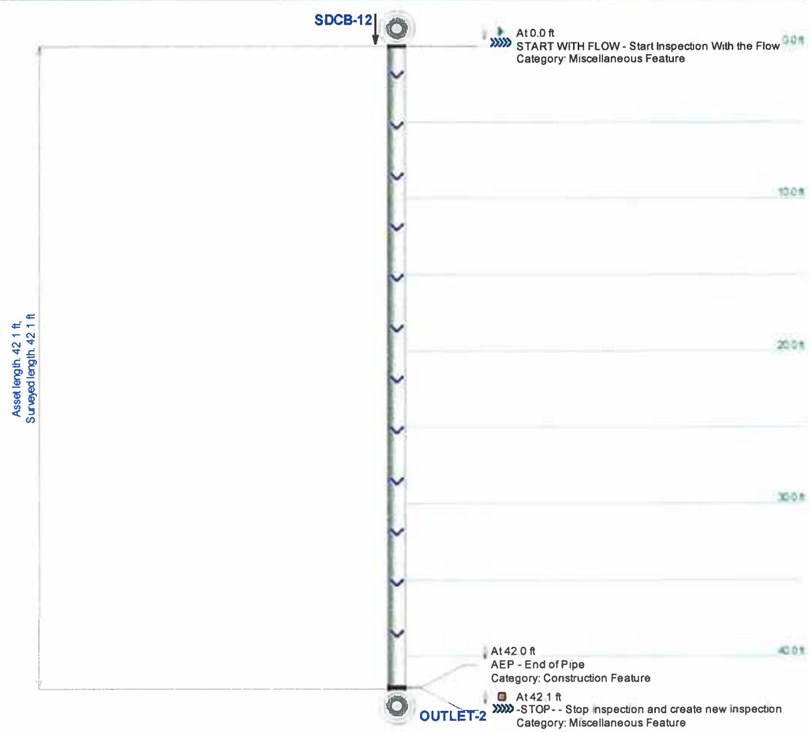
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSD12	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:
4/23/2014		48	RCP	

Direction:	Surveyed footage:	Weather:	MEDIA_LABEL
Towards Downstream	42.1	1	



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Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSD13	Stuber-Stroeh Solano Community College	4/24/2014 7:33:42 AM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SDCB-13		SDCB-7		17.5	

Comments
Stuber-Stroeh/Solano Community College - CCTV existing storm mains -

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START AGAINST FLOW	Yes	/		
17.5		MSA	Yes	/		TOO MUCH DIRT
17.5		-STOP-	Yes	/		

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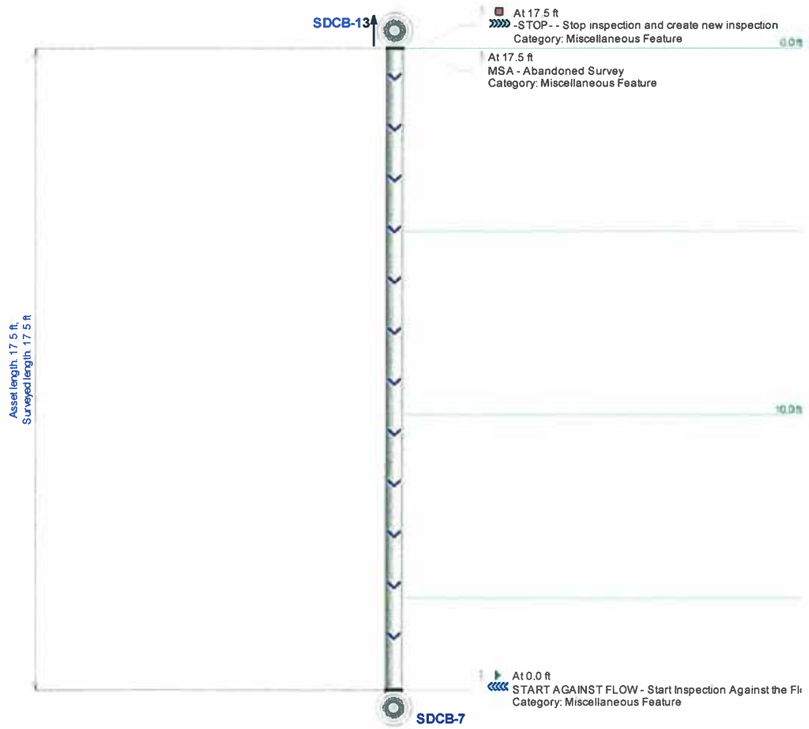
Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSD13	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:
4/24/2014		18	RCP	

Direction:	Surveyed footage:	Weather:	MEDIA_LABEL
Towards Upstream	17.5	1	



ROY'S SEWER SERVICE, INC.
P.O. BOX 763
NOVATO, CA 94948
CONTRACTOR'S LICENSE #491815
(707) 892-5480

Observation Report with Still Images

Mainline ID:	Project Name:	Start date/time:	Weather:	Operator:
SSSD14	Stuber-Stroeh Solano Community College	4/24/2014 7:49:09 AM	1	Kevin Berry

Upstream node:	Depth US:	Downstream node:	Depth DS:	Asset length:	Extra:
SDCB-14		SDCB-13		290.0	

Comments
Stuber-Stroeh/Solano Community College - CCTV existing storm mains -

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Comment
0.0		START WITH FLOW	No	/		
268.1		MGO	No	/		TOO MUCH DIRT FOR CAMERA TO GET THRU-CAN SEE CB#13
290.0		ACB	No	/		ACB #13
290.0		-STOP-	No	/		

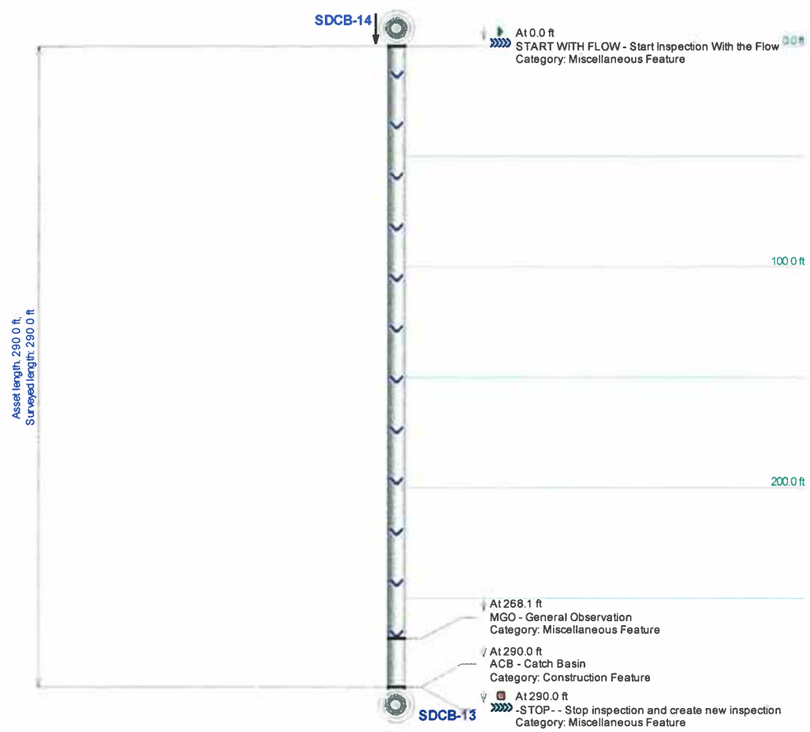
ROY'S SEWER SERVICE, INC.
P.O. BOX 763
NOVATO, CA 94948
CONTRACTOR'S LICENSE #491815
(707) 892-5480

Main Inspection with Pipe-Run Graph

Project Name:	Mainline ID:	City:	Address:
Stuber-Stroeh Solano Community College	SSSD14	Fairfield, CA	Solano College Rd

Start date/time:	Pipe width:	Pipe height:	Pipe type:	Surface condition:
4/24/2014		18	RCP	

Direction:	Surveyed footage:	Weather:	MEDIA_LABEL
Towards Downstream	290.0	1	



FF Storm Water Assessments Appendix

This is the Appendix to the Infrastructure Assessments Storm Water Review Reports that appear in Book 3, starting on page 89.

Appendix 9.1
Intensity-Duration-Frequency Curve

Solano Community College - Fairfield Campus
Intensity-Duration-Frequency Curve Data

15-Year Intensity Based on City of Fairfield Criteria

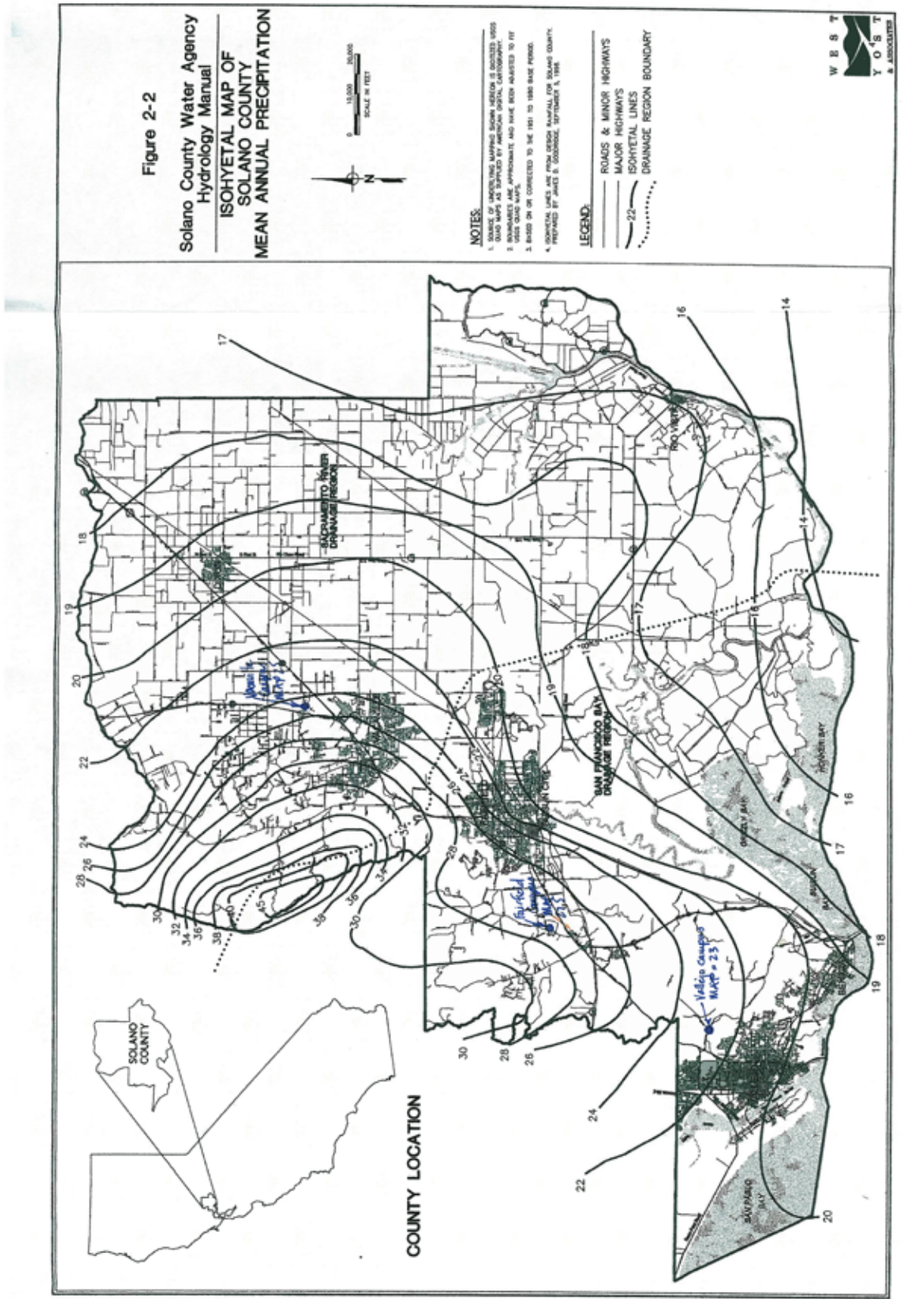
Return Period		
Fairfield 15 Year[2] Storm	Actual MAP[4]=	27.5
Time (min)	Table 2[1] Intensity based on MAP = 21 inches (in/hr)	Corrected Intensity[3] (in/hr)
5	3.13	4.10
15	1.84	2.41
30	1.28	1.68
60	0.87	1.14

[1]City of Fairfield Standard Specifications and Details
[2]Storm Sewers IDF Curve menu does not include a 15 Year Intensity. Therefore data for the 15 Year Storm was entered into the portion of the IDF table reserved for the 25-Year Storm Frequency Event.
[3]Corrected Intensity = (Table 2 Intensity)x(Actual MAP)/(21)
[4]MAP - Mean Annual Precipitation from Figure 2-2 (Solano County Water Agency Hydrology Manual)

2-Year Intensity Based on Solano County Water Agency Criteria

Return Period			
Fairfield 2 Year Storm	Actual MAP[4]=	27.5	
Duration of Design Storm (min)	Table 3-4A[1] Rainfall Depth based on MAP = 28 inches (in)	Intensity[2] based on MAP = 28 inches (in/hr)	Corrected Intensity[3] (in/hr)
5	0.26	3.12	3.06
15	0.42	1.68	1.65
30	0.57	1.14	1.12
60	0.76	0.76	0.75

[1]Solano County Water Agency Hydrology Manual
[2]Intensity = (Table 3-4A Rainfall Depth)/((Duration of Design Storm)/60)
[3]Corrected Intensity = (Intensity)x(Actual MAP)/(28)
[4]MAP - Mean Annual Precipitation from Figure 2-2 (Solano County Water Agency Hydrology Manual)



Appendix 9.2
Tributary Area Data Tables

Solano Community College - Fairfield Campus
Tributary Area Data Tables

System 1

Area I.D.	Total Area (ac)	Runoff Coefficient (weighted)	Elevation Drop (feet)	Sheet Distance (feet)	Gutter Distance (feet)	Slope (%)	Gutter Velocity (feet per second)	Gutter Tc (min)	Overland Tc (min)	Tc Total (min)
1_1	0.75	0.79	0.5	260	0	0.19			14.89	14.89
1_2	0.29	0.95	1.7	0	293	0.58	2.26	2.16	0.00	5.00
1_3	0.11	0.95	1.8	146	0	1.23			3.62	5.00
1_4	0.15	0.95	2	43	160	0.99	2.95	0.91	2.08	5.00
1_5	0.24	0.95	3	40	237	1.08	3.09	1.28	1.96	5.00
1_6	0.12	0.95	1	130	0	0.77			3.85	5.00
1_7	0.52	0.95	4	0	550	0.73	2.53	3.62	0.00	5.00
1_8	0.89	0.95	2.5	496	0	0.50			8.35	8.35
1_9	0.29	0.45	3	280	0	1.07			20.37	20.37
1_10	1.70	0.62	4.5	117	390	0.89	2.80	2.32	10.24	12.56
1_11	8.39	0.90	10	665	322	1.01	2.99	1.80	10.63	12.43
1_12	3.52	0.91	7	691	0	1.01			10.34	10.34
1_13	4.48	0.95	7.5	822	0	0.91			9.27	9.27
1_14	0.06	0.95	1	107	0	0.93			3.32	5.00
1_15	3.45	0.95	5	270	501	0.65	2.39	3.49	5.78	9.28

Solano Community College - Fairfield Campus
Tributary Area Data Tables

System 2 (Lettered System)

Area I.D.	Total Area (ac)	Runoff Coefficient (weighted)	Elevation Drop (feet)	Sheet Distance (feet)	Gutter Distance (feet)	Slope (%)	Gutter Velocity (feet per second)	Gutter Tc (min)	Overland Tc (min)	Tc Total (min)
A_1	Manhole									0.00
A_2	0.26	0.95								9.00
A_3	Manhole									0.00
A_4	0.48	0.95	5	25	472	1.01	2.05	3.83	1.58	5.41
A_5	1.59	0.95	4.5	0	468	0.96	2.01	3.89	0.00	5.00
A_6	1.21	0.90							5.00	5.00
A_7	Manhole									0.00
A_8	0.45	0.95							5.00	5.00
A_9	0.18	0.95							5.00	5.00
A_10	1	0.95	4.5	538		0.84			7.66	7.66
A_11	0.24	0.95							5.00	5.00
A_12	0.8	0.95	3.2	295		1.08			5.32	5.32
A_13	0.27	0.95							5.00	5.00
A_14	0.18	0.95							5.00	5.00
System A discharges into System B at the upstream end of Line 6 (B_6).										
B_1	0.64	0.70							5.00	9.00
B_2	0.27	0.81							5.00	9.00
B_3	0.56	0.84							5.00	9.00
B_4	Manhole									0.00
B_5	Manhole									0.00
B_6	7.04	0.93	(From Model for System A)						12.90	12.90
B_7	0.79	0.81							5.00	9.00
B_8	0.93	0.74							5.00	5.00
B_9	1.87	0.87	2.8	211		1.33			6.27	9.00
B_10	0.8	0.56	3.2	267		1.20			16.17	16.17

Solano Community College - Fairfield Campus
Tributary Area Data Tables

System 2 (Lettered System)

B_11	1.23	0.89	4.4	250	250	0.88	1.92	2.17	6.96	9.13
B_12	0.28	0.69							5	5.00
B_13	0.47	0.85	5.5	0	686	0.80	1.83	6.24	0.00	6.24
B_14	1.14	0.93							5	9.00
B_15	0.21	0.70							5	5.00
										0.00
										0.00
C_1	0.97	0.74							5	9.00
C_2	0.29	0.63							5	9.00
C_3	0.06	0.45							5	5.00
C_4	0.82	0.69							5	9.00
C_5	0.09	0.85							5	9.00
C_6	0.11	0.45							5	5.00
C_7	0.25	0.79							5	9.00
C_8	1.83	0.60	4.6	135	182	1.45	2.46	1.23	10.18	11.41
C_9	0.78	0.90							5	5.00
C_10	0.13	0.95							5	5.00
C_11	1.2	0.72	3	0	748	0.40	1.30	9.63	0.00	9.63
C_12	0.76	0.95	3.7	527		0.70			7.92	7.92
C_13	0.62	0.83							5	5.00
System C discharges into System D at the upstream end of Line D_4.										0.00
										0.00
D_1	1.33	0.60							5	9.00
D_2	1.23	0.66							5	9.00
D_3	0.42	0.75							5	9.00
D_4	9.09	0.72							X	
D_5	0.10	0.80							5	9.00
D_6	0.22	0.81							5	9.00
D_7	0.33	0.74							5	9.00
D_8	0.82	0.83							5	9.00

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Solano Community College - Fairfield Campus
Tributary Area Data Tables

System 2 (Lettered System)

System C discharges into System D&E at the upstream end of Line E_4.										0.00
E_1	0.41	0.64							5	9.00
E_2	0.30	0.73							5	9.00
E_3	0.52	0.64							5	9.00
E_4	16.73	0.85							X	
E_5	13.54	0.71							5	9.00
E_6	0.76	0.86							5	9.00
E_7	Manhole									0.00
E_8	0.29	0.90							5	9.00
E_9	0.52	0.81							5	9.00
E_10	0.08	0.81							5	5.00
E_11	0.51	0.75	2	198		1.01			9.61	9.61
E_12	Manhole									0.00
E_13	0.28	0.95							5	5.00
E_14	0.79	0.81							5	9.00
E_15	0.45	0.87							5	5.00
E_16	0.16	0.82							5	9.00
E_17	0.18	0.83							5	9.00
E_18	0.20	0.81							5	9.00
F_1	1.02	0.73							5	9.00
F_2	0.16	0.68							5	9.00
F_3	0.50	0.62							5	9.00
F_4	0.87	0.81							5	5.00
F_5	0.25	0.90							5	9.00
F_6	0.27	0.50							5	5.00
F_7	0.23	0.91							5	5.00
F_8	0.24	0.62	3	74		4.05			5.61	5.61
										0.00
G_1	Manhole									0.00

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Solano Community College - Fairfield Campus
Tributary Area Data Tables

System 2 (Lettered System)

G_2	0.72	0.76							5	9.00
G_3	Manhole									0.00
G_4	0.17	0.85							5	9.00
G_5	Manhole									0.00
G_6	Manhole									0.00
G_7	Manhole									0.00
G_8	1.18	0.73							5	5.00
G_9	0.89	0.6							5	9.00
G_10	2.55	0.57	5.4	170	339	1.06	2.11	2.68	13.06	15.75
G_11	0.29	0.78							5	9.00
G_12	1.59	0.58	5	75	454	0.95	1.99	3.81	8.77	12.57
G_13	0.82	0.85							5	9.00
System F discharges into System H at the upstream end of Line H_7.										
H_1	1.47	0.77							5	5.00
H_2	0.22	0.52							5	5.00
H_3	0.31	0.73							5	9.00
H_4	0.5	0.78							5	9.00
H_5	0.72	0.68							5	9.00
H_6	8.46	0.65							5	5.00
H_7	4.38	0.74						X		
I_1	2.83	0.82	8	369	369	1.08	2.13	2.89	10.46	13.35
I_2	1.23	0.89	8	36	784	0.98	2.02	6.47	2.58	9.04
I_3	0.88	0.85	7.8	0	778	1.00	2.05	6.33	0.00	6.33
I_4	2.22	0.47	8.5	685		1.24			29.79	29.79
I_5	2.11	0.45	8.1	716		1.13			32.13	32.13
I_6	2.25	0.51	7.8	572		1.36			24.95	24.95
I_7	Manhole									0.00
I_8	Manhole									0.00
I_9	1.34	0.5	5	287		1.74			16.90	16.90

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Solano Community College - Fairfield Campus
Tributary Area Data Tables

System 3

Area I.D.	Total Area (ac)	Runoff Coefficient (weighted)	Elevation Drop (feet)	Sheet Distance (feet)	Slope (%)	Tc Total (min)
3_1	0.33	0.88	2	77	2.60	5.00
3_2	0.17	0.95	1	51	1.96	5.00
3_3	0.20	0.95	0.5	85	0.59	5.00
3_4	0.38	0.51	2	107	1.87	9.96
3_5	0.18	0.45	1	87	1.15	11.15
3_6	1.24	0.45	2	254	0.79	20.95
3_7	1.08	0.53	2	232	0.86	17.38
3_8	0.33	0.60	1	102	0.98	9.80
3_9	0.31	0.57	1	113	0.88	11.04
3_10	0.12	0.95	1	122	0.82	5.00
3_11	0.17	0.95	1	122	0.82	5.00
3_12	0.15	0.95	1	122	0.82	5.00
3_13	0.32	0.57	1	104	0.96	10.49
3_14	0.26	0.64	1	114	0.88	9.74
3_15	0.24	0.54	1	151	0.66	14.72
3_16	0.25	0.54	1	146	0.68	14.18
3_17	1.18	0.47	2	300	0.67	22.87
3_18	0.21	0.68	0.8	119	0.67	9.75
3_19	0.24	0.64	0.8	119	0.67	10.62
3_20	0.25	0.55	1	101	0.99	10.68
3_21	0.30	0.54	1.5	152	0.99	13.29
3_22	0.24	0.91	1.5	85	1.76	5.00
3_23	0.20	0.64	1	100	1.00	8.89
3_24	0.07	0.64	0.5	26	1.92	5.00
3_25	0.04	0.72	0.5	18	2.78	5.00
3_26	0.07	0.68	0.5	48	1.04	5.56

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Solano Community College - Fairfield Campus
Tributary Area Data Tables

System 2 (Lettered System)

I_10	Manhole									0.00
I_11	Manhole									0.00
I_12	Manhole									0.00
I_13	1.05	0.71	1.5	233		0.64			12.93	12.93
J_1	13.91	0.63							5	
J_2	Manhole									
J_3	16.06	0.69							5	
J_4	35.72	0.79							5	

Solano Community College - Fairfield Campus
Tributary Area Data Tables

System 4

Area I.D.	Total Area (ac)	Runoff Coefficient (weighted)	Elevation Drop (feet)	Sheet Distance (feet)	Slope (%)	Tc Total (min)
4_1	2.82	0.49	7	537	1.30	25.38
4_2	4.55	0.62	7	510	1.37	19.32

Solano Community College - Fairfield Campus
Tributary Area Data Tables

System 5

Area I.D.	Total Area (ac)	Runoff Coefficient (weighted)	Elevation Drop (feet)	Sheet Distance (feet)	Slope (%)	Tc Total (min)
5_1	5.01	0.59	8	563	1.42	21.45
5_2	1.06	0.92	5	456	1.10	7.80

Solano Community College - Fairfield Campus
Tributary Area Data Tables

System 6

Area I.D.	Total Area (ac)	Runoff Coefficient (weighted)	Elevation Drop (feet)	Sheet Distance (feet)	Slope (%)	Tc Total (min)
6_1	6.06	0.42	6	703	0.85	35.76
6_2	4.48	0.52	4	652	0.61	31.89
6_3	3.76	0.95	6	587	1.02	7.61
6_4	4.62	0.95	4.5	506	0.89	7.32

Solano Community College - Fairfield Campus
Tributary Area Data Tables

System 7

Area I.D.	Total Area (ac)	Runoff Coefficient (weighted)	Elevation Drop (feet)	Sheet Distance (feet)	Slope (%)	Tc Total (min)
7_1	1.75	0.52	4	633	0.63	31.24
7_2	0.39	0.70	1	135	0.74	9.72
7_3	1.11	0.49	6	598	1.00	28.25
7_4	0.79	0.50	0.5	400	0.13	38.57

Solano Community College - Fairfield Campus
Tributary Area Data Tables

System 8

Area I.D.	Total Area (ac)	Runoff Coefficient (weighted)	Elevation Drop (feet)	Sheet Distance (feet)	Slope (%)	Tc Total (min)
8_1	1.96	0.51	1	354	0.28	29.31

Appendix 9.3
Example Calculation for Time of Concentration

SOLANO COMMUNITY COLLEGE FAIRFIELD CAMPUS

EXAMPLE CALCULATION OF TIME OF CONCENTRATION

TRIBUTARY AREA 1_15:

Total Area (square feet):

= Developed Area (square feet) + Ground Cover Area (square feet)

=150,231 square feet +0 square feet = 150,231 square feet

Total Area (acres)

Total Area (acres)

$$=\frac{Total\ Area\ (square\ feet)}{43{,}560\ square\ feet\ per\ acre}$$

$$=\frac{150{,}231\ square\ feet}{43{,}560\ square\ feet\ per\ acre}$$

=3.45 acres

Runoff Coefficient C (Weighted)

$$=\frac{Developed\ Area\ (feet)*.95+Ground\ Cover\ Area(feet)*.45}{Total\ Area\ (feet)}$$

$$=\frac{150{,}231\ feet*.95+0\ feet*.45}{150{,}231\ feet}$$

=.95

Elevation Drop (feet)

Amount of elevation difference between the highest and lowest parts of a single tributary area.

=5 feet

Sheet distance (feet)

Longest sheet flow distance in tributary area

=270 feet

Gutter Distance (feet)

Longest gutter flow distance in tributary area

=501 feet

Slope (%)

$$= \frac{Elevation\ Drop\ (feet)}{Sheet\ Distance\ (feet) + Gutter\ Distance\ (feet)}$$

$$= \frac{5\ feet}{270\ feet + 501\ feet}$$

= .65%

Gutter Flow Rate

$$V = \frac{1.486}{n} * R^{2/3} * S^{1/2}$$

Where:

V = flow velocity in pipe or channel (feet per second)

n = Manning roughness coefficient

= 0.015 for concrete gutter

R = Hydraulic Radius (feet)

$$R = \frac{\text{flow cross sectional area}}{\text{wetted perimeter}}$$

= .164 feet

S = channel or pipe longitudinal slope (feet/foot)

= 0.0065 feet/foot

$$V = \frac{1.486}{0.015} * 0.164\ feet^{2/3} * 0.0065^{1/2}$$

= 2.39 (ft/sec)

Gutter Time of Concentration (minutes)

$$= \frac{Gutter\ Distance\ (feet)}{Gutter\ Flow\ Rate\ (feet/second)} * \frac{1\ minute}{60\ seconds}$$

$$= \frac{501\ feet}{2.39\ (feet/second)} * \frac{1\ minute}{60\ seconds}$$

=3.49 minutes

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Overland Time of Concentration (minutes)

$$= \sqrt{\frac{D}{80 * S^{1/2}}} * (18.5 - 16.5 * C)$$

Where:

D = Overland flow distance in feet

=111 feet

S = Slope in percent

=.65%

C = runoff coefficient

=.95

$$= \sqrt{\frac{270\ feet}{80 * 0.65^{1/2}}} * (18.5 - 16.5 * 0.95)$$

=5.78 minutes

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Appendix 9.4
Storm Sewers Output – System 1
System 1 – Existing Conditions

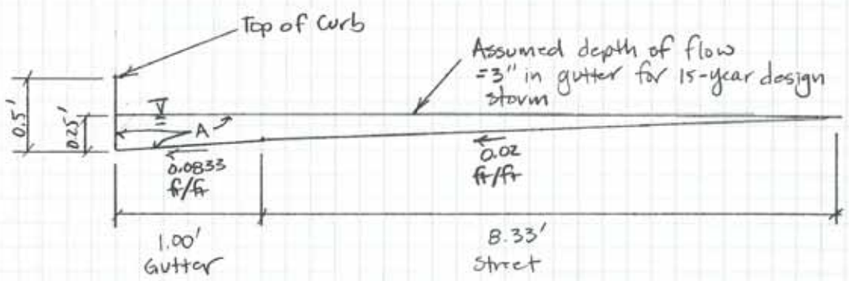
CSW | ST2
CSW/Stuber-Stroeh Engineering Group, Inc.
45 Leveroni Court, Novato, CA 94949 Tel 415.883.9850 Fax 415.883.9835
1310 Redwood Way, Suite 200, Petaluma, CA 94954 Tel 707.795.4764 Fax 707.795.0516

SHEET NO. _____

JOB NO. 4116402 JOB Solano Community College BY KNP DATE _____

CLIENT _____ SUBJECT Storm Water Review Report CHK'D _____ DATE _____

Gutter Flow - Area/Wetted Perimeter Assumption



From AutoCad:

A = cross-sectional area of flow = 0.90 square feet

P_W = wetted perimeter = 0.25' + 1.00' + 8.34' = 9.59'

$$\text{Hydraulic Radius} = \frac{A}{P_W} = \frac{0.90\ ft^2}{9.59\ ft} = \boxed{0.0938\ ft = R = \text{Hydraulic Radius}}$$

For use in Gutter Flow velocity calculations to determine time of concentration.

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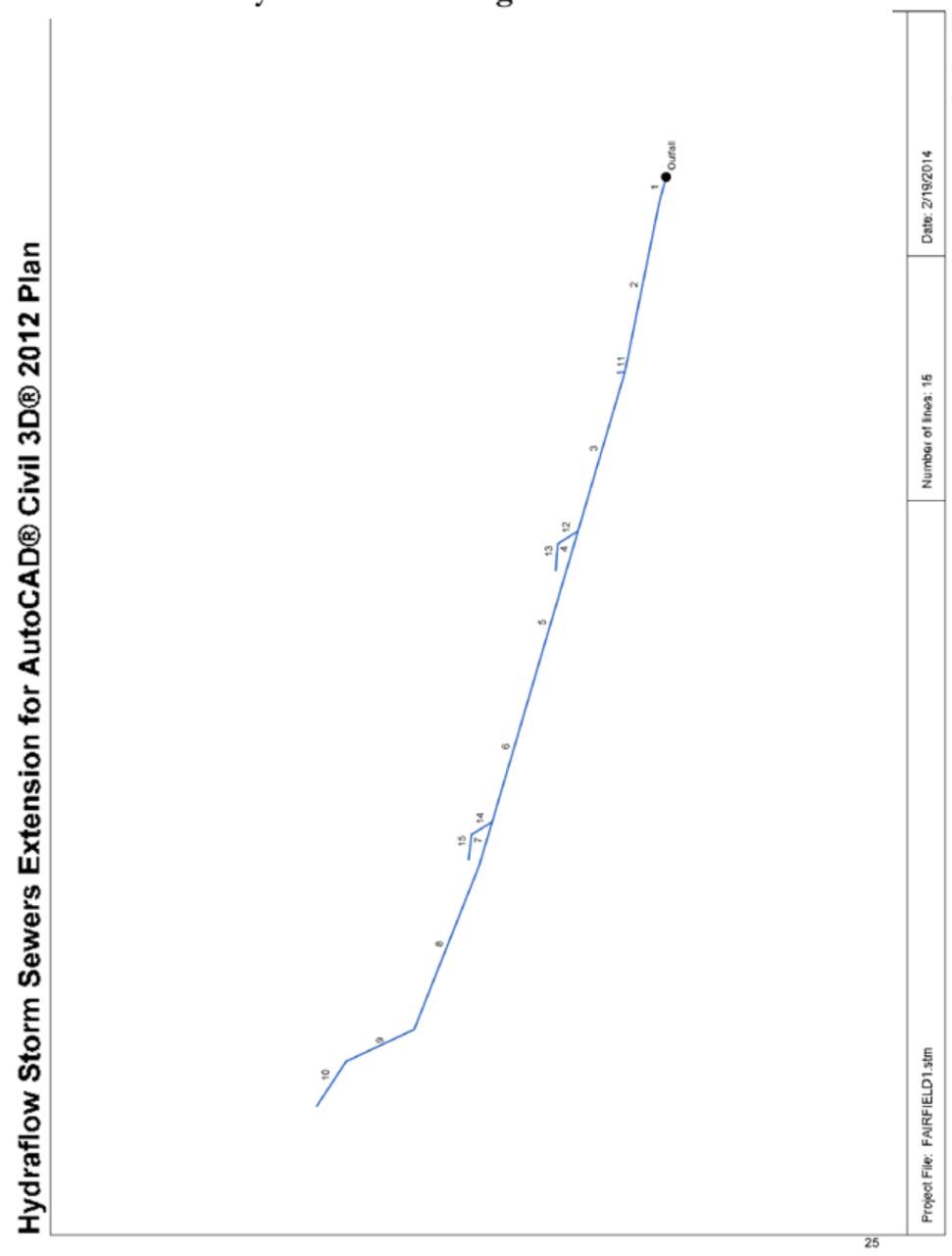

Storm Sewer Inventory Report

Page 1

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	45.230	-165.375	Genr	0.00	0.75	0.79	14.9	23.00	2.21	24.00	48	Cir	0.015	0.50	33.50	1
2	1	281.170	-3.399	Genr	0.00	0.29	0.95	5.0	24.00	0.97	26.73	36X58	Ell	0.015	1.46	30.09	2
3	2	270.360	4.814	Genr	0.00	0.11	0.95	5.0	26.73	0.40	27.82	36X58	Ell	0.015	1.05	32.19	3
4	3	74.190	0.093	Genr	0.00	0.15	0.95	5.0	27.82	0.39	28.11	36X58	Ell	0.015	0.50	32.59	4
5	4	175.150	0.104	Genr	0.00	0.24	0.95	5.0	28.11	0.39	28.79	18	Cir	0.015	0.50	34.19	5
6	5	246.560	-0.241	Genr	0.00	0.12	0.95	5.0	28.79	0.51	30.05	18	Cir	0.015	1.07	36.49	6
7	6	74.760	0.457	Genr	0.00	0.52	0.95	5.0	30.05	0.51	30.43	18	Cir	0.015	0.50	37.09	7
8	7	287.700	4.766	Genr	0.00	0.89	0.95	8.4	30.43	1.28	34.10	18	Cir	0.015	1.09	39.59	8
9	8	120.850	43.051	Genr	0.00	0.29	0.45	20.4	34.10	1.29	35.66	12	Cir	0.015	0.86	41.09	9
10	9	86.440	-31.369	Genr	0.00	1.70	0.62	12.6	35.66	0.50	36.09	12	Cir	0.015	1.00	41.00	10
11	2	12.000	75.484	Genr	0.00	8.39	0.90	10.8	26.73	0.42	26.78	21	Cir	0.015	1.00	29.99	11
12	3	39.220	40.622	Genr	0.00	3.52	0.91	10.3	27.82	0.38	27.97	21	Cir	0.015	1.24	32.19	12
13	12	43.600	-52.525	Genr	0.00	4.50	0.95	9.3	28.13	0.00	28.13	21	Cir	0.015	1.00	32.39	13
14	6	39.890	41.637	Genr	0.00	0.06	0.95	5.0	30.05	0.48	30.24	21	Cir	0.015	1.23	36.59	14
15	14	40.390	-51.667	Genr	0.00	3.45	0.95	6.1	30.24	0.50	30.44	21	Cir	0.015	1.00	36.89	15

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Project File: FAIRFIELD1.stm | Number of lines: 15 | Date: 2/19/2014

Rom Sewers v5.00

Storm Sewer Tabulation

Station Line	Station To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	45.230	0.75	24.98	0.79	0.59	22.34	14.9	26.6	1.8	40.13	185.1	5.16	48	2.21	23.00	24.00	26.50	25.89	30.00	33.50	1
2	1	281.170	0.29	24.23	0.95	0.28	21.75	5.0	25.9	1.8	39.64	105.6	6.68	36 x 58 e	0.97	24.00	26.73	26.62	28.65	33.50	30.09	2
3	2	270.360	0.11	15.55	0.95	0.10	13.93	5.0	24.9	1.9	25.88	68.03	4.92	36 x 58 e	0.40	26.73	27.82	29.03	29.38	30.09	32.19	3
4	3	74.190	0.15	7.42	0.95	0.14	6.34	5.0	24.6	1.9	11.87	66.99	3.82	36 x 58 e	0.39	27.82	28.11	29.68	29.19	32.19	32.59	4
5	4	175.150	0.24	7.27	0.95	0.23	6.20	5.0	24.2	1.9	11.72	5.67	6.63	18	0.39	28.11	28.79	29.61	32.51	32.59	34.19	5
6	5	246.560	0.12	7.03	0.95	0.11	5.97	5.0	23.5	1.9	11.45	6.51	6.48	18	0.51	28.79	30.05	32.86	36.76	34.19	36.49	6
7	6	74.760	0.52	3.40	0.95	0.49	2.52	5.0	23.1	1.9	4.89	6.49	2.77	18	0.51	30.05	30.43	37.46	37.68	36.49	37.09	7
8	7	287.700	0.89	2.88	0.95	0.85	2.03	8.4	21.0	2.0	4.13	10.28	2.34	18	1.28	30.43	34.10	37.73	38.33	37.09	39.59	8
9	8	120.850	0.29	1.99	0.45	0.13	1.18	20.4	20.4	2.1	2.45	3.51	3.12	12	1.29	34.10	35.66	38.42	39.18	39.59	41.09	9
10	9	86.440	1.70	1.70	0.62	1.05	1.05	12.6	12.6	2.7	2.81	2.18	3.57	12	0.50	35.66	36.09	39.32	40.03	41.09	41.00	10
11	2	12.000	8.39	8.39	0.90	7.55	7.55	10.8	10.8	2.9	21.71	8.86	9.03	21	0.42	26.73	26.78	29.21	29.51	30.09	29.99	11
12	3	39.220	3.52	8.02	0.91	3.20	7.48	10.3	10.3	2.9	22.01	8.49	9.15	21	0.38	27.82	27.97	29.69	30.70	32.19	32.19	12
13	12	43.600	4.50	4.50	0.95	4.28	4.28	9.3	9.3	3.1	13.22	0.00	5.50	21	0.00	28.13	28.13	32.31	32.72	32.19	32.39	13
14	6	39.890	0.06	3.51	0.95	0.06	3.33	5.0	6.2	3.7	12.42	9.48	5.16	21	0.48	30.05	30.24	37.46	37.79	36.49	36.59	14
15	14	40.390	3.45	3.45	0.95	3.28	3.28	6.1	6.1	3.8	12.32	9.66	5.12	21	0.50	30.24	30.44	38.30	38.62	36.59	36.89	15

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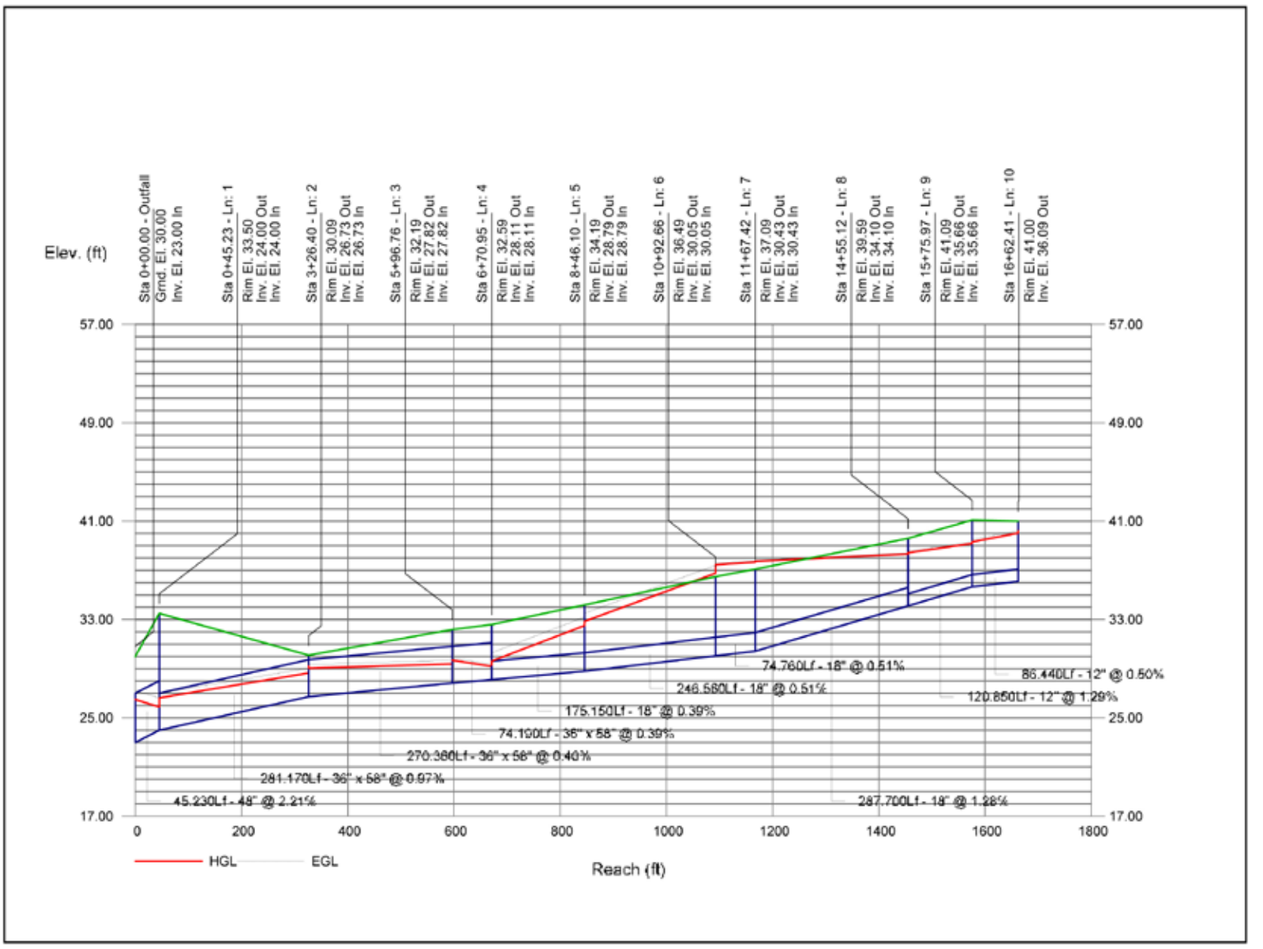
Project File: FAIRFIELD1.stm | Number of lines: 15 | Run Date: 2/19/2014

NOTES:Intensity = 12.82 / (Inlet time + 2.00) ^ 0.59 ; Return period =Yrs. 25 ; c = cir e = ellip b = box

Rom Sewers v5.00

Storm Sewer Profile

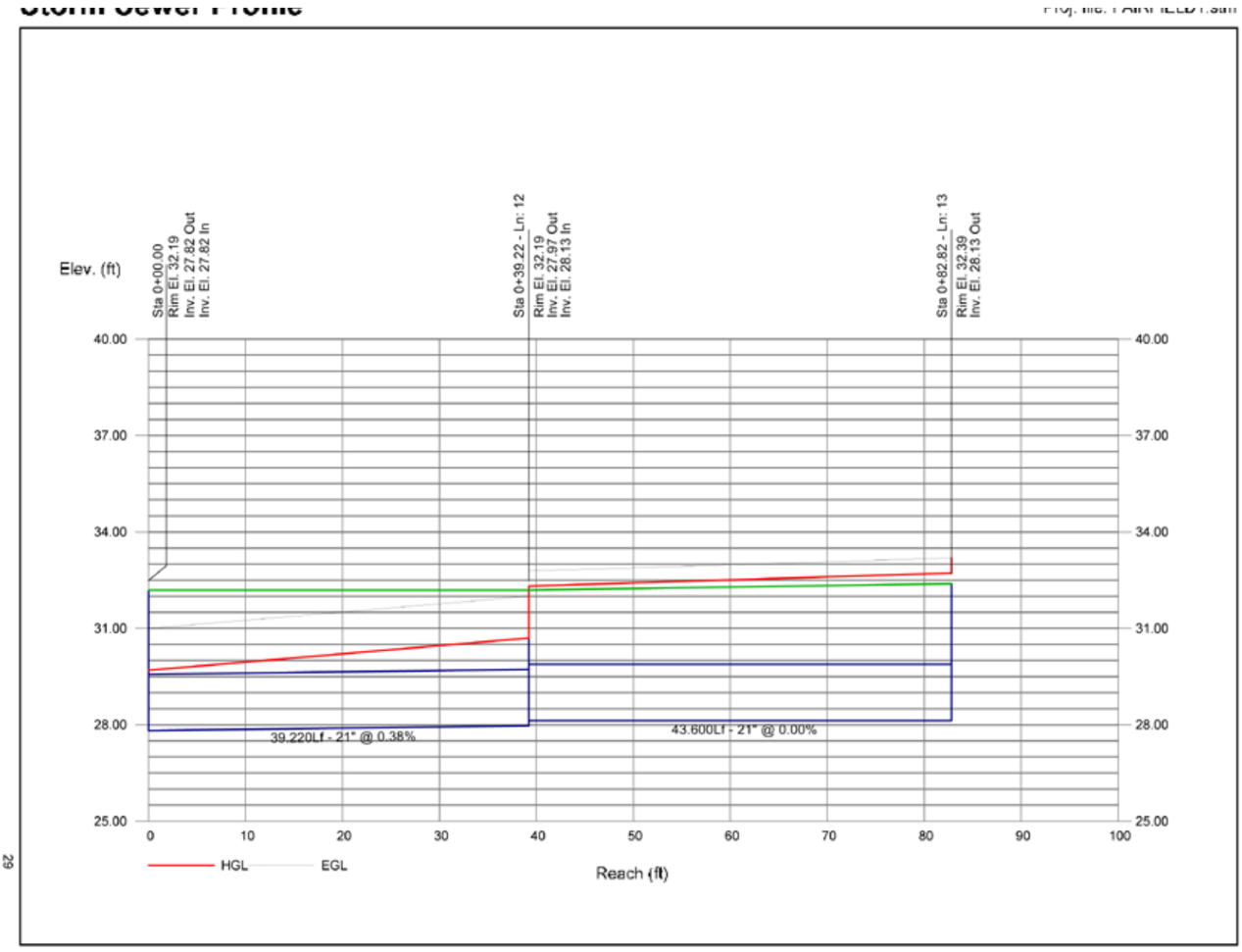
Proj. file: FAIRFIELD1.stm



Storm Sewers

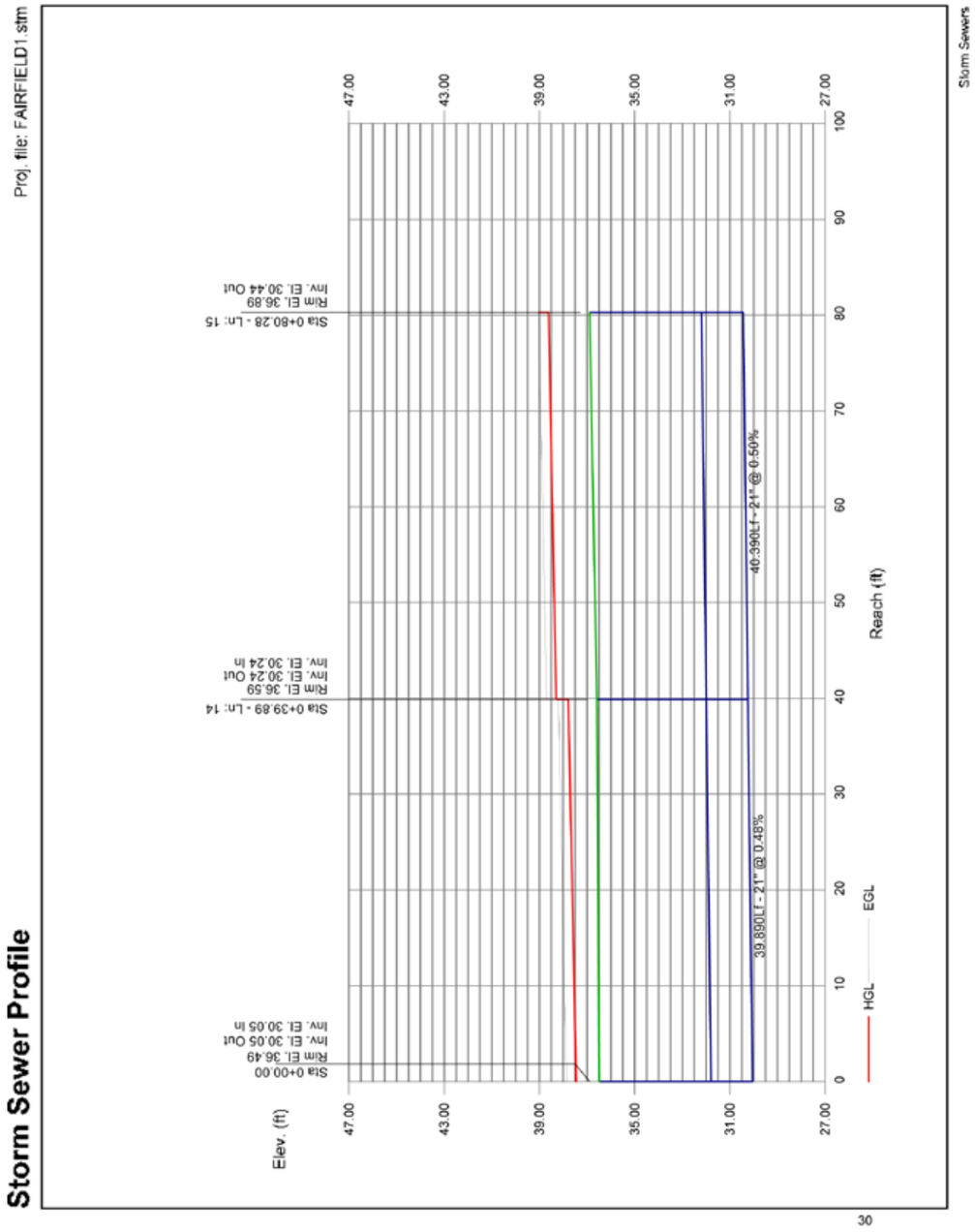
Storm Sewer Profile

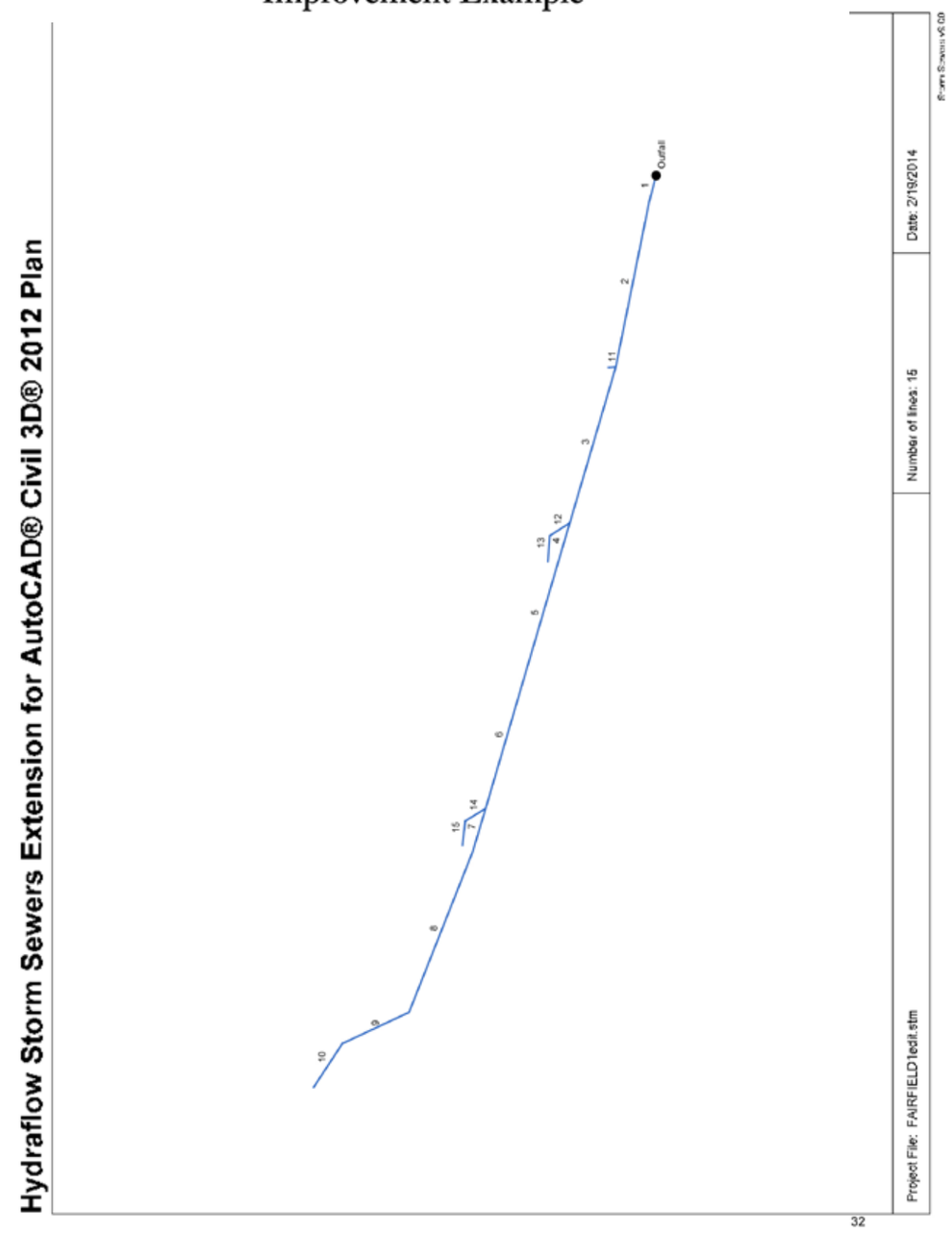
Proj. file: FAIRFIELD1.stm



Storm Sewers

System 1
Improvement Example





Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	45.230	-165.375	Genr	0.00	0.75	0.79	14.9	23.00	2.21	24.00	48	Cir	0.015	0.50	33.50	1
2	1	281.170	-3.399	Genr	0.00	0.29	0.95	5.0	24.00	0.97	26.73	36X58	Ell	0.015	1.46	30.09	2
3	2	270.360	4.814	Genr	0.00	0.11	0.95	5.0	26.73	0.40	27.82	36X58	Ell	0.015	1.05	32.19	3
4	3	74.190	0.093	Genr	0.00	0.15	0.95	5.0	27.82	0.39	28.11	36X58	Ell	0.015	0.50	32.59	4
5	4	175.150	0.104	Genr	0.00	0.24	0.95	5.0	28.11	0.39	28.79	36	Cir	0.015	0.50	34.19	5
6	5	246.560	-0.241	Genr	0.00	0.12	0.95	5.0	28.79	0.51	30.05	18	Cir	0.015	1.07	36.49	6
7	6	74.760	0.457	Genr	0.00	0.52	0.95	5.0	30.05	0.51	30.43	18	Cir	0.015	0.50	37.09	7
8	7	287.700	4.766	Genr	0.00	0.89	0.95	8.4	30.43	1.28	34.10	18	Cir	0.015	1.09	39.59	8
9	8	120.850	43.051	Genr	0.00	0.29	0.45	20.4	34.10	1.29	35.66	12	Cir	0.015	0.86	41.09	9
10	9	86.440	-31.369	Genr	0.00	1.70	0.62	12.6	35.66	0.50	36.09	12	Cir	0.015	1.00	41.00	10
11	2	12.000	75.484	Genr	0.00	8.39	0.90	10.8	26.73	0.42	26.78	21	Cir	0.015	1.00	29.99	11
12	3	39.220	40.622	Genr	0.00	3.52	0.91	10.3	27.82	0.51	28.02	24	Cir	0.012	1.24	32.19	12
13	12	43.600	-52.525	Genr	0.00	4.50	0.95	9.3	28.02	0.50	28.24	24	Cir	0.012	1.00	32.39	13
14	6	39.890	41.637	Genr	0.00	0.06	0.95	5.0	30.05	0.48	30.24	21	Cir	0.015	1.23	36.59	14
15	14	40.390	-51.667	Genr	0.00	3.45	0.95	6.1	30.24	0.50	30.44	21	Cir	0.015	1.00	36.89	15

Project File: FAIRFIELD1edit.stm | Number of lines: 15 | Date: 2/19/2014

Storm Sewers v5.00

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Storm Sewer Tabulation

Page 1

Station Line	Station To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	45.230	0.75	24.98	0.79	0.59	22.34	14.9	26.8	1.8	39.97	185.1	5.14	48	2.21	23.00	24.00	26.50	25.89	30.00	33.50	1
2	1	281.170	0.29	24.23	0.95	0.28	21.75	5.0	26.0	1.8	39.48	105.6	6.65	36 x 58 e	0.97	24.00	26.73	26.62	28.65	33.50	30.09	2
3	2	270.360	0.11	15.55	0.95	0.10	13.93	5.0	25.1	1.9	25.77	68.03	4.90	36 x 58 e	0.40	26.73	27.82	29.03	29.38	30.09	32.19	3
4	3	74.190	0.15	7.42	0.95	0.14	6.34	5.0	24.8	1.9	11.82	66.99	3.81	36 x 58 e	0.39	27.82	28.11	29.67	29.19	32.19	32.59	4
5	4	175.150	0.24	7.27	0.95	0.23	6.20	5.0	24.2	1.9	11.72	36.02	4.55	36	0.39	28.11	28.79	29.29	29.97	32.59	34.19	5
6	5	246.560	0.12	7.03	0.95	0.11	5.97	5.0	23.5	1.9	11.46	6.51	6.48	18	0.51	28.79	30.05	30.29	34.20	34.19	36.49	6
7	6	74.760	0.52	3.40	0.95	0.49	2.52	5.0	23.1	1.9	4.89	6.49	2.77	18	0.51	30.05	30.43	34.90	35.11	36.49	37.09	7
8	7	287.700	0.89	2.88	0.95	0.85	2.03	8.4	21.0	2.0	4.14	10.28	2.34	18	1.28	30.43	34.10	35.17	35.77	37.09	39.59	8
9	8	120.850	0.29	1.99	0.45	0.13	1.18	20.4	20.4	2.1	2.45	3.51	3.21	12	1.29	34.10	35.66	35.86	36.56	39.59	41.09	9
10	9	86.440	1.70	1.70	0.62	1.05	1.05	12.6	12.6	2.7	2.81	2.18	3.57	12	0.50	35.66	36.09	36.71	37.42	41.09	41.00	10
11	2	12.000	8.39	8.39	0.90	7.55	7.55	10.8	10.8	2.9	21.71	8.86	9.03	21	0.42	26.73	26.78	29.21	29.51	30.09	29.99	11
12	3	39.220	3.52	8.02	0.91	3.20	7.48	10.3	10.3	2.9	22.01	17.50	7.01	24	0.51	27.82	28.02	29.82	30.14	32.19	32.19	12
13	12	43.600	4.50	4.50	0.95	4.28	4.28	9.3	9.3	3.1	13.22	17.41	4.21	24	0.50	28.02	28.24	31.08	31.21	32.19	32.39	13
14	6	39.890	0.06	3.51	0.95	0.06	3.33	5.0	6.2	3.7	12.42	9.48	5.16	21	0.48	30.05	30.24	34.90	35.22	36.49	36.59	14
15	14	40.390	3.45	3.45	0.95	3.28	3.28	6.1	6.1	3.8	12.32	9.66	5.12	21	0.50	30.24	30.44	35.73	36.06	36.59	36.89	15

Project File: FAIRFIELD1edit.stm | Number of lines: 15 | Run Date: 2/19/2014

NOTES:Intensity = 12.82 / (Inlet time + 2.00) ^ 0.59 ; Return period =Yrs. 25 ; c = cir e = ellip b = box

Storm Sewers v5.00

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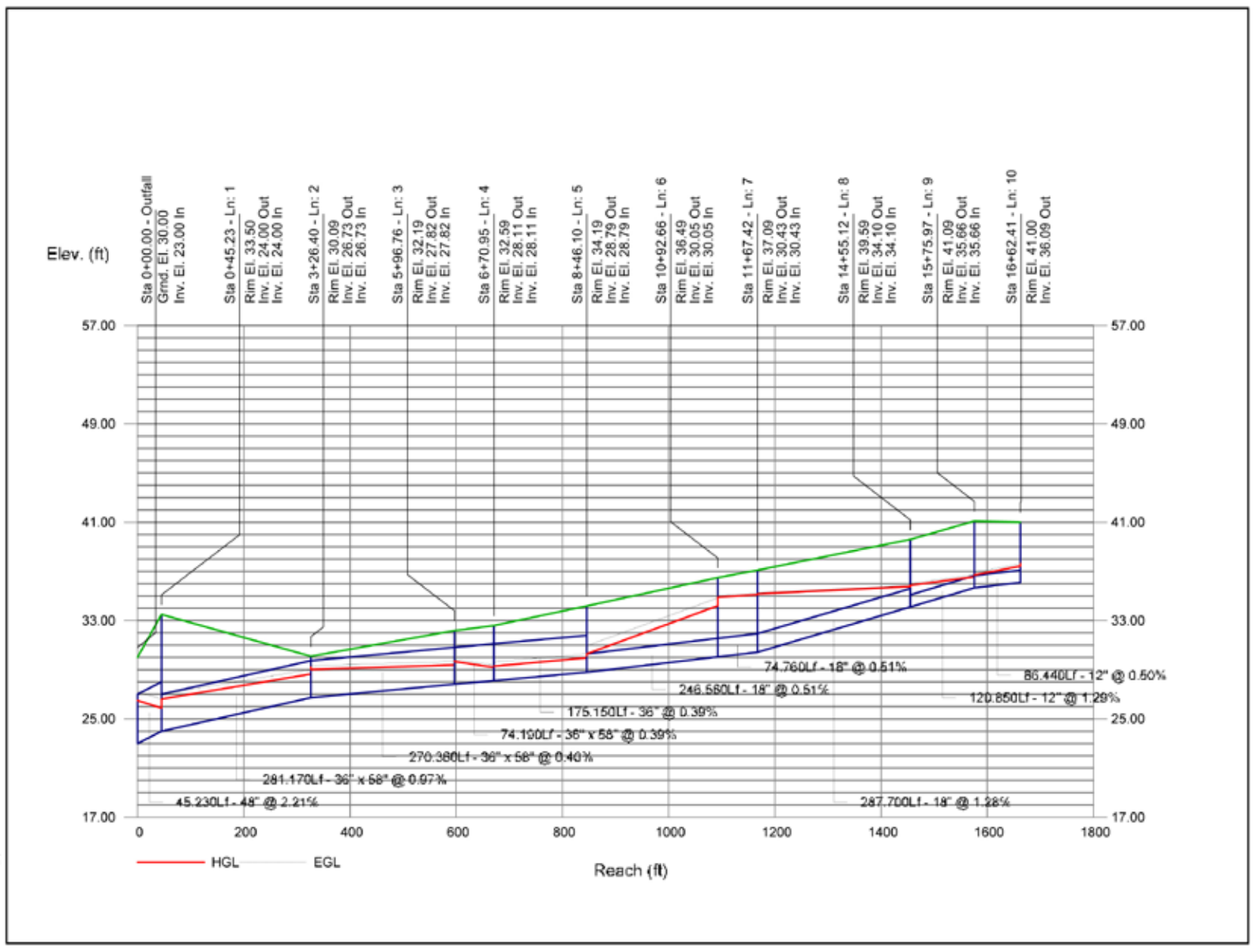
Storm Sewer Profile

Proj. file: FAIRFIELD1edit.stm



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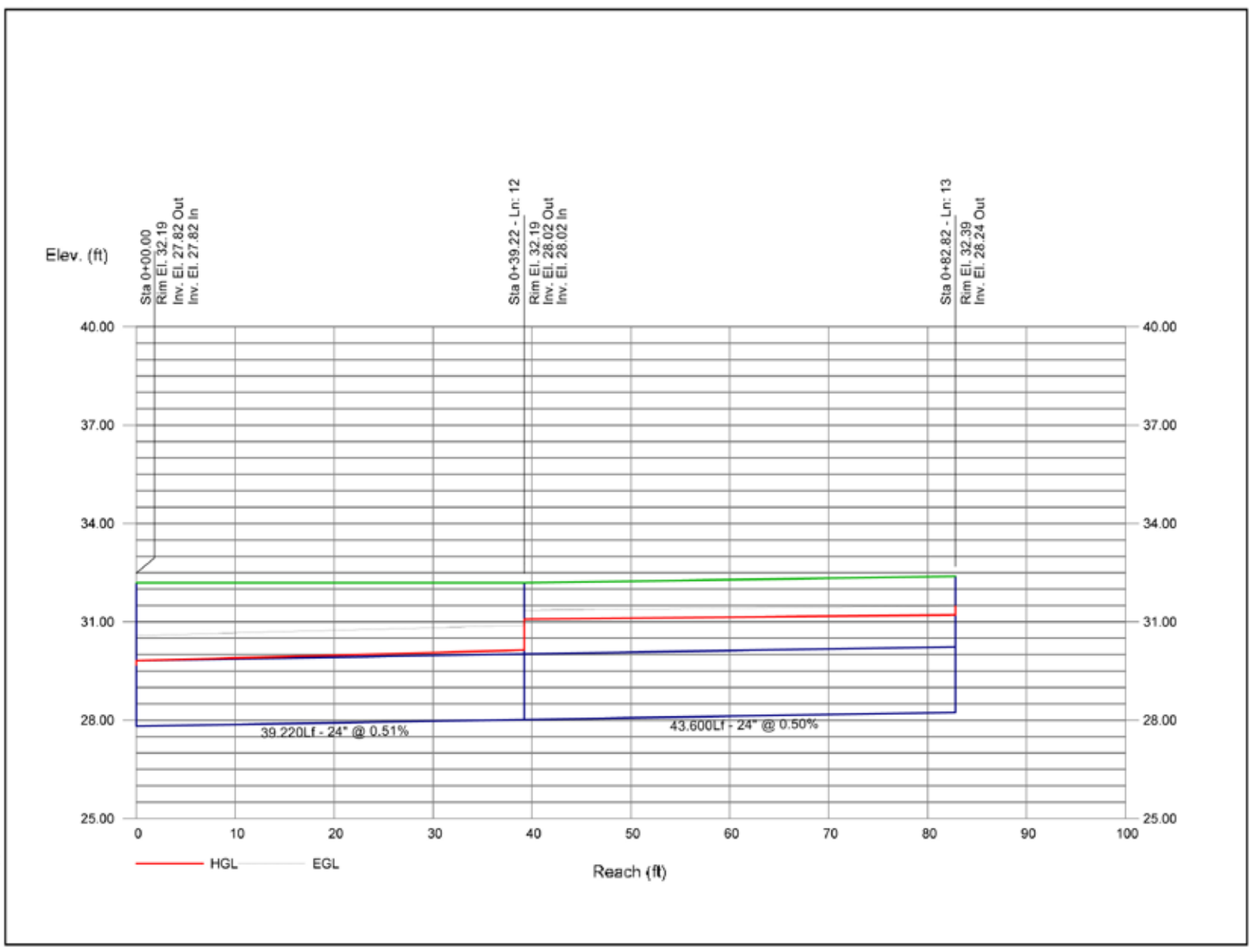
Storm Sewers

Storm Sewer Profile

Proj. file: FAIRFIELD1edit.stm



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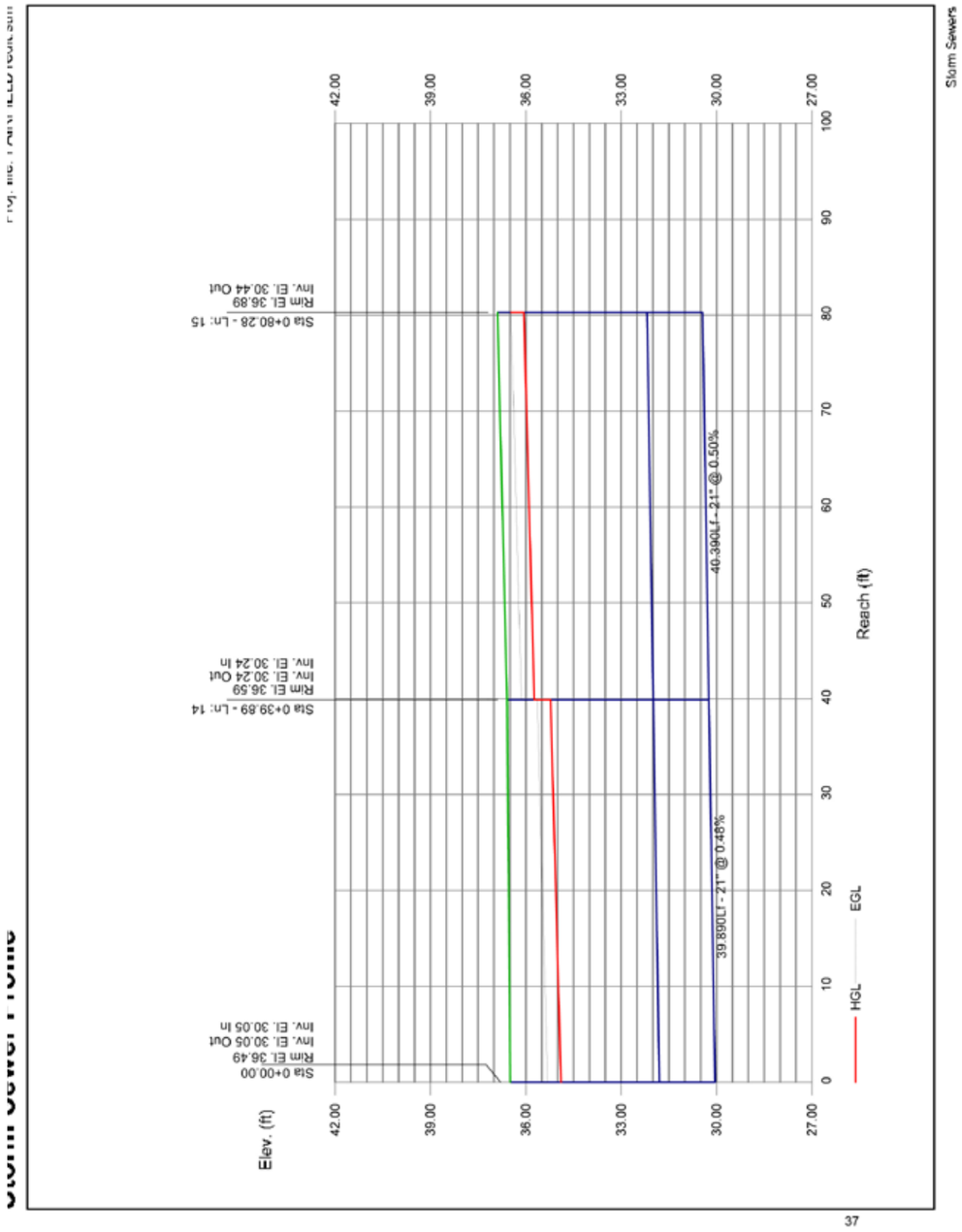
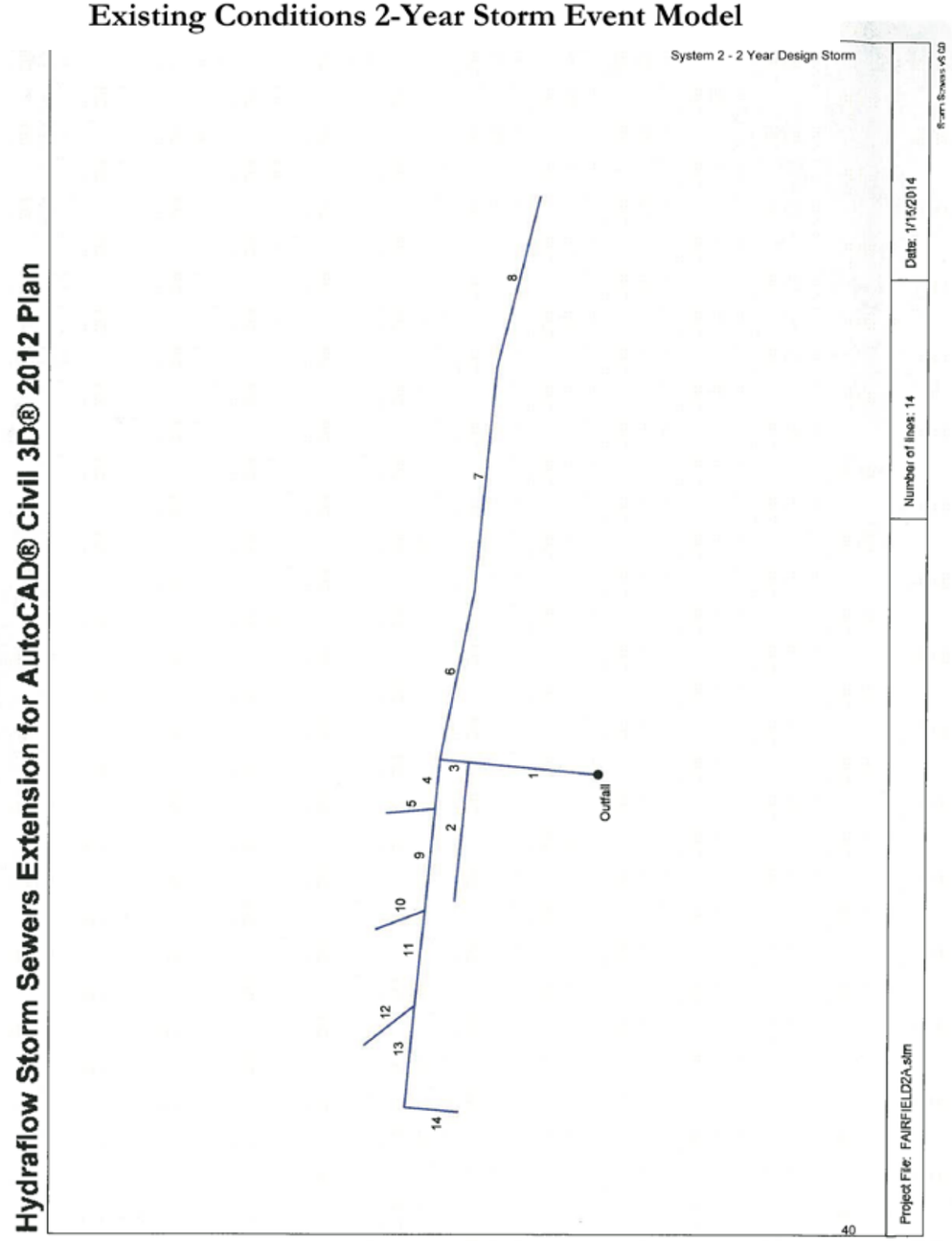
Storm Sewers

Appendix 9.5
Storm Sewers Output – System 2 (Lettered System)
System 2
Existing Conditions 2-Year Storm Event Model





Storm Sewer Inventory Report

Page 1

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	139.780	-84.584	MH	0.00	0.00	0.00	0.0	35.33	0.51	36.04	21	Cir	0.015	1.00	45.00	A1 into B6
2	1	149.731	-89.653	Genr	0.00	0.26	0.95	5.0	36.04	0.50	36.79	6	Cir	0.018	1.00	45.00	A2
3	1	31.099	-0.292	MH	0.00	0.00	0.00	0.0	36.04	0.48	36.19	21	Cir	0.015	1.00	43.57	A3
4	3	53.328	-89.851	Genr	0.00	0.48	0.95	7.4	36.19	0.51	36.46	18	Cir	0.015	1.56	42.50	A4
5	4	52.449	79.979	Genr	0.00	1.59	0.95	6.3	36.46	0.50	36.72	12	Cir	0.015	1.00	44.40	A5
6	3	184.000	96.374	Genr	0.00	1.21	0.90	5.0	36.19	0.51	37.12	12	Cir	0.015	0.50	43.25	A6
7	6	241.805	-5.777	MH	0.00	0.00	0.00	0.0	37.12	0.50	38.32	12	Cir	0.015	0.50	43.25	A7
8	7	189.097	8.513	Genr	0.00	0.45	0.95	5.0	38.32	0.50	39.27	12	Cir	0.015	1.00	45.00	A8
9	4	109.202	0.544	Genr	0.00	0.18	0.95	5.0	36.46	0.49	37.00	15	Cir	0.015	1.36	42.50	A9
10	9	55.982	62.856	Genr	0.00	1.00	0.95	7.9	37.00	0.52	37.29	12	Cir	0.015	1.00	44.40	A10
11	9	103.000	0.118	Genr	0.00	0.24	0.95	5.0	37.00	0.50	37.52	12	Cir	0.015	1.15	42.50	A11
12	11	68.324	46.617	Genr	0.00	0.80	0.95	10.0	37.52	0.51	37.87	12	Cir	0.015	1.00	44.40	A12
13	11	109.000	-0.389	Genr	0.00	0.27	0.95	5.0	37.52	0.50	38.06	12	Cir	0.015	1.50	42.50	A13
14	13	57.349	-90.887	Genr	0.00	0.18	0.95	5.0	38.06	0.51	38.35	12	Cir	0.015	1.00	41.00	A14

System 2 - 2 Year Design Storm

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Project File: FAIRFIELD2A.stm | Number of lines: 14 | Date: 1/15/2014

Rcprn Sewers v8.0

Storm Sewer Summary Report

Page 1

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	A1 into B6	8.44	21	Cir	139.780	35.33	36.04	0.508	44.25*	44.78*	0.19	44.97	End	Manhole
2	A2	0.56	6	Cir	149.731	36.04	36.79	0.501	44.97*	47.85*	0.13	47.98	1	Generic
3	A3	8.16	21	Cir	31.099	36.04	36.19	0.482	44.97*	45.08*	0.18	45.26	1	Manhole
4	A4	6.30	18	Cir	53.328	36.19	36.46	0.506	45.26*	45.51*	0.31	45.82	3	Generic
5	A5	3.02	12	Cir	52.449	36.46	36.72	0.496	45.82*	46.33*	0.23	46.56	4	Generic
6	A6	2.16	12	Cir	184.000	36.19	37.12	0.505	45.26*	46.16*	0.06	46.22	3	Generic
7	A7	0.77	12	Cir	241.805	37.12	38.32	0.496	46.22*	46.37*	0.01	46.38	6	Manhole
8	A8	0.97	12	Cir	189.097	38.32	39.27	0.502	46.38*	46.57*	0.02	46.59	7	Generic
9	A9	3.65	15	Cir	109.202	36.46	37.00	0.494	45.82*	46.29*	0.19	46.48	4	Generic
10	A10	1.68	12	Cir	55.982	37.00	37.29	0.518	46.48*	46.64*	0.07	46.71	9	Generic
11	A11	2.11	12	Cir	103.000	37.00	37.52	0.505	46.48*	46.96*	0.13	47.08	9	Generic
12	A12	1.18	12	Cir	68.324	37.52	37.87	0.512	47.08*	47.18*	0.03	47.22	11	Generic
13	A13	0.81	12	Cir	109.000	37.52	38.06	0.495	47.08*	47.16*	0.02	47.18	11	Generic
14	A14	0.39	12	Cir	57.349	38.06	38.35	0.506	47.18*	47.19*	0.00	47.20	13	Generic

System 2 - 2 Year Design Storm

42

Project File: FAIRFIELD2A.stm | Number of lines: 14 | Run Date: 1/15/2014

NOTES: Return period = 2 Yrs. ; *Surcharged (HGL above crown).

Rcprn Sewers v8.0

Storm Sewer Tabulation

Page 1

Station Line	Station To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	139.780	0.00	6.66	0.00	0.00	6.27	0.0	12.9	1.3	8.44	9.78	3.51	21	0.51	35.33	36.04	44.25	44.78	45.00	45.00	A1 into B6
2	1	149.731	0.26	0.26	0.95	0.25	0.25	5.0	5.0	2.3	0.56	0.29	2.86	6	0.50	36.04	36.79	44.97	47.85	45.00	45.00	A2
3	1	31.099	0.00	6.40	0.00	0.00	6.02	0.0	12.7	1.4	8.16	9.53	3.39	21	0.48	36.04	36.19	44.97	45.08	45.00	43.57	A3
4	3	53.328	0.48	4.74	0.95	0.46	4.50	7.4	12.0	1.4	6.30	6.48	3.57	18	0.51	36.19	36.46	45.26	45.51	43.57	42.50	A4
5	4	52.449	1.59	1.59	0.95	1.51	1.51	6.3	6.3	2.0	3.02	2.17	3.85	12	0.50	36.46	36.72	45.82	46.33	42.50	44.40	A5
6	3	184.000	1.21	1.66	0.90	1.09	1.52	5.0	11.6	1.4	2.16	2.19	2.75	12	0.51	36.19	37.12	45.26	46.16	43.57	43.25	A6
7	6	241.805	0.00	0.45	0.00	0.00	0.43	0.0	7.5	1.8	0.77	2.17	0.99	12	0.50	37.12	38.32	46.22	46.37	43.25	43.25	A7
8	7	189.097	0.45	0.45	0.95	0.43	0.43	5.0	5.0	2.3	0.97	2.19	1.24	12	0.50	38.32	39.27	46.38	46.57	43.25	45.00	A8
9	4	109.202	0.18	2.67	0.95	0.17	2.54	5.0	11.4	1.4	3.65	3.94	2.98	15	0.49	36.46	37.00	45.82	46.29	42.50	42.50	A9
10	9	55.982	1.00	1.00	0.95	0.95	0.95	7.9	7.9	1.8	1.68	2.22	2.14	12	0.52	37.00	37.29	46.48	46.64	42.50	44.40	A10
11	9	103.000	0.24	1.49	0.95	0.23	1.42	5.0	10.8	1.5	2.11	2.19	2.68	12	0.50	37.00	37.52	46.48	46.96	42.50	42.50	A11
12	11	68.324	0.80	0.80	0.95	0.76	0.76	10.0	10.0	1.5	1.18	2.21	1.50	12	0.51	37.52	37.87	47.08	47.18	42.50	44.40	A12
13	11	109.000	0.27	0.45	0.95	0.26	0.43	5.0	6.9	1.9	0.81	2.17	1.03	12	0.50	37.52	38.06	47.08	47.16	42.50	42.50	A13
14	13	57.349	0.18	0.18	0.95	0.17	0.17	5.0	5.0	2.3	0.39	2.19	0.49	12	0.51	38.06	38.35	47.18	47.19	42.50	41.00	A14

System 2 - 2 Year Design Storm

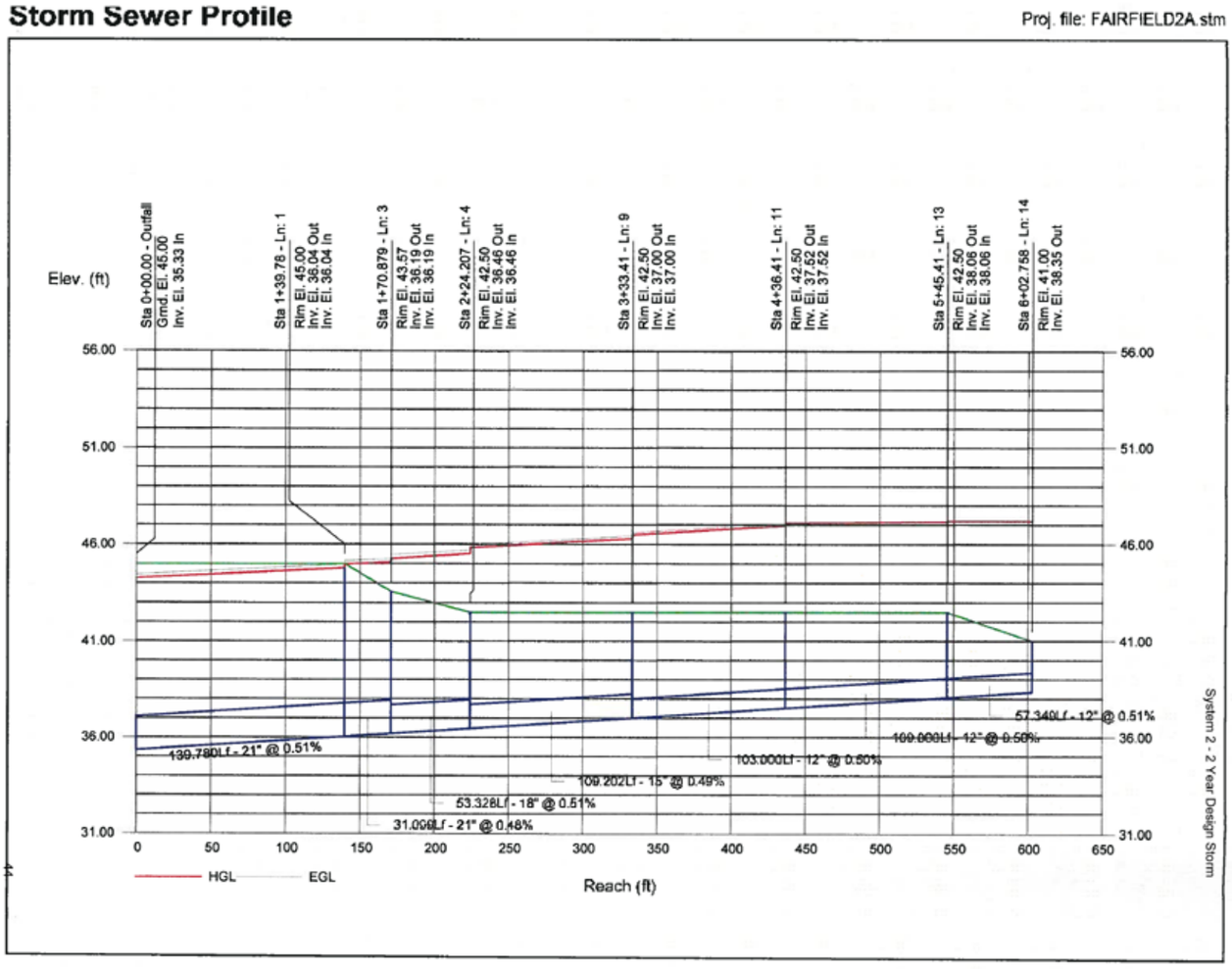
Project File: FAIRFIELD2A.stm | Number of lines: 14 | Run Date: 1/15/2014

NOTES:Intensity = 5.67 / (Inlet time + 0.10) ^ 0.56 ; Return period =Yrs. 2 ; c = cir e = ellip b = box

From Storm v5.00

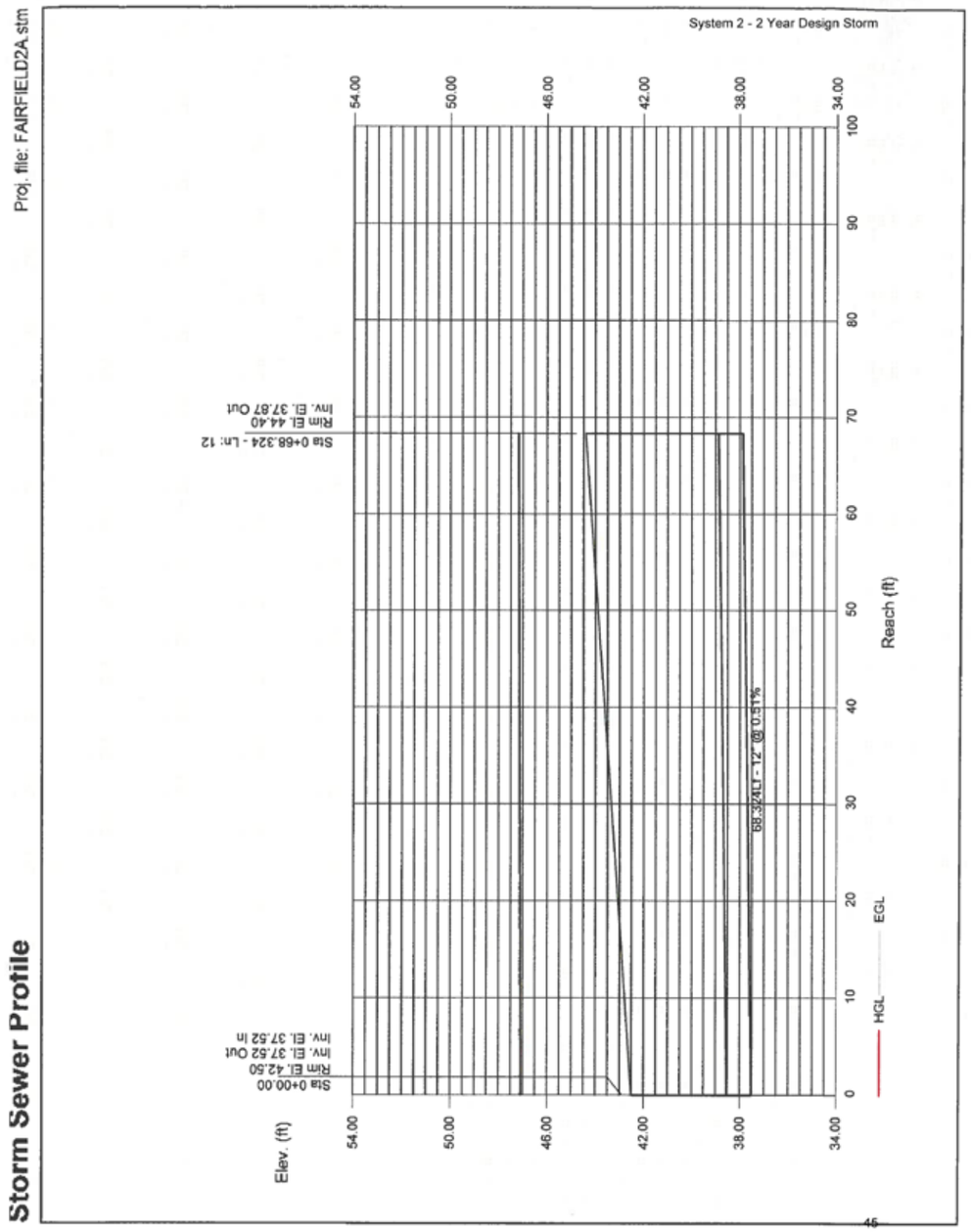
Storm Sewer Profile

Proj. file: FAIRFIELD2A.stm



System 2 - 2 Year Design Storm

Storm Sewer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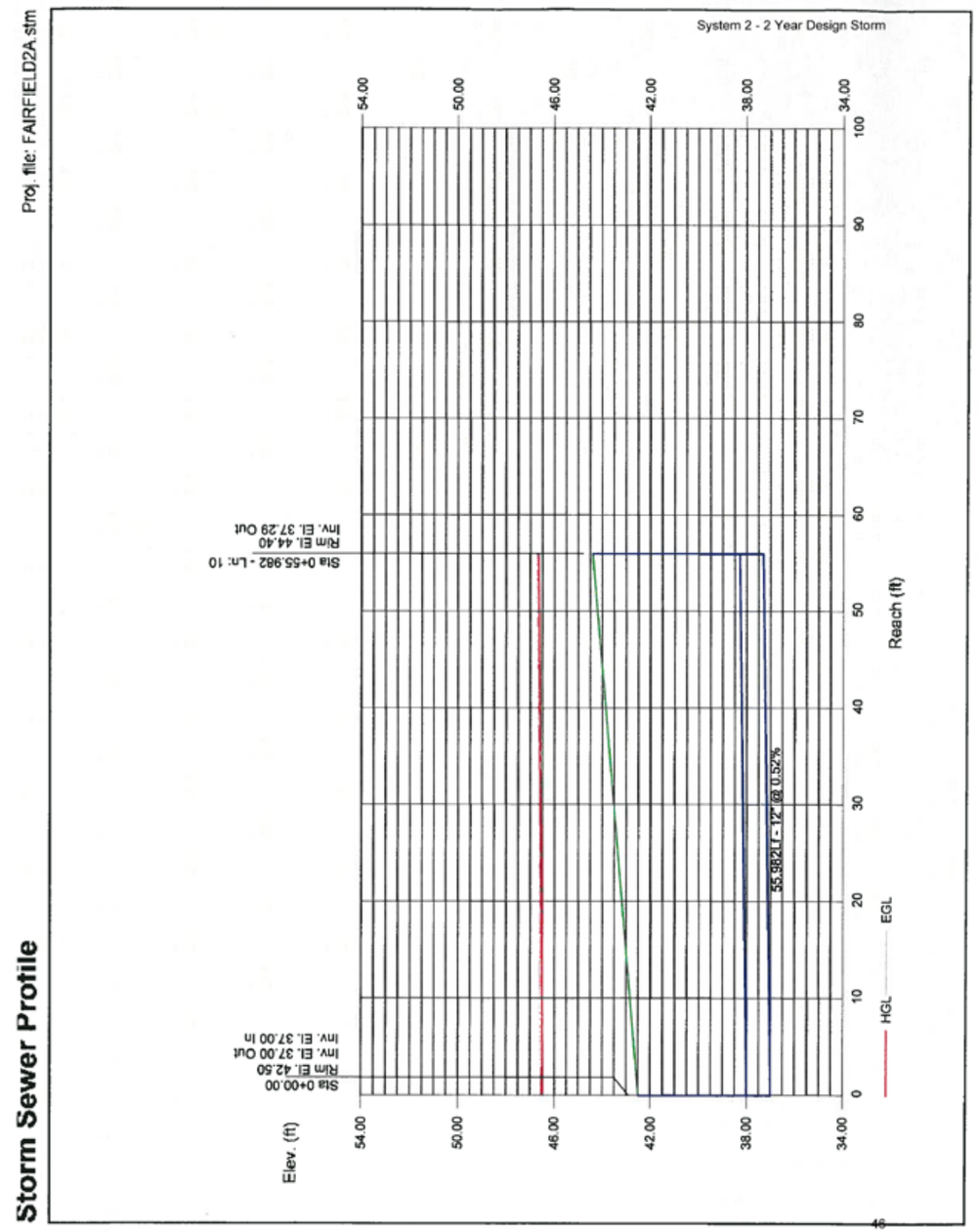
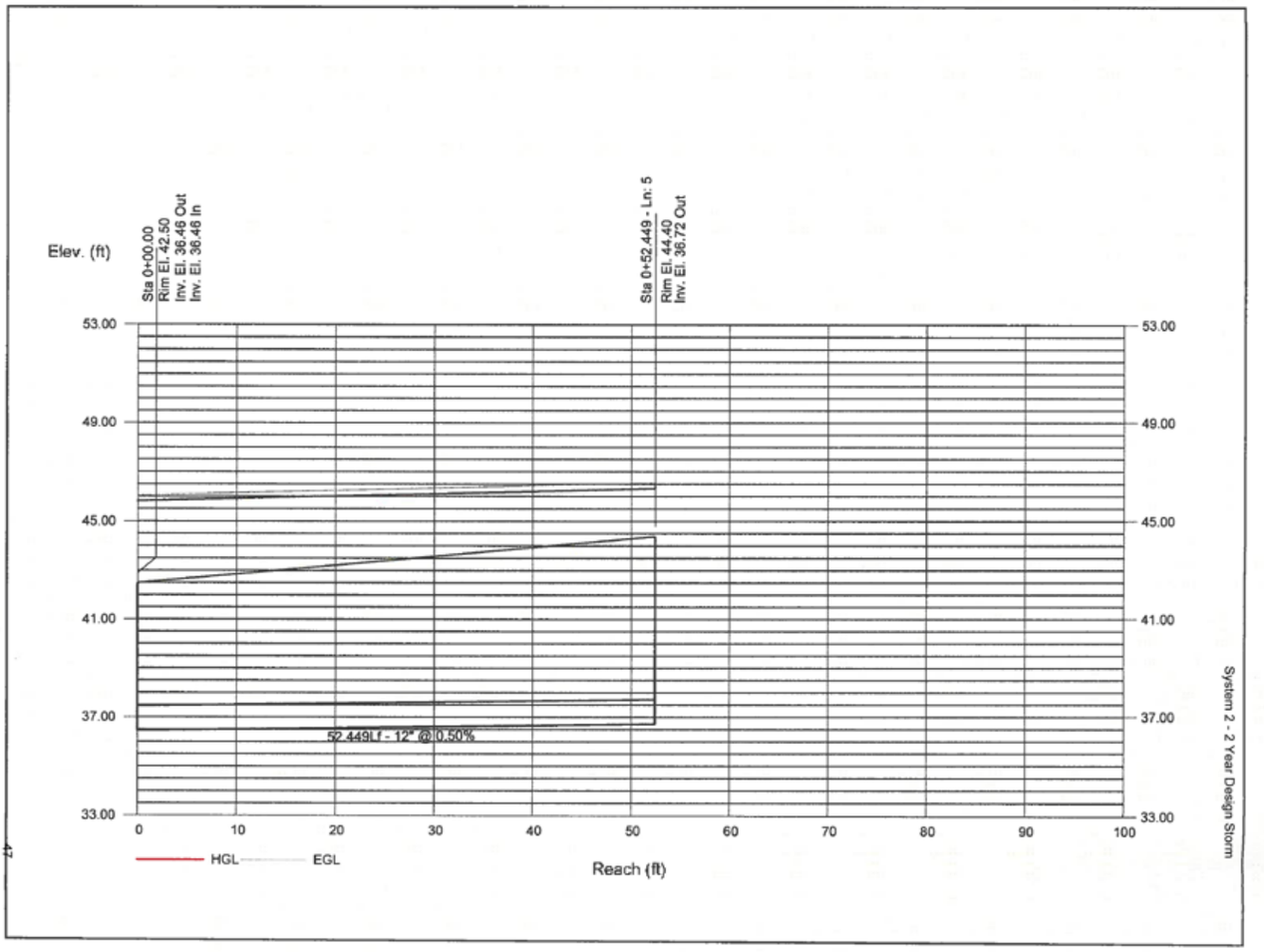
Storm Sewer Profile
System 2 - 2 Year Design Storm
Elev. (ft)
Reach (ft)
HGL
EGL
Sta 0+00.00
Rim El. 42.50
Inv. El. 37.52 Out
Inv. El. 37.52 In
68.324LF - 12" @ 0.51%
Sta 0+68.324 - Ln: 12
Rim El. 44.40
Inv. El. 37.87 Out
45


Proj. file: FAIRFIELD2A.stm
Storm Sewer Profile
System 2 - 2 Year Design Storm
Elev. (ft)
Reach (ft)
HGL
EGL
Sta 0+00.00
Rim El. 42.50
Inv. El. 37.00 Out
Inv. El. 37.00 In
55.982LF - 12" @ 0.52%
Sta 0+55.982 - Ln: 10
Rim El. 44.40
Inv. El. 37.29 Out
46

Storm Sewer Profile

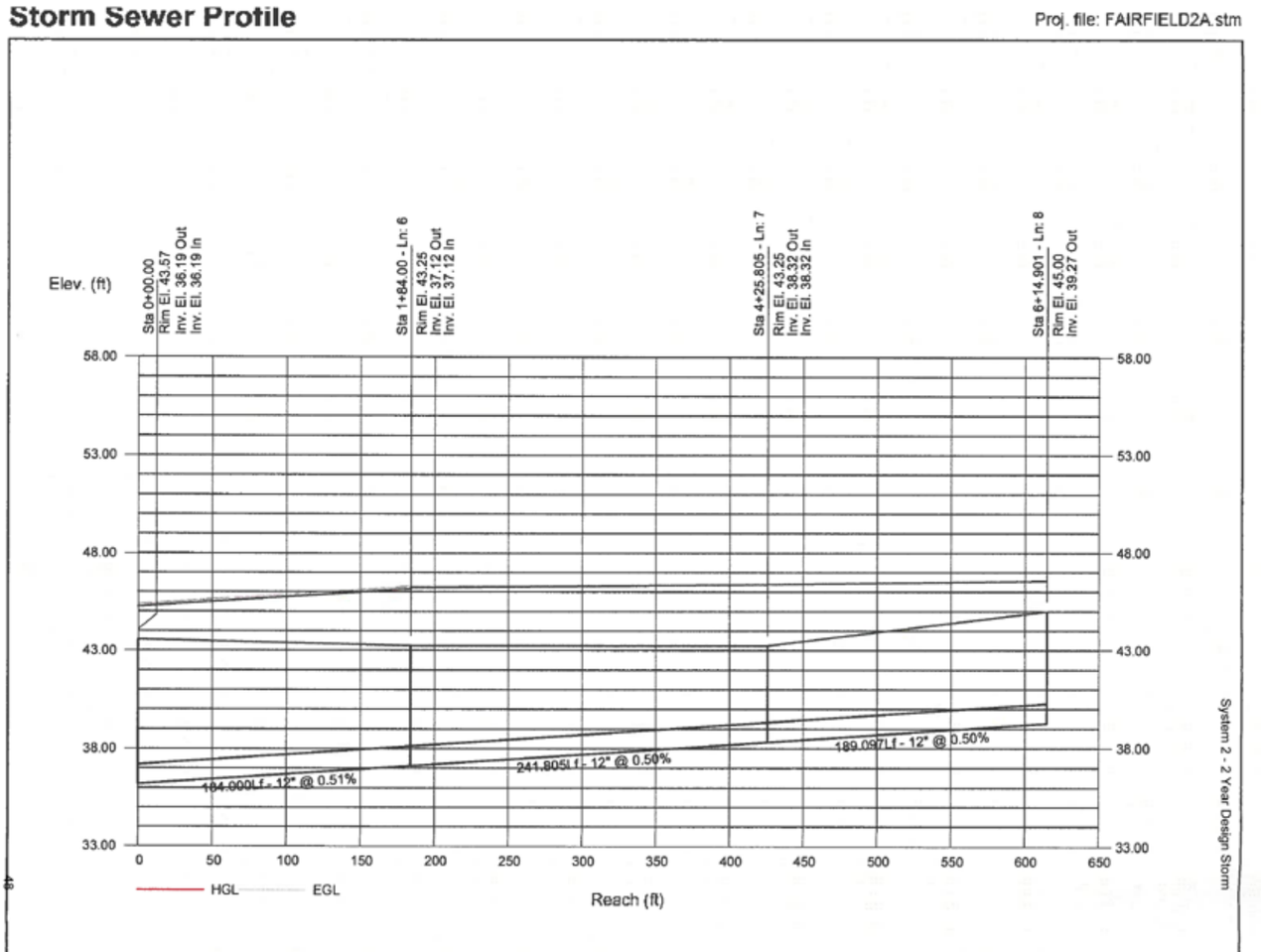
Proj. file: FAIRFIELD2A.stm



47

Storm Sewer Profile

Proj. file: FAIRFIELD2A.stm



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Storm Sewer Profile

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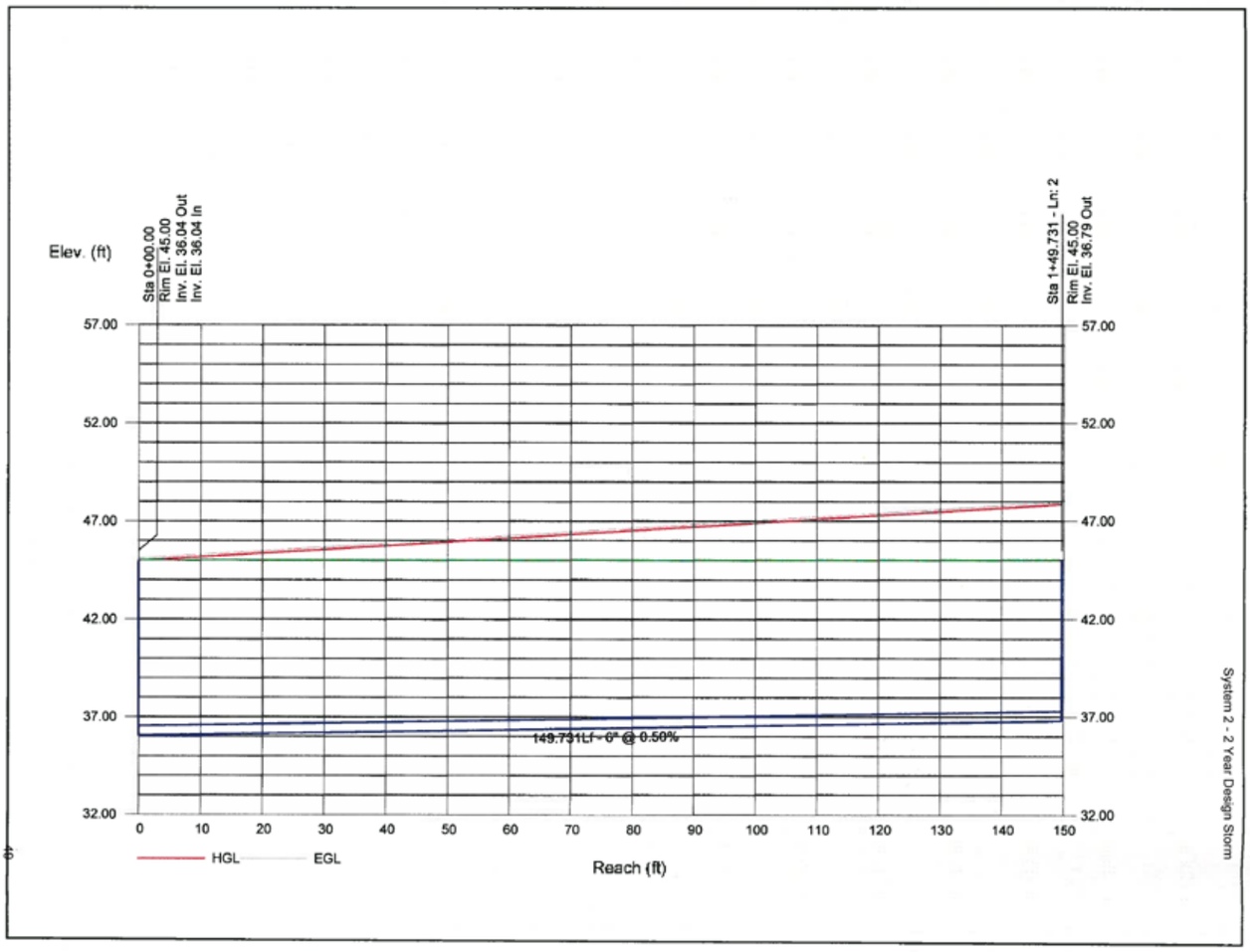
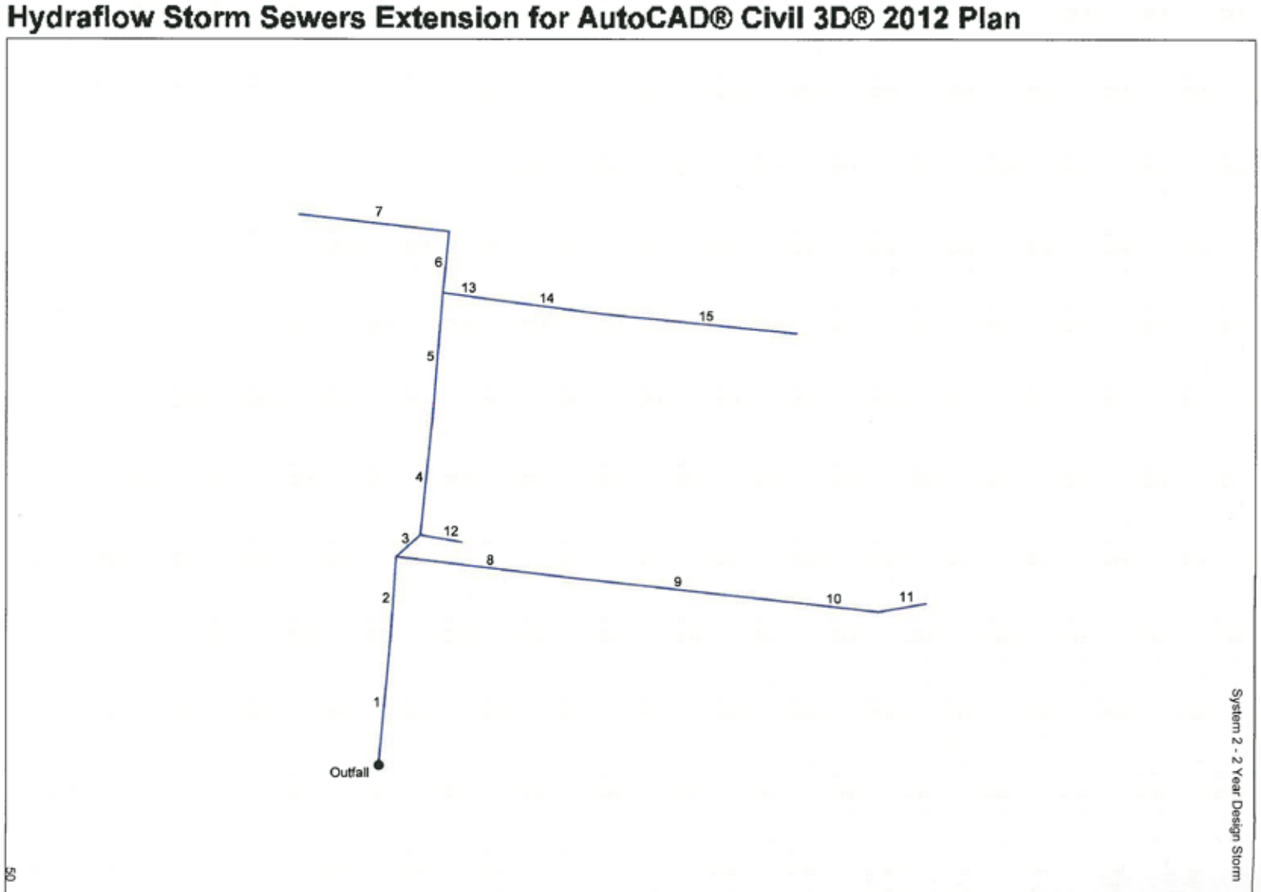


Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



Project File: FAIRFIELD2B.stm	Number of lines: 15	Date: 1/15/2014

Storm Sewer Inventory Report

Page 1

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	120.000	-84.094	Genr	0.00	0.64	0.70	8.0	32.74	0.51	33.35	24	Cir	0.015	0.50	38.00	B1 Into E4
2	1	79.145	-1.546	Genr	0.00	0.27	0.81	5.0	33.35	0.45	33.71	24	Cir	0.015	1.50	40.00	B2
3	2	32.911	47.112	Genr	0.00	0.56	0.84	5.2	33.71	0.52	33.88	21	Cir	0.015	1.16	38.50	B3
4	3	109.620	-44.997	MH	0.00	0.00	0.00	0.0	33.88	0.51	34.44	21	Cir	0.015	0.15	40.26	B4
5	4	121.515	-1.262	MH	0.00	0.00	0.00	0.0	34.44	0.50	35.05	21	Cir	0.015	1.00	41.50	B5
6	5	58.000	1.090	Genr	0.00	7.04	0.93	12.9	35.05	0.50	35.34	21	Cir	0.015	1.70	45.00	B6 Intercept A1
7	6	159.000	-90.520	Genr	0.00	0.79	0.81	9.6	35.33	0.50	36.13	8	Cir	0.015	0.50	40.00	B7
8	2	190.114	91.835	Genr	0.00	0.93	0.74	10.0	33.88	0.41	34.65	15	Cir	0.015	0.50	38.00	B8
9	8	210.019	-0.553	Genr	0.00	1.87	0.87	7.6	34.65	0.50	35.70	12	Cir	0.015	0.50	38.50	B9
10	9	113.764	0.113	Genr	0.00	0.80	0.56	15.0	35.70	0.53	36.30	12	Cir	0.015	0.50	39.59	B10
11	10	50.620	-14.652	Genr	0.00	1.23	0.89	9.0	36.30	0.49	36.55	12	Cir	0.015	1.00	41.00	B11
12	3	44.000	47.002	Genr	0.00	0.28	0.69	11.5	33.88	0.50	34.10	12	Cir	0.015	1.00	38.50	B12
13	5	35.104	92.160	Genr	0.00	0.47	0.85	9.0	35.05	0.74	35.31	12	Cir	0.015	0.50	41.61	B13
14	13	130.970	-0.623	Genr	0.00	1.14	0.93	5.0	35.31	0.44	35.88	12	Cir	0.015	2.06	40.50	B14
15	14	210.325	-1.621	Genr	0.00	0.21	0.70	5.0	35.88	0.50	36.93	12	Cir	0.015	1.00	40.50	B15

System 2 - 2 Year Design Storm

51

Project File: FAIRFIELD2B.stm | Number of lines: 15 | Date: 1/15/2014

Storm Sewers v5.0i

Storm Sewer Summary Report

Page 1

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	B1 Into E4	15.80	24	Cir	120.000	32.74	33.35	0.508	39.00*	39.78*	0.20	39.98	End	Generic
2	B2	15.43	24	Cir	79.145	33.35	33.71	0.455	39.98*	40.47*	0.56	41.03	1	Generic
3	B3	11.54	21	Cir	32.911	33.71	33.88	0.517	41.03*	41.26*	0.42	41.68	2	Generic
4	B4	10.89	21	Cir	109.620	33.88	34.44	0.511	41.68*	42.37*	0.05	42.42	3	Manhole
5	B5	11.07	21	Cir	121.515	34.44	35.05	0.502	42.42*	43.21*	0.33	43.54	4	Manhole
6	B6 Intercept A1	9.67	21	Cir	58.000	35.05	35.34	0.500	43.54*	43.82*	0.43	44.25	5	Generic
7	B7	1.01	8	Cir	159.000	35.33	36.13	0.503	44.25*	45.74*	0.07	45.81	6	Generic
8	B8	4.52	15	Cir	190.114	33.88	34.65	0.405	41.03*	42.27*	0.11	42.38	2	Generic
9	B9	3.81	12	Cir	210.019	34.65	35.70	0.500	42.38*	45.58*	0.18	45.76	8	Generic
10	B10	1.91	12	Cir	113.764	35.70	36.30	0.527	45.76*	46.20*	0.05	46.24	9	Generic
11	B11	1.80	12	Cir	50.620	36.30	36.55	0.494	46.24*	46.42*	0.08	46.50	10	Generic
12	B12	0.28	12	Cir	44.000	33.88	34.10	0.500	41.68*	41.68*	0.00	41.68	3	Generic
13	B13	2.04	12	Cir	35.104	35.05	35.31	0.741	43.54*	43.69*	0.05	43.74	5	Generic
14	B14	1.60	12	Cir	130.970	35.31	35.88	0.435	43.74*	44.09*	0.13	44.23	13	Generic
15	B15	0.33	12	Cir	210.325	35.88	36.93	0.499	44.23*	44.25*	0.00	44.25	14	Generic

System 2 - 2 Year Design Storm

52

Project File: FAIRFIELD2B.stm | Number of lines: 15 | Run Date: 1/15/2014

NOTES: Return period = 2 Yrs. ; *Surcharged (HGL above crown).

Storm Sewers v5.0i

Storm Sewer Tabulation

Page 1

Station Line	Station To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	120.000	0.64	16.23	0.70	0.45	13.98	8.0	17.6	1.1	15.80	13.98	5.03	24	0.51	32.74	33.35	39.00	39.78	38.50	38.00	B1 into E4
2	1	79.145	0.27	15.59	0.81	0.22	13.53	5.0	17.4	1.1	15.43	13.22	4.91	24	0.45	33.35	33.71	39.98	40.47	38.00	40.00	B2
3	2	32.911	0.56	10.49	0.84	0.47	9.46	5.2	15.4	1.2	11.54	9.87	4.80	21	0.52	33.71	33.88	41.03	41.26	40.00	38.50	B3
4	3	109.620	0.00	9.65	0.00	0.00	8.79	0.0	15.0	1.2	10.89	9.81	4.53	21	0.51	33.88	34.44	41.68	42.37	38.50	40.26	B4
5	4	121.515	0.00	9.65	0.00	0.00	8.79	0.0	14.5	1.3	11.07	9.73	4.60	21	0.50	34.44	35.05	42.42	43.21	40.26	41.50	B5
6	5	58.000	7.04	7.83	0.93	6.55	7.19	12.9	12.9	1.3	9.67	9.71	4.02	21	0.50	35.05	35.34	43.54	43.82	41.50	45.00	B6 Intercept A1
7	6	159.000	0.79	0.79	0.81	0.64	0.64	9.6	9.6	1.6	1.01	0.74	2.91	8	0.50	35.33	36.13	44.25	45.74	45.00	40.00	B7
8	2	190.114	0.93	4.83	0.74	0.69	3.86	10.0	16.5	1.2	4.52	3.56	3.69	15	0.41	33.88	34.65	41.03	42.27	40.00	38.00	B8
9	8	210.019	1.87	3.90	0.87	1.63	3.17	7.6	15.8	1.2	3.81	2.18	4.85	12	0.50	34.65	35.70	42.38	45.58	38.00	38.50	B9
10	9	113.764	0.80	2.03	0.56	0.45	1.54	15.0	15.0	1.2	1.91	2.24	2.43	12	0.53	35.70	36.30	45.76	46.20	38.50	39.59	B10
11	10	50.620	1.23	1.23	0.89	1.09	1.09	9.0	9.0	1.6	1.80	2.17	2.29	12	0.49	36.30	36.55	46.24	46.42	39.59	41.00	B11
12	3	44.000	0.28	0.28	0.69	0.19	0.19	11.5	11.5	1.4	0.28	2.18	0.35	12	0.50	33.88	34.10	41.68	41.68	38.50	38.50	B12
13	5	35.104	0.47	1.82	0.85	0.40	1.61	9.0	14.3	1.3	2.04	2.66	2.60	12	0.74	35.05	35.31	43.54	43.69	41.50	41.61	B13
14	13	130.970	1.14	1.35	0.93	1.06	1.21	5.0	13.2	1.3	1.60	2.04	2.04	12	0.44	35.31	35.88	43.74	44.09	41.61	40.50	B14
15	14	210.325	0.21	0.21	0.70	0.15	0.15	5.0	5.0	2.3	0.33	2.18	0.43	12	0.50	35.88	36.93	44.23	44.25	40.50	40.50	B15

System 2 - 2 Year Design Storm

53

Project File: FAIRFIELD2B.stm | Number of lines: 15 | Run Date: 1/15/2014

NOTES:Intensity = 5.67 / (Inlet time + 0.10) ^ 0.56 ; Return period =Yrs. 2 ; c = cir e = ellip b = box

Storm Sewers v5.00

Storm Sewer Profile

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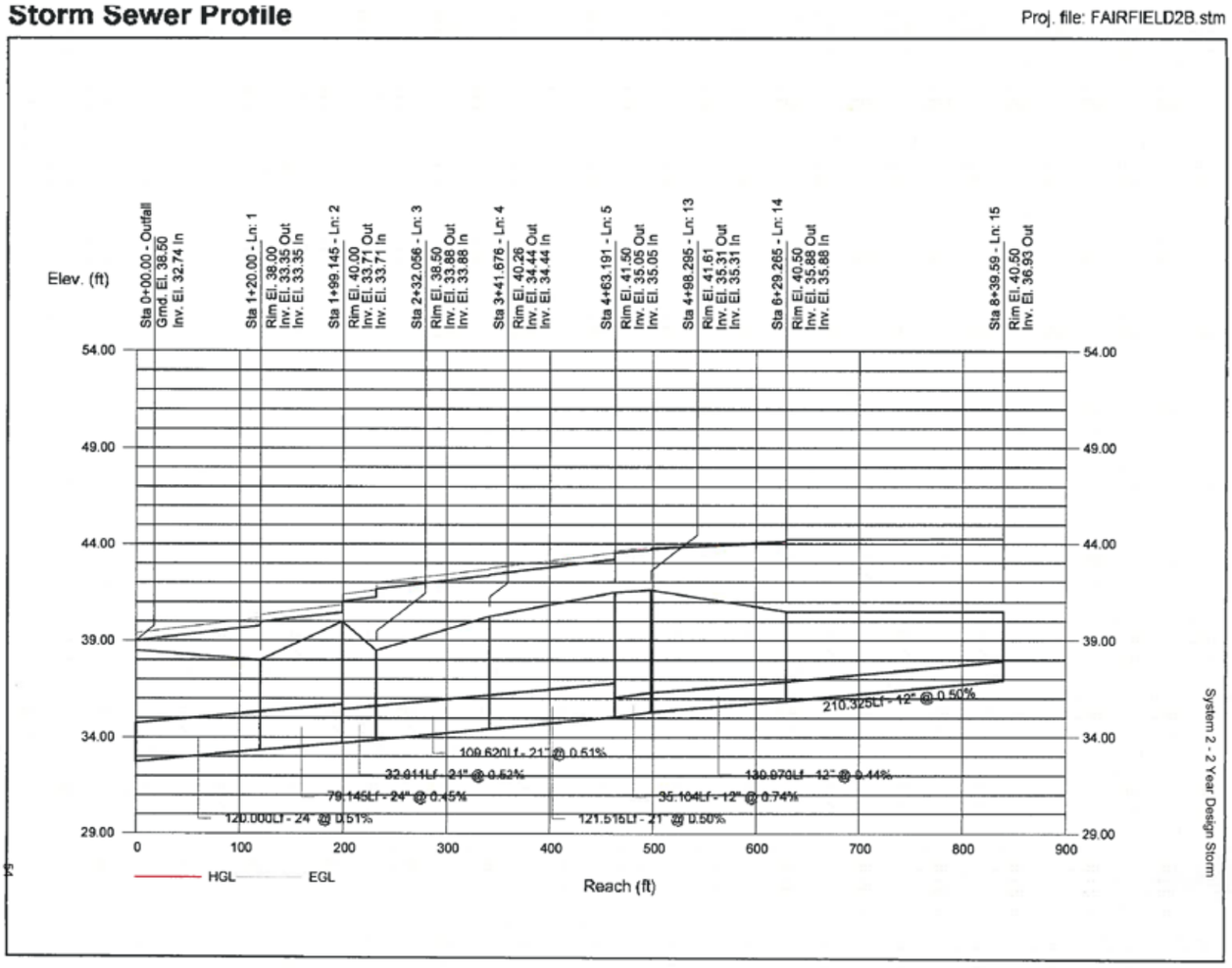

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Storm Sewers

Storm Sewer Profile

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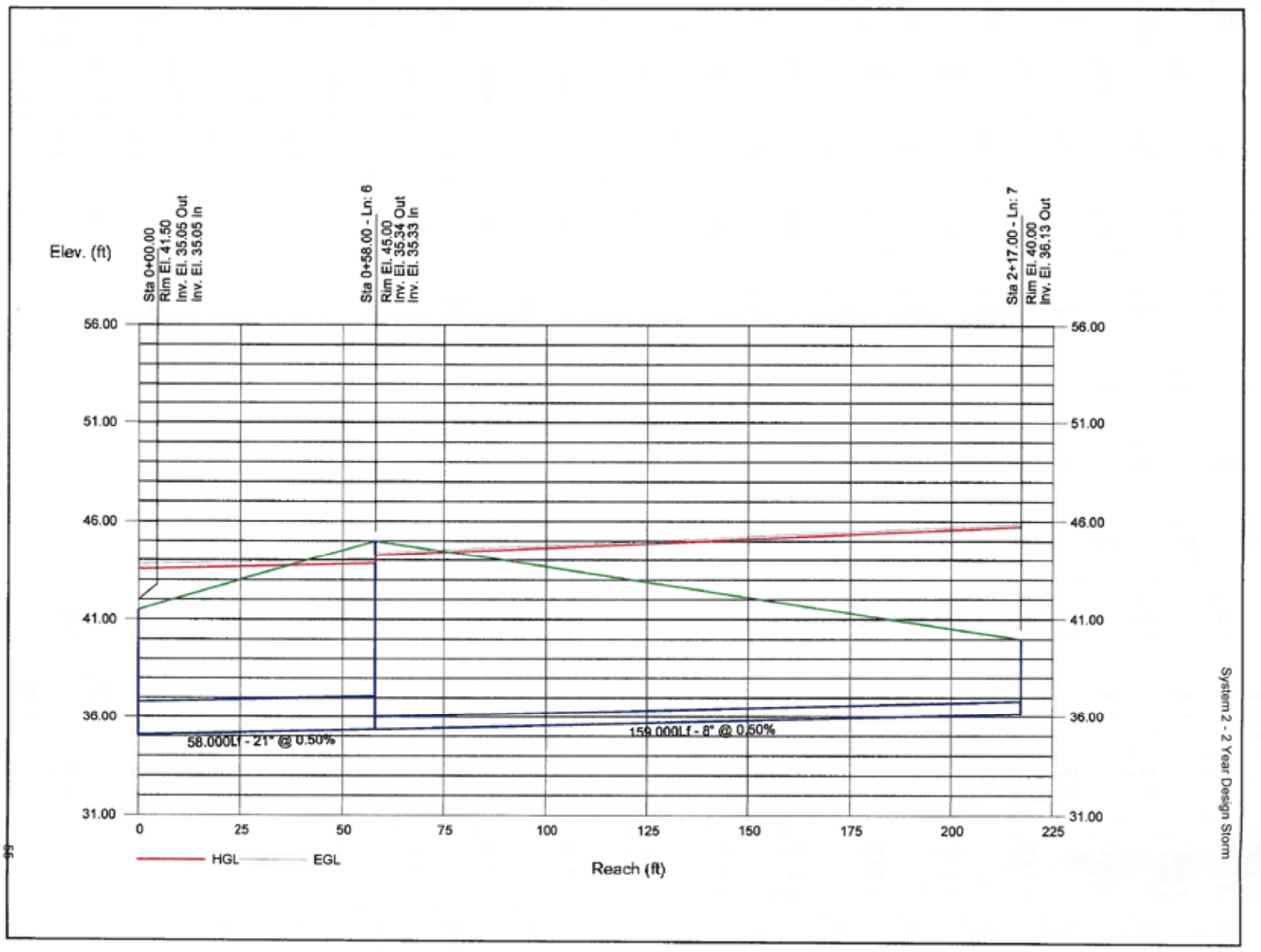

Storm Sewer Profile

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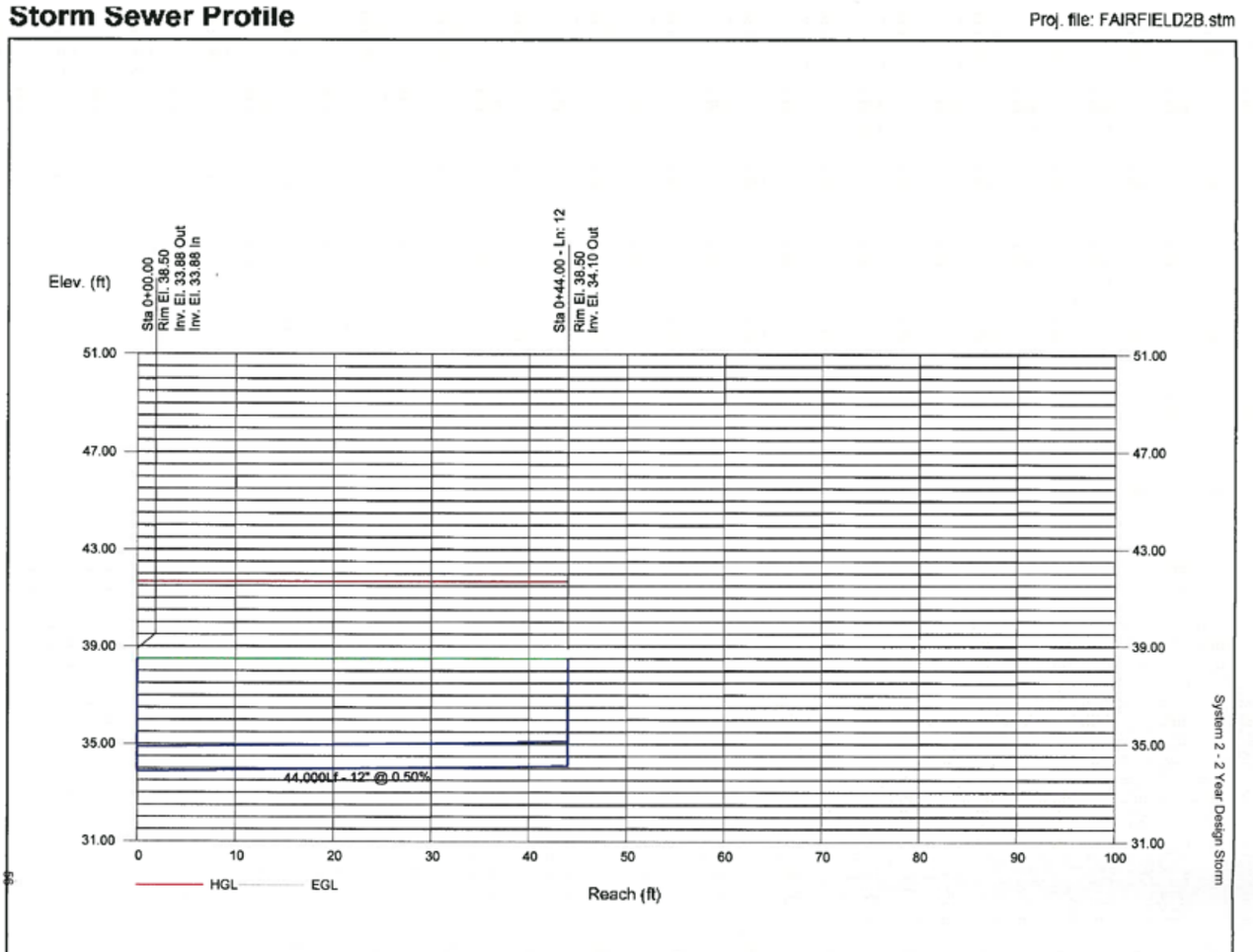

Storm Sewer Profile

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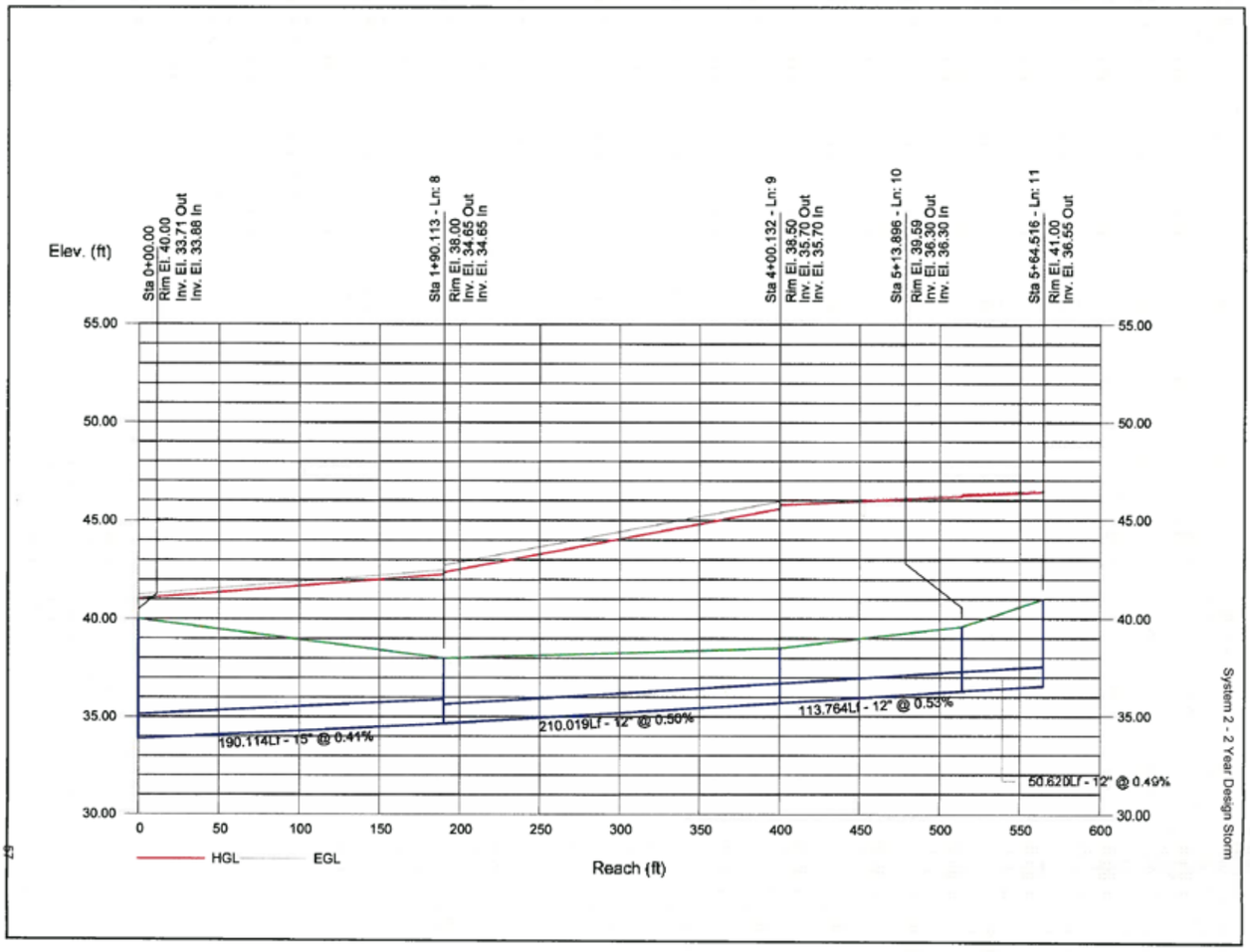
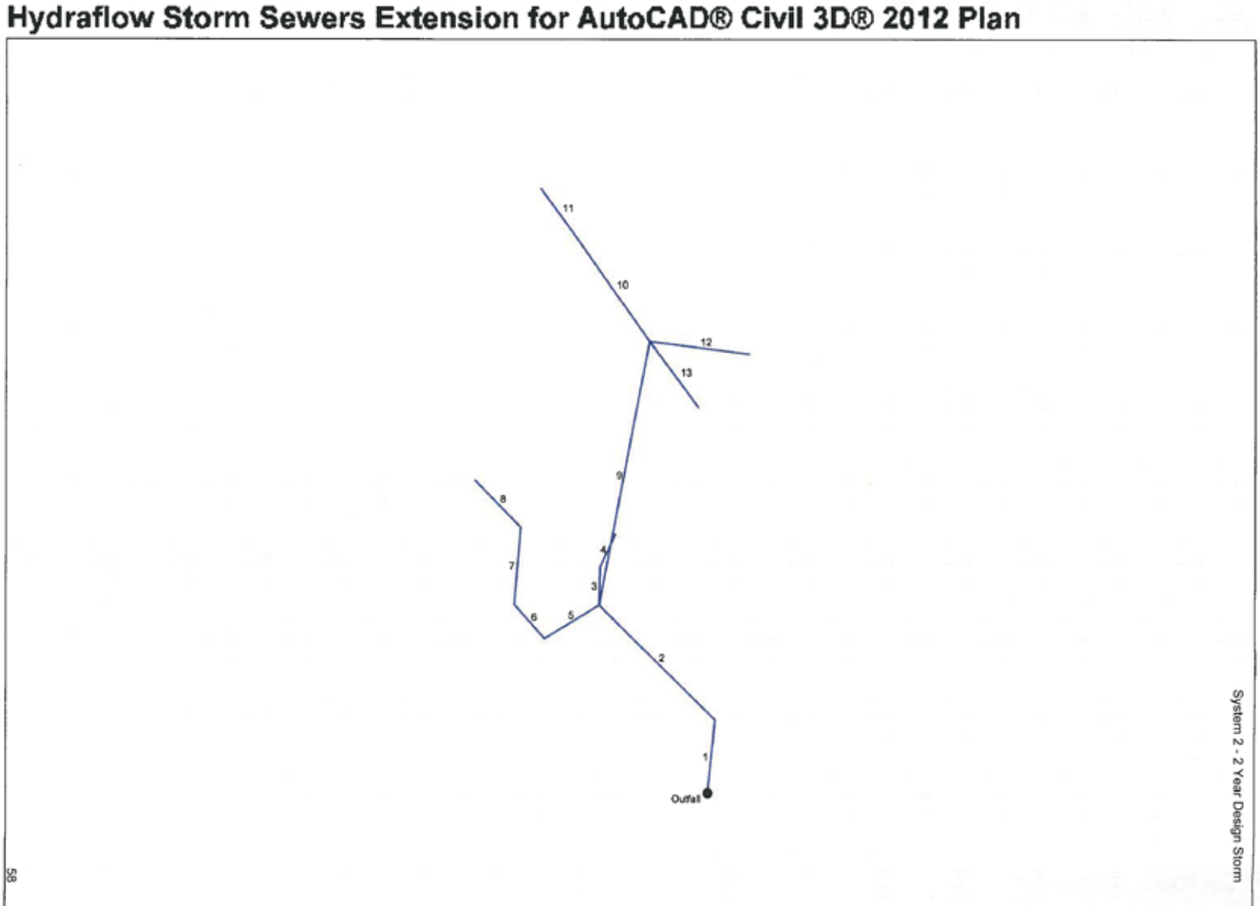


57

Storm Sewers

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



58

Project File: FAIRFIELD2C.stm	Number of lines: 13	Date: 1/15/2014

Storm Sewers v5.00

Storm Sewer Inventory Report

Page 1

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	79.317	-83.446	Genr	0.00	0.97	0.74	5.0	35.60	0.50	36.00	18	Cir	0.015	1.29	39.50	C1 Into D4
2	1	193.669	-56.381	Genr	0.00	0.29	0.63	7.8	36.00	0.50	36.96	18	Cir	0.015	2.04	42.63	C2
3	2	41.000	51.493	Genr	0.00	0.06	0.45	5.0	37.37	2.00	38.19	8	Cir	0.015	0.76	42.48	C3
4	3	40.606	26.743	Genr	0.00	0.82	0.69	6.7	38.19	1.97	38.99	8	Cir	0.015	1.00	42.83	C4
5	2	78.725	-67.455	Genr	0.00	0.09	0.85	5.0	37.03	0.29	37.26	12	Cir	0.015	1.43	44.03	C5
6	5	53.285	70.980	Genr	0.00	0.11	0.45	8.1	37.26	0.26	37.40	12	Cir	0.015	1.23	43.73	C6
7	6	83.565	51.881	Genr	0.00	0.25	0.79	5.0	37.40	0.28	37.63	12	Cir	0.015	1.27	43.93	C7
8	7	76.527	-54.519	Genr	0.00	1.83	0.60	15.0	37.66	0.44	38.00	10	Cir	0.015	1.00	42.03	C8
9	2	292.000	62.548	Genr	0.00	0.78	0.90	6.1	36.96	0.50	38.41	15	Cir	0.015	1.50	44.40	C9
10	9	150.000	-52.650	Genr	0.00	0.13	0.95	5.0	38.41	0.50	39.16	12	Cir	0.015	0.50	45.70	C10
11	10	65.610	-0.859	Genr	0.00	1.20	0.72	12.0	39.16	0.50	39.49	12	Cir	0.015	1.00	45.00	C11
12	9	127.479	83.376	Genr	0.00	0.76	0.95	5.8	38.41	0.49	39.04	12	Cir	0.015	1.00	44.40	C12
13	9	94.693	125.374	Genr	0.00	0.62	0.83	8.5	38.41	0.50	38.88	12	Cir	0.015	1.00	40.00	C13

System 2 - 2 Year Design Storm

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Project File: FAIRFIELD2C.stm | Number of lines: 13 | Date: 1/15/2014

Storm Sewers v5.0

Storm Sewer Summary Report

Page 1

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	C1 Into D4	6.48	18	Cir	79.317	35.60	36.00	0.504	39.50*	39.90*	0.27	40.17	End	Generic
2	C2	5.86	18	Cir	193.669	36.00	36.96	0.496	40.17*	40.97*	0.35	41.32	1	Generic
3	C3	1.13	8	Cir	41.000	37.37	38.19	2.000	41.32*	41.80*	0.12	41.92	2	Generic
4	C4	1.09	8	Cir	40.606	38.19	38.99	1.970	41.92*	42.37*	0.15	42.52	3	Generic
5	C5	1.66	12	Cir	78.725	37.03	37.26	0.292	41.32*	41.55*	0.10	41.65	2	Generic
6	C6	1.59	12	Cir	53.285	37.26	37.40	0.263	41.65*	41.79*	0.08	41.87	5	Generic
7	C7	1.57	12	Cir	83.565	37.40	37.63	0.275	41.87*	42.09*	0.08	42.17	6	Generic
8	C8	1.36	10	Cir	76.527	37.66	38.00	0.444	42.17*	42.56*	0.10	42.65	7	Generic
9	C9	3.73	15	Cir	292.000	36.96	38.41	0.497	41.32*	42.62*	0.22	42.84	2	Generic
10	C10	1.34	12	Cir	150.000	38.41	39.16	0.500	42.84*	43.12*	0.02	43.14	9	Generic
11	C11	1.21	12	Cir	65.610	39.16	39.49	0.503	43.14*	43.25*	0.04	43.28	10	Generic
12	C12	1.51	12	Cir	127.479	38.41	39.04	0.494	42.84*	43.15*	0.06	43.20	9	Generic
13	C13	0.87	12	Cir	94.693	38.41	38.88	0.496	42.84*	42.92*	0.02	42.93	9	Generic

System 2 - 2 Year Design Storm

60

Project File: FAIRFIELD2C.stm | Number of lines: 13 | Run Date: 1/15/2014

NOTES: Return period = 2 Yrs. ; *Surcharged (HGL above crown).

Storm Sewers v5.00

Storm Sewer Tabulation

Page 1

Station Line	Station To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	79.317	0.97	7.91	0.74	0.72	5.84	5.0	18.2	1.1	6.48	6.46	3.67	18	0.50	35.60	36.00	39.50	39.90	39.00	39.50	C1 into D4
2	1	193.669	0.29	6.94	0.63	0.18	5.12	7.8	17.3	1.1	5.86	6.41	3.32	18	0.50	36.00	36.96	40.17	40.97	39.50	42.63	C2
3	2	41.000	0.06	0.88	0.45	0.03	0.59	5.0	6.9	1.9	1.13	1.48	3.23	8	2.00	37.37	38.19	41.32	41.80	42.63	42.48	C3
4	3	40.606	0.82	0.82	0.69	0.57	0.57	6.7	6.7	1.9	1.09	1.47	3.14	8	1.97	38.19	38.99	41.92	42.37	42.48	42.83	C4
5	2	78.725	0.09	2.28	0.85	0.08	1.42	5.0	16.6	1.2	1.66	1.67	2.11	12	0.29	37.03	37.26	41.32	41.55	42.63	44.03	C5
6	5	53.285	0.11	2.19	0.45	0.05	1.35	8.1	16.2	1.2	1.59	1.58	2.03	12	0.26	37.26	37.40	41.65	41.79	44.03	43.73	C6
7	6	83.565	0.25	2.08	0.79	0.20	1.30	5.0	15.5	1.2	1.57	1.62	2.00	12	0.28	37.40	37.63	41.87	42.09	43.73	43.93	C7
8	7	76.527	1.83	1.83	0.60	1.10	1.10	15.0	15.0	1.2	1.36	1.27	2.49	10	0.44	37.66	38.00	42.17	42.56	43.93	42.03	C8
9	2	292.000	0.78	3.49	0.90	0.70	2.93	6.1	14.2	1.3	3.73	3.94	3.04	15	0.50	36.96	38.41	41.32	42.62	42.63	44.40	C9
10	9	150.000	0.13	1.33	0.95	0.12	0.99	5.0	12.7	1.4	1.34	2.18	1.71	12	0.50	38.41	39.16	42.84	43.12	44.40	45.70	C10
11	10	65.610	1.20	1.20	0.72	0.86	0.86	12.0	12.0	1.4	1.21	2.19	1.54	12	0.50	39.16	39.49	43.14	43.25	45.70	45.00	C11
12	9	127.479	0.76	0.76	0.95	0.72	0.72	5.8	5.8	2.1	1.51	2.17	1.93	12	0.49	38.41	39.04	42.84	43.15	44.40	44.40	C12
13	9	94.693	0.62	0.62	0.83	0.51	0.51	8.5	8.5	1.7	0.87	2.17	1.11	12	0.50	38.41	38.88	42.84	42.92	44.40	40.00	C13

System 2 - 2 Year Design Storm

Project File: FAIRFIELD2C.stm | Number of lines: 13 | Run Date: 1/15/2014

NOTES:Intensity = 5.67 / (Inlet time + 0.10) ^ 0.56 ; Return period =Yrs. 2 ; c = cir e = ellip b = box

Storm Sewers v5.00

Storm Sewer Profile

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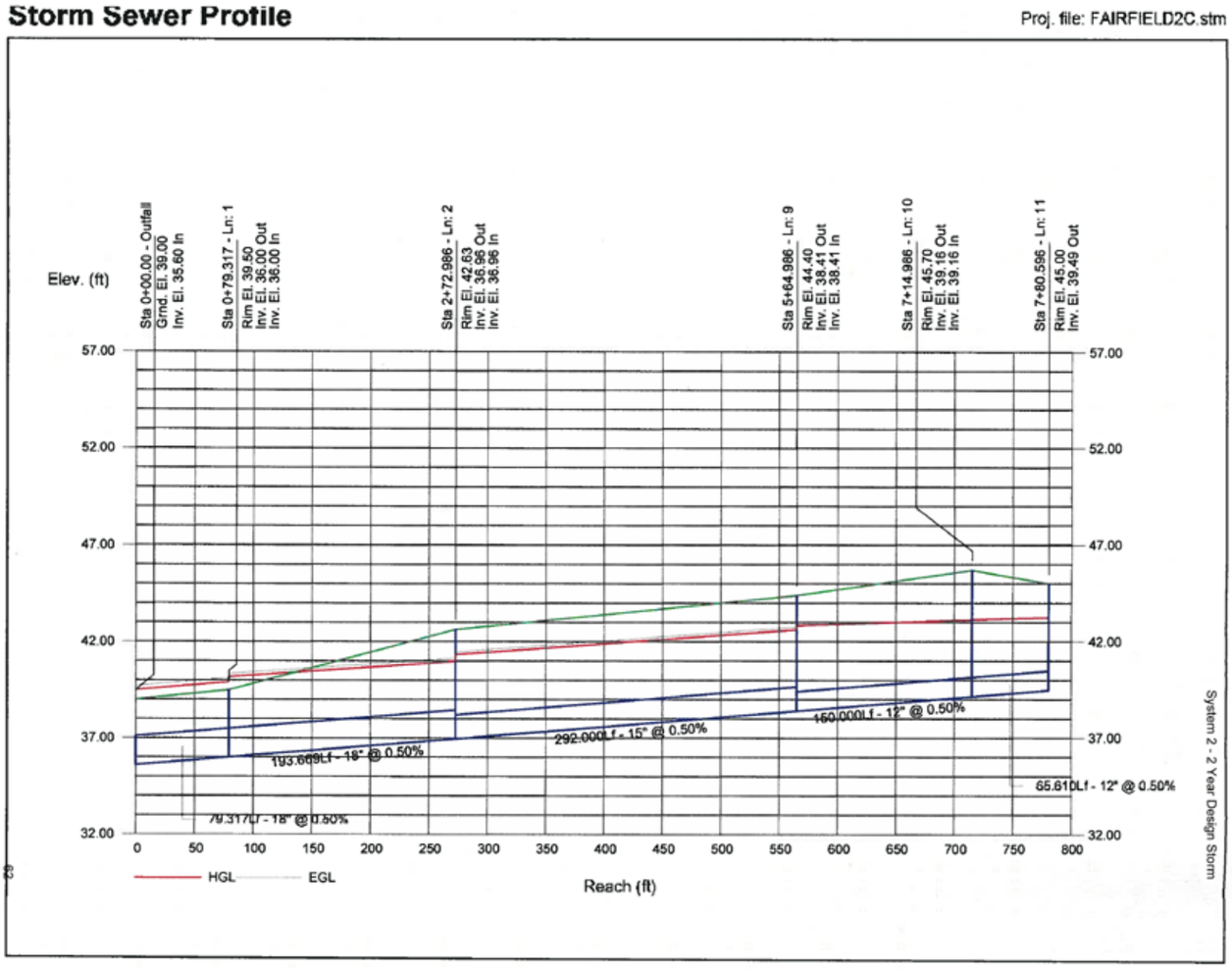

Storm Sewers

Storm Sewer Profile

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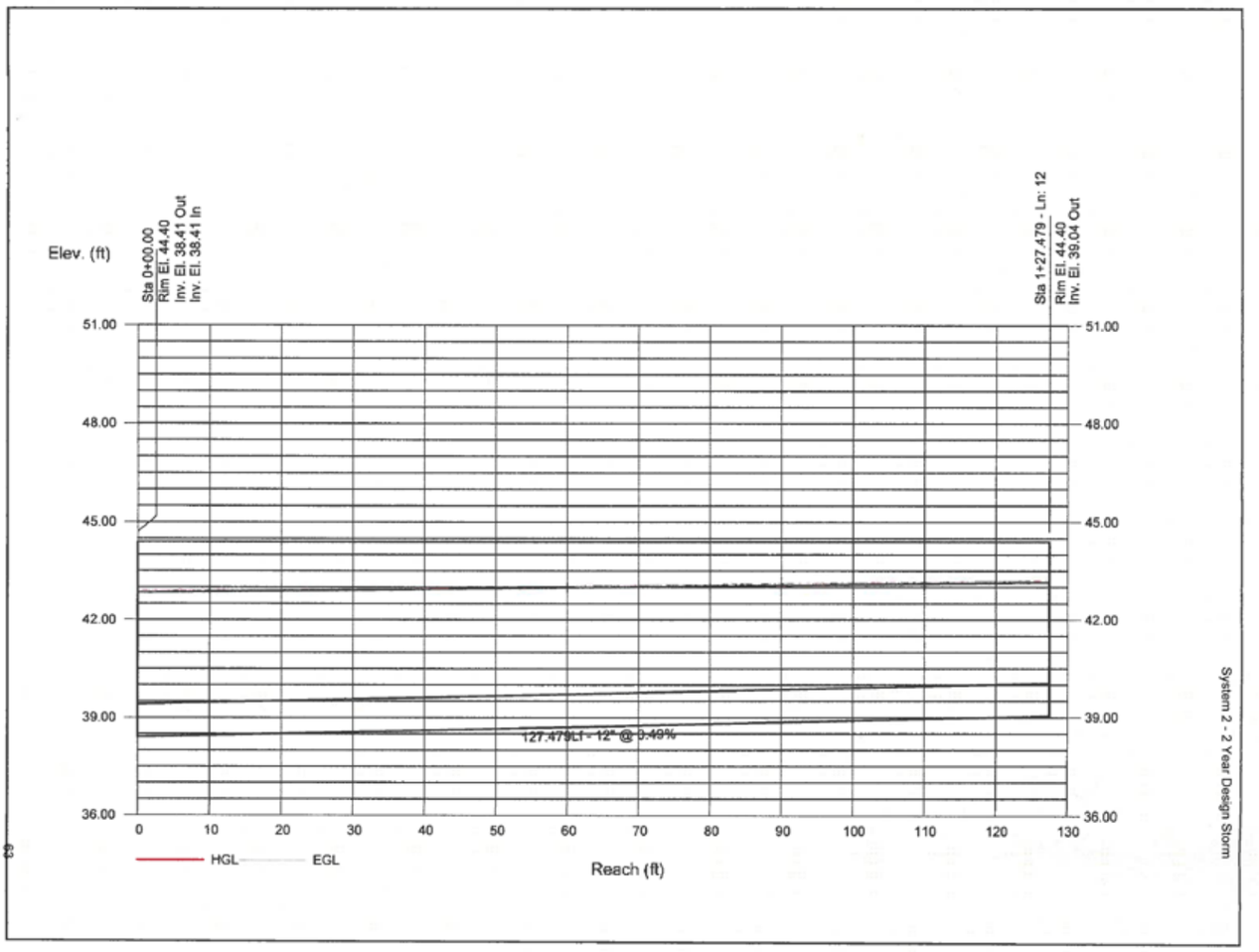

63

Storm Sewer Profile

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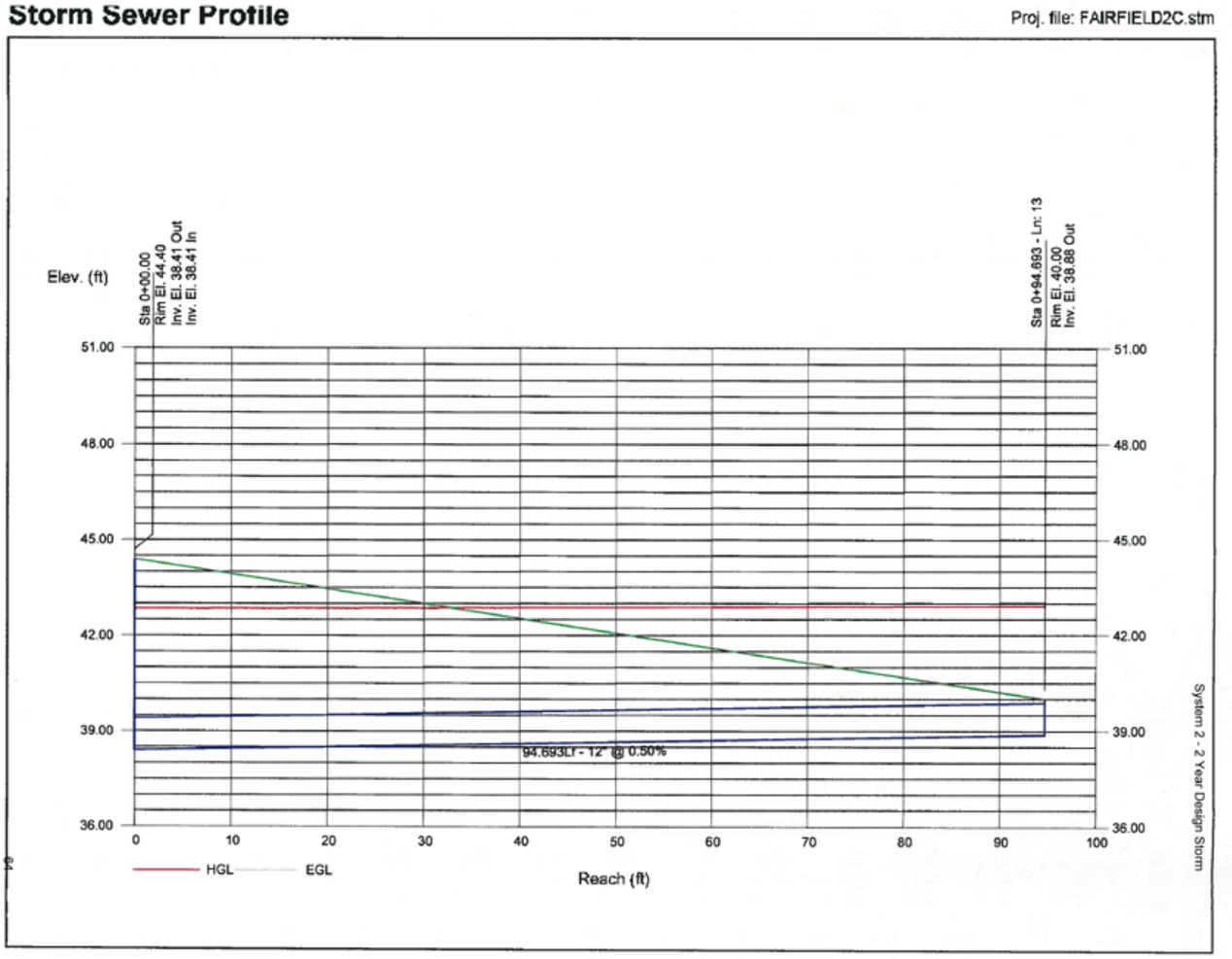

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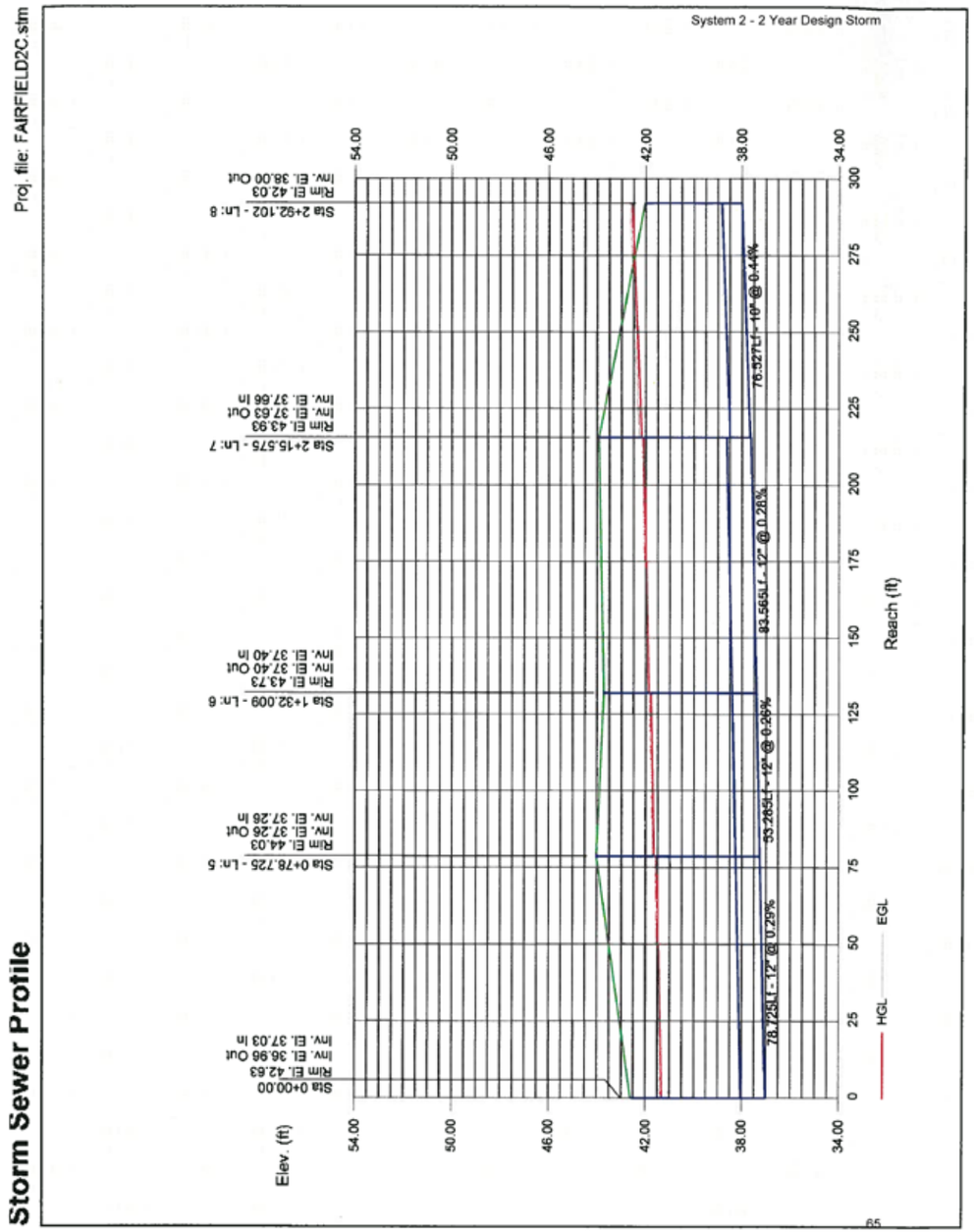
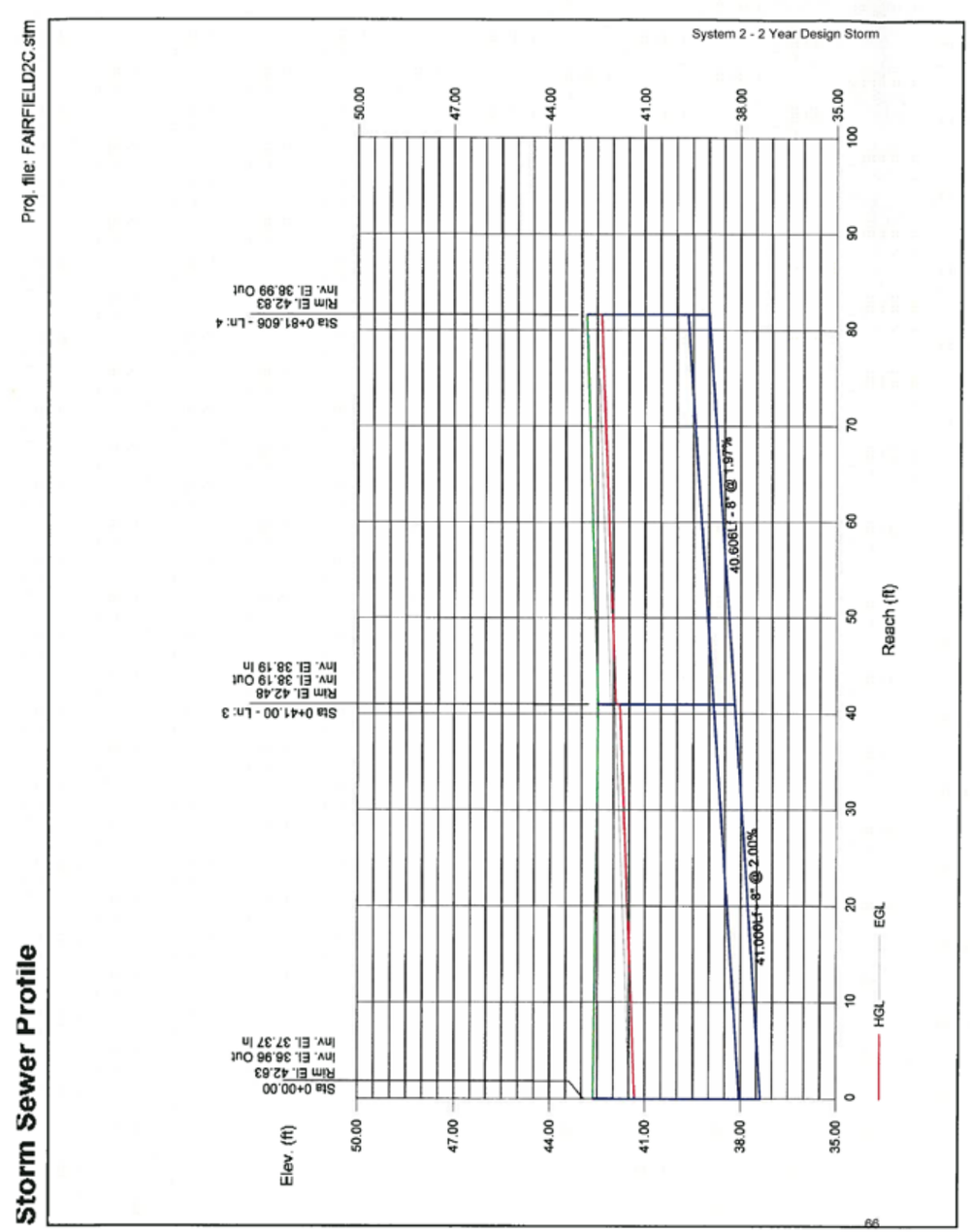

Proj. file: FAIRFIELD2C.stm
Storm Sewer Profile
System 2 - 2 Year Design Storm
Elev. (ft)
Reach (ft)
HGL
EGL
Sta 0+00.00
Rim El. 42.63
Inv. El. 36.96 Out
Inv. El. 37.03 In
Sta 0+78.725 - Ln: 5
Rim El. 44.03
Inv. El. 37.26 Out
Inv. El. 37.28 In
Sta 1+32.009 - Ln: 6
Rim El. 43.73
Inv. El. 37.40 Out
Inv. El. 37.40 In
Sta 2+15.575 - Ln: 7
Rim El. 43.93
Inv. El. 37.63 Out
Inv. El. 37.66 In
Sta 2+92.102 - Ln: 8
Rim El. 42.03
Inv. El. 38.00 Out
78.725LF - 12" @ 0.29%
93.285LF - 12" @ 0.26%
83.565LF - 12" @ 0.28%
76.527LF - 18" @ 0.44%
65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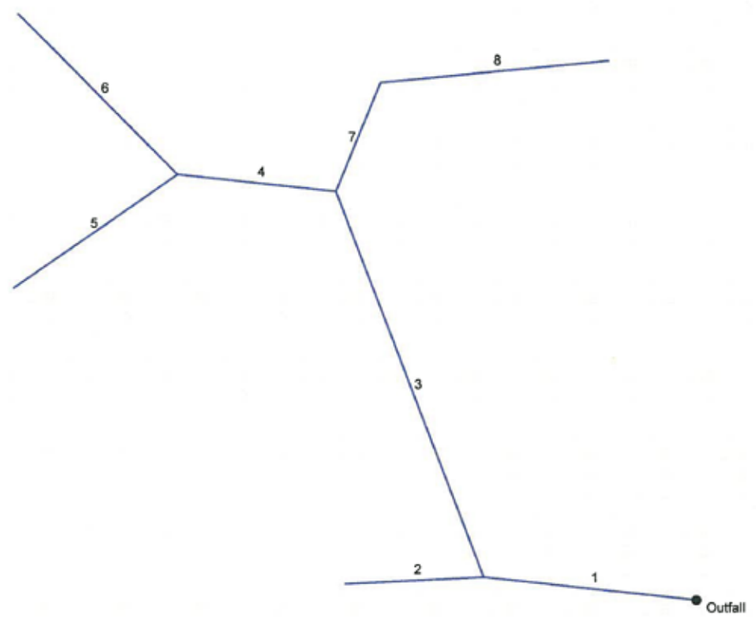
Storm Sewer Profile
System 2 - 2 Year Design Storm
Elev. (ft)
Reach (ft)
HGL
EGL
Sta 0+00.00
Rim El. 42.63
Inv. El. 36.96 Out
Inv. El. 37.37 In
Sta 0+41.00 - Ln: 3
Rim El. 42.48
Inv. El. 38.19 Out
Inv. El. 38.19 In
Sta 0+81.606 - Ln: 4
Rim El. 42.83
Inv. El. 38.99 Out
41.000LF - 8" @ 2.00%
40.606LF - 8" @ 1.97%
66

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



System 2 - 2 Year Design Storm

67

Project File: FAIRFIELD2D.stm	Number of lines: 8	Date: 1/15/2014

Storm Sewers v5.00

Storm Sewer Inventory Report

Page 1

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	161.715	-174.411	Genr	0.00	1.33	0.60	7.4	32.74	0.49	33.54	21	Cir	0.015	1.35	38.90	D1 Equal E5
2	1	105.182	-8.227	Genr	0.00	1.23	0.66	12.8	33.54	0.50	34.07	12	Cir	0.015	1.00	40.00	D2
3	1	291.058	61.681	Genr	0.00	0.42	0.75	5.4	33.54	0.50	35.00	21	Cir	0.015	1.73	40.00	D3
4	3	120.444	-61.832	Genr	0.00	9.09	0.72	18.2	35.00	0.50	35.60	21	Cir	0.015	1.50	39.00	D4 Intercept C1
5	4	146.671	-38.090	Genr	0.00	0.10	0.80	5.0	35.60	0.50	36.33	12	Cir	0.015	1.00	42.00	D5
6	4	163.883	37.022	Genr	0.00	0.22	0.81	5.0	35.50	0.50	36.32	8	Cir	0.015	1.00	42.00	D6
7	3	82.405	46.688	Genr	0.00	0.33	0.74	5.0	35.00	0.97	35.80	12	Cir	0.015	1.34	40.50	D7
8	7	173.271	60.952	Genr	0.00	0.82	0.83	5.0	35.80	0.50	36.67	10	Cir	0.015	1.00	41.00	D8

System 2 - 2 Year Design Storm

68

Project File: FAIRFIELD2D.stm	Number of lines: 8	Date: 1/15/2014

Storm Sewers v5.00

Storm Sewer Summary Report

Page 1

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	D1 Equal E5	10.12	21	Cir	161.715	32.74	33.54	0.495	39.09*	39.97*	0.37	40.34	End	Generic
2	D2	1.10	12	Cir	105.182	33.54	34.07	0.504	40.34*	40.47*	0.03	40.50	1	Generic
3	D3	8.76	21	Cir	291.058	33.54	35.00	0.502	40.34*	41.53*	0.36	41.88	1	Generic
4	D4 Intercept C1	7.55	21	Cir	120.444	35.00	35.60	0.498	41.88*	42.25*	0.23	42.48	3	Generic
5	D5	0.18	12	Cir	146.671	35.60	36.33	0.498	42.48*	42.48*	0.00	42.48	4	Generic
6	D6	0.41	8	Cir	163.883	35.50	36.32	0.500	42.48*	42.72*	0.02	42.74	4	Generic
7	D7	1.90	12	Cir	82.405	35.00	35.80	0.971	41.88*	42.19*	0.12	42.32	3	Generic
8	D8	1.55	10	Cir	173.271	35.80	36.67	0.502	42.32*	43.47*	0.13	43.59	7	Generic

System 2 - 2 Year Design Storm

69

Project File: FAIRFIELD2D.stm | Number of lines: 8 | Run Date: 1/15/2014

NOTES: Return period = 2 Yrs. ; *Surcharged (HGL above crown).

Storm Sewers v5.00

Storm Sewer Tabulation

Page 1

Station Line	Station To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	161.715	1.33	13.54	0.60	0.80	9.65	7.4	20.2	1.0	10.12	9.66	4.21	21	0.49	32.74	33.54	39.09	39.97	38.50	38.90	D1 Equal E5
2	1	105.182	1.23	1.23	0.66	0.81	0.81	12.8	12.8	1.4	1.10	2.19	1.40	12	0.50	33.54	34.07	40.34	40.47	38.90	40.00	D2
3	1	291.058	0.42	10.98	0.75	0.32	8.04	5.4	18.8	1.1	8.76	9.72	3.64	21	0.50	33.54	35.00	40.34	41.53	38.90	40.00	D3
4	3	120.444	9.09	9.41	0.72	6.54	6.80	18.2	18.2	1.1	7.55	9.69	3.14	21	0.50	35.00	35.60	41.88	42.25	40.00	39.00	D4 Intercept C1
5	4	146.671	0.10	0.10	0.80	0.08	0.08	5.0	5.0	2.3	0.18	2.18	0.23	12	0.50	35.60	36.33	42.48	42.48	39.00	42.00	D5
6	4	163.883	0.22	0.22	0.81	0.18	0.18	5.0	5.0	2.3	0.41	0.74	1.16	8	0.50	35.50	36.32	42.48	42.72	39.00	42.00	D6
7	3	82.405	0.33	1.15	0.74	0.24	0.92	5.0	6.0	2.1	1.90	3.04	2.42	12	0.97	35.00	35.80	41.88	42.19	40.00	40.50	D7
8	7	173.271	0.82	0.82	0.83	0.68	0.68	5.0	5.0	2.3	1.55	1.34	2.84	10	0.50	35.80	36.67	42.32	43.47	40.50	41.00	D8

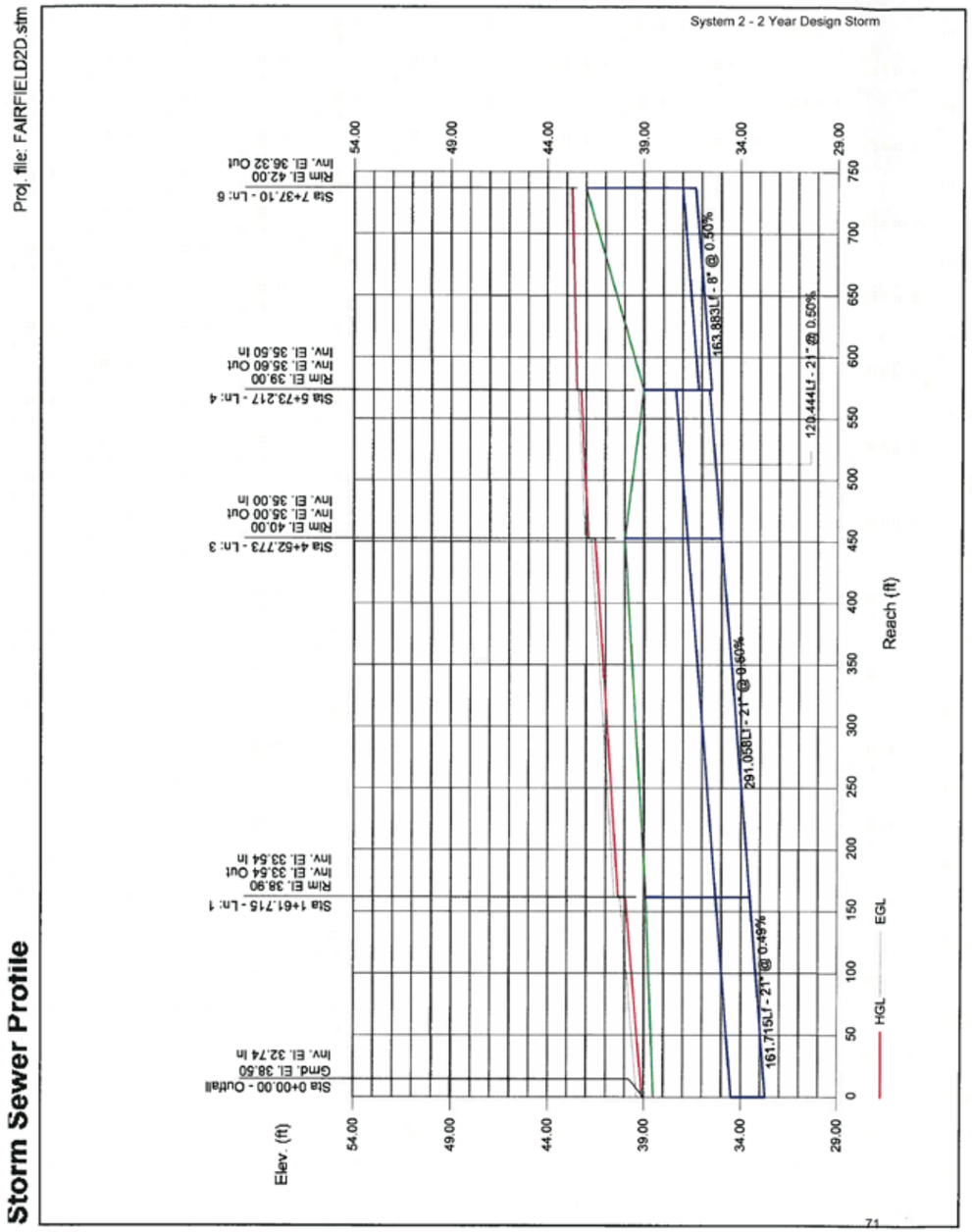
System 2 - 2 Year Design Storm

70

Project File: FAIRFIELD2D.stm | Number of lines: 8 | Run Date: 1/15/2014

NOTES:Intensity = 5.67 / (Inlet time + 0.10) ^ 0.56 ; Return period =Yrs. 2 ; c = cir e = ellip b = box

Storm Sewers v5.00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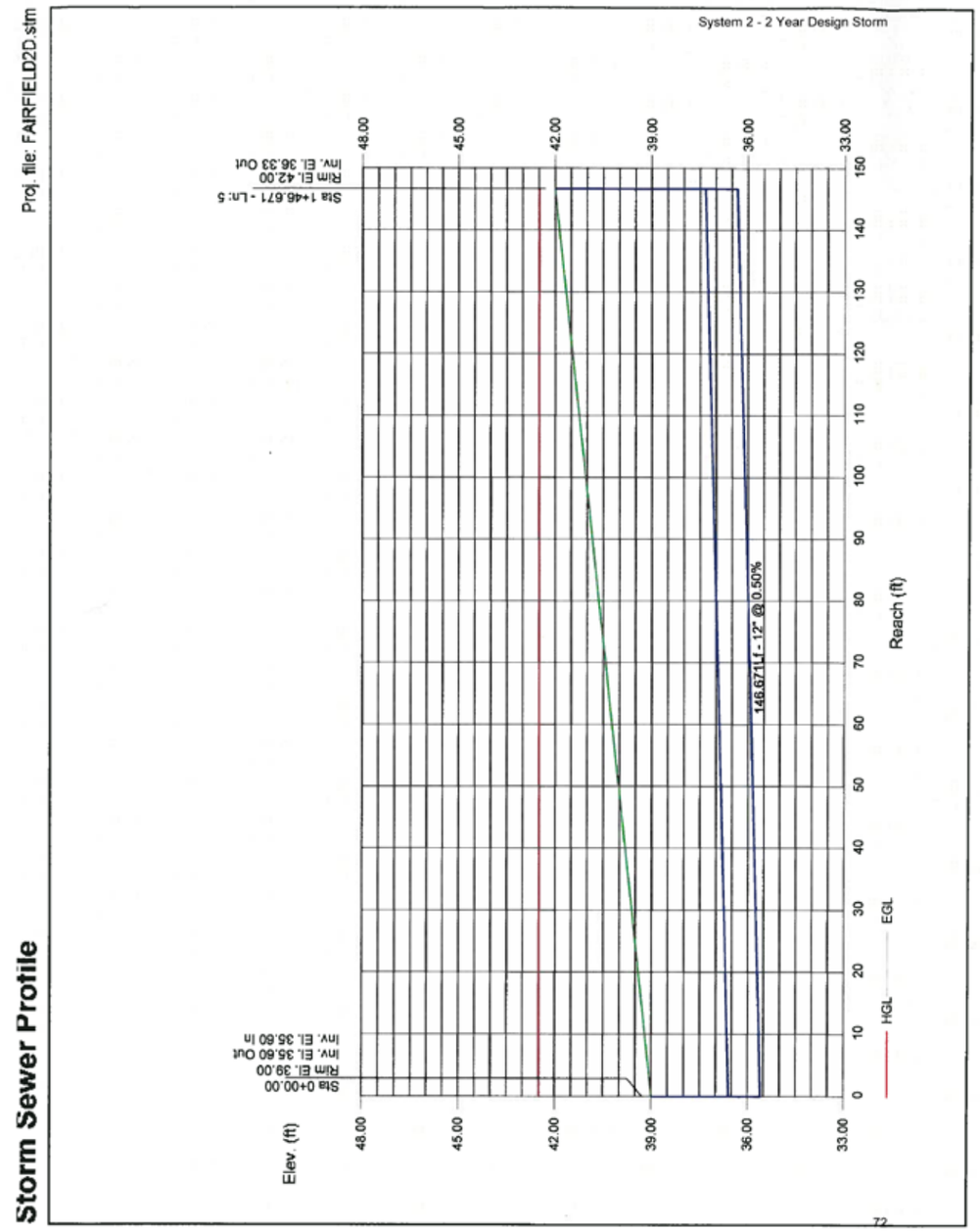
System 2 - 2 Year Design Storm
Storm Sewer Profile
Elev. (ft)
Reach (ft)
HGL
EGL
Sta 0+00.00 - Outfall
Grnd. El. 38.50
Inv. El. 32.74 In
Sta 1+61.715 - Ln: 1
Rim El. 38.90
Inv. El. 33.54 Out
Inv. El. 33.54 In
Sta 4+52.773 - Ln: 3
Rim El. 40.00
Inv. El. 35.00 Out
Inv. El. 35.00 In
Sta 5+73.217 - Ln: 4
Rim El. 39.00
Inv. El. 35.60 Out
Inv. El. 35.50 In
Sta 7+37.10 - Ln: 6
Rim El. 42.00
Inv. El. 36.32 Out
161.715LF - 21" @ 0.49%
291.058LF - 21" @ 0.60%
120.444LF - 21" @ 0.50%
163.883LF - 8" @ 0.50%
71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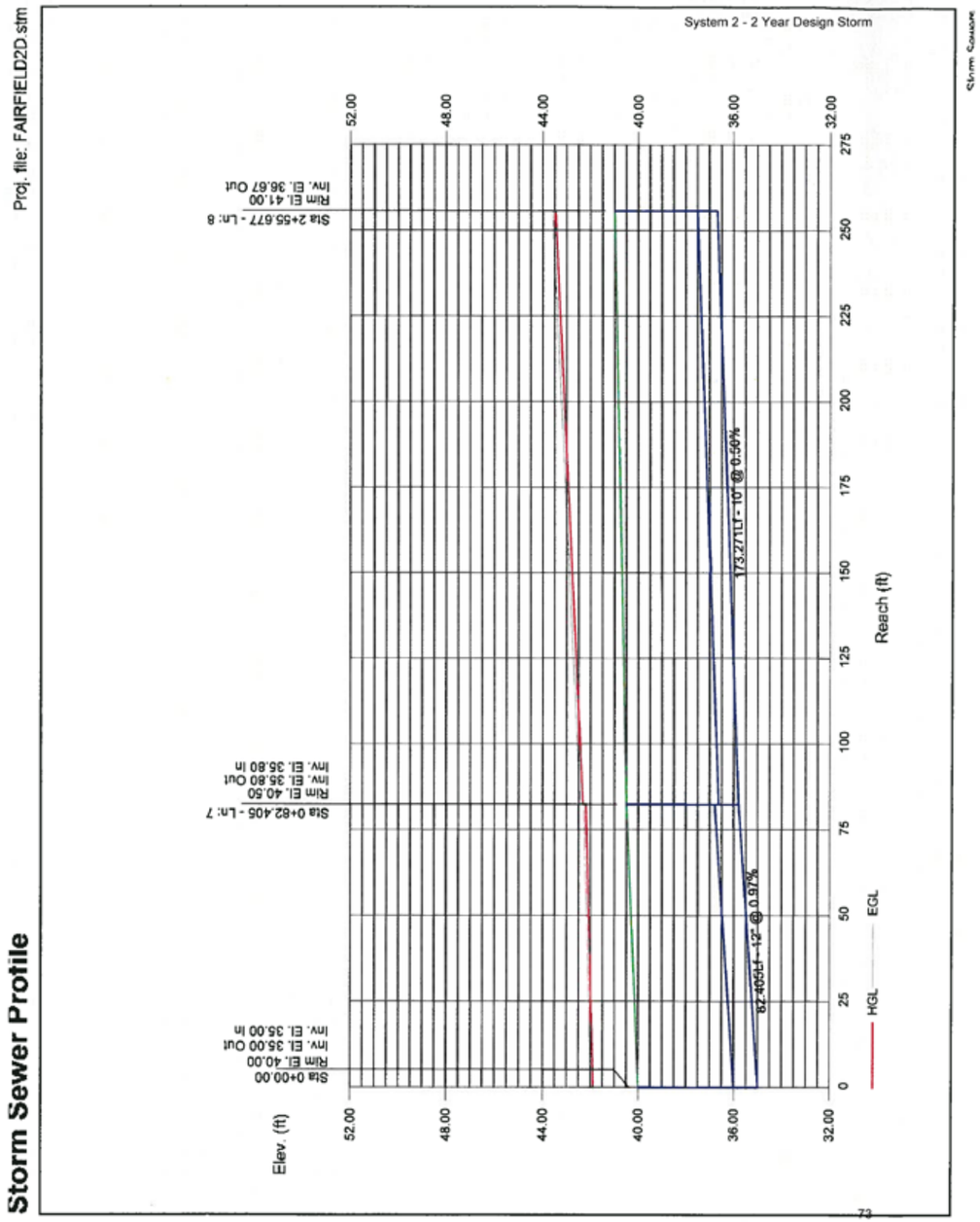
System 2 - 2 Year Design Storm
Storm Sewer Profile
Elev. (ft)
Reach (ft)
HGL
EGL
Sta 0+00.00
Rim El. 39.00
Inv. El. 35.60 Out
Inv. El. 35.60 In
Sta 1+46.671 - Ln: 5
Rim El. 42.00
Inv. El. 36.33 Out
146.671LF - 12" @ 0.50%
72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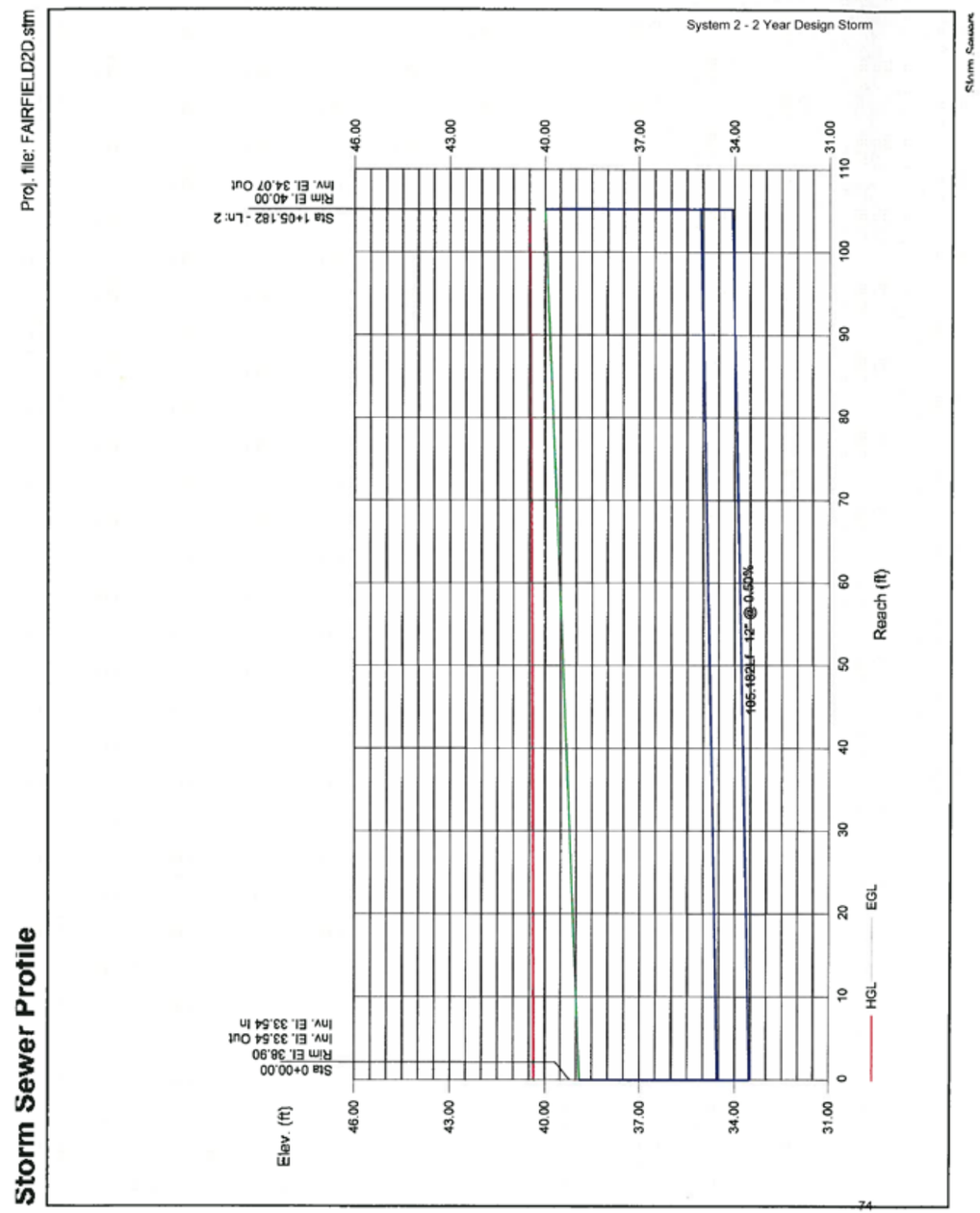
System 2 - 2 Year Design Storm
Storm Sewer Profile
Elev. (ft)
Reach (ft)
HGL
EGL
Sta 0+00.00
Rim El. 40.00
Inv. El. 35.00 Out
Inv. El. 35.00 In
Sta 0+82.405 - Ln: 7
Rim El. 40.50
Inv. El. 35.80 Out
Inv. El. 35.80 In
Sta 2+55.677 - Ln: 8
Rim El. 41.00
Inv. El. 36.67 Out
173.277LF - 10" @ 0.50%
73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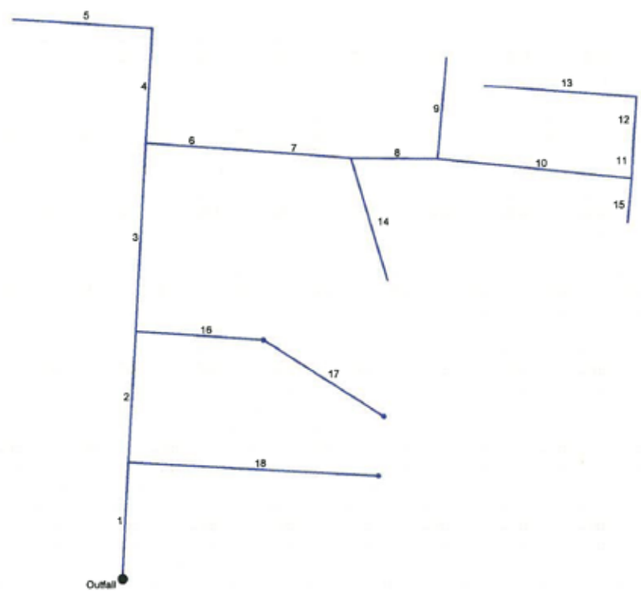
System 2 - 2 Year Design Storm
Storm Sewer Profile
Elev. (ft)
Reach (ft)
HGL
EGL
Sta 0+00.00
Rim El. 38.90
Inv. El. 33.54 Out
Inv. El. 33.54 In
Sta 1+05.182 - Ln: 2
Rim El. 40.00
Inv. El. 34.07 Out
195.162LF - 12" @ 0.50%
74

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



System 2 - 2 Year Design Storm

75

Project File: FAIRFIELD2E.stm	Number of lines: 18	Date: 1/15/2014

Storm Sewers v5.00

Storm Sewer Inventory Report

Page 1

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	124.912	-87.000	Genr	0.00	0.41	0.64	11.1	29.82	0.50	30.44	30	Cir	0.015	1.50	38.97	E1 Equal J4
2	1	138.372	0.420	Genr	0.00	0.30	0.73	5.0	30.44	0.52	31.16	30	Cir	0.015	1.50	41.30	E2
3	2	199.556	-0.176	Genr	0.00	0.52	0.64	8.3	31.16	0.49	32.14	30	Cir	0.015	1.50	37.75	E3
4	3	121.482	0.327	Genr	0.00	16.73	0.85	17.6	32.14	0.49	32.74	30	Cir	0.015	1.53	38.50	E4 Intercept B1
5	4	161.715	-90.475	Genr	0.00	13.54	0.71	18.8	32.74	0.49	33.54	21	Cir	0.015	1.35	38.90	E5 Equal D1
6	3	98.767	90.182	Genr	0.00	0.76	0.86	5.0	32.14	0.51	32.64	12	Cir	0.015	0.50	37.50	E6
7	6	140.325	0.345	MH	0.00	0.00	0.00	0.0	32.64	0.40	33.20	12	Cir	0.015	1.00	38.00	E7
8	7	101.113	-3.324	Genr	0.00	0.29	0.90	5.0	33.20	0.95	34.16	12	Cir	0.015	1.72	38.46	E8
9	8	107.435	-85.033	Genr	0.00	0.52	0.81	5.0	34.16	0.50	34.70	12	Cir	0.015	1.00	41.00	E9
10	8	227.000	4.656	Genr	0.00	0.08	0.81	5.0	35.06	0.30	35.74	12	Cir	0.015	2.25	39.30	E10
11	10	37.702	-91.942	Genr	0.00	0.51	0.75	5.0	35.74	0.24	35.83	12	Cir	0.015	0.50	37.82	E11
12	11	49.431	0.740	MH	0.00	0.00	0.00	0.0	35.83	0.51	36.08	8	Cir	0.015	1.00	40.00	E12
13	12	177.448	-90.348	Genr	0.00	0.28	0.95	5.0	36.08	1.87	39.40	8	Cir	0.015	1.00	42.00	E13
14	7	137.011	67.807	Genr	0.00	0.79	0.81	5.7	33.20	0.99	34.55	8	Cir	0.015	1.00	37.71	E14
15	10	47.007	90.224	Genr	0.00	0.45	0.87	7.0	35.74	0.34	35.90	12	Cir	0.015	1.00	37.40	E15
16	2	149.104	89.920	Genr	0.00	0.16	0.82	5.0	32.87	1.07	34.47	8	Cir	0.015	0.75	38.77	E16
17	16	161.518	26.540	Genr	0.00	0.18	0.83	5.0	34.47	1.18	36.37	6	Cir	0.015	1.00	37.09	E17
18	1	291.718	89.744	Genr	0.00	0.20	0.81	5.0	30.58	1.50	34.95	8	Cir	0.015	1.00	38.77	E18

System 2 - 2 Year Design Storm

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Project File: FAIRFIELD2E.stm	Number of lines: 18	Date: 1/15/2014

Storm Sewers v5.00

Storm Sewer Summary Report

Page 1

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	E1 Equal J4	29.06	30	Cir	124.912	29.82	30.44	0.496	32.32*	33.16*	0.82	33.97	End	Generic
2	E2	28.93	30	Cir	138.372	30.44	31.16	0.520	33.97*	34.89*	0.81	35.70	1	Generic
3	E3	28.86	30	Cir	199.556	31.16	32.14	0.491	35.70*	37.02*	0.81	37.82	2	Generic
4	E4 Intercept B1	25.53	30	Cir	121.482	32.14	32.74	0.494	37.82*	38.45*	0.64	39.09	3	Generic
5	E5 Equal D1	10.48	21	Cir	161.715	32.74	33.54	0.495	39.09*	40.04*	0.40	40.43	4	Generic
6	E6	4.70	12	Cir	98.767	32.14	32.64	0.506	37.82*	40.11*	0.28	40.39	3	Generic
7	E7	3.80	12	Cir	140.325	32.64	33.20	0.399	40.39*	42.52*	0.36	42.88	6	Manhole
8	E8	2.87	12	Cir	101.113	33.20	34.16	0.949	42.88*	43.76*	0.36	44.12	7	Generic
9	E9	0.96	12	Cir	107.435	34.16	34.70	0.503	44.12*	44.22*	0.02	44.25	8	Generic
10	E10	1.96	12	Cir	227.000	35.06	35.74	0.300	44.12*	45.04*	0.22	45.25	8	Generic
11	E11	1.20	12	Cir	37.702	35.74	35.83	0.239	45.25*	45.31*	0.02	45.33	10	Generic
12	E12	0.51	8	Cir	49.431	35.83	36.08	0.506	45.33*	45.45*	0.03	45.48	11	Manhole
13	E13	0.60	8	Cir	177.448	36.08	39.40	1.871	45.48*	46.08*	0.05	46.12	12	Generic
14	E14	1.35	8	Cir	137.011	33.20	34.55	0.985	42.88*	45.18*	0.23	45.41	7	Generic
15	E15	0.74	12	Cir	47.007	35.74	35.90	0.340	45.25*	45.28*	0.01	45.30	10	Generic
16	E16	0.55	8	Cir	149.104	32.87	34.47	1.073	35.70*	36.11*	0.03	36.14	2	Generic
17	E17	0.34	6	Cir	161.518	34.47	36.37	1.176	36.14	36.85	0.05	36.90	16	Generic
18	E18	0.37	8	Cir	291.718	30.58	34.95	1.498	33.97	35.24	n/a	35.34 j	1	Generic

System 2 - 2 Year Design Storm

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Project File: FAIRFIELD2E.stm | Number of lines: 18 | Run Date: 1/15/2014

NOTES: Return period = 2 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump

from Sewer v5.00

Storm Sewer Tabulation

Page 1

Station Line	Station To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	124.912	0.41	35.72	0.64	0.26	28.17	11.1	20.8	1.0	29.06	25.04	5.92	30	0.50	29.82	30.44	32.32	33.16	36.71	38.97	E1 Equal J4
2	1	138.372	0.30	35.11	0.73	0.22	27.75	5.0	20.4	1.0	28.93	25.64	5.89	30	0.52	30.44	31.16	33.97	34.89	38.97	41.30	E2
3	2	199.556	0.52	34.47	0.64	0.33	27.25	8.3	19.8	1.1	28.86	24.91	5.88	30	0.49	31.16	32.14	35.70	37.02	41.30	37.75	E3
4	3	121.482	16.73	30.27	0.85	14.22	23.83	17.6	19.4	1.1	25.53	24.98	5.20	30	0.49	32.14	32.74	37.82	38.45	37.75	38.50	E4 Intercept B1
5	4	161.715	13.54	13.54	0.71	9.61	9.61	18.8	18.8	1.1	10.48	9.66	4.36	21	0.49	32.74	33.54	39.09	40.04	38.50	38.90	E5 Equal D1
6	3	98.767	0.76	3.68	0.86	0.65	3.08	5.0	10.3	1.5	4.70	2.20	5.98	12	0.51	32.14	32.64	37.82	40.11	37.75	37.50	E6
7	6	140.325	0.00	2.92	0.00	0.00	2.43	0.0	9.8	1.6	3.80	1.95	4.84	12	0.40	32.64	33.20	40.39	42.52	37.50	38.00	E7
8	7	101.113	0.29	2.13	0.90	0.26	1.79	5.0	9.3	1.6	2.87	3.01	3.66	12	0.95	33.20	34.16	42.88	43.76	38.00	38.46	E8
9	8	107.435	0.52	0.52	0.81	0.42	0.42	5.0	5.0	2.3	0.96	2.19	1.22	12	0.50	34.16	34.70	44.12	44.22	38.46	41.00	E9
10	8	227.000	0.08	1.32	0.81	0.06	1.10	5.0	7.8	1.8	1.96	1.69	2.50	12	0.30	35.06	35.74	44.12	45.04	38.46	39.30	E10
11	10	37.702	0.51	0.79	0.75	0.38	0.65	5.0	7.3	1.8	1.20	1.51	1.53	12	0.24	35.74	35.83	45.25	45.31	39.30	37.82	E11
12	11	49.431	0.00	0.28	0.00	0.00	0.27	0.0	6.7	1.9	0.51	0.74	1.47	8	0.51	35.83	36.08	45.33	45.45	37.82	40.00	E12
13	12	177.448	0.28	0.28	0.95	0.27	0.27	5.0	5.0	2.3	0.60	1.43	1.73	8	1.87	36.08	39.40	45.48	46.08	40.00	42.00	E13
14	7	137.011	0.79	0.79	0.81	0.64	0.64	5.7	5.7	2.1	1.35	1.04	3.88	8	0.99	33.20	34.55	42.88	45.18	38.00	37.71	E14
15	10	47.007	0.45	0.45	0.87	0.39	0.39	7.0	7.0	1.9	0.74	1.80	0.94	12	0.34	35.74	35.90	45.25	45.28	39.30	37.40	E15
16	2	149.104	0.16	0.34	0.82	0.13	0.28	5.0	6.5	2.0	0.55	1.08	1.57	8	1.07	32.87	34.47	35.70	36.11	41.30	38.77	E16
17	16	161.518	0.18	0.18	0.83	0.15	0.15	5.0	5.0	2.3	0.34	0.53	1.74	6	1.18	34.47	36.37	36.14	36.85	38.77	37.09	E17
18	1	291.718	0.20	0.20	0.81	0.16	0.16	5.0	5.0	2.3	0.37	1.28	1.79	8	1.50	30.58	34.95	33.97	35.24	38.97	38.77	E18

System 2 - 2 Year Design Storm

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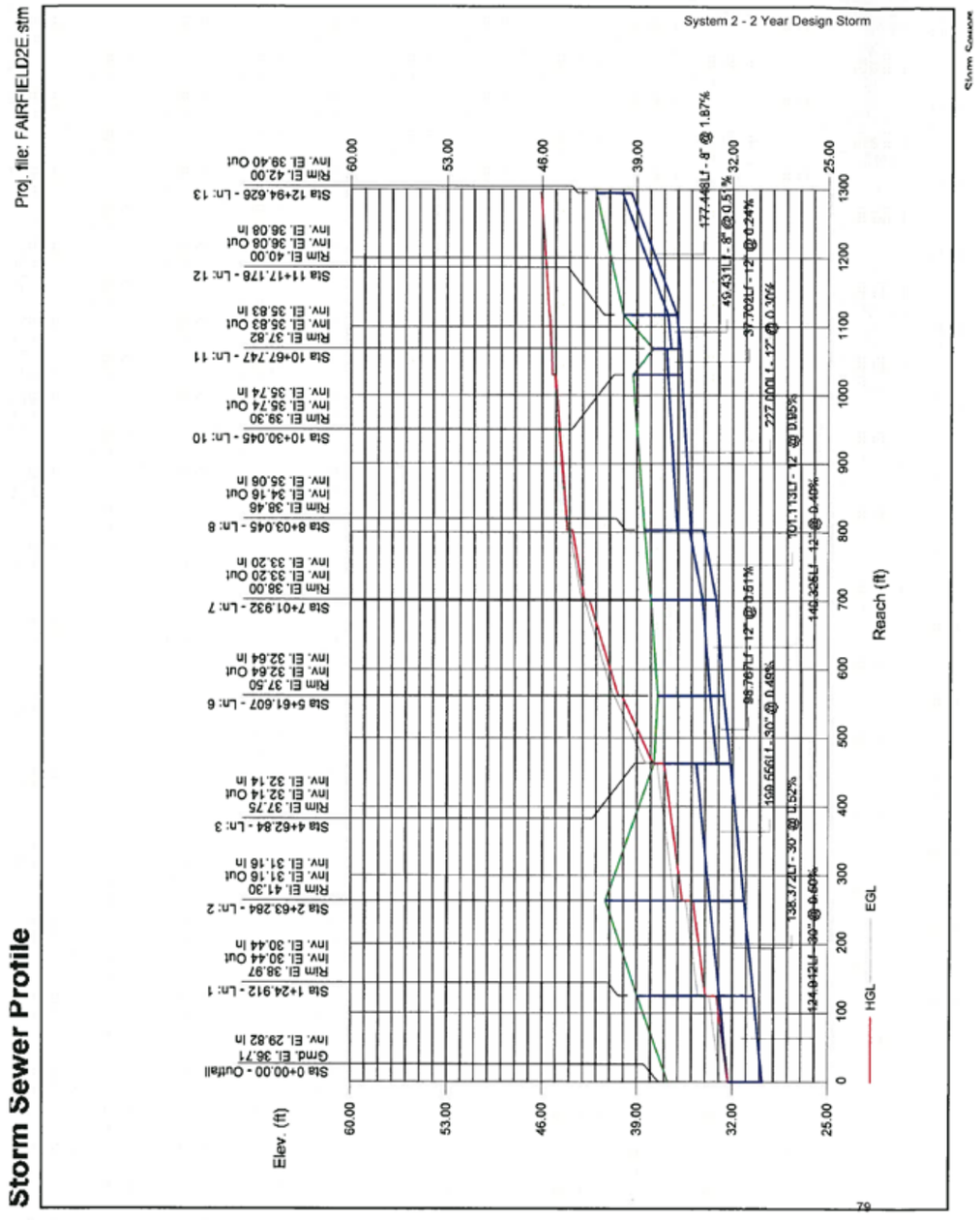
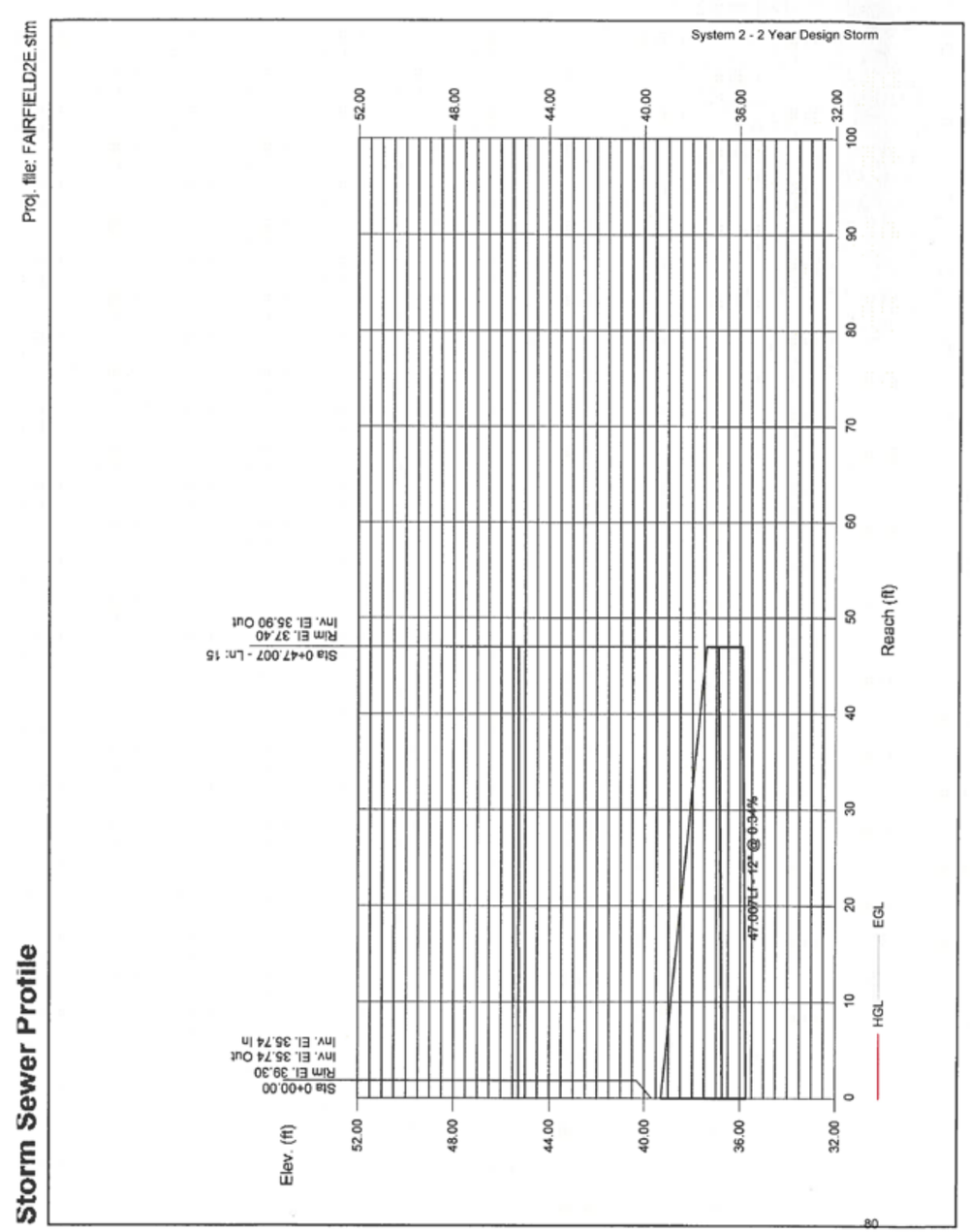
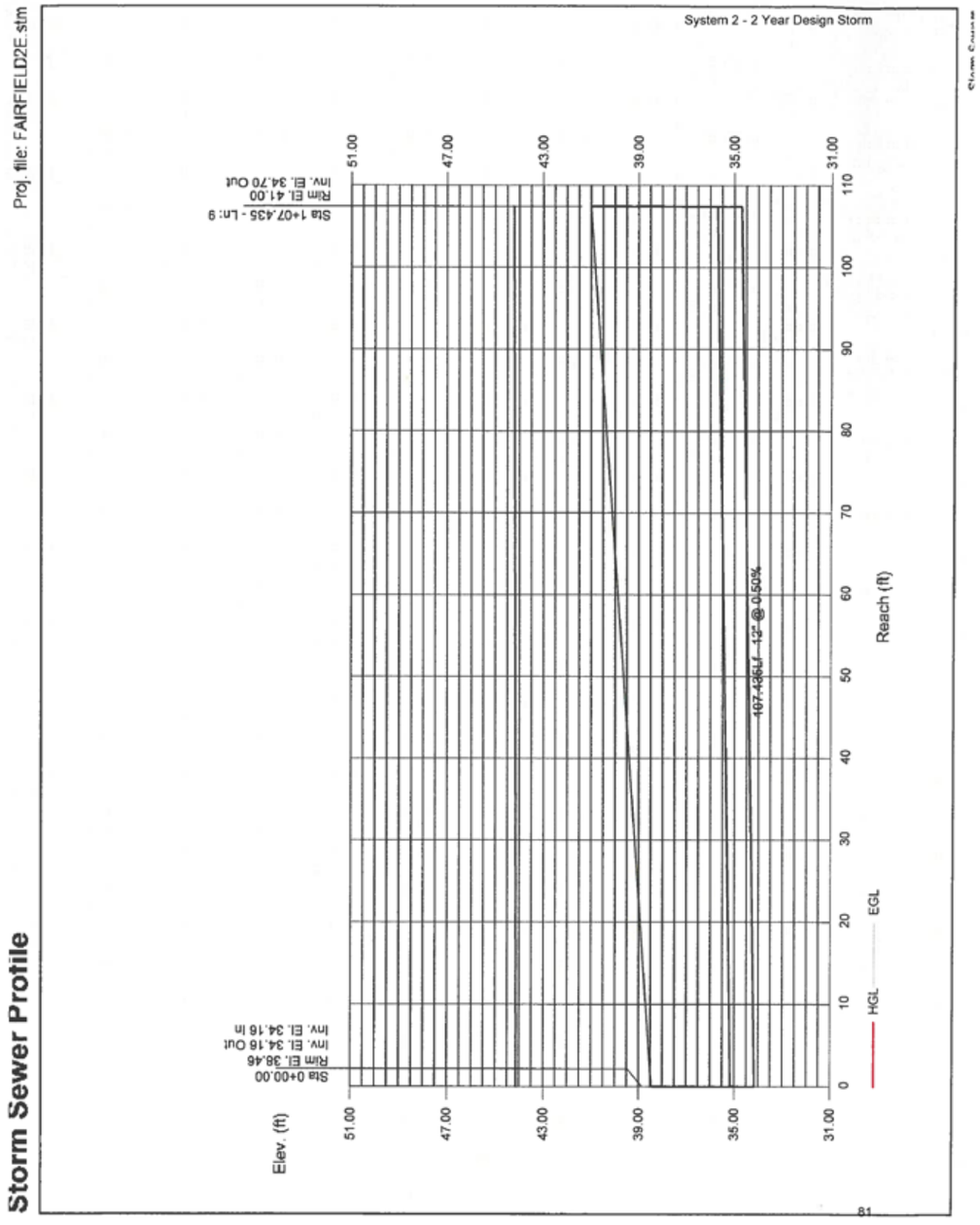
Project File: FAIRFIELD2E.stm | Number of lines: 18 | Run Date: 1/15/2014

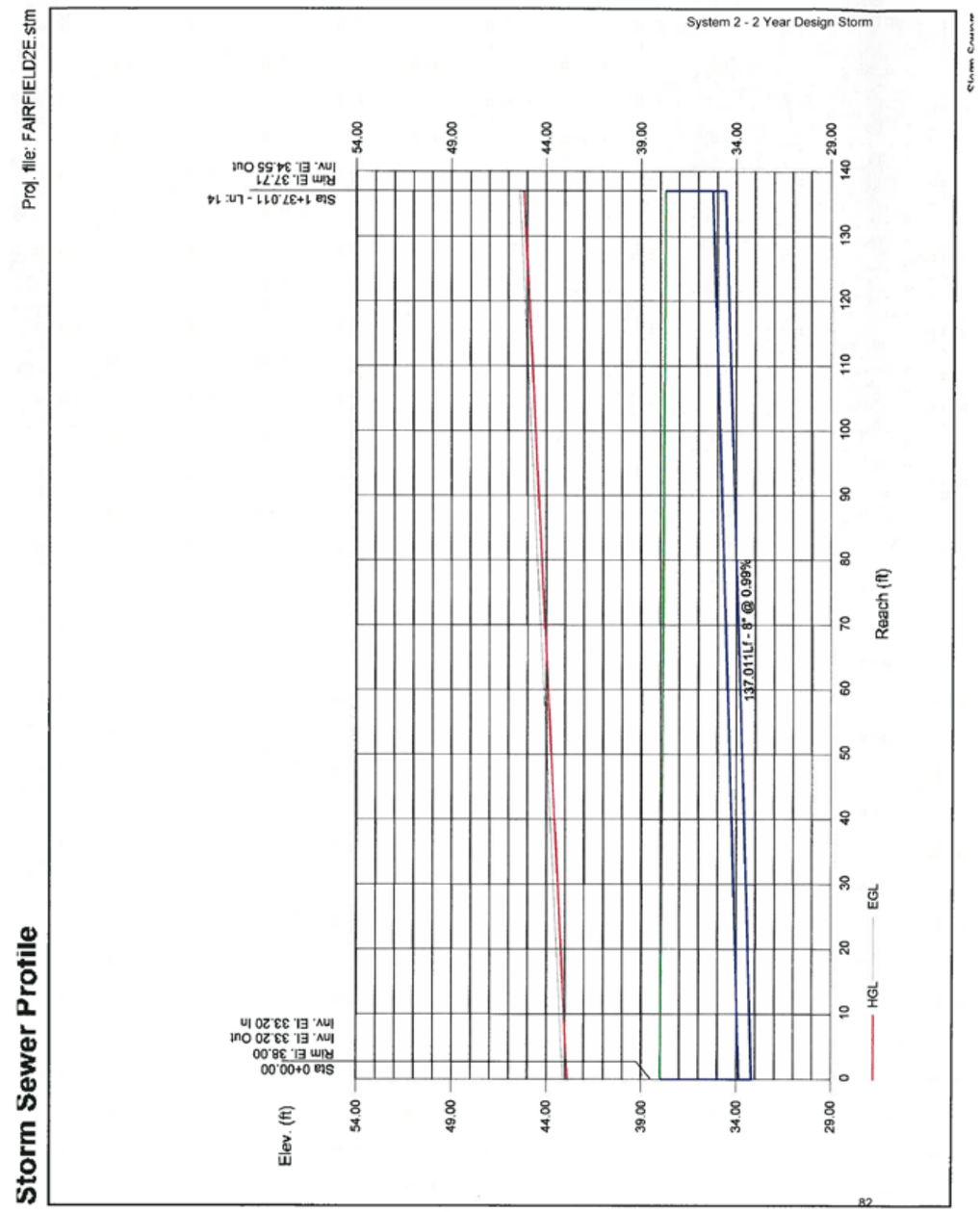
NOTES:Intensity = 5.67 / (Inlet time + 0.10) ^ 0.56 ; Return period =Yrs. 2 ; c = cir e = ellip b = box

from Sewer v5.00


Storm Sewer Profile
Proj. file: FAIRFIELD2E.stm
System 2 - 2 Year Design Storm
Elev. (ft)
Reach (ft)
HGL
EGL
Sta 0+00.00 - Outfall
Gmd. El. 36.71
Inv. El. 29.82 In
Sta 1+24.912 - Ln: 1
Rim El. 38.97
Inv. El. 30.44 Out
Inv. El. 30.44 In
Sta 2+63.284 - Ln: 2
Rim El. 41.30
Inv. El. 31.16 Out
Inv. El. 31.16 In
Sta 4+62.84 - Ln: 3
Rim El. 37.75
Inv. El. 32.14 Out
Inv. El. 32.14 In
Sta 5+61.607 - Ln: 6
Rim El. 37.50
Inv. El. 32.64 Out
Inv. El. 32.64 In
Sta 7+01.932 - Ln: 7
Rim El. 38.00
Inv. El. 33.20 Out
Inv. El. 33.20 In
Sta 8+03.045 - Ln: 8
Rim El. 38.46
Inv. El. 34.16 Out
Inv. El. 35.06 In
Sta 10+30.045 - Ln: 10
Rim El. 39.30
Inv. El. 35.74 Out
Inv. El. 35.74 In
Sta 10+67.747 - Ln: 11
Rim El. 37.82
Inv. El. 35.83 Out
Inv. El. 35.83 In
Sta 11+17.178 - Ln: 12
Rim El. 40.00
Inv. El. 36.08 Out
Inv. El. 36.08 In
Sta 12+94.626 - Ln: 13
Rim El. 42.00
Inv. El. 39.40 Out
79

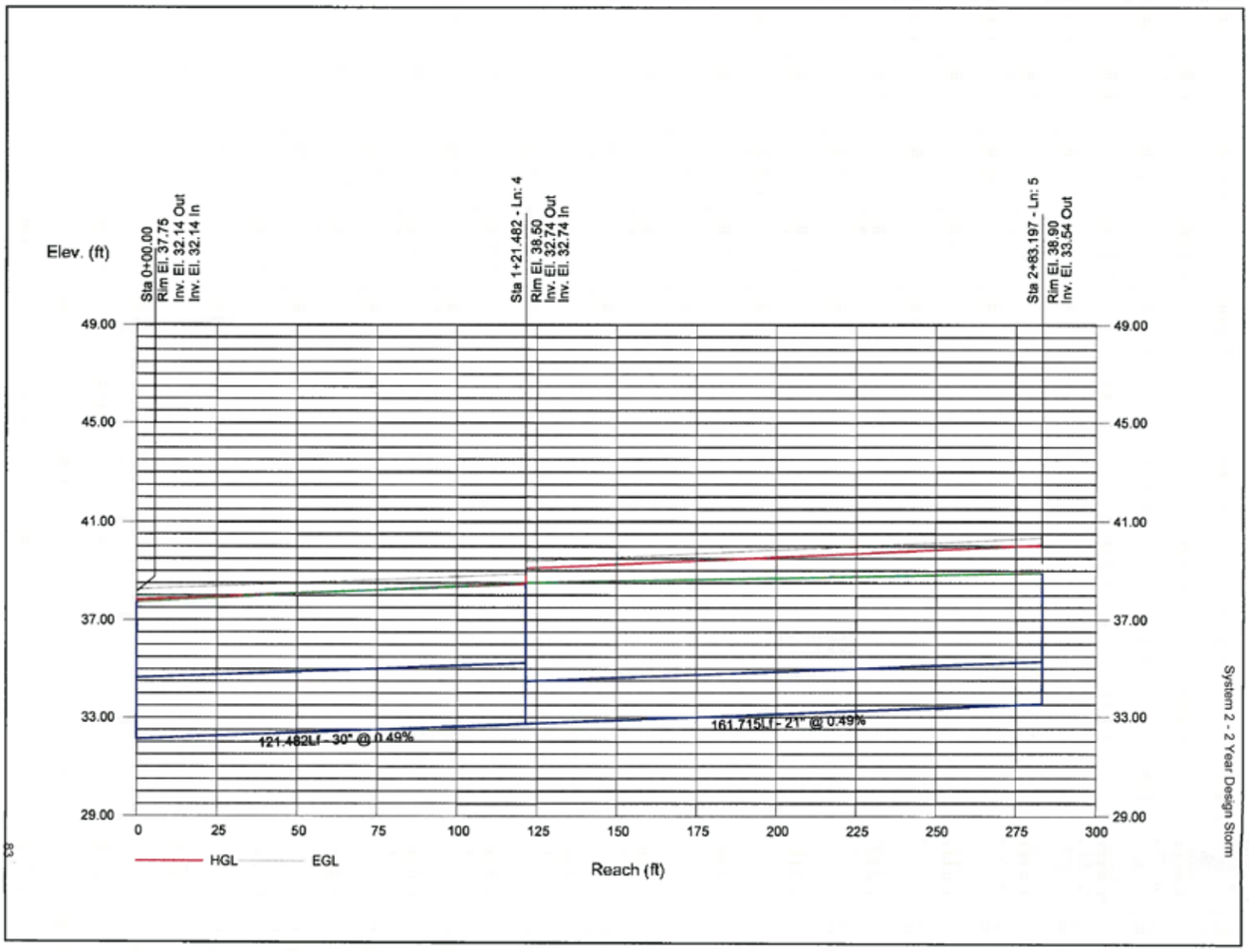

Storm Sewer Profile
Proj. file: FAIRFIELD2E.stm
System 2 - 2 Year Design Storm
Elev. (ft)
Reach (ft)
HGL
EGL
Sta 0+00.00
Rim El. 39.30
Inv. El. 35.74 Out
Inv. El. 35.74 In
Sta 0+47.007 - Ln: 15
Rim El. 37.40
Inv. El. 35.90 Out
80


Storm Sewer Profile
Proj. file: FAIRFIELD2E.stm
System 2 - 2 Year Design Storm
Elev. (ft)
Reach (ft)
Sta 0+00.00
Rim El. 38.46
Inv. El. 34.16 Out
Inv. El. 34.16 In
Sta 1+07.435 - Ln: 9
Rim El. 41.00
Inv. El. 34.70 Out
107.436LF - 12" @ 0.50%
HGL
EGL
81


Storm Sewer Profile
Proj. file: FAIRFIELD2E.stm
System 2 - 2 Year Design Storm
Elev. (ft)
Reach (ft)
Sta 0+00.00
Rim El. 38.00
Inv. El. 33.20 Out
Inv. El. 33.20 In
Sta 1+37.011 - Ln: 14
Rim El. 37.71
Inv. El. 34.55 Out
137.011LF - 8" @ 0.99%
HGL
EGL
82

Storm Sewer Profile

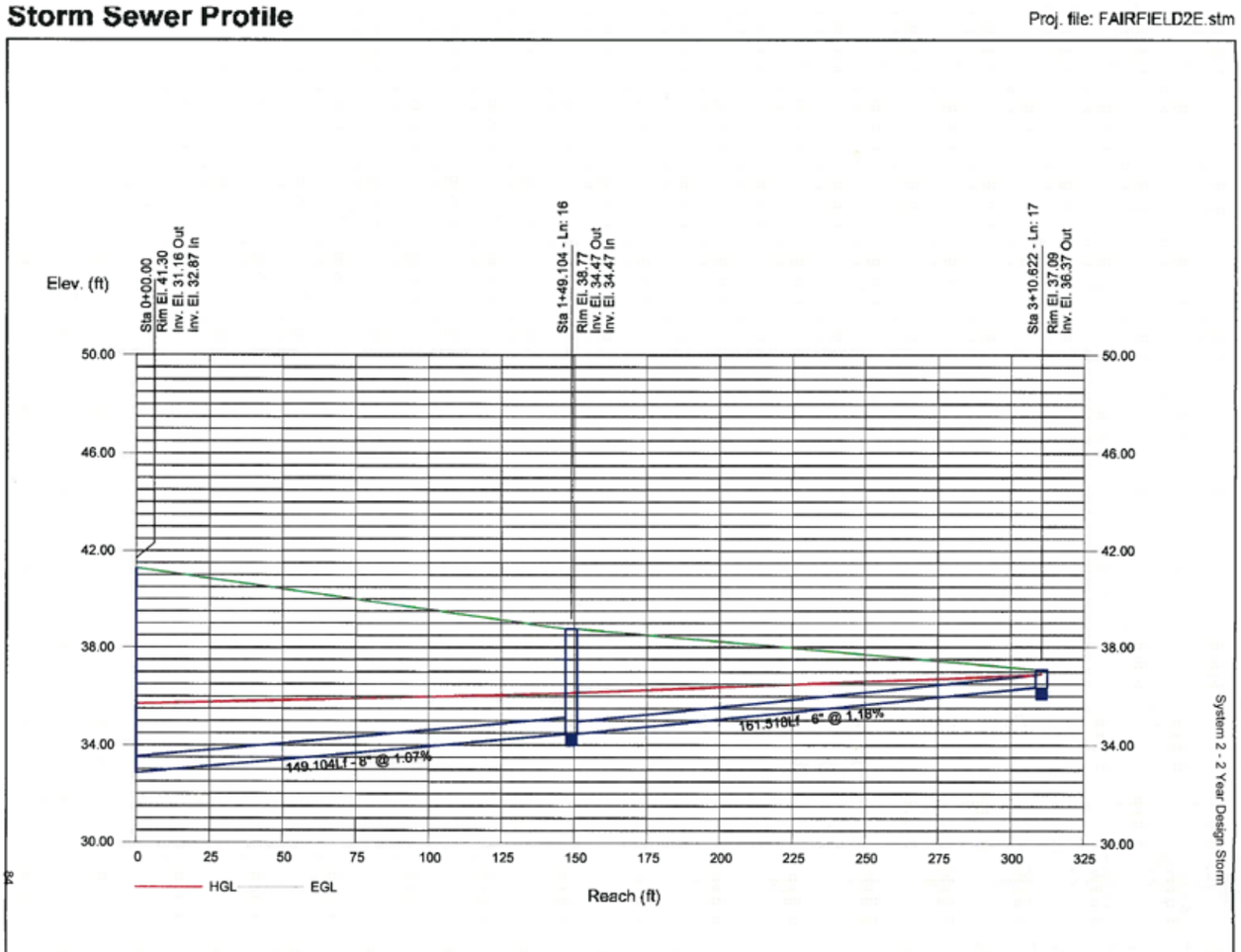
Proj. file: FAIRFIELD2E.stm



83

Storm Sewer Profile

Proj. file: FAIRFIELD2E.stm



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Storm Sewer Profile

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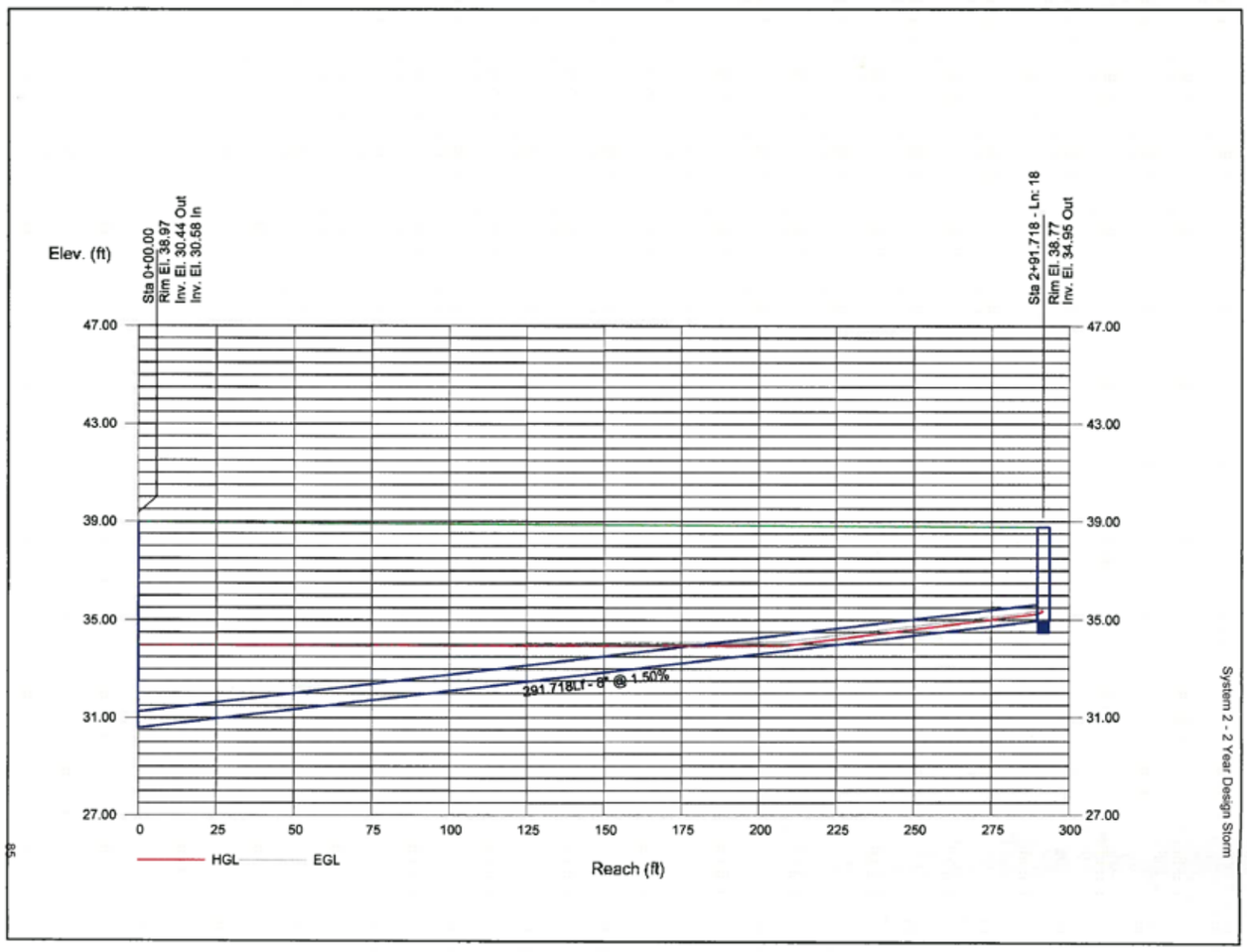
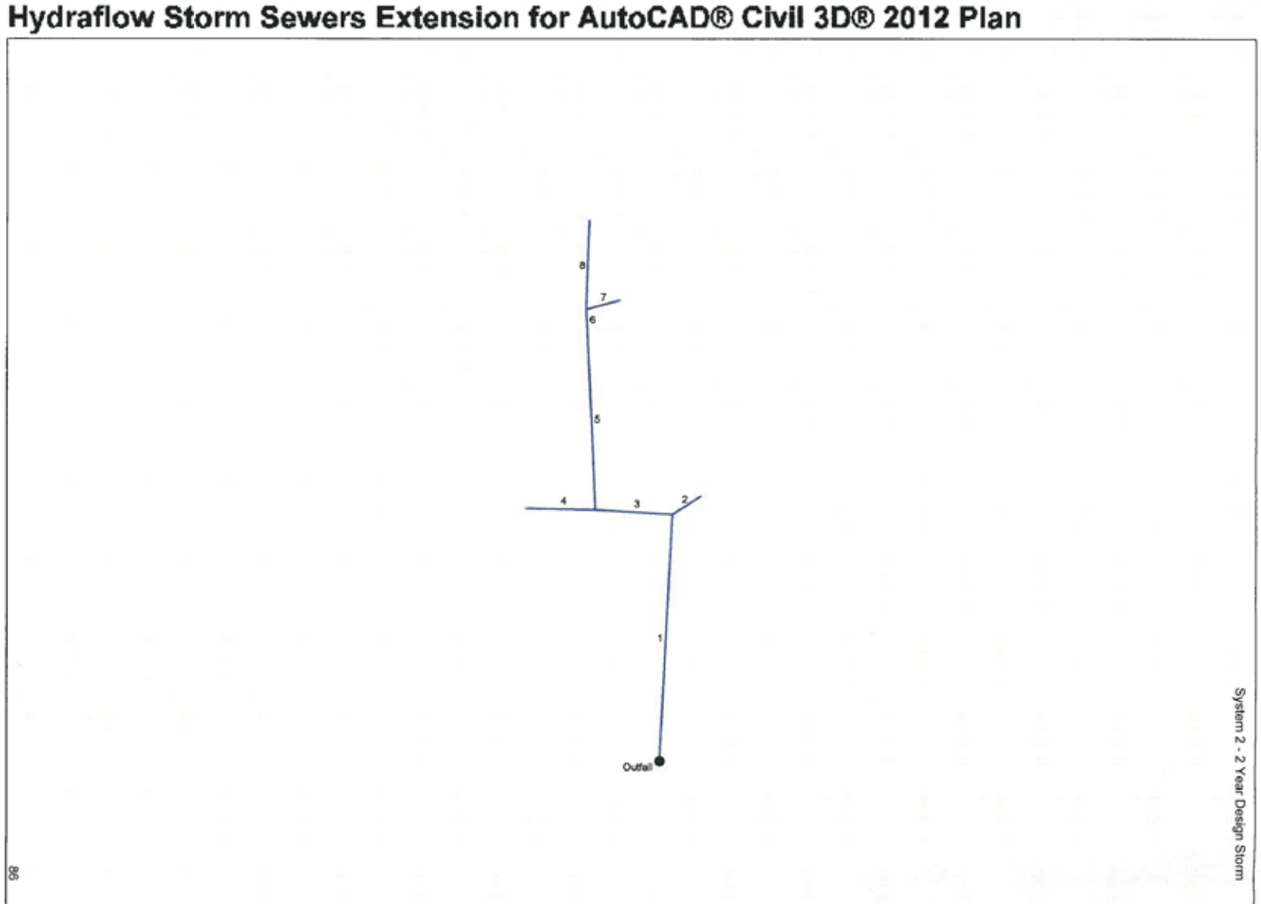


Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



Project File: FAIRFIELD2F.stm	Number of lines: 8	Date: 1/15/2014

Storm Sewers v5.00

Storm Sewer Inventory Report

Page 1

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	318.003	-87.000	Genr	0.00	1.02	0.73	5.0	34.00	0.37	35.17	12	Cir	0.015	1.50	41.40	F1 Into H7
2	1	43.035	54.171	Genr	0.00	0.16	0.68	5.0	35.17	0.51	35.39	12	Cir	0.015	1.00	46.00	F2
3	1	99.020	-89.557	Genr	0.00	0.50	0.62	5.0	35.17	0.50	35.67	12	Cir	0.015	1.49	41.00	F3
4	3	89.116	-2.254	Genr	0.00	0.87	0.81	11.0	35.67	0.50	36.12	12	Cir	0.015	1.00	44.00	F4
5	3	231.107	83.979	MH	0.00	0.25	0.90	5.0	35.67	0.50	36.83	12	Cir	0.015	1.00	44.00	F5
6	5	25.619	-0.868	Genr	0.00	0.27	0.50	9.9	36.83	0.51	36.96	12	Cir	0.015	1.96	39.00	F6
7	6	44.316	77.962	Genr	0.00	0.23	0.91	5.0	36.96	0.99	37.40	12	Cir	0.015	1.00	40.00	F7
8	6	115.000	5.311	Genr	0.00	0.24	0.62	5.8	36.96	2.19	39.48	8	Cir	0.015	1.00	44.00	F8

System 2 - 2 Year Design Storm

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Project File: FAIRFIELD2F.stm | Number of lines: 8 | Date: 1/15/2014

Storm Sewers v5.0

Storm Sewer Summary Report

Page 1

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	F1 Into H7	3.37	12	Cir	318.003	34.00	35.17	0.368	37.63*	41.42*	0.43	41.85	End	Generic
2	F2	0.25	12	Cir	43.035	35.17	35.39	0.511	41.85*	41.85*	0.00	41.85	1	Generic
3	F3	2.31	12	Cir	99.020	35.17	35.67	0.505	41.85*	42.40*	0.20	42.60	1	Generic
4	F4	1.04	12	Cir	89.116	35.67	36.12	0.505	42.60*	42.70*	0.03	42.73	3	Generic
5	F5	1.09	12	Cir	231.107	35.67	36.83	0.502	42.60*	42.89*	0.03	42.92	3	Manhole
6	F6	0.77	12	Cir	25.619	36.83	36.96	0.507	42.92*	42.94*	0.03	42.97	5	Generic
7	F7	0.48	12	Cir	44.316	36.96	37.40	0.993	42.97*	42.98*	0.01	42.99	6	Generic
8	F8	0.31	8	Cir	115.000	36.96	39.48	2.191	42.97*	43.07*	0.01	43.08	6	Generic

System 2 - 2 Year Design Storm

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Project File: FAIRFIELD2F.stm | Number of lines: 8 | Run Date: 1/15/2014

NOTES: Return period = 2 Yrs. ; *Surcharged (HGL above crown).

Storm Sewers v5.00

Storm Sewer Tabulation

Page 1

Station Line	Station To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	318.003	1.02	3.54	0.73	0.74	2.59	5.0	13.7	1.3	3.37	1.87	4.29	12	0.37	34.00	35.17	37.63	41.42	42.00	41.40	F1 Into H7
2	1	43.035	0.16	0.16	0.68	0.11	0.11	5.0	5.0	2.3	0.25	2.21	0.31	12	0.51	35.17	35.39	41.85	41.85	41.40	46.00	F2
3	1	99.020	0.50	2.36	0.62	0.31	1.73	5.0	13.1	1.3	2.31	2.19	2.94	12	0.50	35.17	35.67	41.85	42.40	41.40	41.00	F3
4	3	89.116	0.87	0.87	0.81	0.70	0.70	11.0	11.0	1.5	1.04	2.19	1.32	12	0.50	35.67	36.12	42.60	42.70	41.00	44.00	F4
5	3	231.107	0.25	0.99	0.90	0.23	0.72	5.0	10.3	1.5	1.09	2.19	1.39	12	0.50	35.67	36.83	42.60	42.89	41.00	44.00	F5
6	5	25.619	0.27	0.74	0.50	0.14	0.49	9.9	9.9	1.6	0.77	2.20	0.98	12	0.51	36.83	36.96	42.92	42.94	44.00	39.00	F6
7	6	44.316	0.23	0.23	0.91	0.21	0.21	5.0	5.0	2.3	0.48	3.08	0.61	12	0.99	36.96	37.40	42.97	42.98	39.00	40.00	F7
8	6	115.000	0.24	0.24	0.62	0.15	0.15	5.8	5.8	2.1	0.31	1.55	0.89	8	2.19	36.96	39.48	42.97	43.07	39.00	44.00	F8

System 2 - 2 Year Design Storm

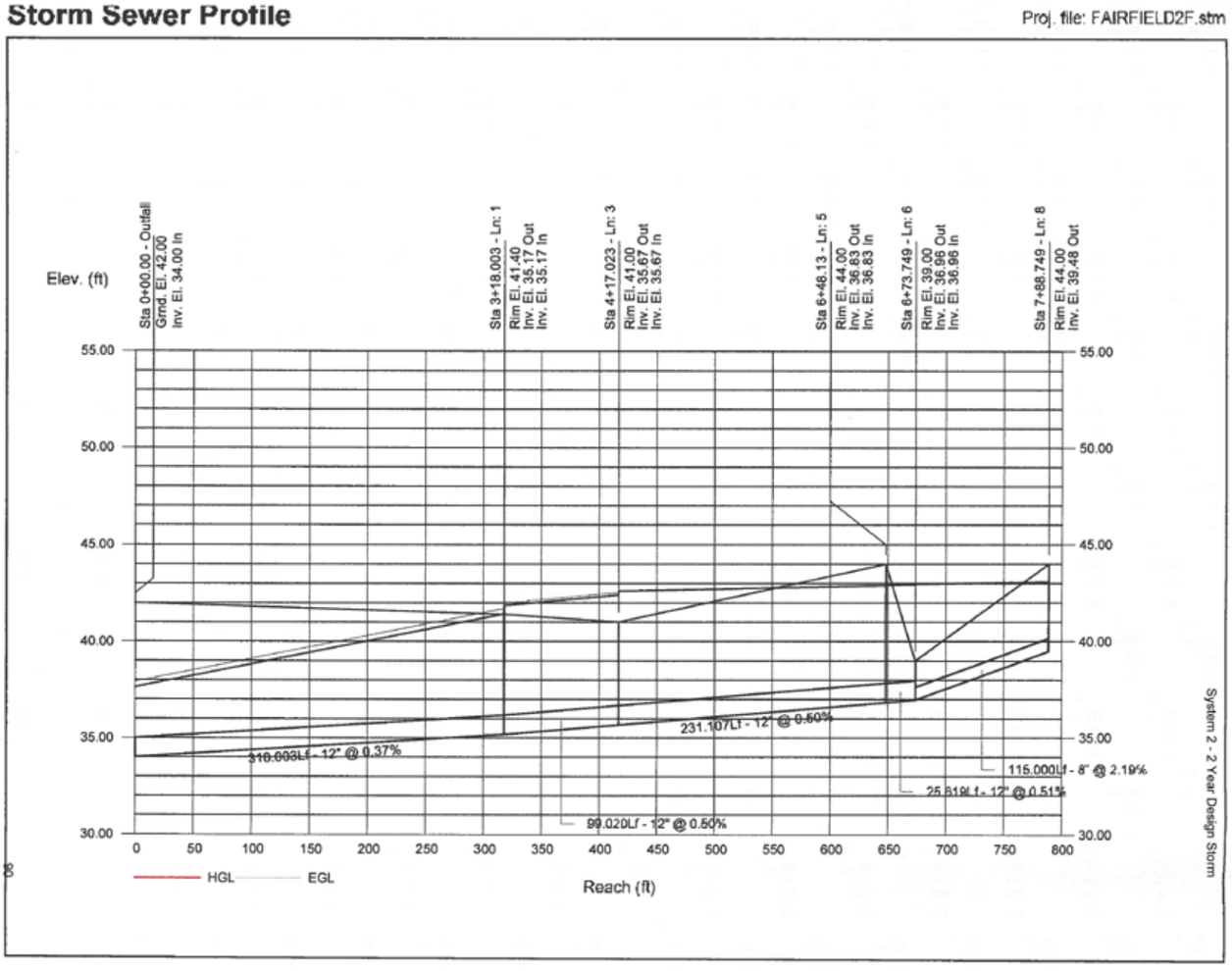
Project File: FAIRFIELD2F.stm | Number of lines: 8 | Run Date: 1/15/2014

NOTES:Intensity = 5.67 / (Inlet time + 0.10) ^ 0.56 ; Return period =Yrs. 2 ; c = cir e = ellip b = box

Storm Sewers v5.00

Storm Sewer Profile

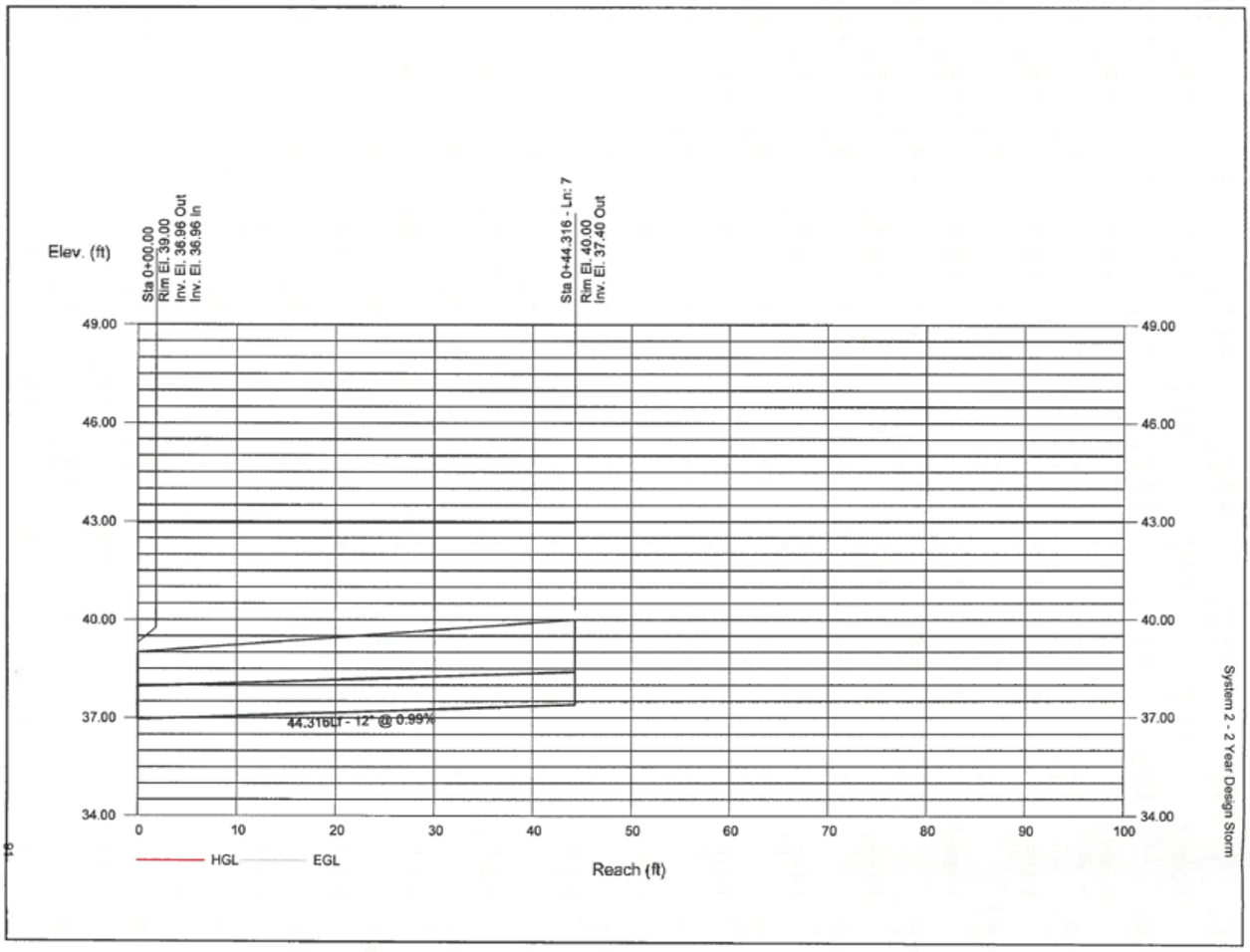
Proj. file: FAIRFIELD2F.stm



Storm Sewers

Storm Sewer Profile

Proj. file: FAIRFIELD2F.stm



Storm Sewer Profile

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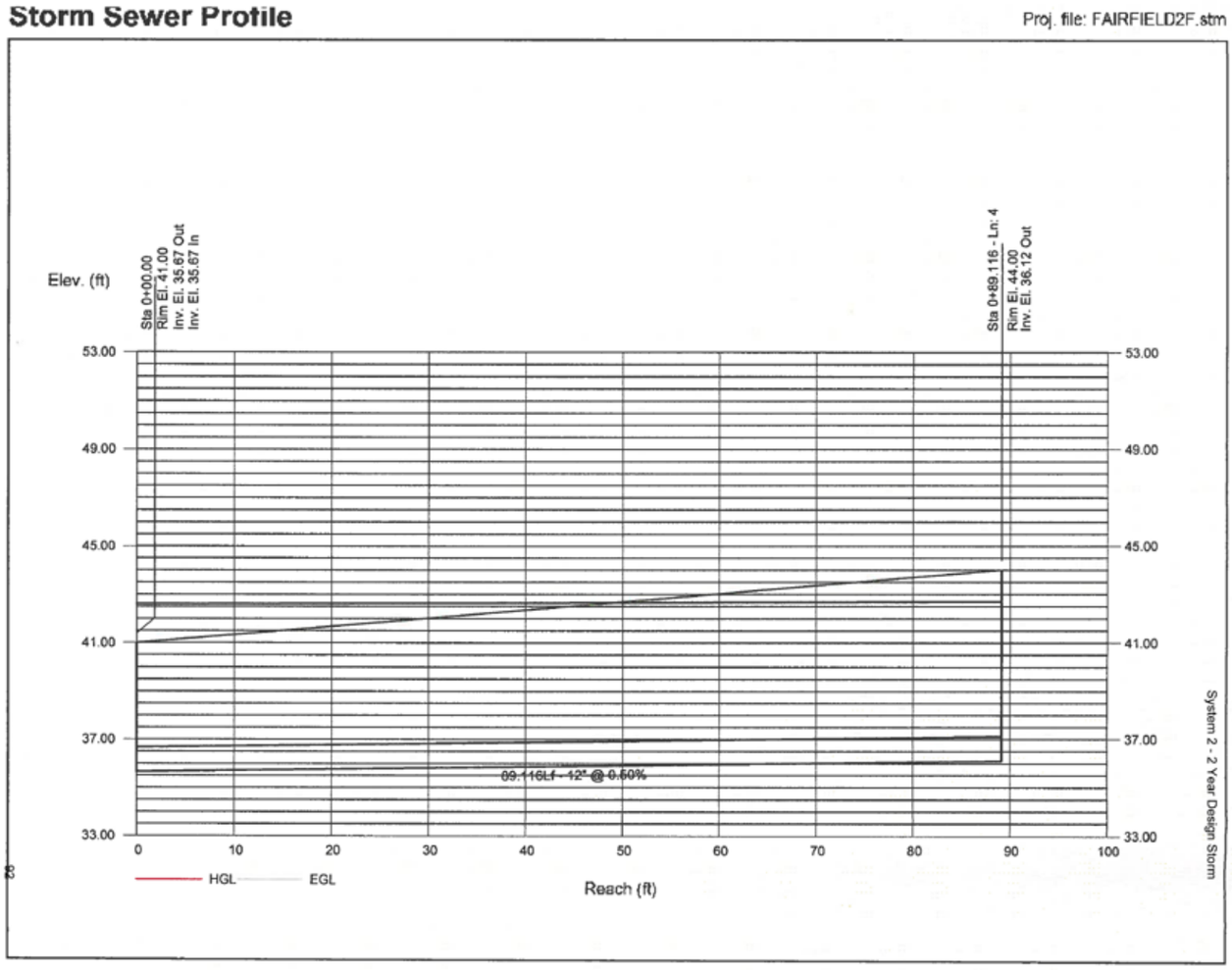
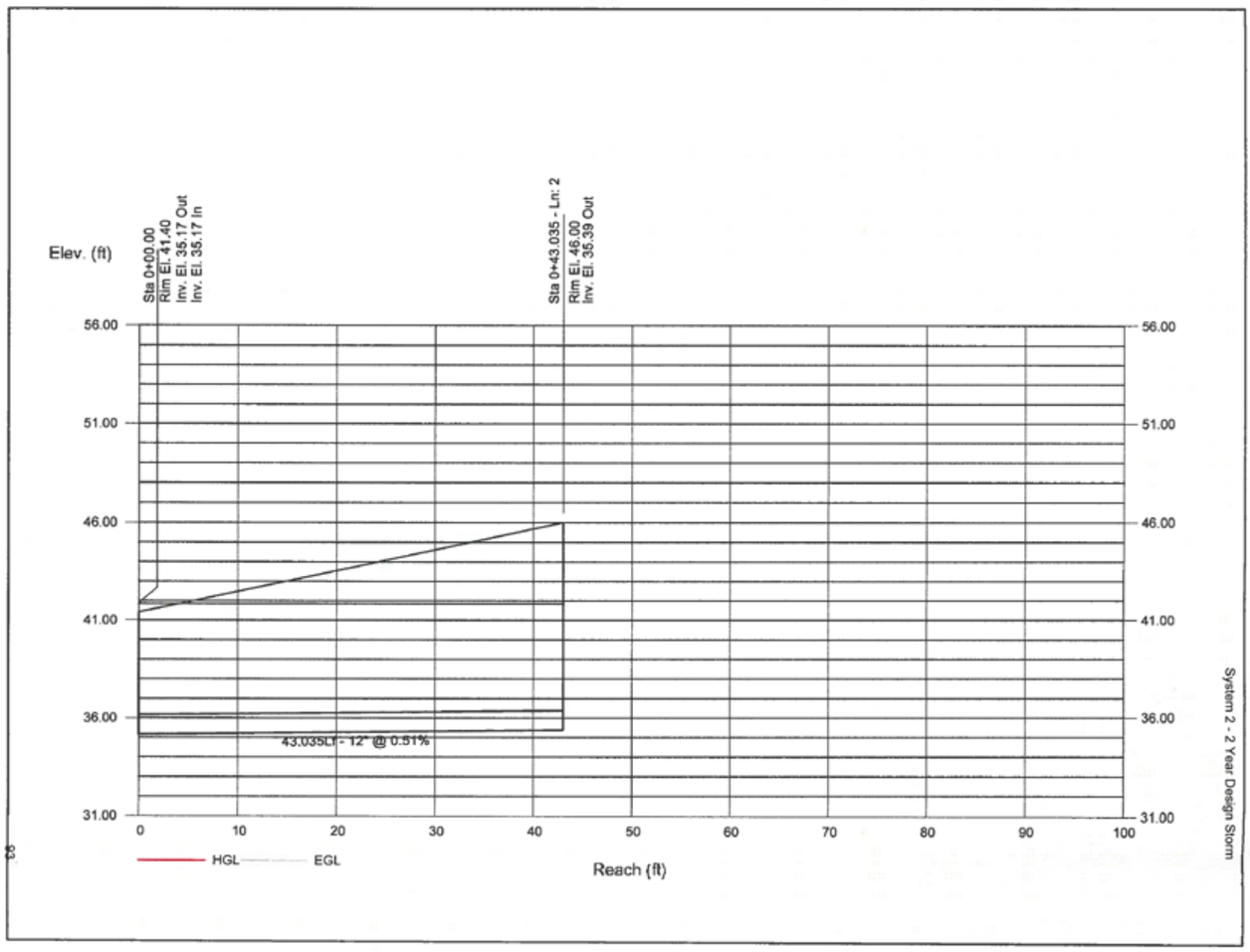


Storm Sewer Profile

Proj. file: FAIRFIELD2F.stm



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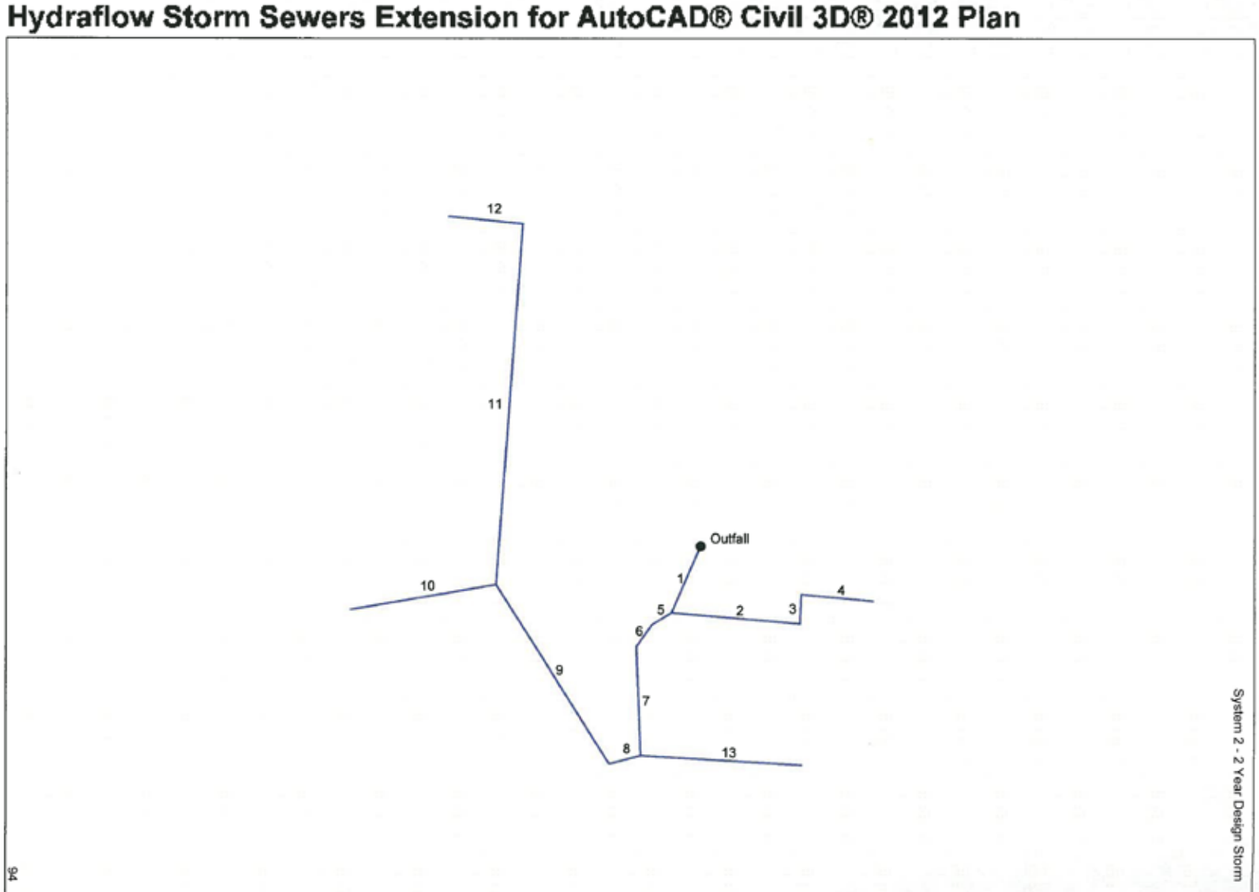
Storm Sewers

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



94

Project File: FAIRFIELD2G.stm	Number of lines: 13	Date: 1/15/2014

Storm Sewers v5.00

Storm Sewer Inventory Report

Page 1

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	69.162	117.000	MH	0.00	0.00	0.00	0.0	33.28	0.51	33.63	10	Cir	0.015	1.00	42.26	G1 Into H6
2	1	140.192	-112.788	Genr	0.00	0.72	0.76	5.0	33.63	0.50	34.33	6	Cir	0.012	1.50	42.26	G2
3	2	27.382	-91.028	MH	0.00	0.00	0.00	0.0	34.33	8.33	36.61	6	Cir	0.012	1.00	42.26	G3
4	3	78.164	91.348	Genr	0.00	0.17	0.85	5.0	36.61	2.51	38.57	6	Cir	0.012	1.00	41.70	G4
5	1	24.245	35.380	MH	0.00	0.00	0.00	0.0	33.63	0.29	33.70	12	Cir	0.015	0.43	42.00	G5
6	5	26.698	-22.197	MH	0.00	0.00	0.00	0.0	33.70	0.30	33.78	12	Cir	0.015	0.73	40.02	G6
7	6	100.287	-43.125	MH	0.00	0.00	0.00	0.0	33.78	0.35	34.13	12	Cir	0.015	1.00	42.20	G7
8	7	35.359	80.477	Genr	0.00	1.18	0.73	11.5	34.13	1.22	34.56	12	Cir	0.015	1.39	38.26	G8
9	8	206.818	65.715	Genr	0.00	0.89	0.60	10.9	34.56	0.43	35.44	12	Cir	0.015	1.61	39.80	G9
10	9	159.776	-61.647	Genr	0.00	2.55	0.57	15.0	35.44	0.49	36.23	12	Cir	0.015	1.00	39.92	G10
11	9	334.000	41.816	Genr	0.00	0.29	0.78	5.0	35.44	0.50	37.11	12	Cir	0.015	1.50	41.50	G11
12	11	81.507	-90.322	Genr	0.00	1.59	0.58	16.5	37.11	0.49	37.51	12	Cir	0.015	1.00	41.42	G12
13	7	175.653	-84.156	Genr	0.00	0.82	0.85	5.0	33.69	1.82	36.88	8	Cir	0.012	1.00	39.08	G13

System 2 - 2 Year Design Storm

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Project File: FAIRFIELD2G.stm | Number of lines: 13 | Date: 1/15/2014

Storm Sewers v5.0

Storm Sewer Summary Report

Page 1

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	G1 Into H6	5.35	10	Cir	69.162	33.28	33.63	0.506	36.29*	41.79*	1.50	43.29	End	Manhole
2	G2	1.41	6	Cir	140.192	33.63	34.33	0.499	43.29*	50.87*	1.21	52.08	1	Generic
3	G3	0.30	6	Cir	27.382	34.33	36.61	8.327	52.08*	52.15*	0.04	52.18	2	Manhole
4	G4	0.33	6	Cir	78.164	36.61	38.57	2.508	52.18*	52.41*	0.04	52.45	3	Generic
5	G5	4.67	12	Cir	24.245	33.63	33.70	0.289	43.29*	43.84*	0.24	44.08	1	Manhole
6	G6	4.68	12	Cir	26.698	33.70	33.78	0.300	44.08*	44.69*	0.40	45.10	5	Manhole
7	G7	4.71	12	Cir	100.287	33.78	34.13	0.349	45.10*	47.44*	0.56	48.00	6	Manhole
8	G8	4.03	12	Cir	35.359	34.13	34.56	1.216	48.00*	48.60*	0.57	49.17	7	Generic
9	G9	3.23	12	Cir	206.818	34.56	35.44	0.425	49.17*	51.43*	0.42	51.85	8	Generic
10	G10	1.80	12	Cir	159.776	35.44	36.23	0.494	51.85*	52.40*	0.08	52.48	9	Generic
11	G11	1.30	12	Cir	334.000	35.44	37.11	0.500	51.85*	52.45*	0.06	52.52	9	Generic
12	G12	1.08	12	Cir	81.507	37.11	37.51	0.491	52.52*	52.62*	0.03	52.64	11	Generic
13	G13	1.58	8	Cir	175.653	33.69	36.88	1.816	48.00*	50.57*	0.32	50.90	7	Generic

System 2 - 2 Year Design Storm

96

Project File: FAIRFIELD2G.stm | Number of lines: 13 | Run Date: 1/15/2014

NOTES: Return period = 2 Yrs. ; *Surcharged (HGL above crown).

Storm Sewers v5.0

Storm Sewer Tabulation

Page 1

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	69.162	0.00	8.21	0.00	0.00	5.39	0.0	22.2	1.0	5.35	1.35	9.81	10	0.51	33.28	33.63	36.29	41.79	38.74	42.26	G1 Into H6
2	1	140.192	0.72	0.89	0.76	0.55	0.69	5.0	6.1	2.0	1.41	0.43	7.19	6	0.50	33.63	34.33	43.29	50.87	42.26	42.26	G2
3	2	27.382	0.00	0.17	0.00	0.00	0.14	0.0	5.8	2.1	0.30	1.75	1.54	6	8.33	34.33	36.61	52.08	52.15	42.26	42.26	G3
4	3	78.164	0.17	0.17	0.85	0.14	0.14	5.0	5.0	2.3	0.33	0.96	1.67	6	2.51	36.61	38.57	52.18	52.41	42.26	41.70	G4
5	1	24.245	0.00	7.32	0.00	0.00	4.69	0.0	22.1	1.0	4.67	1.66	5.95	12	0.29	33.63	33.70	43.29	43.84	42.26	42.00	G5
6	5	26.698	0.00	7.32	0.00	0.00	4.69	0.0	22.1	1.0	4.68	1.69	5.96	12	0.30	33.70	33.78	44.08	44.69	42.00	40.02	G6
7	6	100.287	0.00	7.32	0.00	0.00	4.69	0.0	21.8	1.0	4.71	1.82	6.00	12	0.35	33.78	34.13	45.10	47.44	40.02	42.20	G7
8	7	35.359	1.18	6.50	0.73	0.86	4.00	11.5	21.7	1.0	4.03	3.40	5.13	12	1.22	34.13	34.56	48.00	48.60	42.20	38.26	G8
9	8	206.818	0.89	5.32	0.60	0.53	3.14	10.9	20.8	1.0	3.23	2.01	4.11	12	0.43	34.56	35.44	49.17	51.43	38.26	39.80	G9
10	9	159.776	2.55	2.55	0.57	1.45	1.45	15.0	15.0	1.2	1.80	2.17	2.29	12	0.49	35.44	36.23	51.85	52.40	39.80	39.92	G10
11	9	334.000	0.29	1.88	0.78	0.23	1.15	5.0	17.5	1.1	1.30	2.18	1.66	12	0.50	35.44	37.11	51.85	52.45	39.80	41.50	G11
12	11	81.507	1.59	1.59	0.58	0.92	0.92	16.5	16.5	1.2	1.08	2.16	1.38	12	0.49	37.11	37.51	52.52	52.62	41.50	41.42	G12
13	7	175.853	0.82	0.82	0.85	0.70	0.70	5.0	5.0	2.3	1.58	1.76	4.54	8	1.82	33.69	36.88	48.00	50.57	42.20	39.08	G13

System 2 - 2 Year Design Storm

97

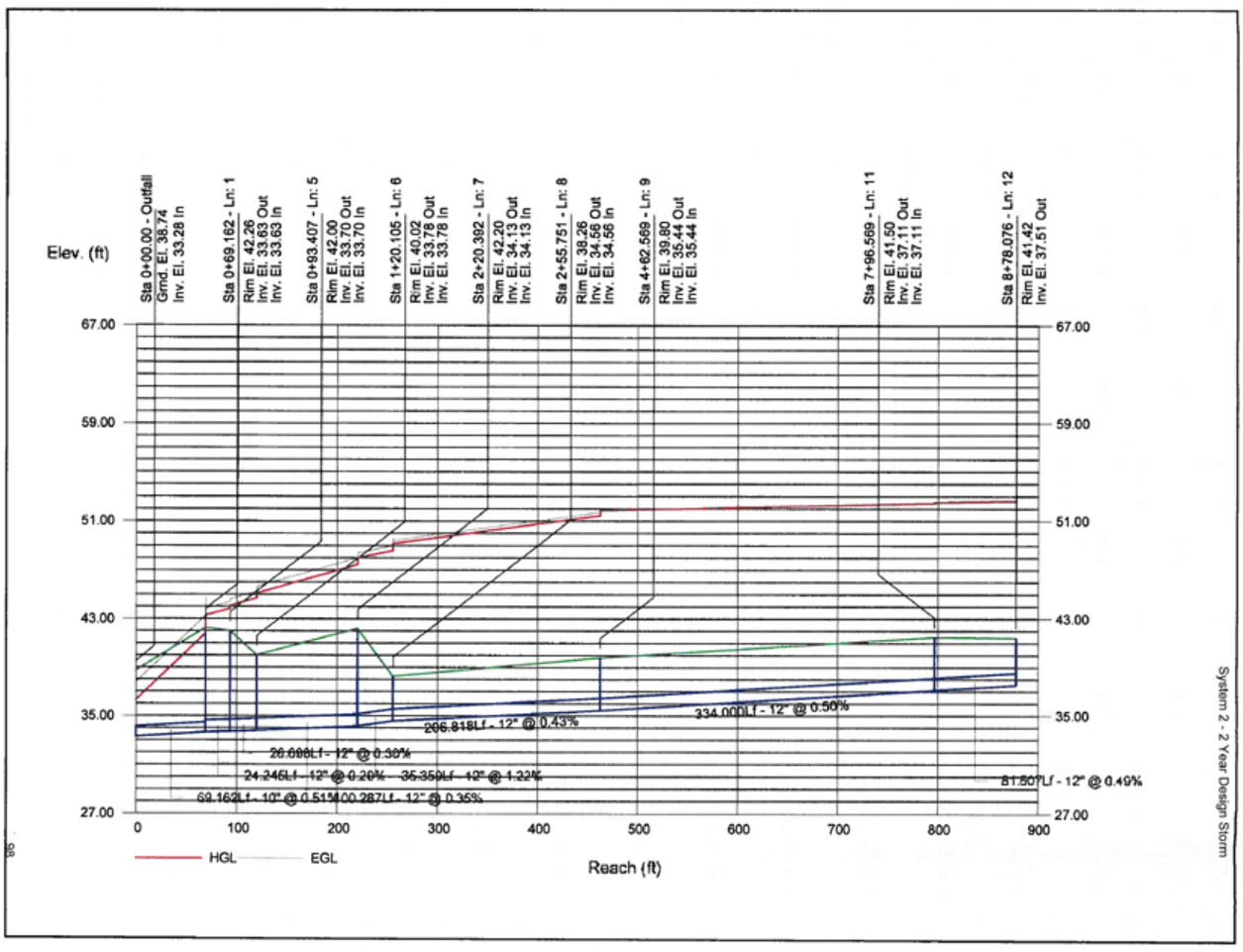
Project File: FAIRFIELD2G.stm | Number of lines: 13 | Run Date: 1/15/2014

NOTES:Intensity = 5.67 / (Inlet time + 0.10) ^ 0.56 ; Return period =Yrs. 2 ; c = cir e = ellip b = box

Storm Sewers v5.00

Storm Sewer Profile

Proj. file: FAIRFIELD2G.stm



System 2 - 2 Year Design Storm

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Storm Sewers

Storm Sewer Profile

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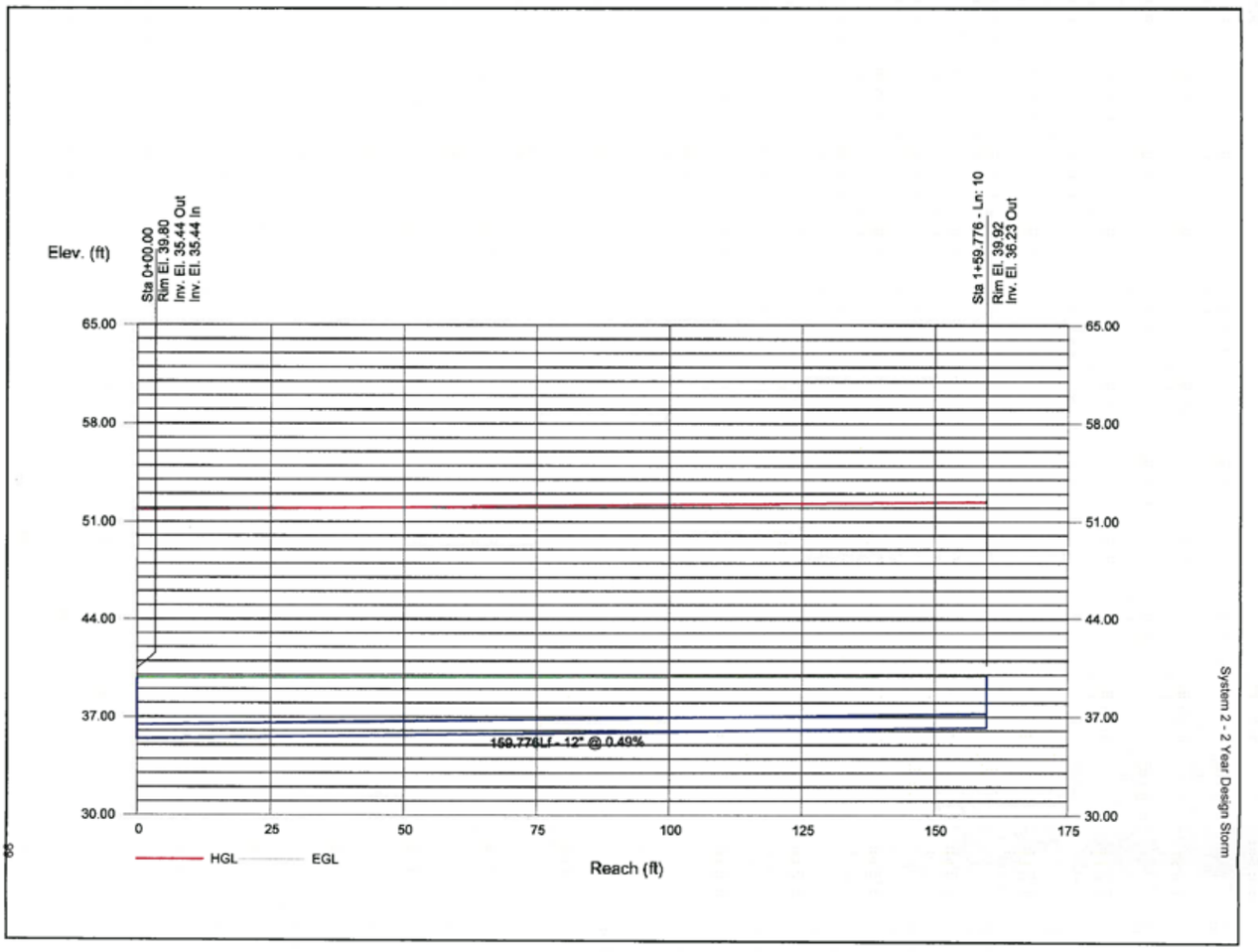

Storm Sewer Profile

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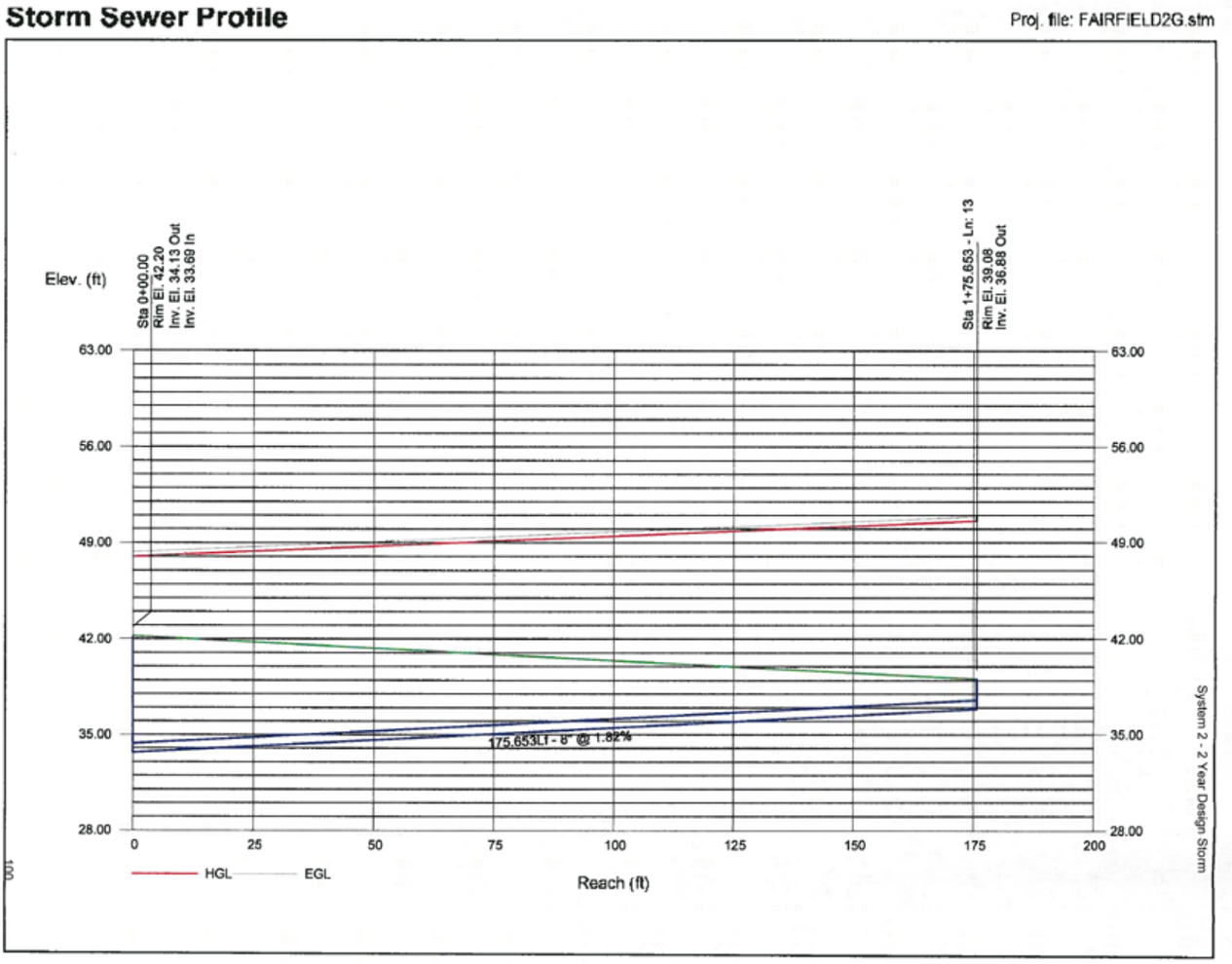
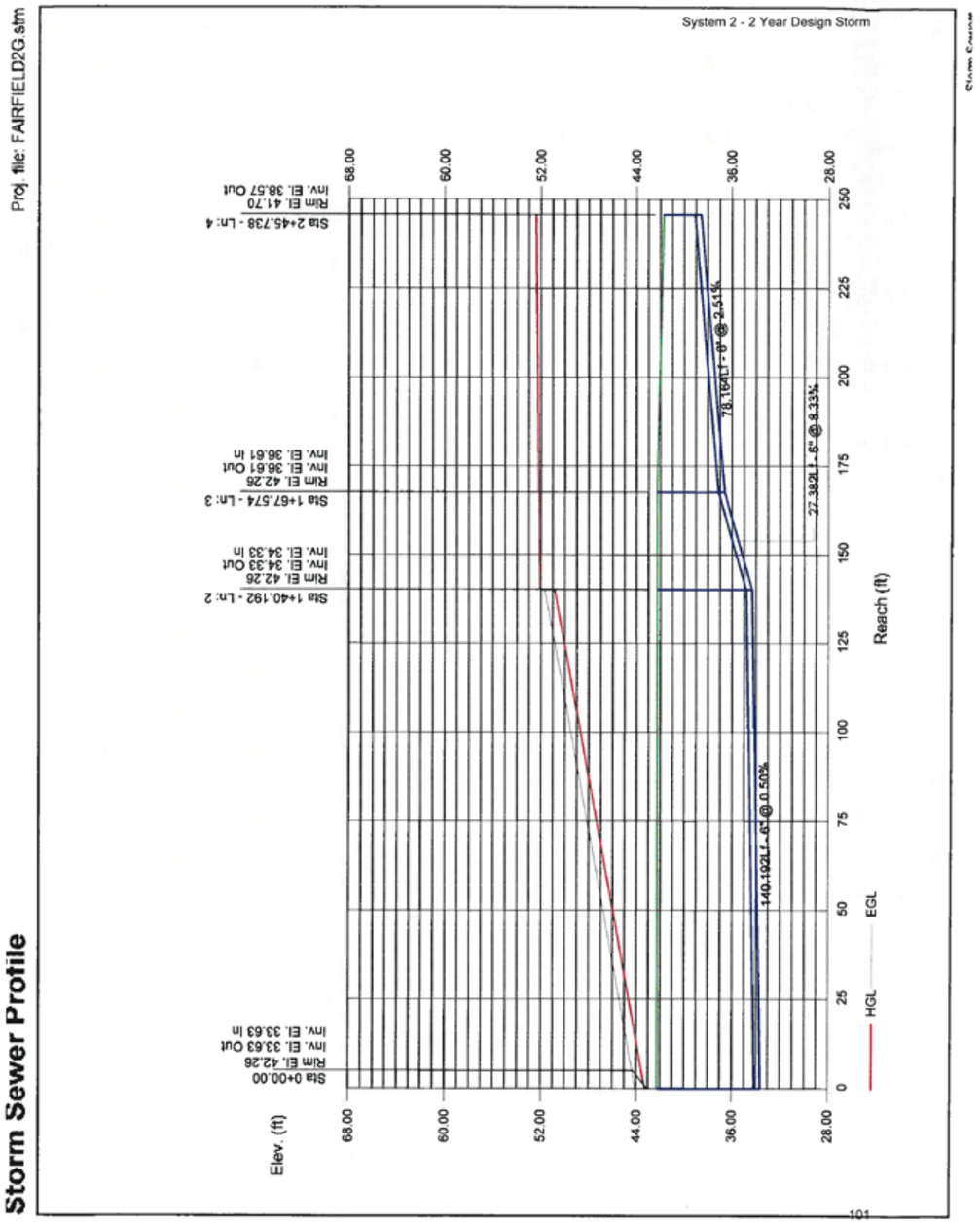
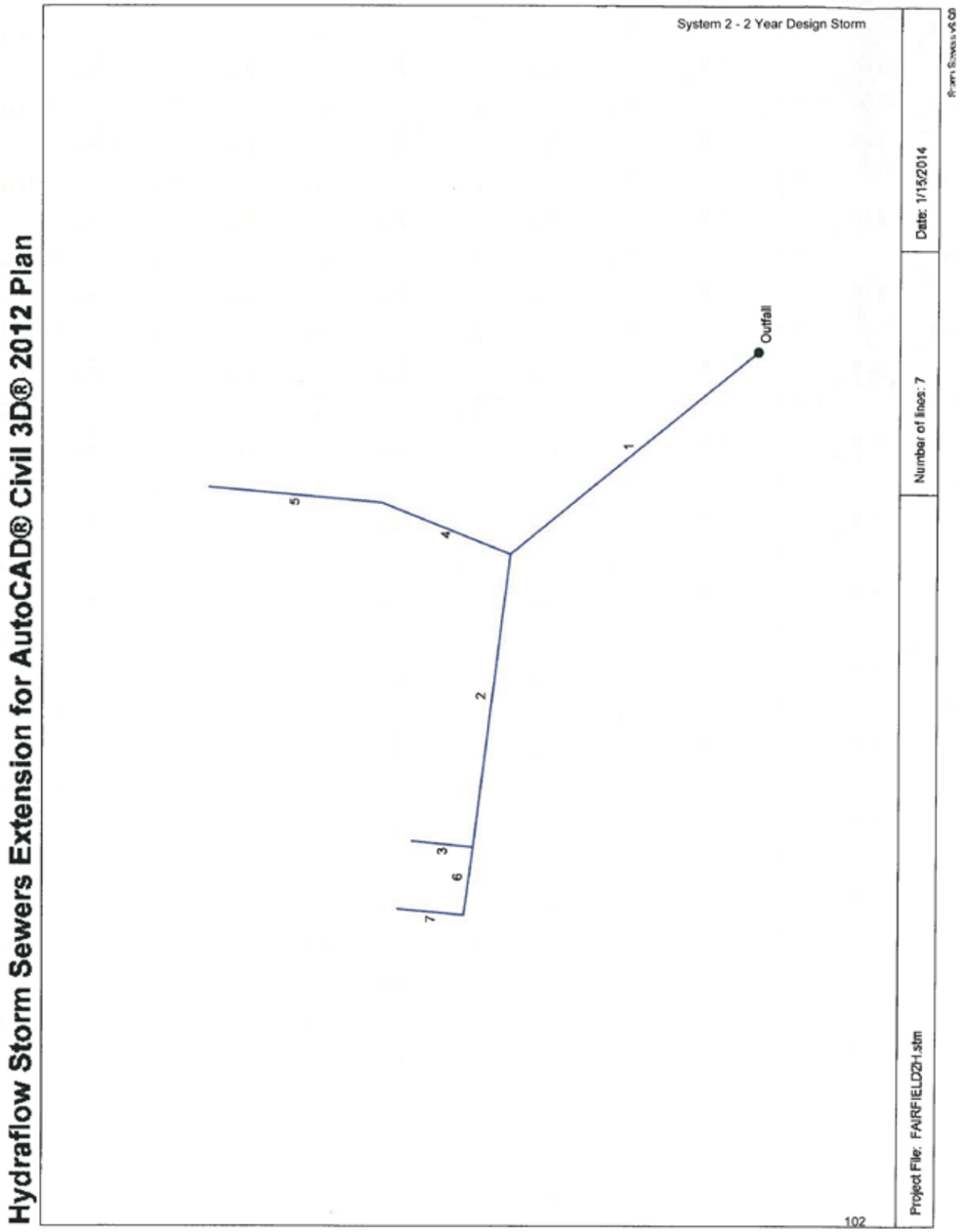


Storm Sewer Profile



Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



Storm Sewer Inventory Report

Page 1

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	307.901	-133.907	Genr	0.00	1.47	0.77	8.4	29.82	0.50	31.36	21	Cir	0.015	1.42	38.60	H1 Equal J3
2	1	311.241	-39.960	Genr	0.00	0.22	0.52	7.1	31.36	0.50	32.92	21	Cir	0.015	1.80	42.00	H2
3	2	55.000	90.415	Genr	0.00	0.31	0.73	6.8	32.92	0.69	33.30	12	Cir	0.015	1.00	43.30	H3
4	1	127.402	69.175	Genr	0.00	0.50	0.78	7.2	31.36	0.50	32.00	12	Cir	0.015	0.57	40.50	H4
5	4	154.929	-19.089	Genr	0.00	0.72	0.68	5.0	32.00	0.50	32.77	12	Cir	0.015	1.00	39.00	H5
6	2	72.232	0.418	Genr	0.00	8.46	0.65	22.2	32.92	0.50	33.28	21	Cir	0.015	1.50	38.74	H6 Intercept G1
7	6	59.682	89.937	Genr	0.00	4.38	0.74	13.7	33.63	0.62	34.00	12	Cir	0.015	0.50	42.00	H7 Intercept F1

System 2 - 2 Year Design Storm

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Project File: FAIRFIELD2H.stm | Number of lines: 7 | Date: 1/15/2014

Storm Sewers v5.0

Storm Sewer Summary Report

Page 1

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	H1 Equal J3	10.57	21	Cir	307.901	29.82	31.36	0.500	31.73*	33.56*	0.43	33.98	End	Generic
2	H2	8.95	21	Cir	311.241	31.36	32.92	0.501	33.98*	35.31*	0.39	35.69	1	Generic
3	H3	0.43	12	Cir	55.000	32.92	33.30	0.691	35.69*	35.70*	0.00	35.71	2	Generic
4	H4	1.64	12	Cir	127.402	31.36	32.00	0.502	33.98*	34.34*	0.04	34.38	1	Generic
5	H5	1.11	12	Cir	154.929	32.00	32.77	0.497	34.38*	34.58*	0.03	34.61	4	Generic
6	H6 Intercept G1	8.69	21	Cir	72.232	32.92	33.28	0.498	35.69*	35.98*	0.30	36.29	2	Generic
7	H7 Intercept F1	4.22	12	Cir	59.682	33.63	34.00	0.620	36.29*	37.40*	0.22	37.63	6	Generic

System 2 - 2 Year Design Storm

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Project File: FAIRFIELD2H.stm | Number of lines: 7 | Run Date: 1/15/2014

NOTES: Return period = 2 Yrs. ; *Surcharged (HGL above crown).

Storm Sewers v5.0

Storm Sewer Tabulation

Page 1

Station Line	Station To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	307.901	1.47	16.06	0.77	1.13	11.09	8.4	23.9	1.0	10.57	9.71	4.40	21	0.50	29.82	31.36	31.73	33.56	36.71	38.60	H1 Equal J3
2	1	311.241	0.22	13.37	0.52	0.11	9.08	7.1	22.5	1.0	8.95	9.72	3.72	21	0.50	31.36	32.92	33.98	35.31	38.60	42.00	H2
3	2	55.000	0.31	0.31	0.73	0.23	0.23	6.8	6.8	1.9	0.43	2.57	0.55	12	0.69	32.92	33.30	35.69	35.70	42.00	43.30	H3
4	1	127.402	0.50	1.22	0.78	0.39	0.88	7.2	7.2	1.9	1.64	2.19	2.08	12	0.50	31.36	32.00	33.98	34.34	38.60	40.50	H4
5	4	154.929	0.72	0.72	0.68	0.49	0.49	5.0	5.0	2.3	1.11	2.18	1.42	12	0.50	32.00	32.77	34.38	34.58	40.50	39.00	H5
6	2	72.232	8.46	12.84	0.65	5.50	8.74	22.2	22.2	1.0	8.69	9.69	3.61	21	0.50	32.92	33.28	35.69	35.98	42.00	38.74	H6 Intercept G1
7	6	59.682	4.38	4.38	0.74	3.24	3.24	13.7	13.7	1.3	4.22	2.43	5.37	12	0.62	33.63	34.00	36.29	37.40	38.74	42.00	H7 Intercept F1

System 2 - 2 Year Design Storm

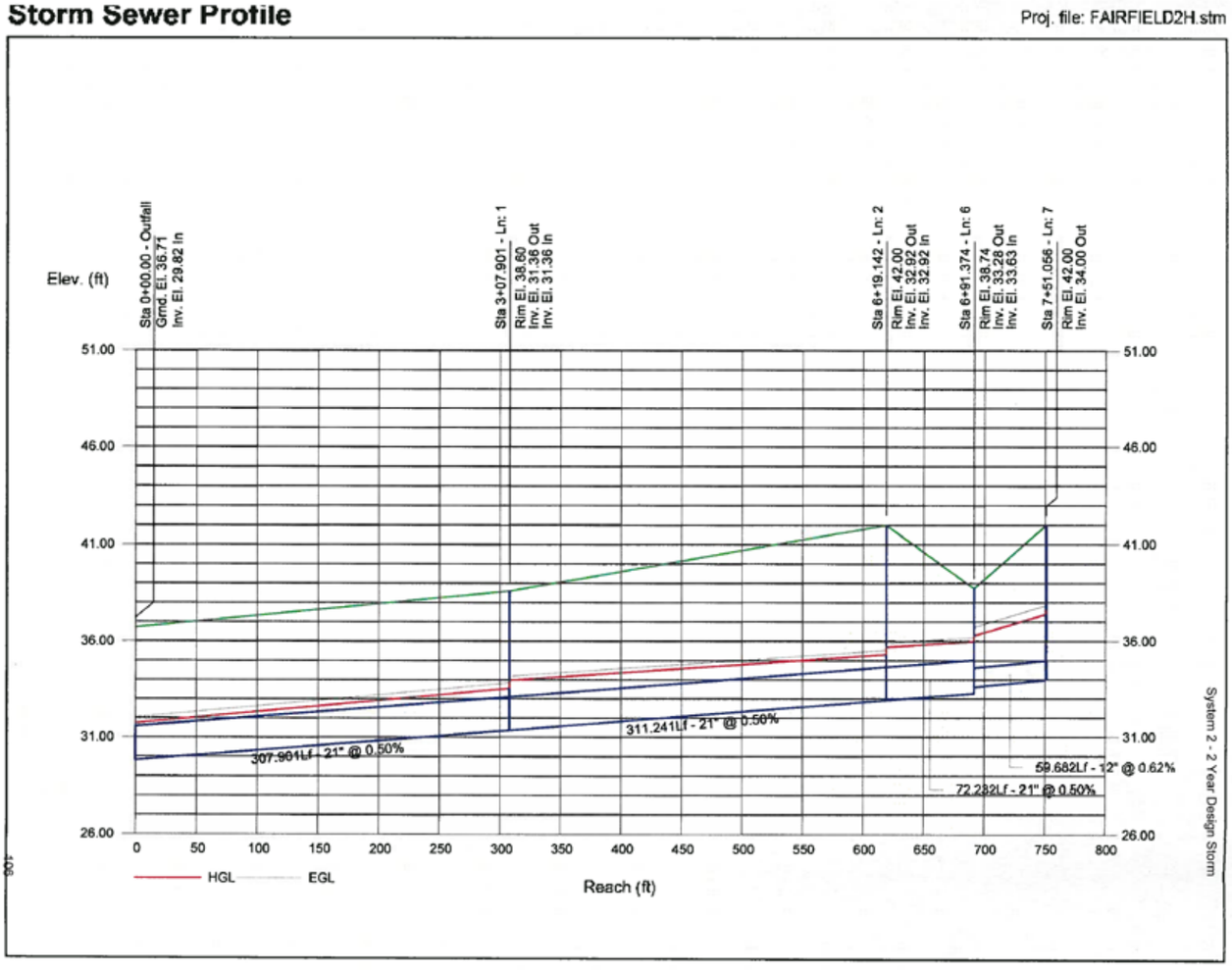
Project File: FAIRFIELD2H.stm | Number of lines: 7 | Run Date: 1/15/2014

NOTES:Intensity = 5.67 / (Inlet time + 0.10) ^ 0.56 ; Return period =Yrs. 2 ; c = cir e = ellip b = box

Storm Sewers v6.00

Storm Sewer Profile

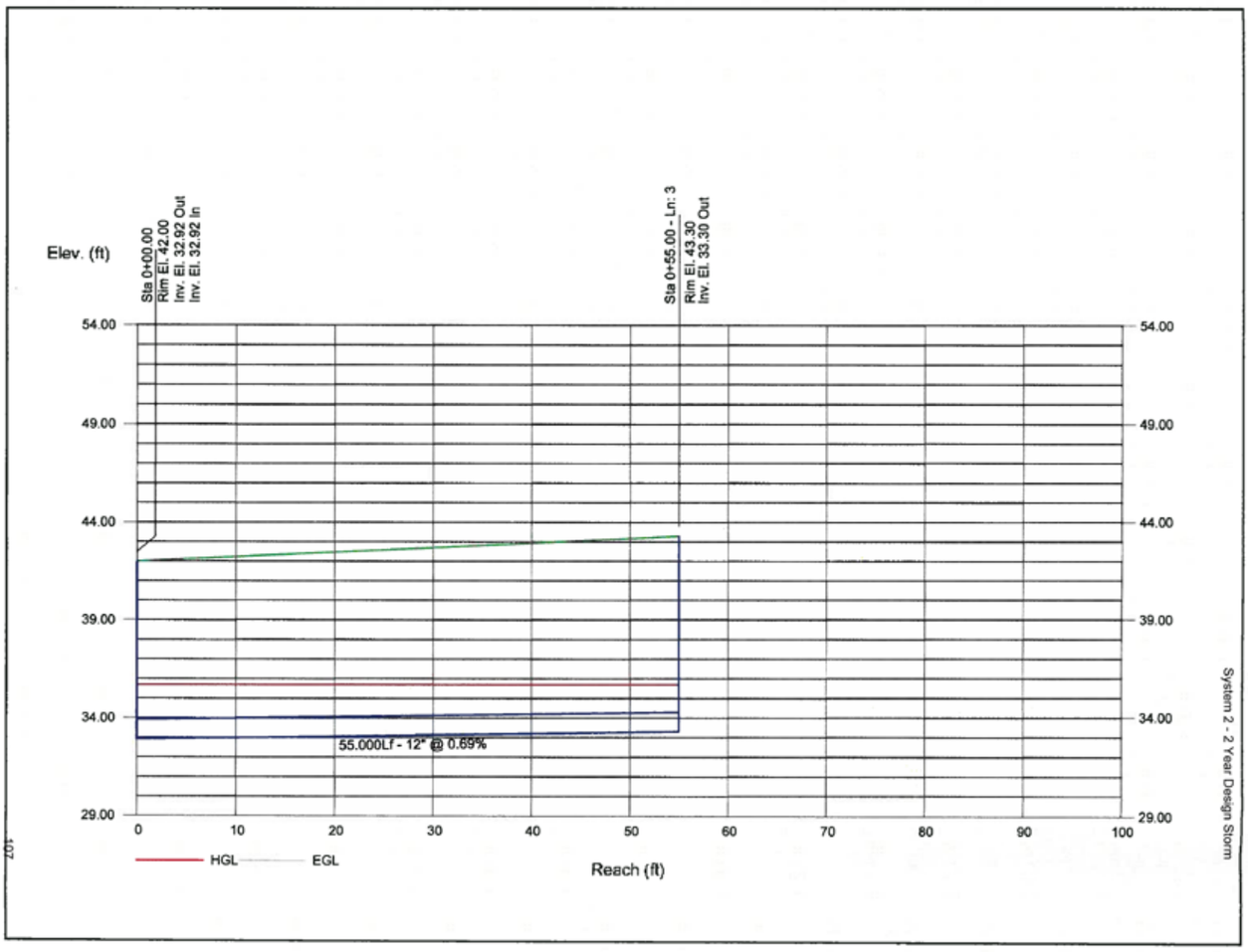
Proj. file: FAIRFIELD2H.stm



Storm Sewers

Storm Sewer Profile

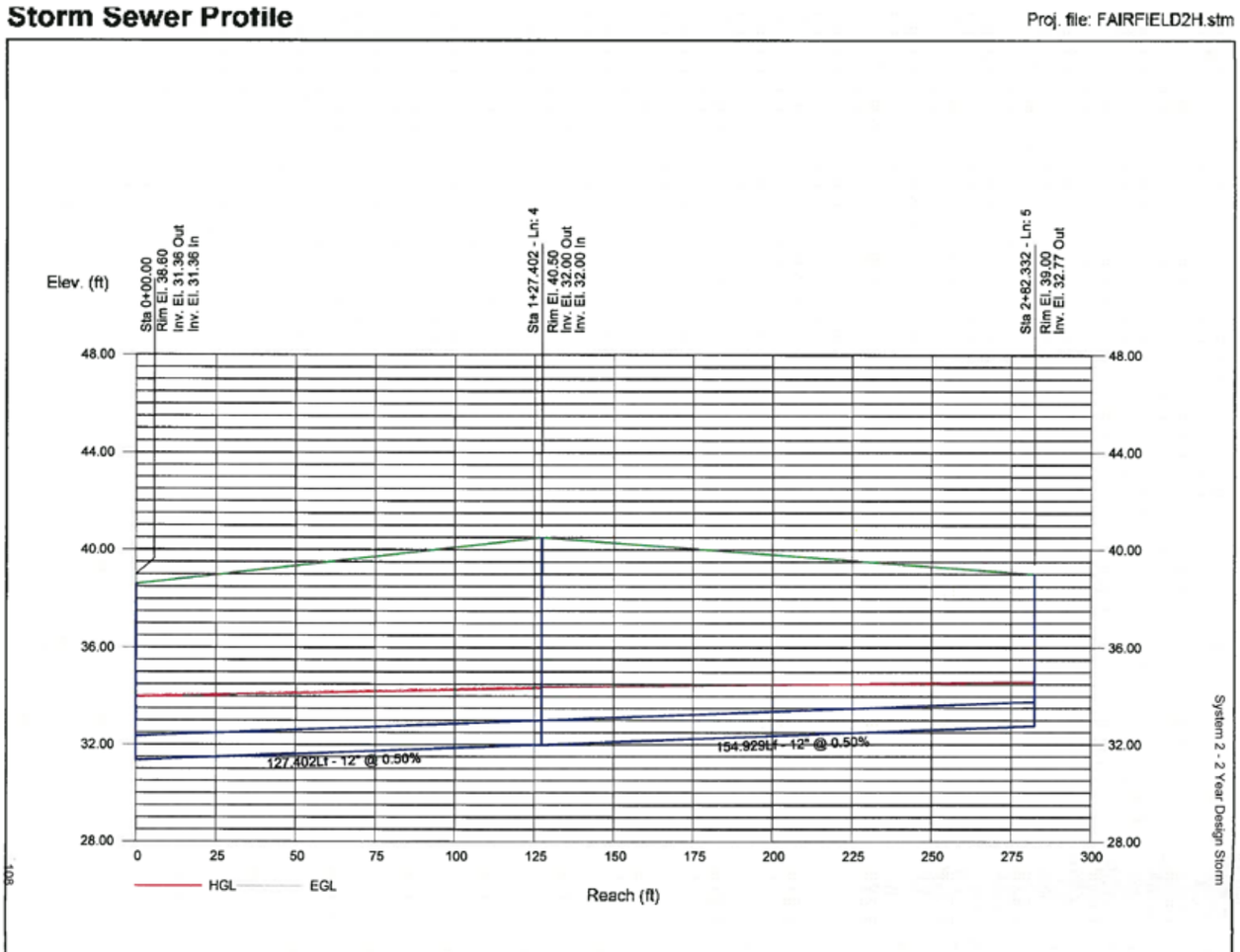
Proj. file: FAIRFIELD2H.stm



107

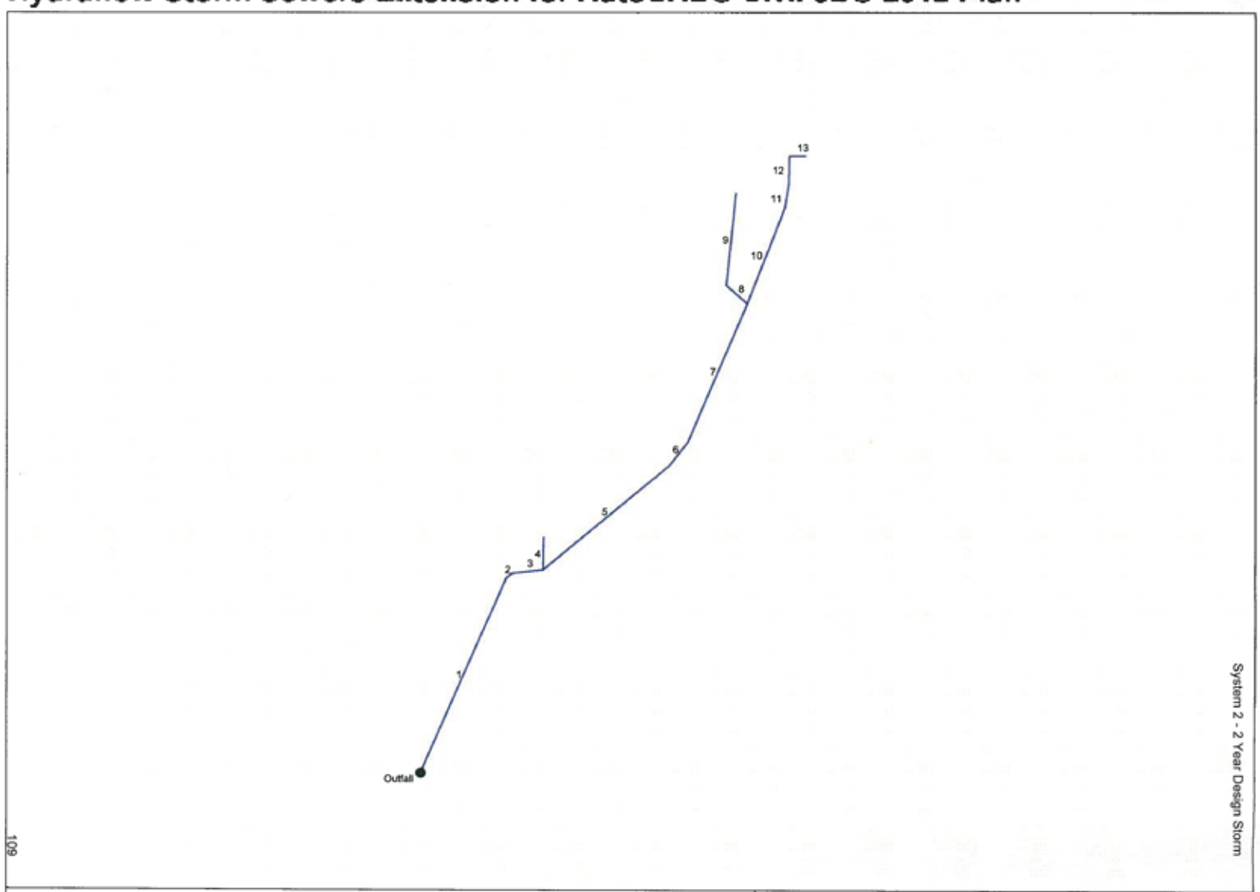
Storm Sewer Profile

Proj. file: FAIRFIELD2H.stm



108

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



System 2 - 2 Year Design Storm

109

Project File: FAIRFIELD2I.stm	Number of lines: 13	Date: 1/15/2014

Storm Sewers v5.00

Storm Sewer Inventory Report

Page 1

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	284.662	-62.683	Genr	0.00	2.83	0.82	13.8	26.41	0.45	27.68	18	Cir	0.015	0.82	30.59	I1
2	1	10.601	29.616	Genr	0.00	1.23	0.89	5.0	27.68	0.57	27.74	14	Cir	0.015	0.78	30.59	I2
3	2	46.699	27.699	Genr	0.00	0.88	0.85	20.6	27.74	0.43	27.94	15	Cir	0.015	1.86	30.59	I3
4	3	42.000	-83.467	Genr	0.00	2.22	0.47	30.3	27.94	0.62	28.20	12	Cir	0.015	1.00	30.14	I4
5	3	235.555	-29.741	Genr	0.00	2.11	0.45	30.8	27.94	0.45	29.00	12	Cir	0.015	0.50	34.20	I5
6	5	40.632	-12.214	Genr	0.00	2.25	0.51	24.6	29.00	0.44	29.18	12	Cir	0.015	0.50	33.70	I6
7	6	196.952	-15.924	MH	0.00	0.00	0.00	0.0	29.18	0.46	30.09	8	Cir	0.012	1.00	32.56	I7
8	7	40.059	-79.775	MH	0.00	0.00	0.00	0.0	30.09	0.50	30.29	8	Cir	0.012	0.89	33.12	I8
9	8	119.990	60.081	Genr	0.00	1.34	0.50	21.6	30.29	0.50	30.89	8	Cir	0.012	1.00	34.12	I9
10	7	137.607	-2.184	MH	0.00	0.00	0.00	0.0	30.09	0.45	30.71	8	Cir	0.012	0.27	34.14	I10
11	10	31.364	-13.257	MH	0.00	0.00	0.00	0.0	30.71	0.64	30.91	8	Cir	0.012	0.20	34.29	I11
12	11	35.370	-9.572	MH	0.00	0.00	0.00	0.0	30.91	0.57	31.11	8	Cir	0.012	1.00	34.44	I12
13	12	23.833	87.380	Genr	0.00	1.05	0.71	16.3	31.11	0.50	31.23	8	Cir	0.012	1.00	34.64	I13

System 2 - 2 Year Design Storm

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Project File: FAIRFIELD2I.stm	Number of lines: 13	Date: 1/15/2014

Storm Sewers v5.00

Storm Sewer Summary Report

Page 1

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	I1	7.05	18	Cir	284.582	26.41	27.68	0.446	29.02*	30.73*	0.20	30.93	End	Generic
2	I2	5.18	14	Cir	10.601	27.68	27.74	0.566	30.93*	31.06*	0.28	31.35	1	Generic
3	I3	4.31	15	Cir	46.699	27.74	27.94	0.428	31.35*	31.62*	0.36	31.98	2	Generic
4	I4	0.87	12	Cir	42.000	27.94	28.20	0.619	31.98*	32.01*	0.02	32.03	3	Generic
5	I5	2.91	12	Cir	235.555	27.94	29.00	0.450	31.98*	34.07*	0.11	34.18	3	Generic
6	I6	2.41	12	Cir	40.632	29.00	29.18	0.443	34.18*	34.42*	0.07	34.50	5	Generic
7	I7	1.38	8	Cir	198.952	29.18	30.09	0.457	34.50*	36.71*	0.24	36.95	6	Manhole
8	I8	0.66	8	Cir	40.059	30.09	30.29	0.499	36.95*	37.06*	0.05	37.10	7	Manhole
9	I9	0.68	8	Cir	119.990	30.29	30.89	0.500	37.10*	37.43*	0.06	37.48	8	Generic
10	I10	0.86	8	Cir	137.607	30.09	30.71	0.451	36.95*	37.55*	0.03	37.58	7	Manhole
11	I11	0.87	8	Cir	31.364	30.71	30.91	0.638	37.58*	37.72*	0.02	37.74	10	Manhole
12	I12	0.88	8	Cir	35.370	30.91	31.11	0.565	37.74*	37.89*	0.10	37.99	11	Manhole
13	I13	0.88	8	Cir	23.833	31.11	31.23	0.504	37.99*	38.10*	0.10	38.20	12	Generic

System 2 - 2 Year Design Storm

Project File: FAIRFIELD2I.stm | Number of lines: 13 | Run Date: 1/15/2014

NOTES: Return period = 2 Yrs. ; *Surcharged (HGL above crown).

Storm Sewers v5.00

Storm Sewer Tabulation

Page 1

Station Line	Station To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	284.582	2.83	13.91	0.82	2.32	8.72	13.8	32.1	0.8	7.05	6.08	3.99	18	0.45	26.41	27.68	29.02	30.73	32.09	30.59	I1
2	1	10.601	1.23	11.08	0.89	1.09	6.40	5.0	32.1	0.8	5.18	3.50	4.84	14	0.57	27.68	27.74	30.93	31.06	30.59	30.59	I2
3	2	46.699	0.88	9.85	0.85	0.75	5.30	20.6	31.9	0.8	4.31	3.66	3.51	15	0.43	27.74	27.94	31.35	31.62	30.59	30.59	I3
4	3	42.000	2.22	2.22	0.47	1.04	1.04	30.3	30.3	0.8	0.87	2.43	1.11	12	0.62	27.94	28.20	31.98	32.01	30.59	30.14	I4
5	3	235.555	2.11	6.75	0.45	0.95	3.51	30.8	30.8	0.8	2.91	2.07	3.70	12	0.45	27.94	29.00	31.98	34.07	30.59	34.20	I5
6	5	40.632	2.25	4.64	0.51	1.15	2.56	24.6	24.6	0.9	2.41	2.05	3.06	12	0.44	29.00	29.18	34.18	34.42	34.20	33.70	I6
7	6	198.952	0.00	2.39	0.00	0.00	1.42	0.0	23.0	1.0	1.38	0.88	3.95	8	0.46	29.18	30.09	34.50	36.71	33.70	32.56	I7
8	7	40.059	0.00	1.34	0.00	0.00	0.67	0.0	22.6	1.0	0.66	0.92	1.89	8	0.50	30.09	30.29	36.95	37.06	32.56	33.12	I8
9	8	119.990	1.34	1.34	0.50	0.67	0.67	21.6	21.6	1.0	0.68	0.93	1.94	8	0.50	30.29	30.89	37.10	37.43	33.12	34.12	I9
10	7	137.607	0.00	1.05	0.00	0.00	0.75	0.0	16.9	1.2	0.86	0.88	2.47	8	0.45	30.09	30.71	36.95	37.55	32.56	34.14	I10
11	10	31.364	0.00	1.05	0.00	0.00	0.75	0.0	16.7	1.2	0.87	1.04	2.49	8	0.64	30.71	30.91	37.58	37.72	34.14	34.29	I11
12	11	35.370	0.00	1.05	0.00	0.00	0.75	0.0	16.5	1.2	0.88	0.98	2.51	8	0.57	30.91	31.11	37.74	37.89	34.29	34.44	I12
13	12	23.833	1.05	1.05	0.71	0.75	0.75	16.3	16.3	1.2	0.88	0.93	2.52	8	0.50	31.11	31.23	37.99	38.10	34.44	34.64	I13

System 2 - 2 Year Design Storm

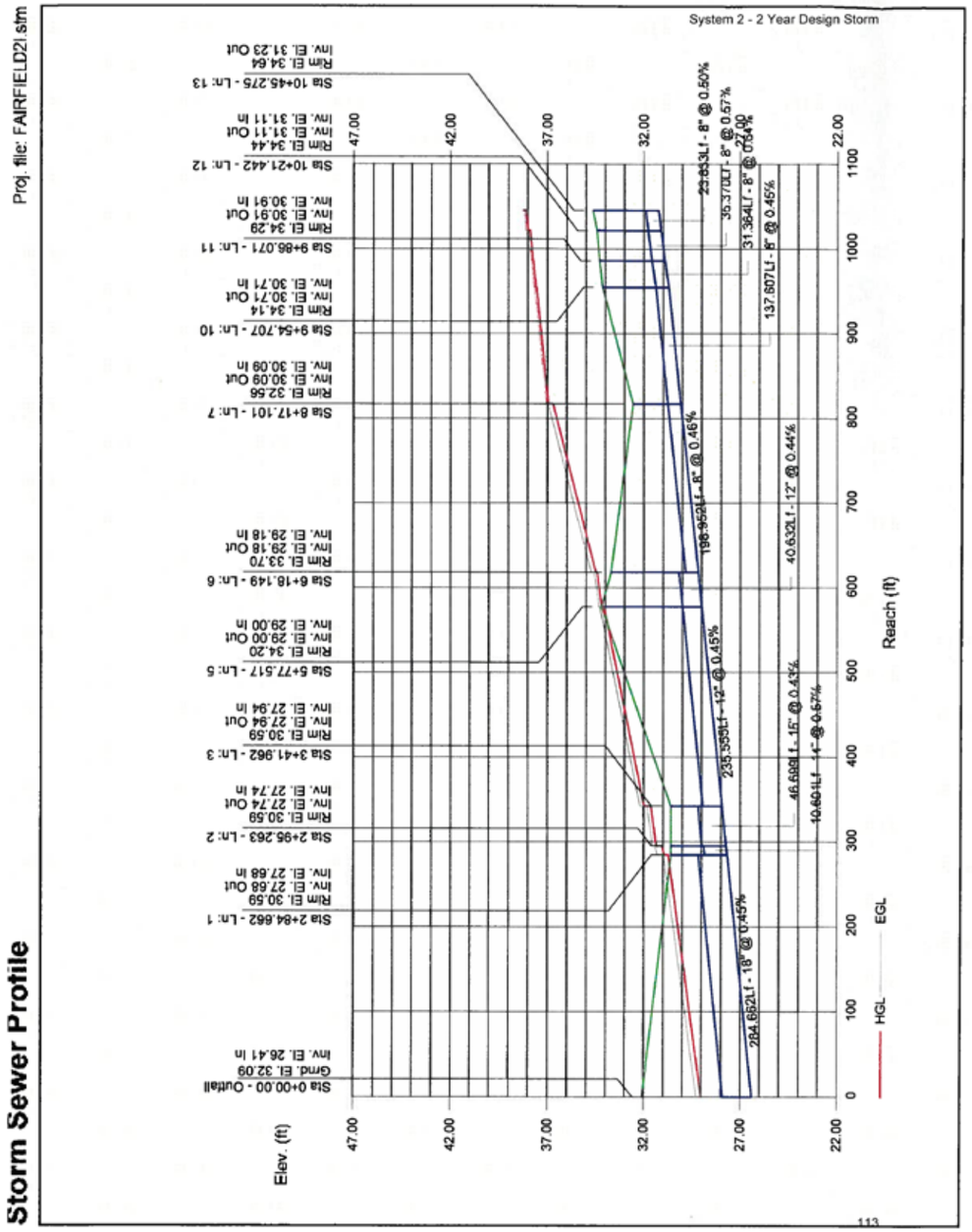
Project File: FAIRFIELD2I.stm | Number of lines: 13 | Run Date: 1/15/2014

NOTES:Intensity = 5.67 / (Inlet time + 0.10) ^ 0.56 ; Return period =Yrs. 2 ; c = cir e = ellip b = box

Storm Sewers v5.00

Storm Sewer Profile

Proj. file: FAIRFIELD2I.stm



Storm Sewer Profile

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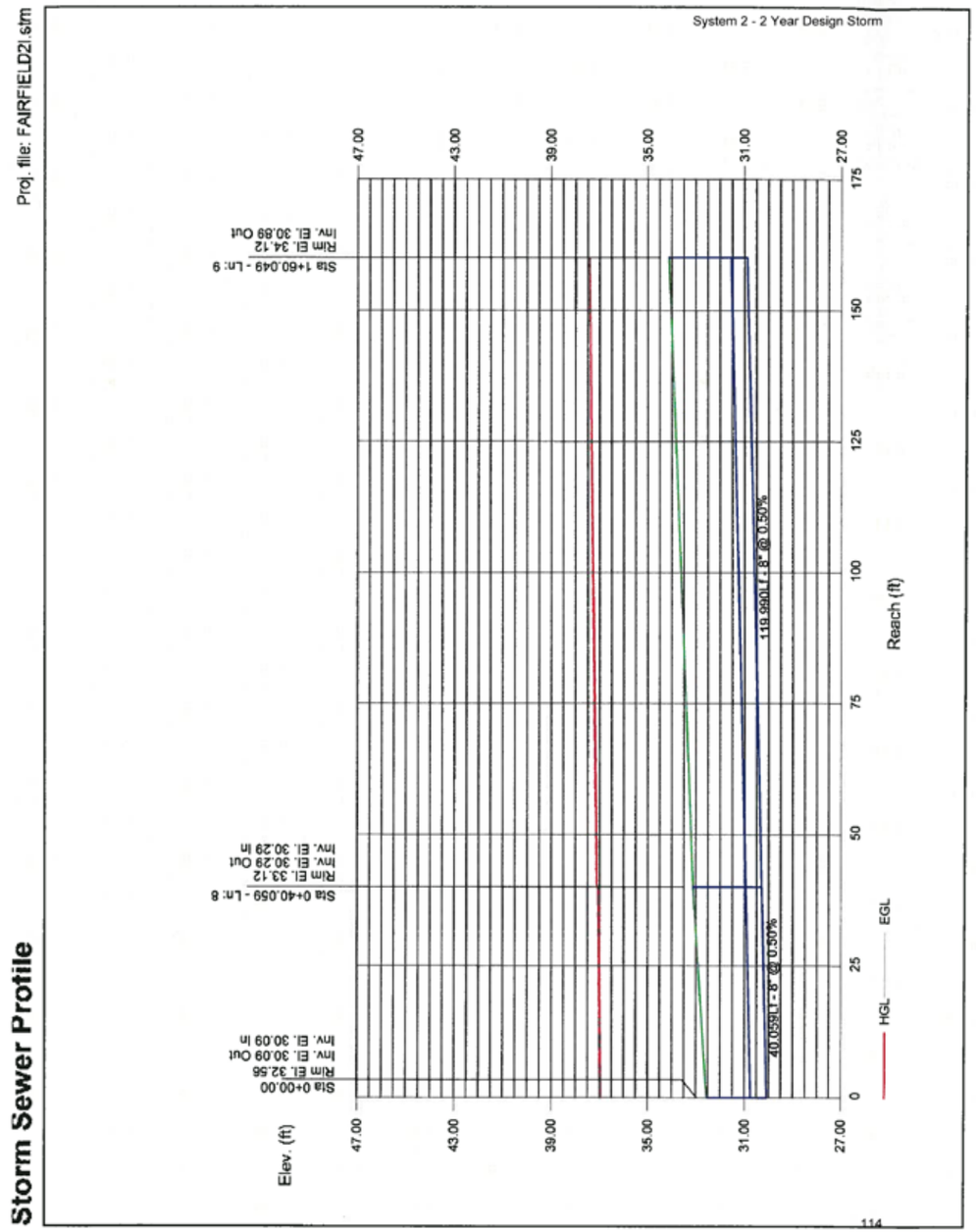

Storm Sewer Profile

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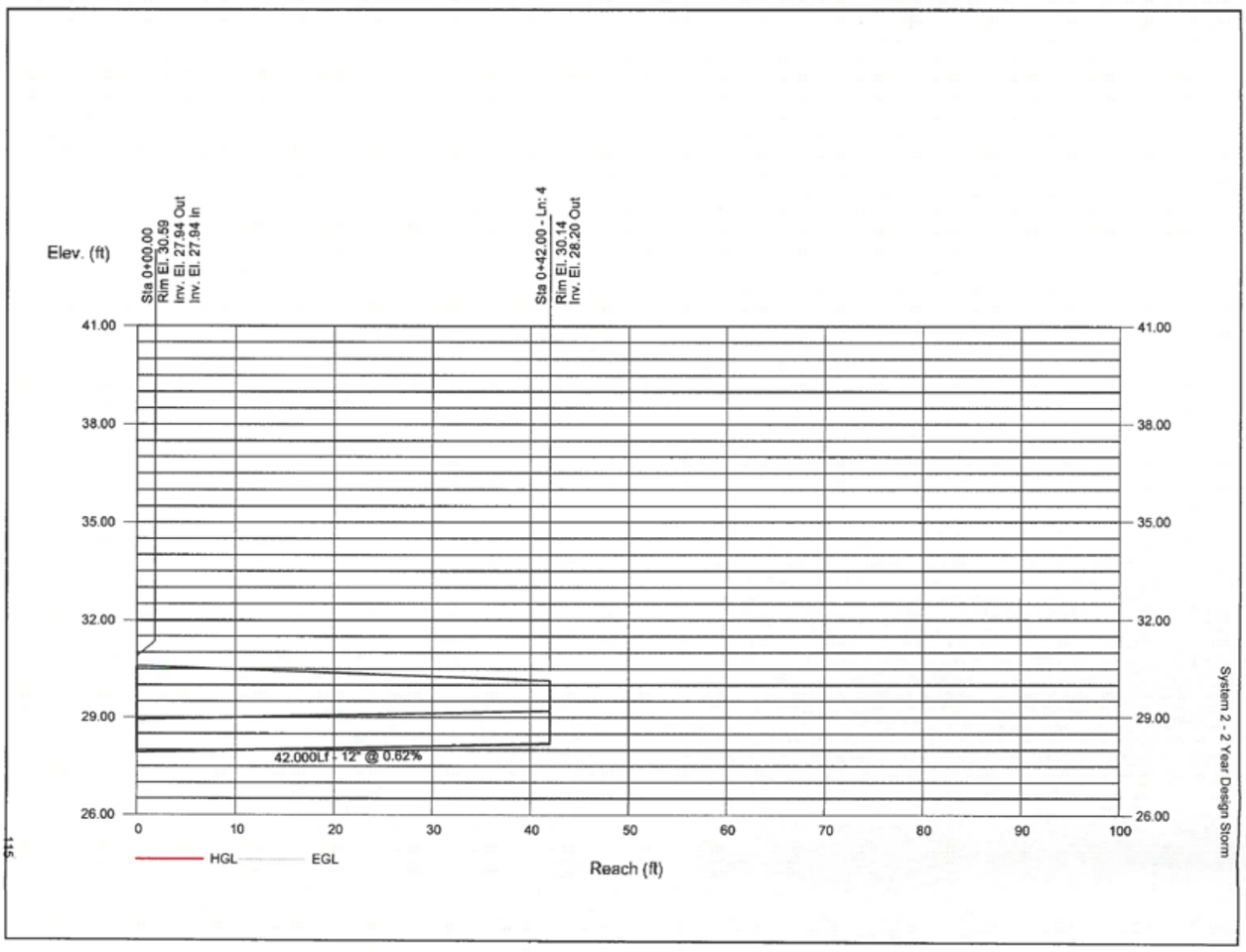
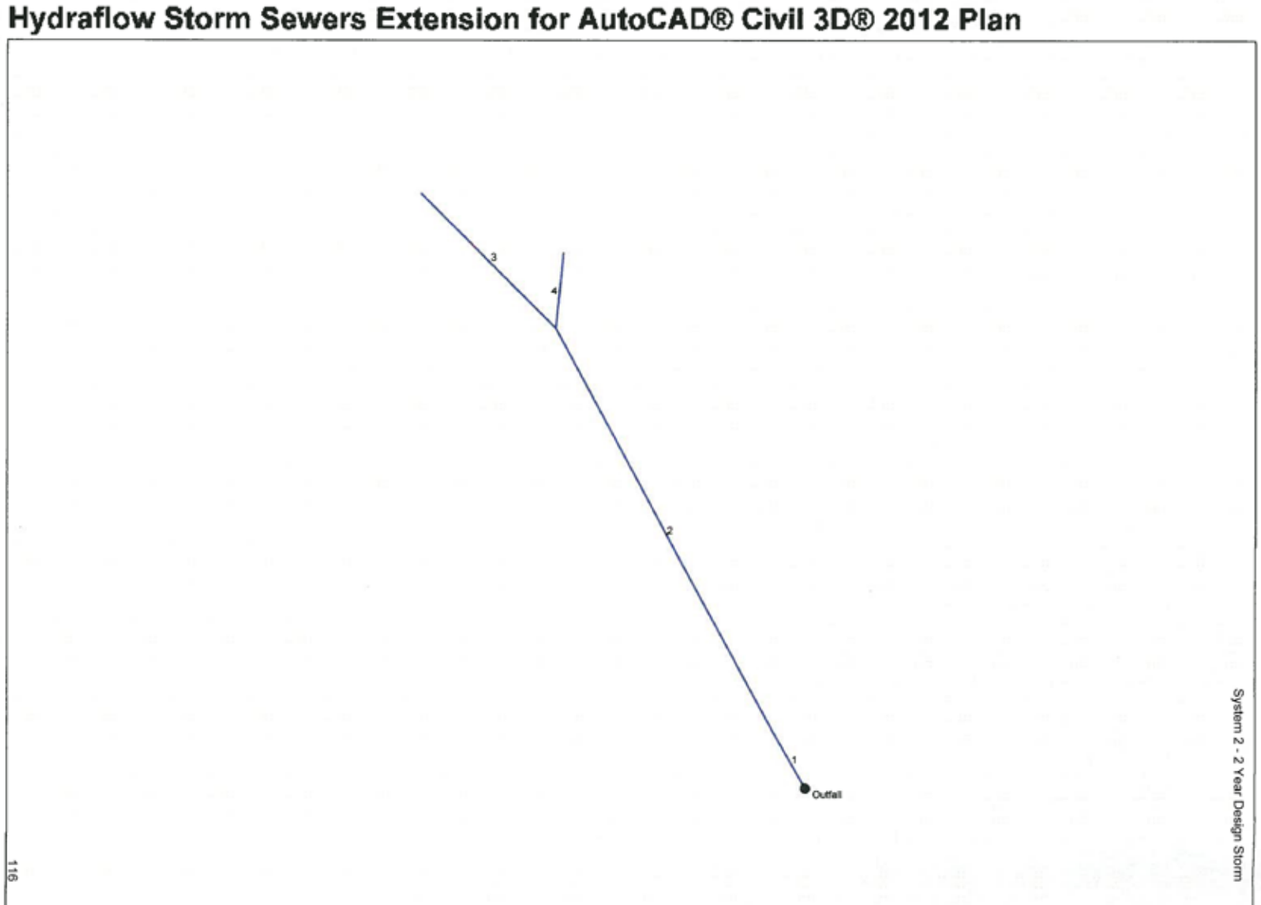


Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



Project File: FAIRFIELD2J.stm	Number of lines: 4	Date: 1/15/2014

Storm Sewer Inventory Report

Page 1

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	105.297	-118.604	MH	0.00	13.91	0.63	32.1	24.84	1.49	26.41	42	Cir	0.015	0.86	32.09	J1 Intercept I1
2	1	752.810	1.294	MH	0.00	0.00	0.00	0.0	26.41	0.45	29.82	42	Cir	0.015	0.60	36.71	J2
3	2	307.901	-16.596	Genr	0.00	16.06	0.69	22.5	29.82	0.50	31.36	21	Cir	0.015	1.42	38.60	J3 Equal H1
4	2	124.912	32.804	Genr	0.00	35.72	0.79	20.4	29.82	0.50	30.44	30	Cir	0.015	1.50	38.97	J4 Equal E1

System 2 - 2 Year Design Storm

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Project File: FAIRFIELD2J.stm | Number of lines: 4 | Date: 1/15/2014

Storm Sewers v5.00

Storm Sewer Summary Report

Page 1

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	J1 Intercept I1	38.87	42	Cir	105.297	24.84	26.41	1.491	26.30	28.35	n/a	29.02	End	Manhole
2	J2	37.72	42	Cir	752.810	26.41	29.82	0.453	29.02	31.73	n/a	31.73	1	Manhole
3	J3 Equal H1	10.93	21	Cir	307.901	29.82	31.36	0.500	31.73*	33.68*	0.46	34.13	2	Generic
4	J4 Equal E1	29.40	30	Cir	124.912	29.82	30.44	0.496	32.32*	33.18*	0.84	34.01	2	Generic

System 2 - 2 Year Design Storm

118

Project File: FAIRFIELD2J.stm | Number of lines: 4 | Run Date: 1/15/2014

NOTES: Return period = 2 Yrs. ; *Surcharged (HGL above crown).

Storm Sewers v5.00

Storm Sewer Tabulation

Page 1

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	105.297	13.91	65.69	0.63	8.76	48.06	32.1	32.1	0.8	38.87	106.5	8.66	42	1.49	24.84	26.41	26.30	28.35	30.00	32.09	J1 Intercept I1
2	1	752.810	0.00	51.78	0.00	0.00	39.30	0.0	23.6	1.0	37.72	58.68	5.97	42	0.45	26.41	29.82	29.02	31.73	32.09	36.71	J2
3	2	307.901	16.06	16.06	0.69	11.08	11.08	22.5	22.5	1.0	10.93	9.71	4.55	21	0.50	29.82	31.36	31.73	33.68	36.71	38.60	J3 Equal H1
4	2	124.912	35.72	35.72	0.79	28.22	28.22	20.4	20.4	1.0	29.40	25.04	5.99	30	0.50	29.82	30.44	32.32	33.18	36.71	38.97	J4 Equal E1

System 2 - 2 Year Design Storm

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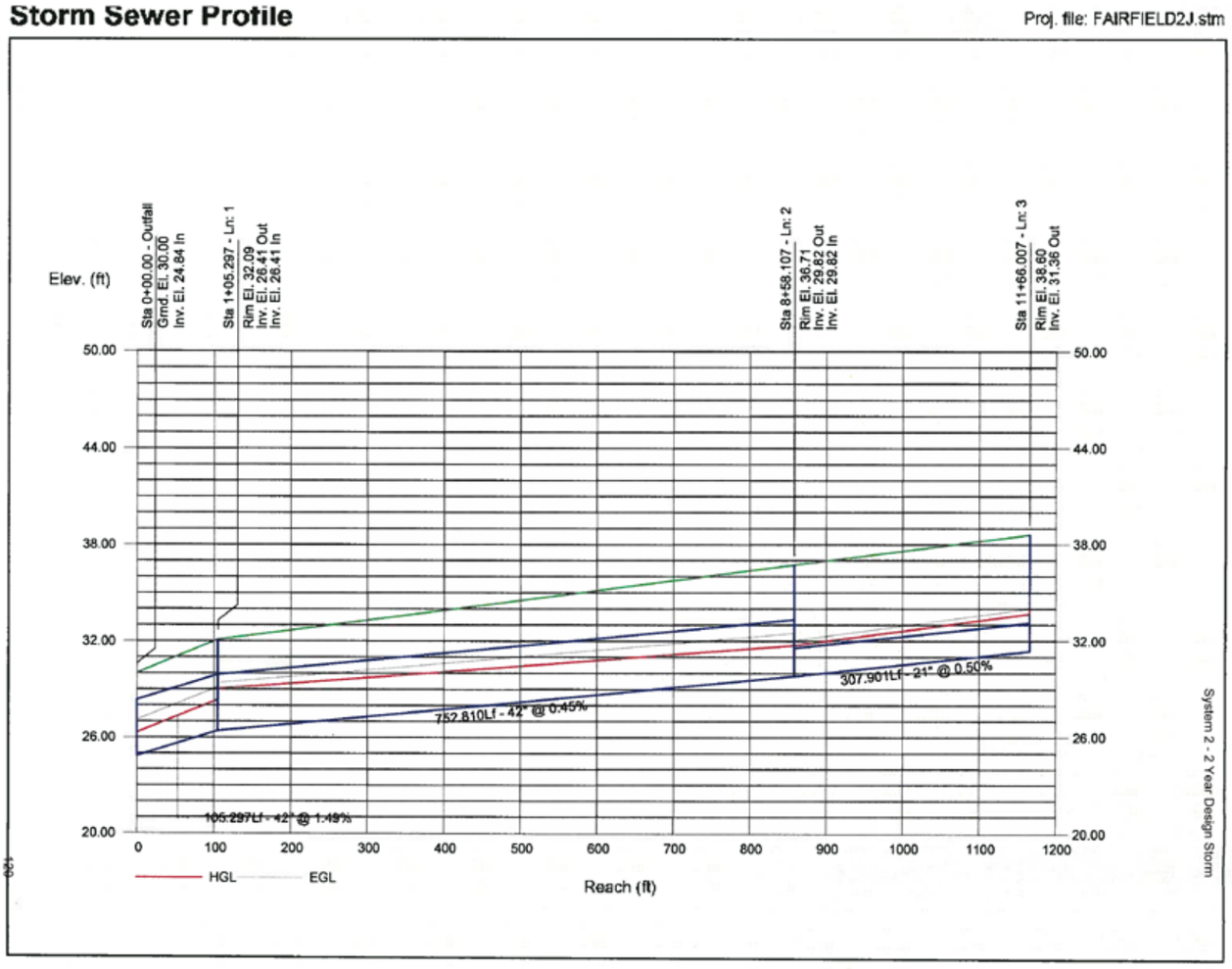
Project File: FAIRFIELD2J.stm | Number of lines: 4 | Run Date: 1/15/2014

NOTES:Intensity = 5.67 / (Inlet time + 0.10) ^ 0.56 ; Return period =Yrs. 2 ; c = cir e = ellip b = box

from Sewer v9.00

Storm Sewer Profile

Proj. file: FAIRFIELD2J.stm



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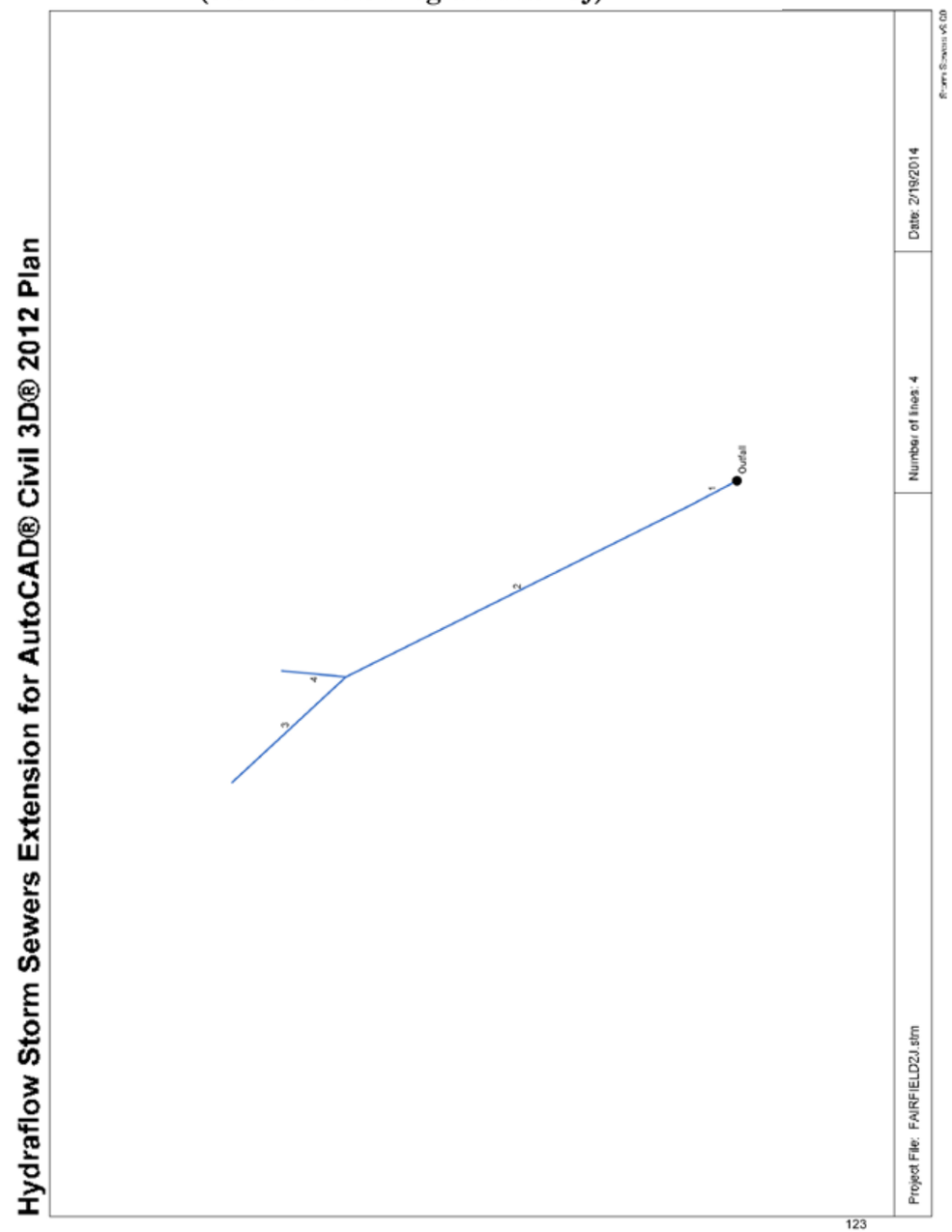
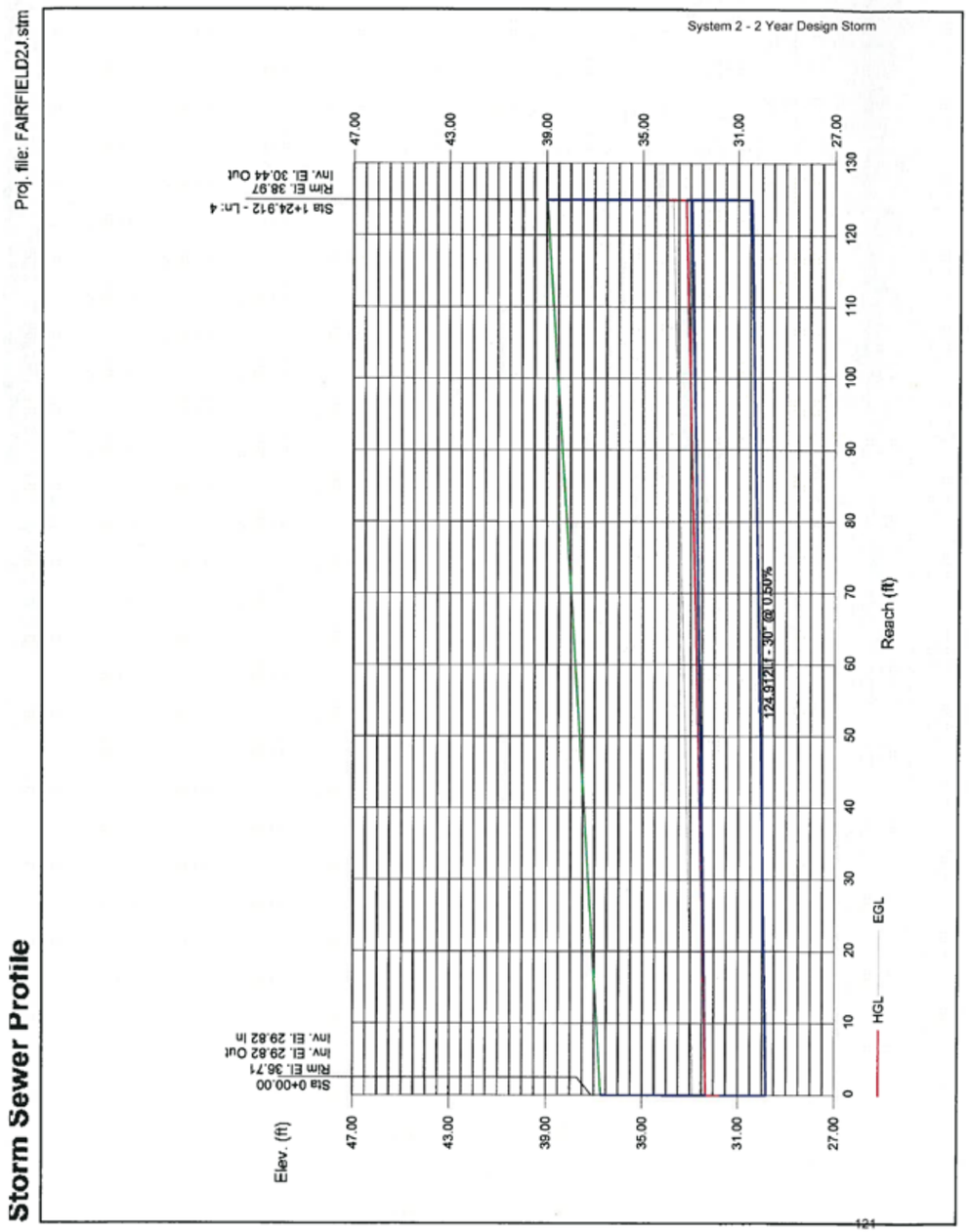
Storm Sewer

System 2
Existing Conditions 25-Year Storm Event Model
(Storm Sewers Program File - 2J)





Storm Sewer Inventory Report

Page 1

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	105.297	-118.604	MH	0.00	13.91	0.63	32.1	24.84	1.49	26.41	42	Cir	0.015	0.86	32.09	J1 Intercept I1
2	1	752.810	1.294	MH	0.00	0.00	0.00	0.0	26.41	0.45	29.82	42	Cir	0.015	0.60	36.71	J2
3	2	307.901	-16.590	Genr	0.00	16.06	0.69	22.5	29.82	0.50	31.36	21	Cir	0.015	1.42	38.60	J3 Equal H1
4	2	124.912	32.804	Genr	0.00	35.72	0.79	20.4	29.82	0.50	30.44	30	Cir	0.015	1.50	38.97	J4 Equal E1

Project File: FAIRFIELD2J.stm | Number of lines: 4 | Date: 2/19/2014

Storm Sewers v5.00

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	105.297	13.91	65.69	0.63	8.76	48.06	32.1	32.1	1.6	79.18	106.5	8.95	42	1.49	24.84	26.41	28.34	29.19	30.00	32.09	J1 Intercept I1
2	1	752.810	0.00	51.78	0.00	0.00	39.30	0.0	23.1	2.0	77.56	58.68	8.06	42	0.45	26.41	29.82	29.91	35.87	32.09	36.71	J2
3	2	307.901	16.06	16.06	0.69	11.08	11.08	22.5	22.5	2.0	22.16	9.71	9.21	21	0.50	29.82	31.36	36.47	44.50	36.71	38.60	J3 Equal H1
4	2	124.912	35.72	35.72	0.79	28.22	28.22	20.4	20.4	2.1	59.47	25.04	12.12	30	0.50	29.82	30.44	36.47	39.97	36.71	38.97	J4 Equal E1

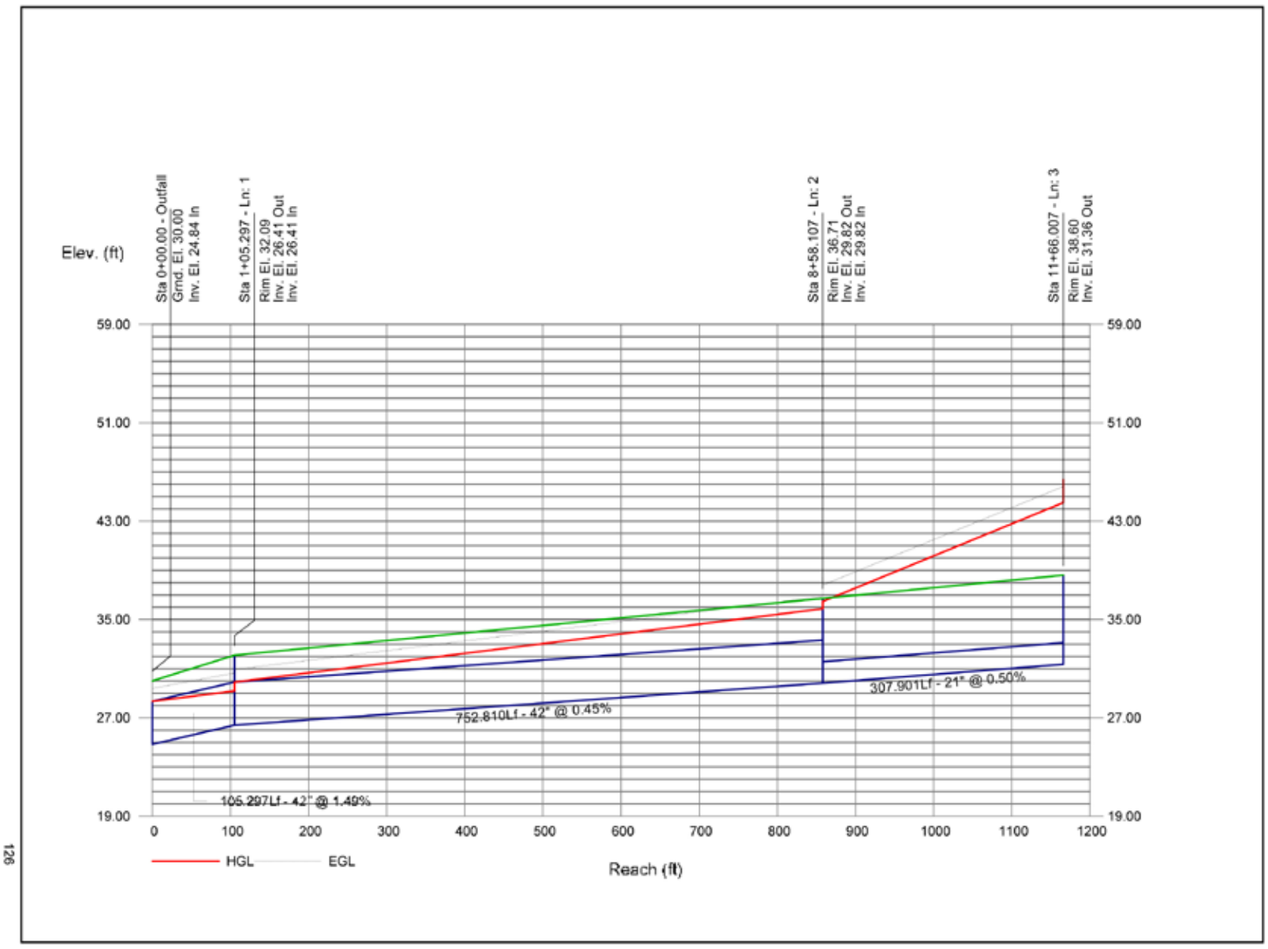
Project File: FAIRFIELD2J.stm | Number of lines: 4 | Run Date: 2/19/2014

NOTES:Intensity = 13.15 / (Inlet time + 2.10) ^ 0.59 ; Return period =Yrs. 25 ; c = cir e = ellip b = box

Storm Sewers v5.00

Storm Sewer Profile

Proj. file: FAIRFIELD2J.stm



Storm Sewers

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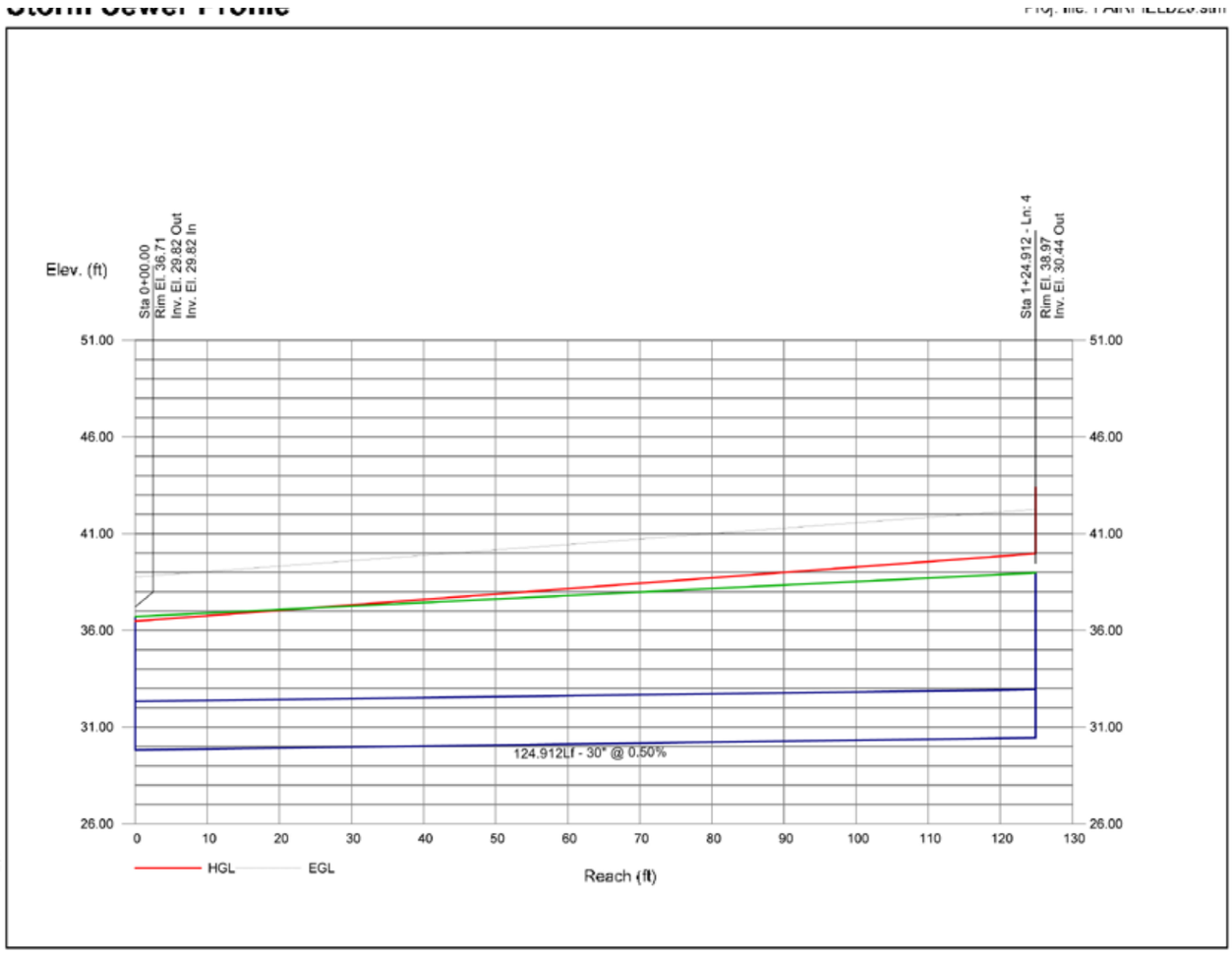
Storm Sewer Profile

Proj. file: FAIRFIELD2J.stm



Storm Sewers

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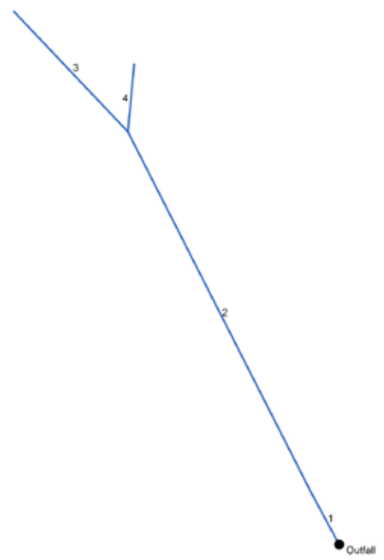
System 2
Improvement Example
25-Year Storm Event Model
(Storm Sewers Program File - 2Jedit)

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



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Project File: FAIRFIELD2Jedit.stm	Number of lines: 4	Date: 2/19/2014

Storm Sewers v5.00

Storm Sewer Inventory Report

Page 1

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	105.297	-118.604	MH	0.00	13.91	0.63	32.1	24.84	1.49	26.41	42	Cir	0.015	0.86	32.09	J1 Intercept I1
2	1	752.810	1.294	MH	0.00	0.00	0.00	0.0	26.41	0.45	29.82	48	Cir	0.015	0.60	36.71	J2
3	2	307.901	-16.596	Genr	0.00	16.06	0.69	22.5	29.82	0.50	31.36	36	Cir	0.015	1.42	38.60	J3 Equal H1
4	2	124.912	32.804	Genr	0.00	35.72	0.79	20.4	29.82	0.50	30.44	36	Cir	0.015	1.50	38.97	J4 Equal E1

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Project File: FAIRFIELD2Jedit.stm	Number of lines: 4	Date: 2/19/2014

Storm Sewers v5.00

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	105.297	13.91	65.69	0.63	8.76	48.06	32.1	32.1	1.6	79.18	106.5	8.95	42	1.49	24.84	26.41	28.34	29.19	30.00	32.09	J1 Intercept I1
2	1	752.810	0.00	51.78	0.00	0.00	39.30	0.0	24.0	1.9	75.89	83.79	7.55	48	0.45	26.41	29.82	29.39	32.80	32.09	36.71	J2
3	2	307.901	16.06	16.06	0.69	11.08	11.08	22.5	22.5	2.0	22.16	40.88	3.41	36	0.50	29.82	31.36	33.33	33.74	36.71	38.60	J3 Equal H1
4	2	124.912	35.72	35.72	0.79	28.22	28.22	20.4	20.4	2.1	59.47	40.72	8.41	36	0.50	29.82	30.44	33.33	34.66	36.71	38.97	J4 Equal E1

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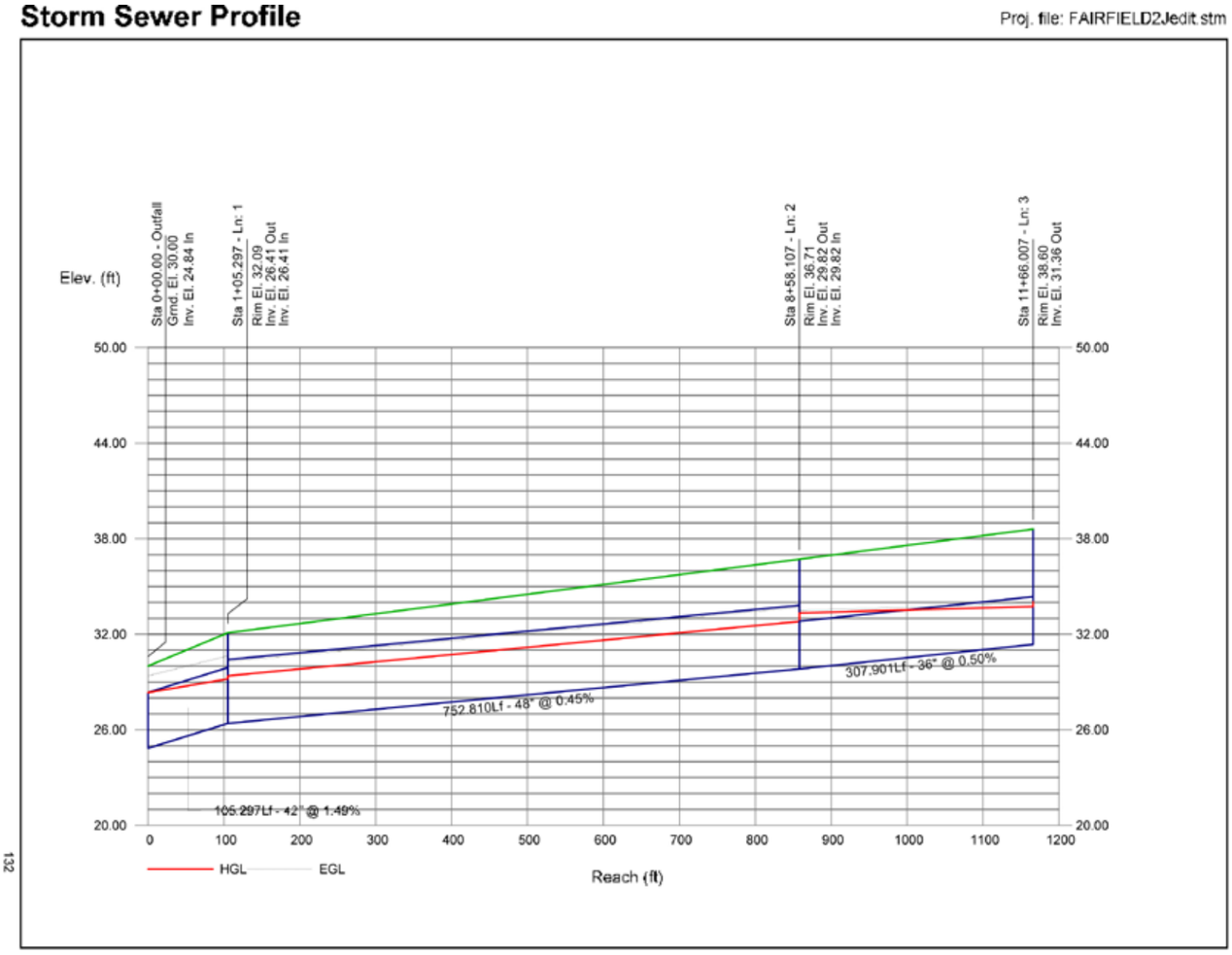
Project File: FAIRFIELD2Jedit.stm | Number of lines: 4 | Run Date: 2/19/2014

NOTES:Intensity = 13.15 / (Inlet time + 2.10) ^ 0.59 ; Return period =Yrs. 25 ; c = cir e = ellip b = box

Storm Sewers v5.00

Storm Sewer Profile

Proj. file: FAIRFIELD2Jedit.stm



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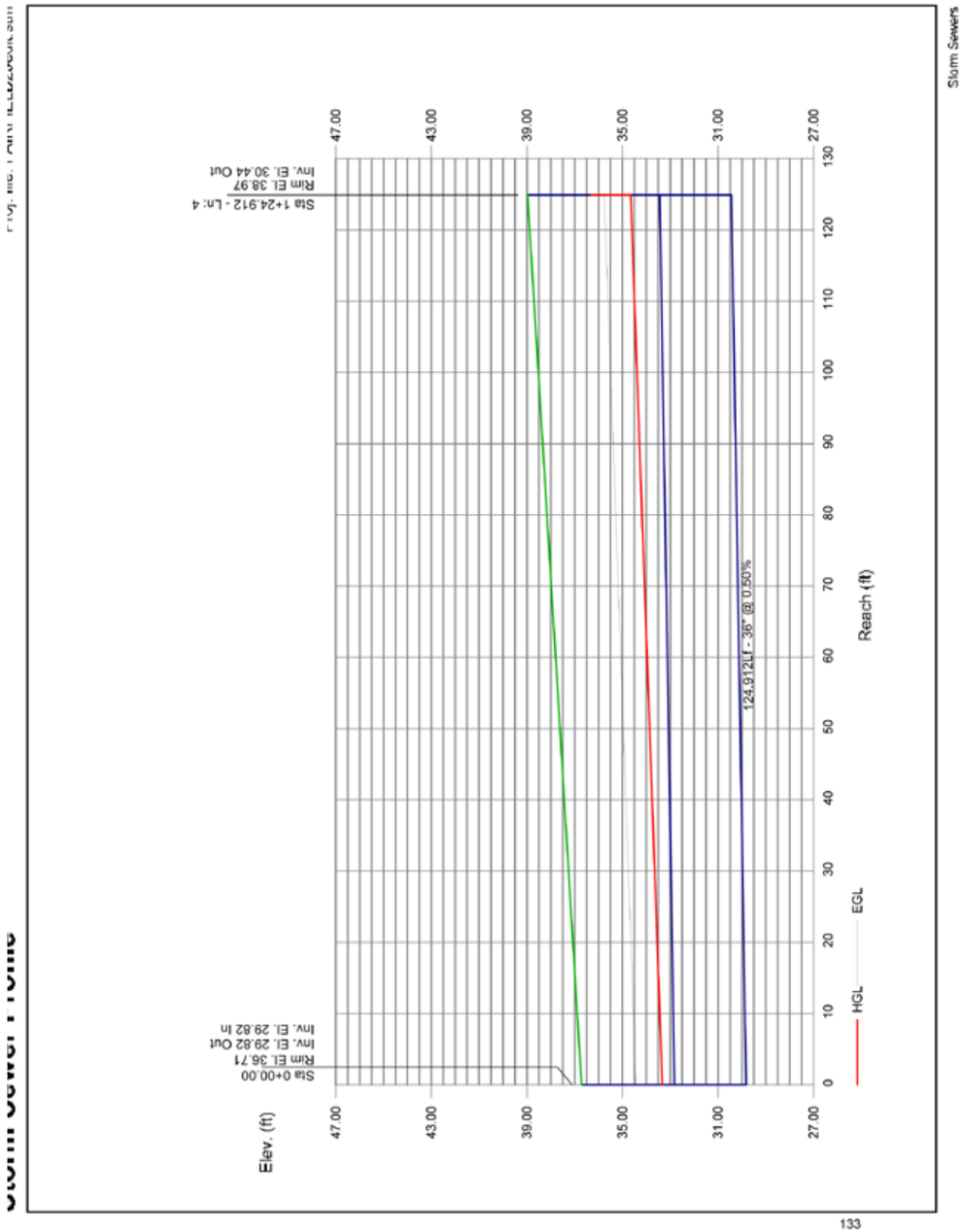
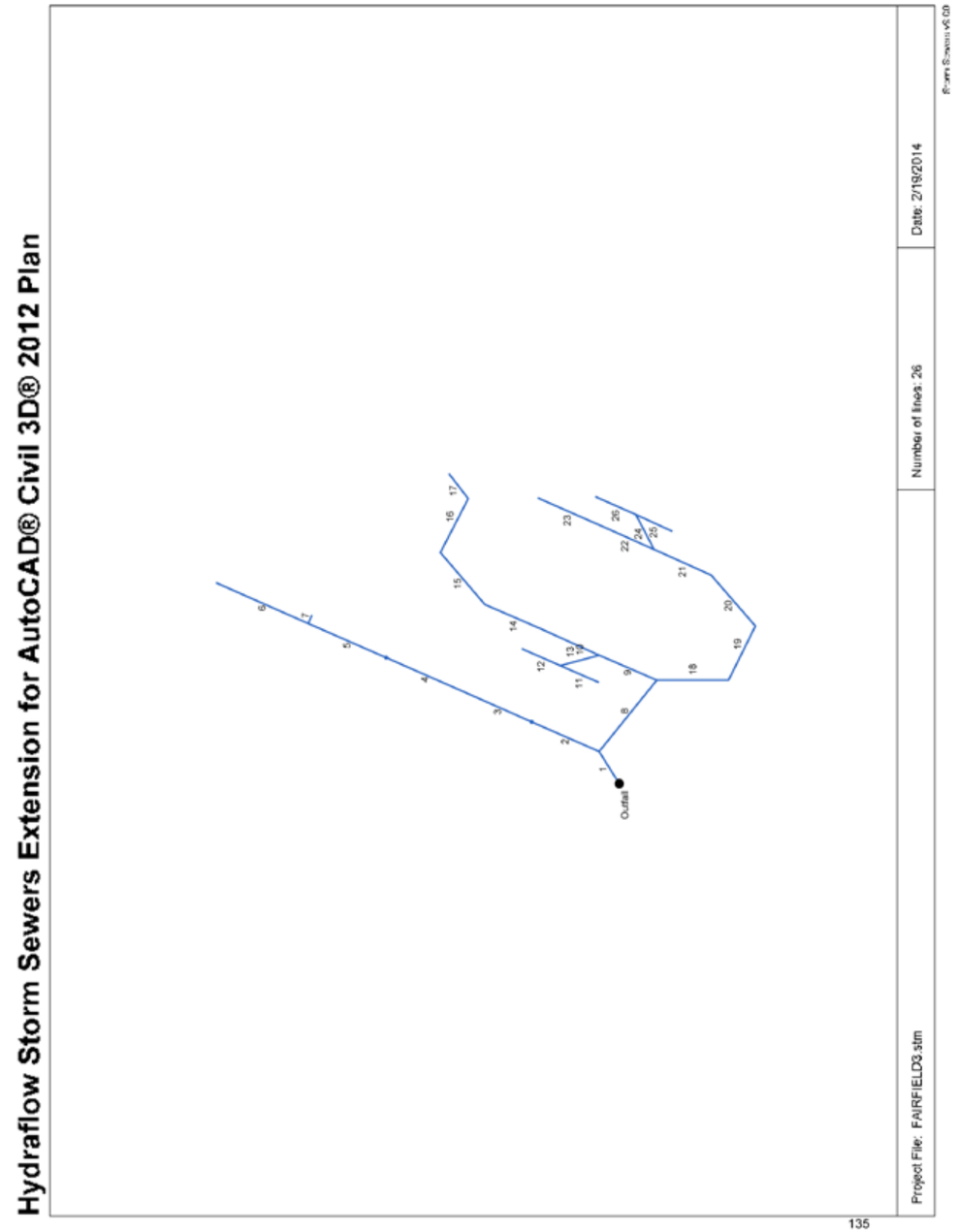
Storm Sewers

Appendix 9.6
Storm Sewers Output – System 3





Storm Sewer Inventory Report

Page 1

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	62.457	-30.417	Genr	0.00	0.33	0.88	5.0	32.50	0.86	33.04	27	Cir	0.012	1.41	37.00	Pipe - (4)
2	1	117.515	-34.251	Genr	0.00	0.13	0.95	5.0	33.04	0.50	33.63	18	Cir	0.012	0.50	37.00	Pipe - (3)
3	2	117.516	0.000	Genr	0.00	0.20	0.95	5.0	33.63	0.50	34.22	18	Cir	0.012	0.50	38.00	Pipe - (3)(2)
4	3	135.000	-0.085	Genr	0.00	0.38	0.51	10.0	34.22	0.50	34.90	15	Cir	0.012	0.50	40.60	Pipe - (2)
5	4	135.500	0.000	Genr	0.00	0.18	0.45	11.2	34.95	0.64	35.82	12	Cir	0.012	1.50	38.72	Pipe - (2)(2)
6	5	159.000	-0.053	Genr	0.00	1.24	0.45	21.0	35.87	0.58	36.80	12	Cir	0.012	1.00	38.80	Pipe - (1)
7	5	13.886	88.839	Genr	0.00	1.08	0.53	17.4	35.92	0.50	35.99	12	Cir	0.012	1.00	38.00	Pipe - (24)
8	1	151.000	67.388	Genr	0.00	0.33	0.60	9.8	33.04	0.50	33.80	18	Cir	0.012	1.87	38.00	Pipe - (8)
9	8	99.979	-102.203	Genr	0.00	0.31	0.57	11.0	33.80	0.50	34.30	18	Cir	0.012	1.46	38.00	Pipe - (7)
10	9	63.483	-40.691	Genr	0.00	0.12	0.95	5.0	34.30	0.50	34.62	12	Cir	0.012	1.59	38.00	Pipe - (6)
11	10	65.579	-138.946	Genr	0.00	0.17	0.95	5.0	34.62	0.50	34.95	12	Cir	0.012	1.00	38.00	Pipe - (5)
12	10	66.120	41.148	Genr	0.00	0.15	0.95	5.0	34.62	0.50	34.95	12	Cir	0.012	1.00	38.00	Pipe - (9)
13	9	99.715	1.146	Genr	0.00	0.32	0.57	10.5	34.30	0.50	34.80	12	Cir	0.012	0.50	38.00	Pipe - (14)
14	13	99.434	-0.899	Genr	0.00	0.26	0.64	9.7	34.80	0.50	35.30	12	Cir	0.012	0.75	38.00	Pipe - (13)
15	14	112.068	26.291	Genr	0.00	0.24	0.54	14.7	35.30	0.50	35.86	12	Cir	0.012	1.38	38.00	Pipe - (12)
16	15	100.927	64.312	Genr	0.00	0.25	0.54	14.2	35.86	0.50	36.36	12	Cir	0.012	1.35	38.00	Pipe - (11)
17	16	50.499	-61.503	Genr	0.00	1.18	0.47	22.9	36.36	0.50	36.61	12	Cir	0.012	1.00	39.57	Pipe - (10)
18	8	113.000	52.910	Genr	0.00	0.21	0.68	9.8	33.80	0.50	34.37	12	Cir	0.012	1.38	38.00	Pipe - (20)
19	18	99.934	-64.970	Genr	0.00	0.24	0.64	10.6	34.37	0.50	34.87	12	Cir	0.012	1.37	38.00	Pipe - (19)
20	19	110.798	-63.811	Genr	0.00	0.25	0.55	10.7	34.87	0.50	35.42	12	Cir	0.012	0.72	38.00	Pipe - (18)
21	20	99.836	-25.284	Genr	0.00	0.30	0.54	13.3	35.42	0.50	35.92	12	Cir	0.012	1.00	38.00	Pipe - (17)
22	21	100.589	-0.355	Genr	0.00	0.24	0.91	5.0	35.42	0.50	35.92	12	Cir	0.012	0.50	38.00	Pipe - (16)
23	22	100.552	-0.292	Genr	0.00	0.20	0.64	8.9	35.92	0.50	36.42	12	Cir	0.012	1.00	38.00	Pipe - (15)

Project File: FAIRFIELD3.stm | Number of lines: 26 | Date: 2/19/2014

Storm Sewers v5.00

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Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
24	21	64.965	37.968	Genr	0.00	0.07	0.64	5.0	35.92	0.49	36.24	12	Cir	0.012	1.50	38.00	Pipe - (22)
25	24	62.525	142.085	Genr	0.00	0.04	0.72	5.0	36.24	0.50	36.55	12	Cir	0.012	1.00	38.00	Pipe - (21)
26	24	69.241	-38.266	Genr	0.00	0.07	0.68	5.6	36.24	0.51	36.59	12	Cir	0.012	1.00	38.00	Pipe - (23)

Project File: FAIRFIELD3.stm | Number of lines: 26 | Date: 2/19/2014

Storm Sewers v5.00

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Storm Sewer Tabulation

Page 1

Station Line	Station To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	62.457	0.33	8.49	0.88	0.29	5.03	5.0	28.3	1.8	8.89	31.19	2.24	27	0.86	32.50	33.04	35.20	35.24	36.00	37.00	Pipe - (4)
2	1	117.515	0.13	3.21	0.95	0.12	1.72	5.0	24.5	1.9	3.29	8.06	1.86	18	0.50	33.04	33.63	35.35	35.45	37.00	37.00	Pipe - (3)
3	2	117.516	0.20	3.08	0.95	0.19	1.60	5.0	23.4	2.0	3.12	8.06	1.83	18	0.50	33.63	34.22	35.48	35.55	37.00	38.00	Pipe - (3)(2)
4	3	135.000	0.38	2.88	0.51	0.19	1.41	10.0	22.5	2.0	2.81	4.95	2.66	15	0.50	34.22	34.90	35.58	35.78	38.00	40.60	Pipe - (2)
5	4	135.500	0.18	2.50	0.45	0.08	1.21	11.2	21.9	2.0	2.46	3.09	3.84	12	0.64	34.95	35.82	35.85	36.49	40.60	38.72	Pipe - (2)(2)
6	5	159.000	1.24	1.24	0.45	0.56	0.56	21.0	21.0	2.1	1.16	2.95	2.81	12	0.58	35.87	36.80	36.49	37.25	38.72	38.80	Pipe - (1)
7	5	13.886	1.08	1.08	0.53	0.57	0.57	17.4	17.4	2.3	1.31	2.74	3.03	12	0.50	35.92	35.99	36.49	36.50	38.72	38.00	Pipe - (24)
8	1	151.000	0.33	4.95	0.60	0.20	3.02	9.8	27.5	1.8	5.43	8.07	3.07	18	0.50	33.04	33.80	35.35	35.69	37.00	38.00	Pipe - (8)
9	8	99.979	0.31	3.00	0.57	0.18	1.76	11.0	26.5	1.8	3.22	8.05	1.82	18	0.50	33.80	34.30	35.97	36.05	38.00	38.00	Pipe - (7)
10	9	63.483	0.12	0.44	0.95	0.11	0.42	5.0	6.5	3.7	1.55	2.74	1.98	12	0.50	34.30	34.62	36.13	36.23	38.00	38.00	Pipe - (6)
11	10	65.579	0.17	0.17	0.95	0.16	0.16	5.0	5.0	4.2	0.67	2.74	0.85	12	0.50	34.62	34.95	36.33	36.34	38.00	38.00	Pipe - (5)
12	10	66.120	0.15	0.15	0.95	0.14	0.14	5.0	5.0	4.2	0.59	2.73	0.75	12	0.50	34.62	34.95	36.33	36.34	38.00	38.00	Pipe - (9)
13	9	99.715	0.32	2.25	0.57	0.18	1.17	10.5	25.9	1.9	2.16	2.73	2.75	12	0.50	34.30	34.80	36.13	36.44	38.00	38.00	Pipe - (14)
14	13	99.434	0.26	1.93	0.64	0.17	0.99	9.7	25.2	1.9	1.85	2.74	2.36	12	0.50	34.80	35.30	36.50	36.73	38.00	38.00	Pipe - (13)
15	14	112.068	0.24	1.67	0.54	0.13	0.82	14.7	24.3	1.9	1.57	2.73	2.00	12	0.50	35.30	35.86	36.79	36.98	38.00	38.00	Pipe - (12)
16	15	100.927	0.25	1.43	0.54	0.14	0.69	14.2	23.4	2.0	1.35	2.72	1.85	12	0.50	35.86	36.36	37.06	37.17	38.00	38.00	Pipe - (11)
17	16	50.499	1.18	1.18	0.47	0.55	0.55	22.9	22.9	2.0	1.10	2.71	1.72	12	0.50	36.36	36.61	37.26	37.28	38.00	39.57	Pipe - (10)
18	8	113.000	0.21	1.62	0.68	0.14	1.06	9.8	16.5	2.4	2.51	2.74	3.19	12	0.50	33.80	34.37	35.97	36.45	38.00	38.00	Pipe - (20)
19	18	99.934	0.24	1.41	0.64	0.15	0.92	10.6	15.9	2.4	2.21	2.73	2.82	12	0.50	34.37	34.87	36.67	36.99	38.00	38.00	Pipe - (19)
20	19	110.798	0.25	1.17	0.55	0.14	0.77	10.7	15.2	2.5	1.89	2.72	2.41	12	0.50	34.87	35.42	37.16	37.43	38.00	38.00	Pipe - (18)
21	20	99.836	0.30	0.92	0.54	0.16	0.63	13.3	14.4	2.5	1.59	2.73	2.03	12	0.50	35.42	35.92	37.49	37.66	38.00	38.00	Pipe - (17)
22	21	100.589	0.24	0.44	0.91	0.22	0.35	5.0	12.1	2.8	0.96	2.72	1.22	12	0.50	35.42	35.92	37.73	37.79	38.00	38.00	Pipe - (16)

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Project File: FAIRFIELD3.stm | Number of lines: 26 | Run Date: 2/19/2014

NOTES:Intensity = 13.15 / (Inlet time + 2.10) ^ 0.59 ; Return period =Yrs. 25 ; c = cir e = ellip b = box

from Sewers v8.00

Storm Sewer Tabulation

Station Line	Station To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
23	22	100.552	0.20	0.20	0.64	0.13	0.13	8.9	8.9	3.2	0.41	2.72	0.52	12	0.50	35.92	36.42	37.80	37.81	38.00	38.00	Pipe - (15)
24	21	64.965	0.07	0.18	0.64	0.04	0.12	5.0	11.8	2.8	0.34	2.71	0.43	12	0.49	35.92	36.24	37.73	37.73	38.00	38.00	Pipe - (22)
25	24	62.525	0.04	0.04	0.72	0.03	0.03	5.0	5.0	4.2	0.12	2.72	0.15	12	0.50	36.24	36.55	37.74	37.74	38.00	38.00	Pipe - (21)
26	24	69.241	0.07	0.07	0.68	0.05	0.05	5.6	5.6	4.0	0.19	2.74	0.24	12	0.51	36.24	36.59	37.74	37.74	38.00	38.00	Pipe - (23)

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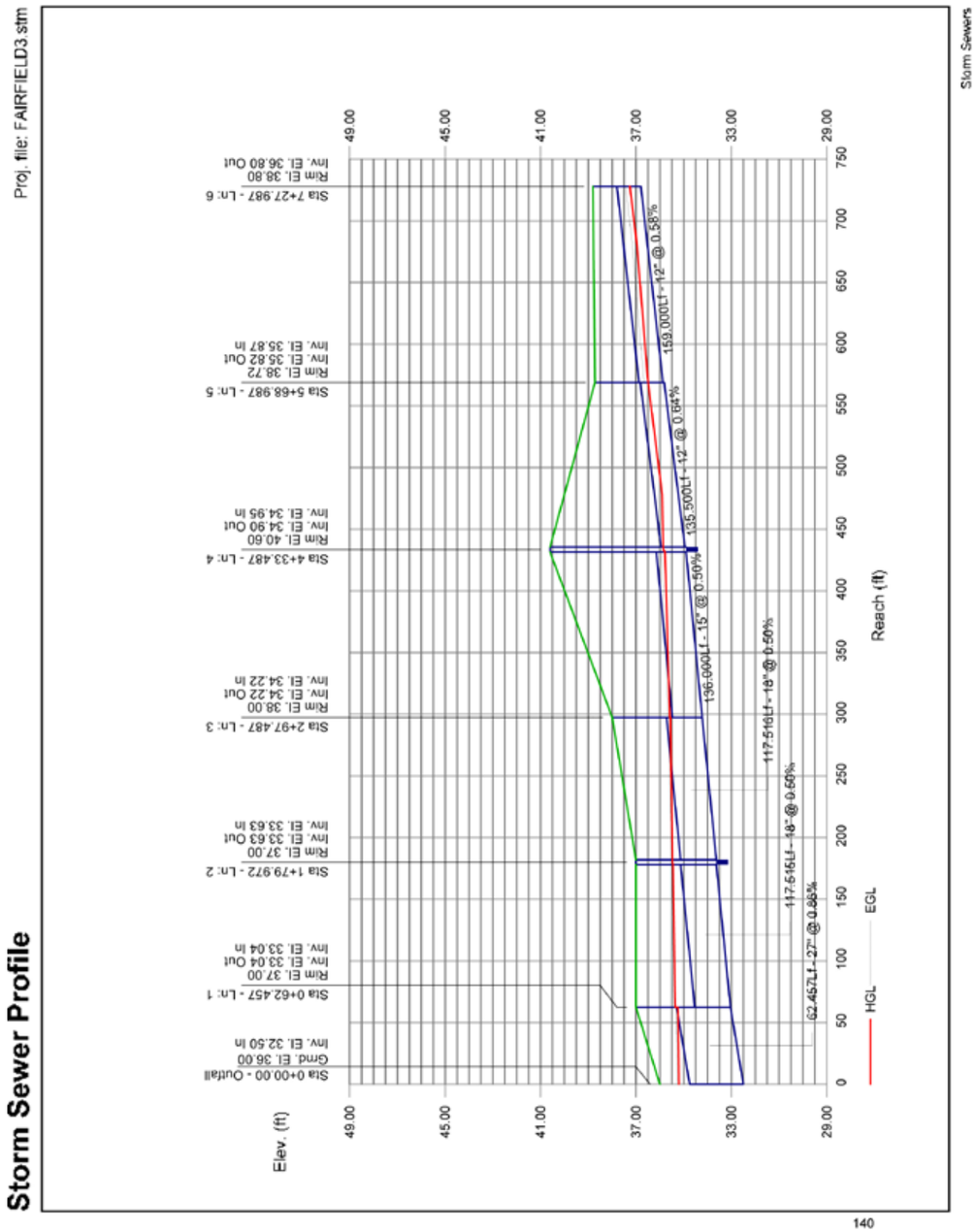
Project File: FAIRFIELD3.stm | Number of lines: 26 | Run Date: 2/19/2014

NOTES:Intensity = 13.15 / (Inlet time + 2.10) ^ 0.59 ; Return period =Yrs. 25 ; c = cir e = ellip b = box

from Sewers v8.00


Proj. file: FAIRFIELD3.stm
Storm Sewer Profile
Storm Sewers
Elev. (ft)
Reach (ft)
HGL
EGL
Sta 0+00.00 - Outfall
Gmd. El. 36.00
Inv. El. 32.50 In
Sta 0+62.457 - Ln: 1
Rim El. 37.00
Inv. El. 33.04 Out
Inv. El. 33.04 In
Sta 1+79.972 - Ln: 2
Rim El. 37.00
Inv. El. 33.63 Out
Inv. El. 33.63 In
Sta 2+97.487 - Ln: 3
Rim El. 38.00
Inv. El. 34.22 Out
Inv. El. 34.22 In
Sta 4+33.487 - Ln: 4
Rim El. 40.60
Inv. El. 34.90 Out
Inv. El. 34.95 In
Sta 5+68.987 - Ln: 5
Rim El. 38.72
Inv. El. 35.82 Out
Inv. El. 35.87 In
Sta 7+27.987 - Ln: 6
Rim El. 38.80
Inv. El. 36.80 Out
62.457LF - 27" @ 0.86%
117.516LF - 18" @ 0.50%
117.516LF - 18" @ 0.50%
136.000LF - 15" @ 0.50%
135.500LF - 12" @ 0.64%
159.000LF - 12" @ 0.58%

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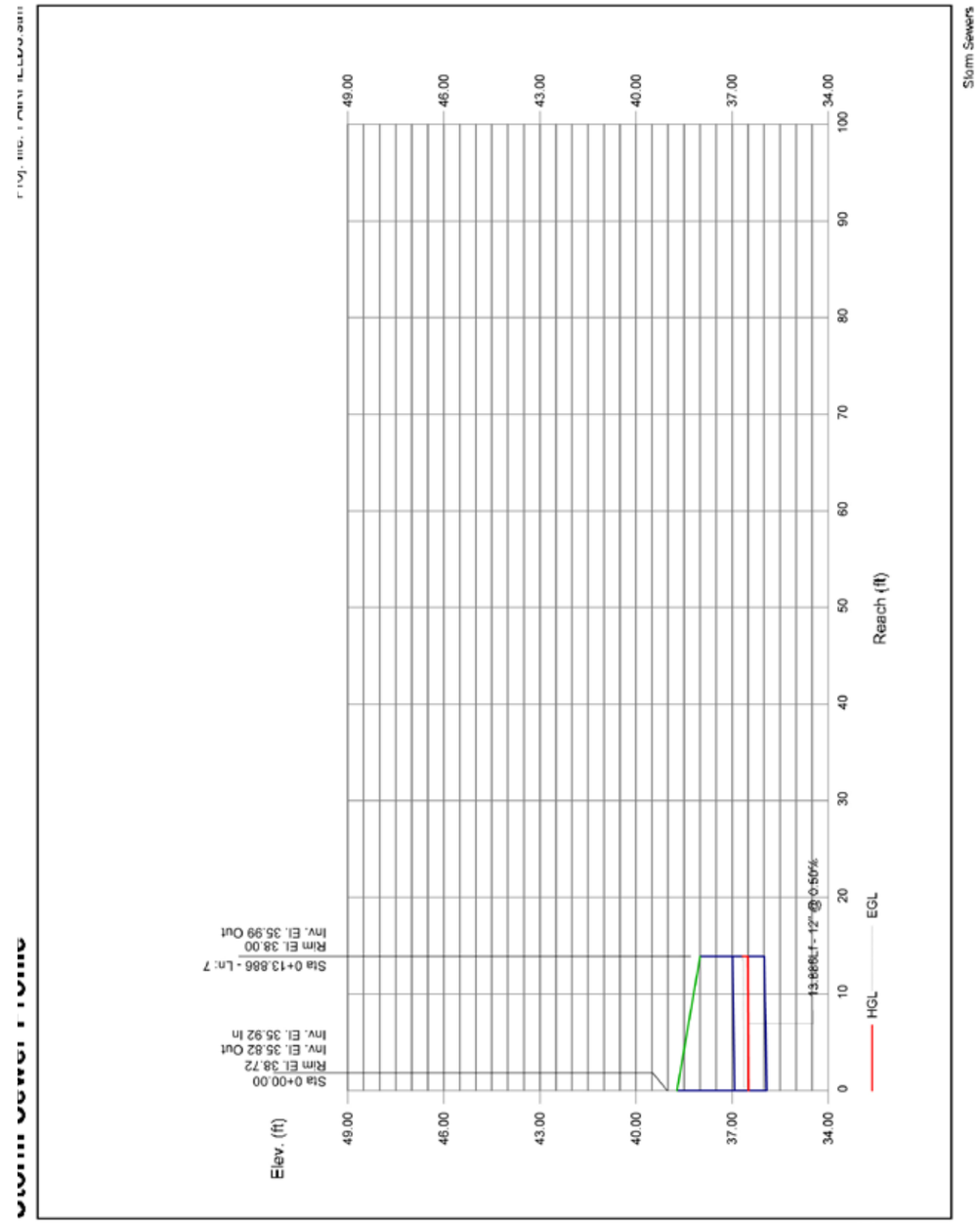
Storm Sewers
Elev. (ft)
Reach (ft)
HGL
EGL
Sta 0+00.00
Rim El. 38.72
Inv. El. 35.82 Out
Inv. El. 35.92 In
Sta 0+13.886 - Ln: 7
Rim El. 38.00
Inv. El. 35.99 Out
13.886LF - 12" @ 0.50%

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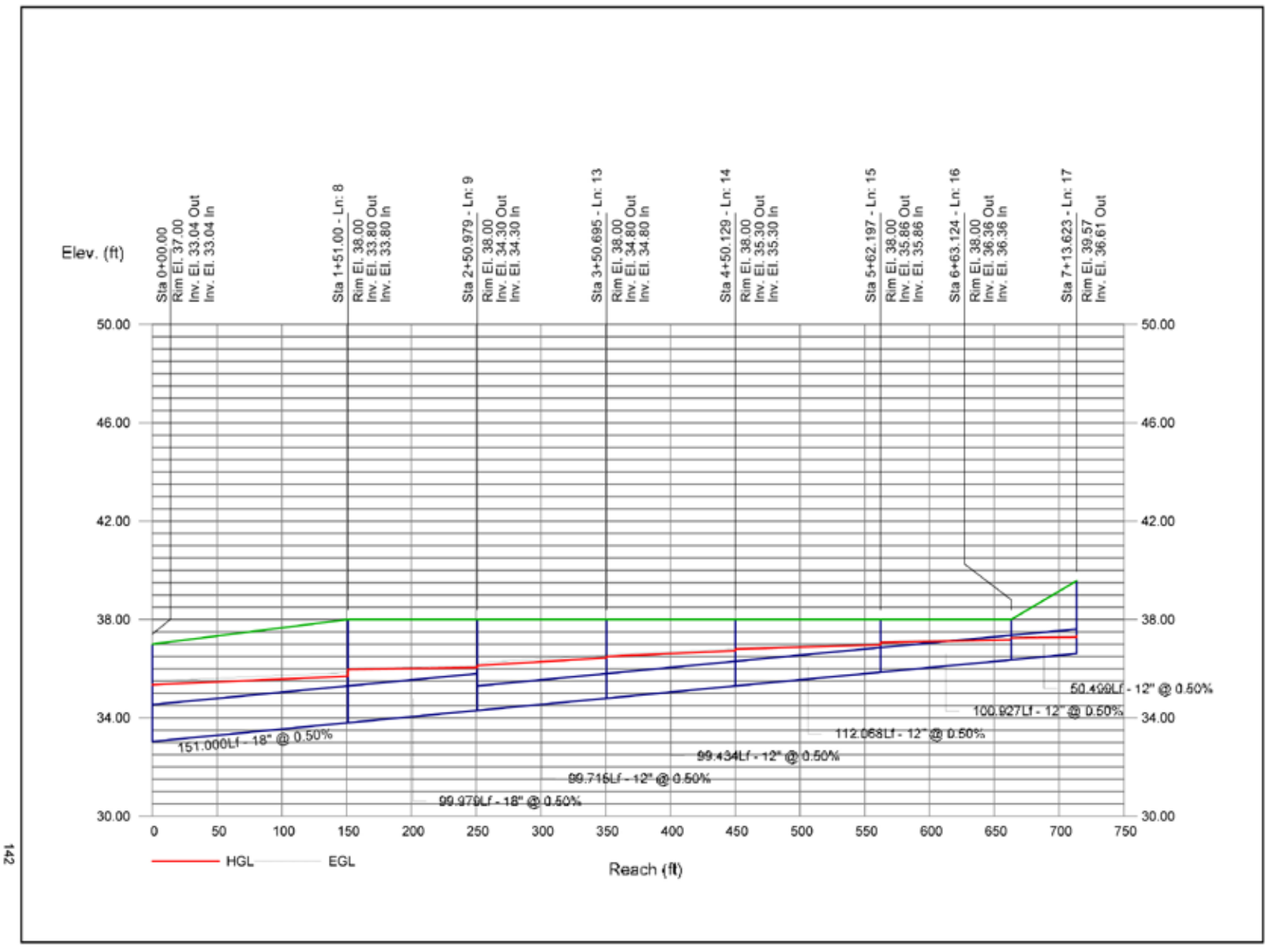
Storm Sewer Profile

Proj. file: FAIRFIELD3.stm



Storm Sewers

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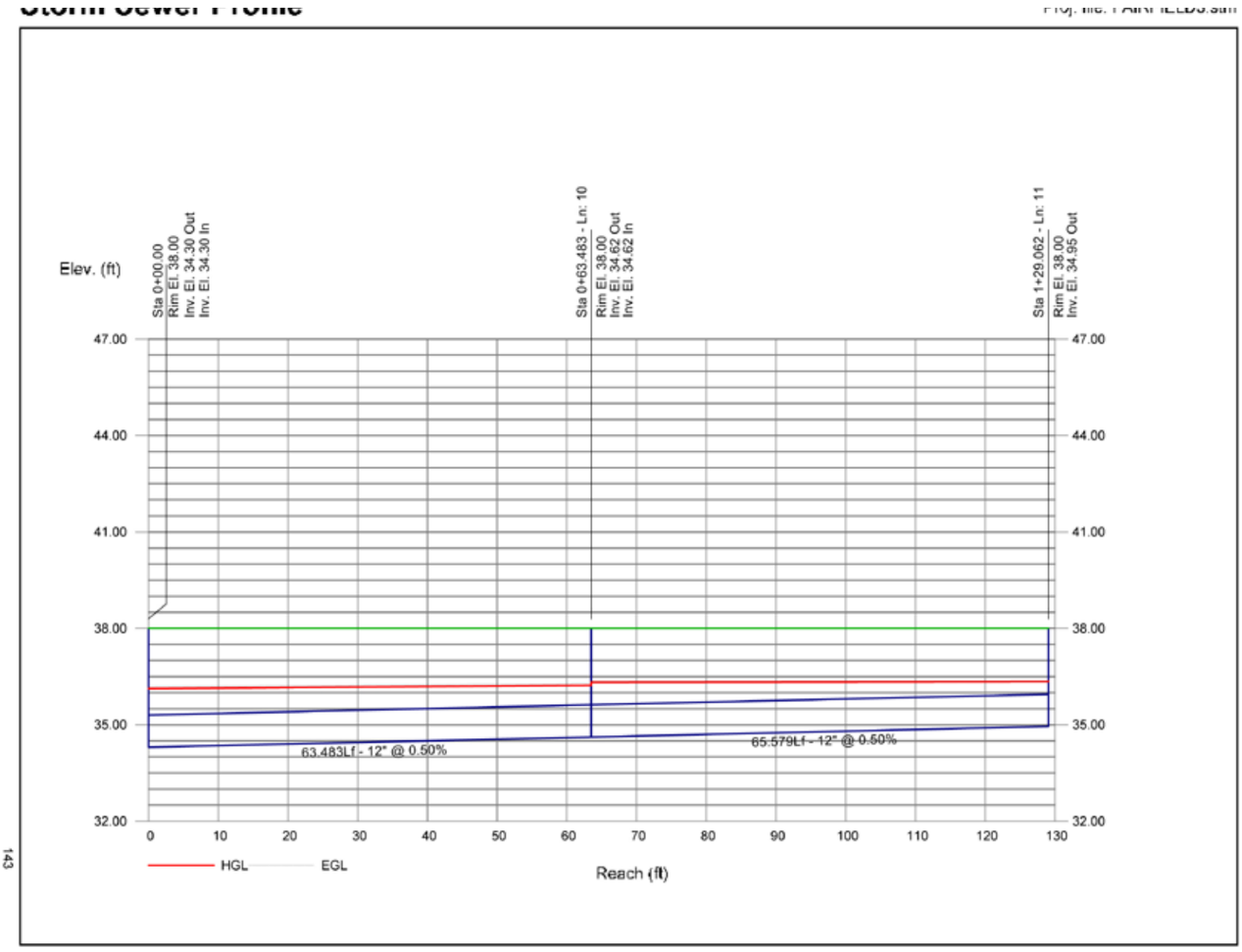
Storm Sewer Profile

Proj. file: FAIRFIELD3.stm



Storm Sewers

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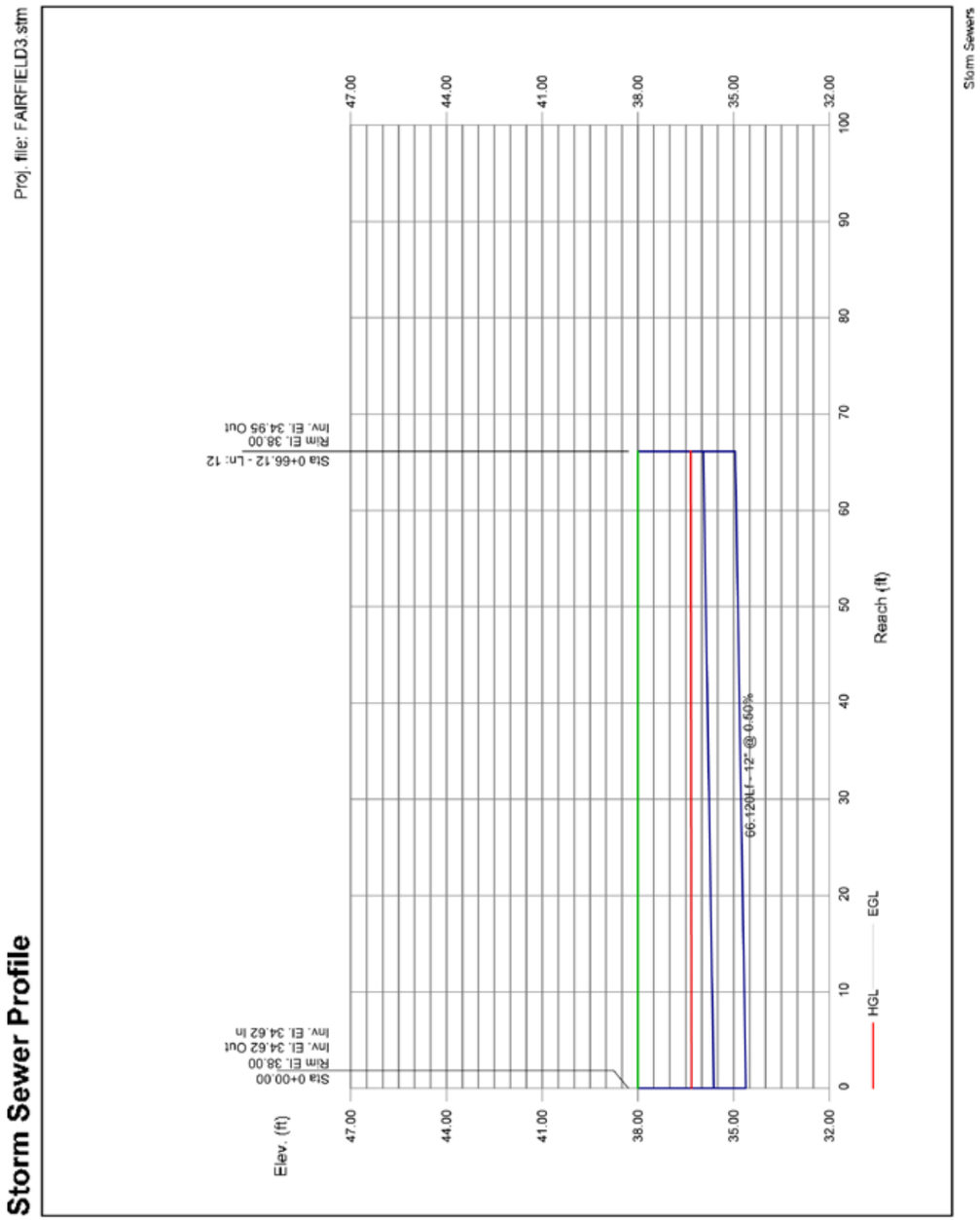
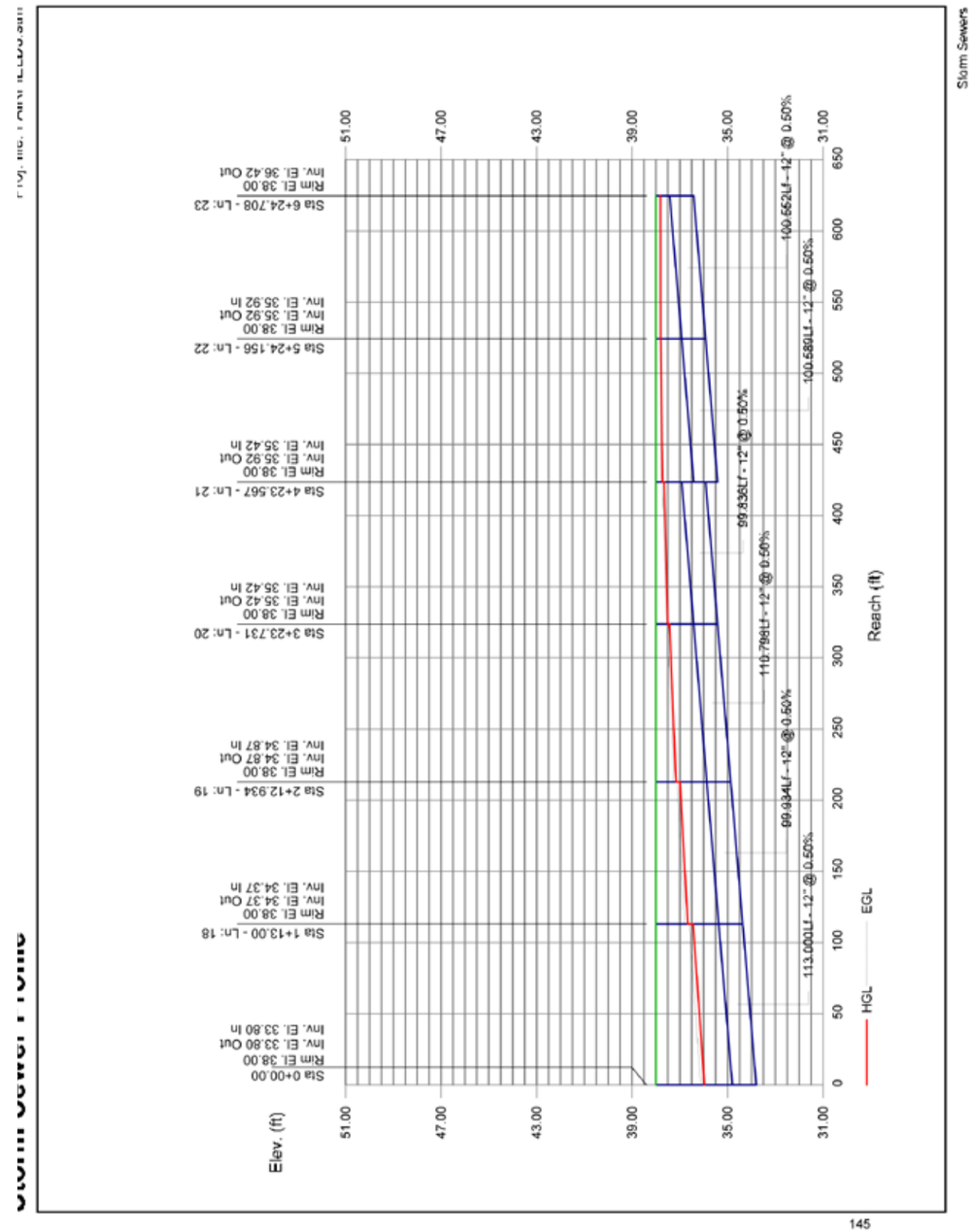
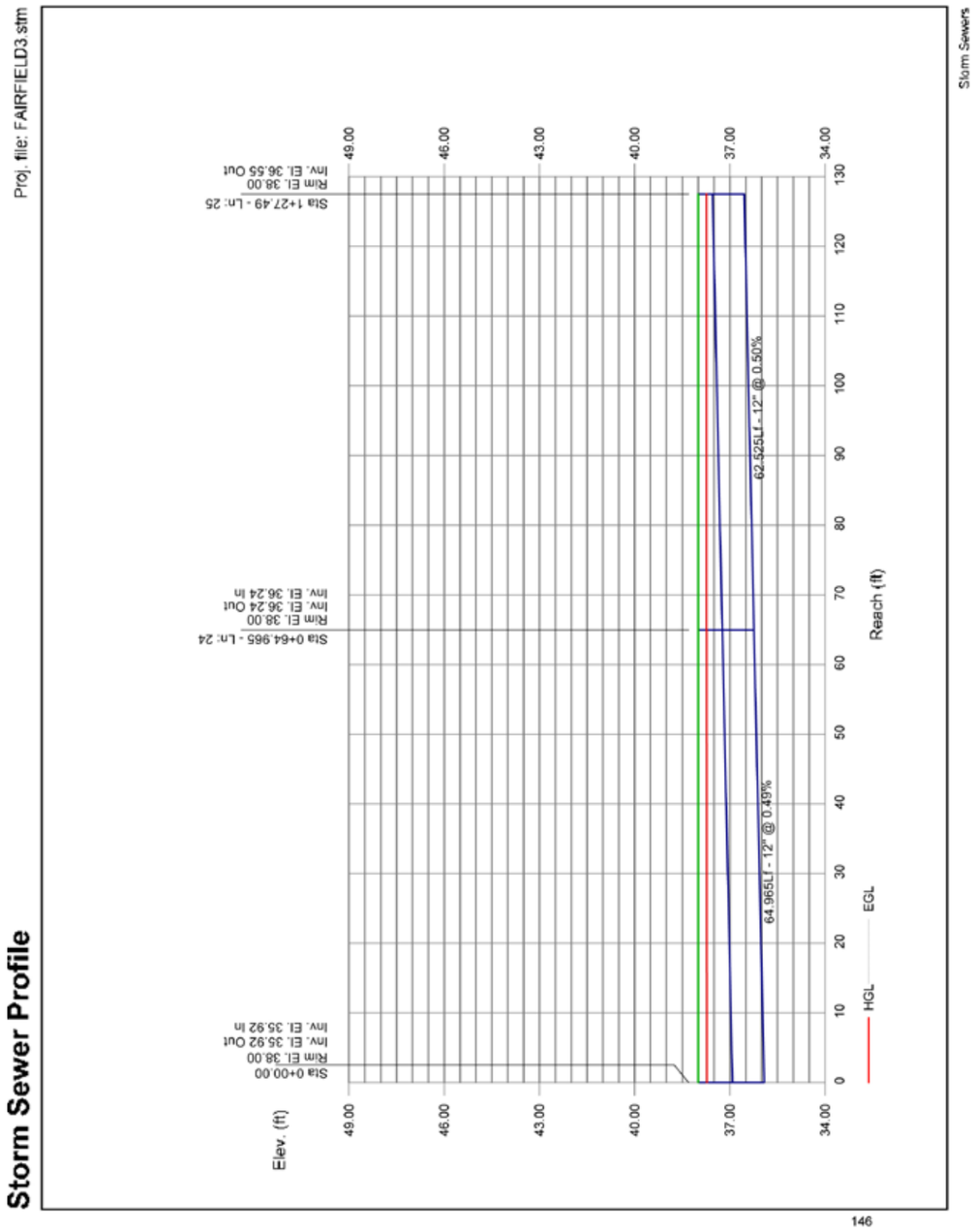
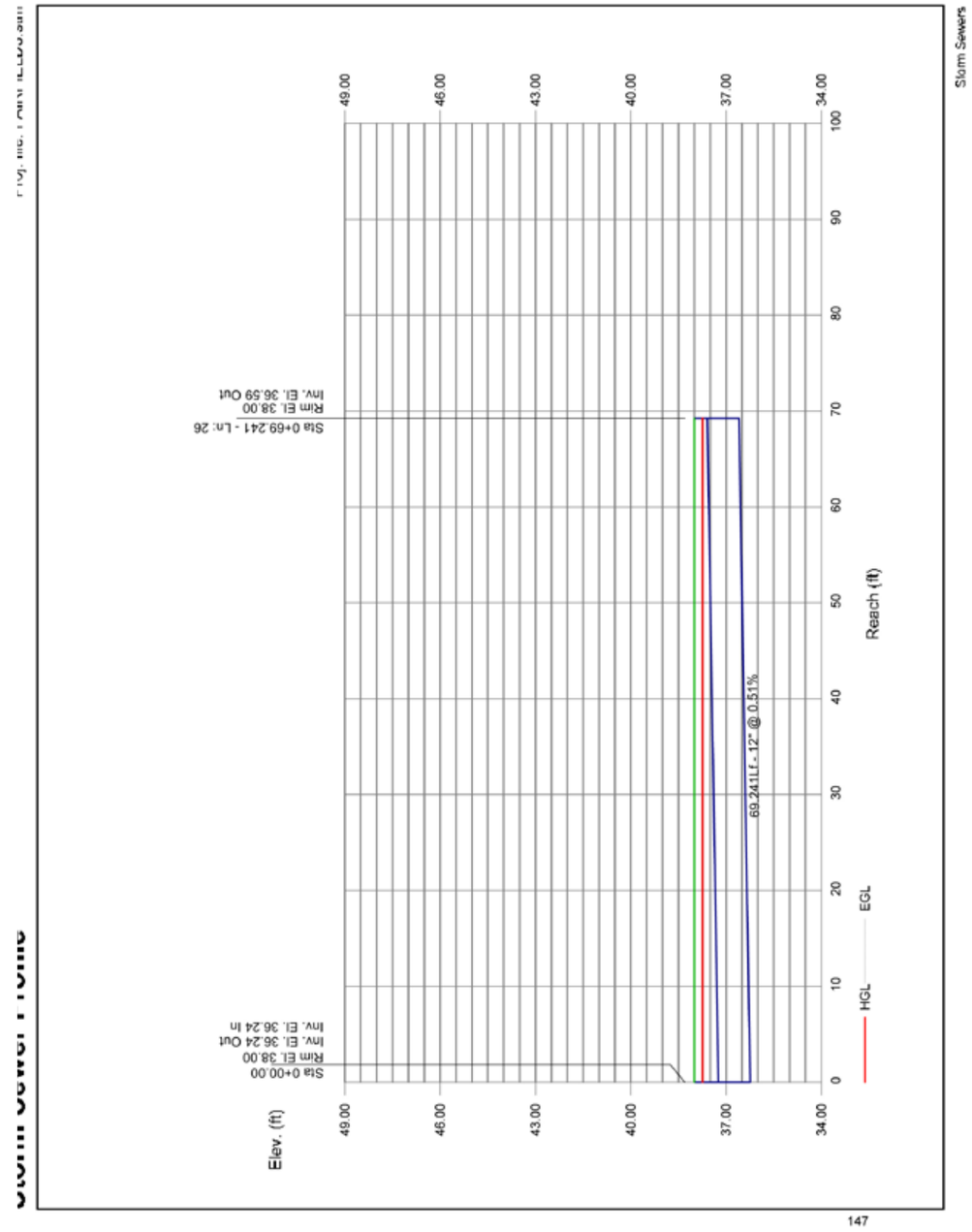

Storm Sewer Profile
Proj. file: FAIRFIELD3.stm
Storm Sewers
Elev. (ft)
Reach (ft)
HGL
EGL
Sta 0+00.00
Rim El. 38.00
Inv. El. 34.62 Out
Inv. El. 34.62 In
66.120LF - 12" @ 0.50%
Sta 0+66.12 - Ln: 12
Rim El. 38.00
Inv. El. 34.95 Out
144

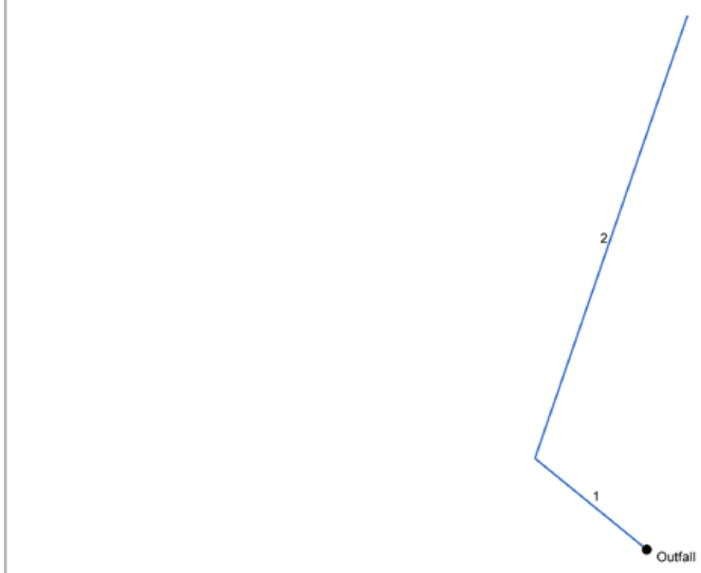

Storm Sewer Profile
Storm Sewers
Elev. (ft)
Reach (ft)
HGL
EGL
Sta 0+00.00
Rim El. 38.00
Inv. El. 33.80 Out
Inv. El. 33.80 In
113.000LF - 12" @ 0.50%
Sta 1+13.00 - Ln: 18
Rim El. 38.00
Inv. El. 34.37 Out
Inv. El. 34.37 In
99.934LF - 12" @ 0.50%
Sta 2+12.934 - Ln: 19
Rim El. 38.00
Inv. El. 34.87 Out
Inv. El. 34.87 In
110.798LF - 12" @ 0.50%
Sta 3+23.731 - Ln: 20
Rim El. 38.00
Inv. El. 35.42 Out
Inv. El. 35.42 In
99.836LF - 12" @ 0.50%
Sta 4+23.567 - Ln: 21
Rim El. 38.00
Inv. El. 35.92 Out
Inv. El. 35.42 In
100.589LF - 12" @ 0.50%
Sta 5+24.156 - Ln: 22
Rim El. 38.00
Inv. El. 35.92 Out
Inv. El. 35.92 In
100.662LF - 12" @ 0.50%
Sta 6+24.708 - Ln: 23
Rim El. 38.00
Inv. El. 36.42 Out
145


Storm Sewer Profile
Proj. file: FAIRFIELD3.stm
Storm Sewers
Elev. (ft)
Reach (ft)
Sta 0+00.00
Rim El. 38.00
Inv. El. 35.92 Out
Inv. El. 35.92 In
Sta 0+64.965 - Ln: 24
Rim El. 38.00
Inv. El. 36.24 Out
Inv. El. 36.24 In
Sta 1+27.49 - Ln: 25
Rim El. 38.00
Inv. El. 36.55 Out
64.965Lf - 12" @ 0.49%
62.525Lf - 12" @ 0.50%
HGL
EGL
146


Storm Sewer Profile
Storm Sewers
Elev. (ft)
Reach (ft)
Sta 0+00.00
Rim El. 38.00
Inv. El. 36.24 Out
Inv. El. 36.24 In
Sta 0+69.241 - Ln: 26
Rim El. 38.00
Inv. El. 36.59 Out
69.241Lf - 12" @ 0.51%
HGL
EGL
147

Appendix 9.7
Storm Sewers Output – System 4
System 4 – Existing Conditions

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



150

Project File: FAIRFIELD4.stm	Number of lines: 2	Date: 2/19/2014

Storm Sewers v5.01

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	105.567	-142.699	Genr	0.00	2.82	0.49	25.4	30.45	0.41	30.89	12	Cir	0.012	1.45	34.09	1
2	1	333.739	72.862	Genr	0.00	4.55	0.62	19.3	30.89	0.51	32.59	12	Cir	0.012	1.00	35.09	2

151

Project File: FAIRFIELD4.stm	Number of lines: 2	Date: 2/19/2014

Storm Sewers v5.00

Storm Sewer Tabulation

Page 1

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	106.567	2.82	7.37	0.49	1.38	4.20	25.4	25.4	1.9	7.87	2.48	10.02	12	0.41	30.45	30.89	33.45	37.89	33.00	34.09	1
2	1	333.739	4.55	4.55	0.62	2.82	2.82	19.3	19.3	2.2	6.12	2.75	7.80	12	0.51	30.89	32.59	40.15	48.56	34.09	35.09	2

152

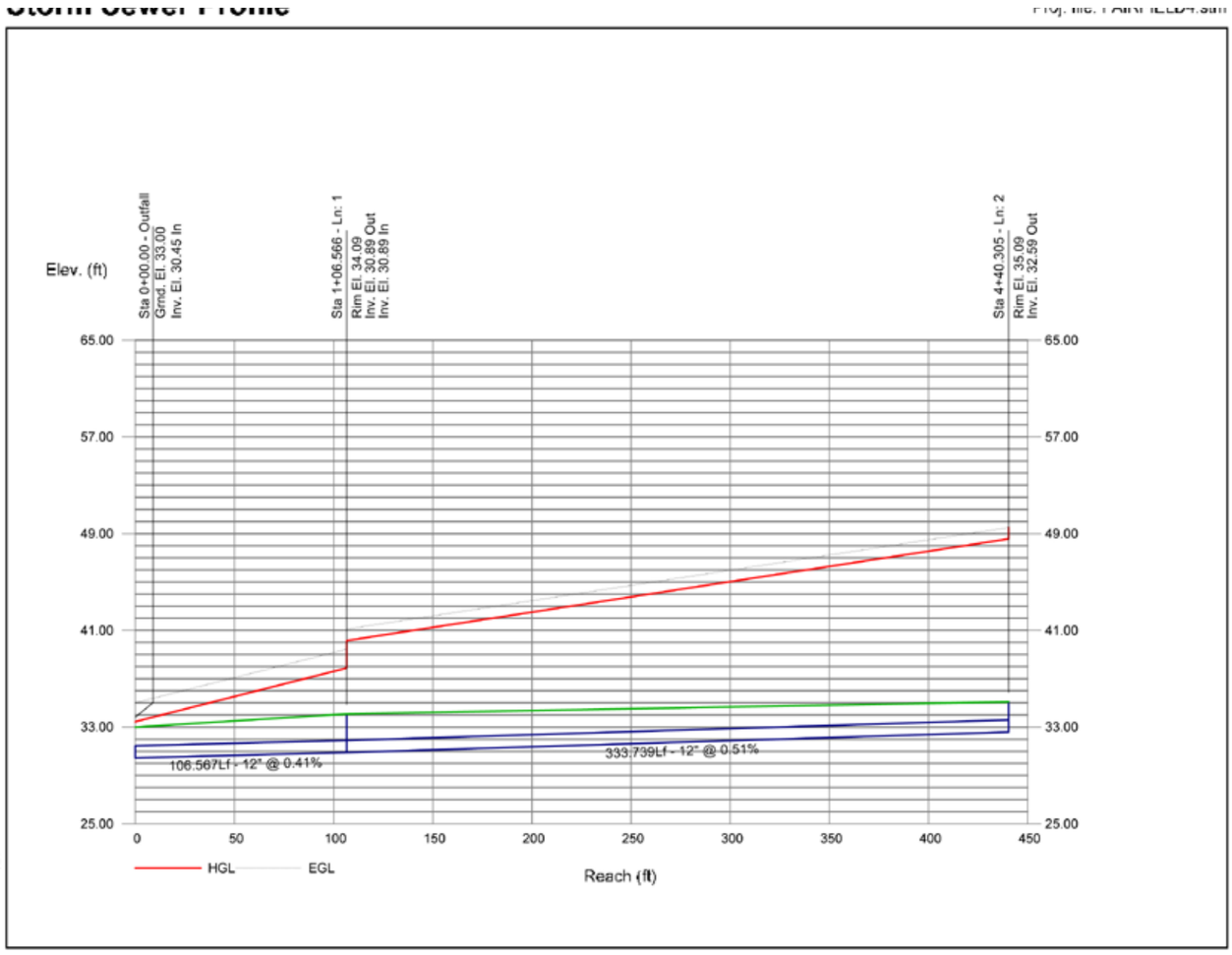
Project File: FAIRFIELD4.stm | Number of lines: 2 | Run Date: 2/19/2014

NOTES:Intensity = 13.15 / (Inlet time + 2.10) ^ 0.59 ; Return period =Yrs. 25 ; c = cir e = ellip b = box

from Sewers v5.00

Storm Sewer Profile

Proj. file: FAIRFIELD4.stm



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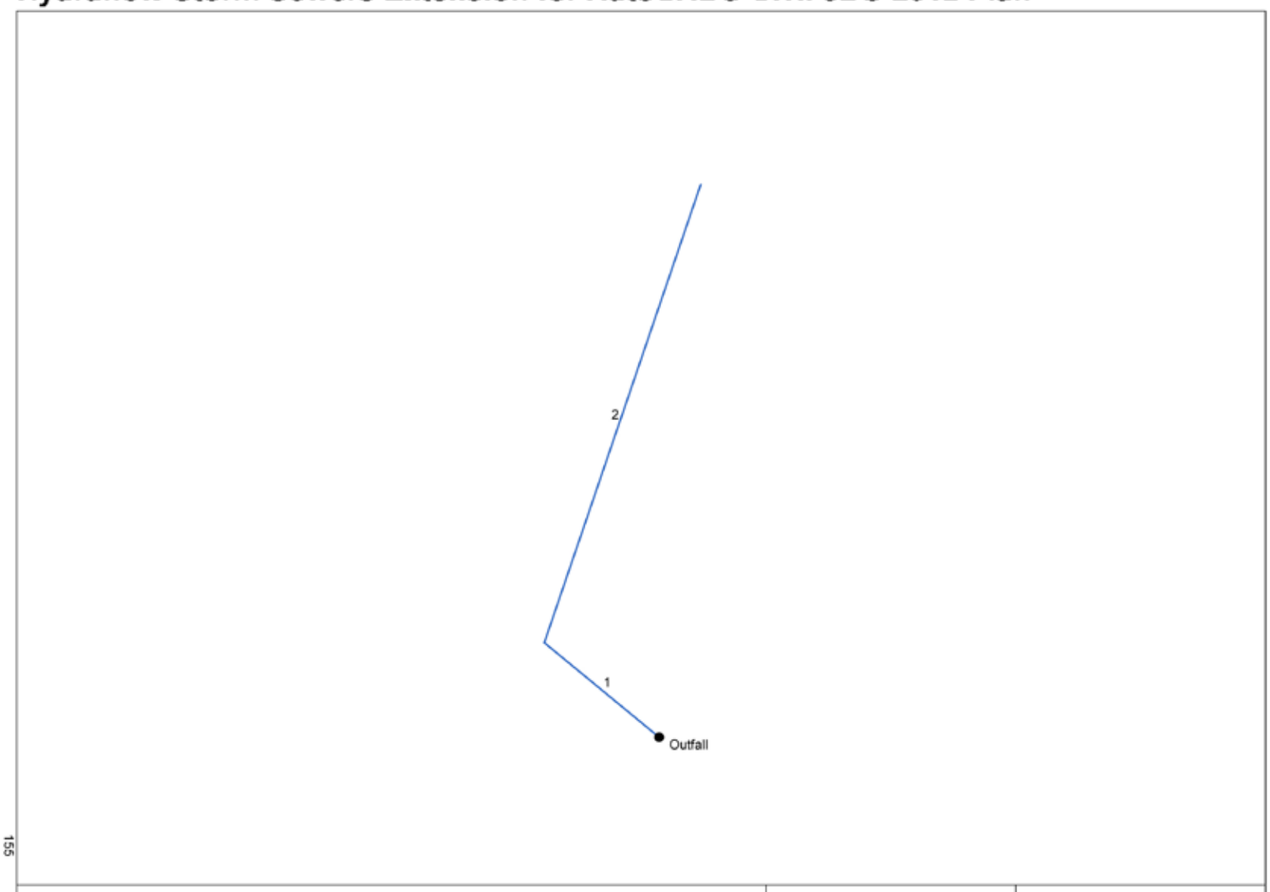
Storm Sewers

System 4
Improvement Example

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



155

Project File: FAIRFIELD4edit.stm	Number of lines: 2	Date: 2/19/2014

Storm Sewers v5.00

Storm Sewer Inventory Report

Page 1

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	105.567	-142.899	Genr	0.00	2.82	0.49	25.4	30.45	0.41	30.89	24	Cir	0.015	1.45	34.09	Pipe - (180)
2	1	333.739	72.862	Genr	0.00	4.55	0.62	19.3	30.89	0.51	32.59	24	Cir	0.015	1.00	35.09	Pipe - (179)

156

Project File: FAIRFIELD4edit.stm	Number of lines: 2	Date: 2/19/2014

Storm Sewers v5.00

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	105.567	2.82	7.37	0.49	1.38	4.20	25.4	25.4	1.9	7.87	12.60	2.51	24	0.41	30.45	30.89	33.45	33.62	33.00	34.09	Pipe - (180)
2	1	333.739	4.55	4.55	0.62	2.82	2.82	19.3	19.3	2.2	6.12	13.99	2.19	24	0.51	30.89	32.59	33.76	34.09	34.09	35.09	Pipe - (179)

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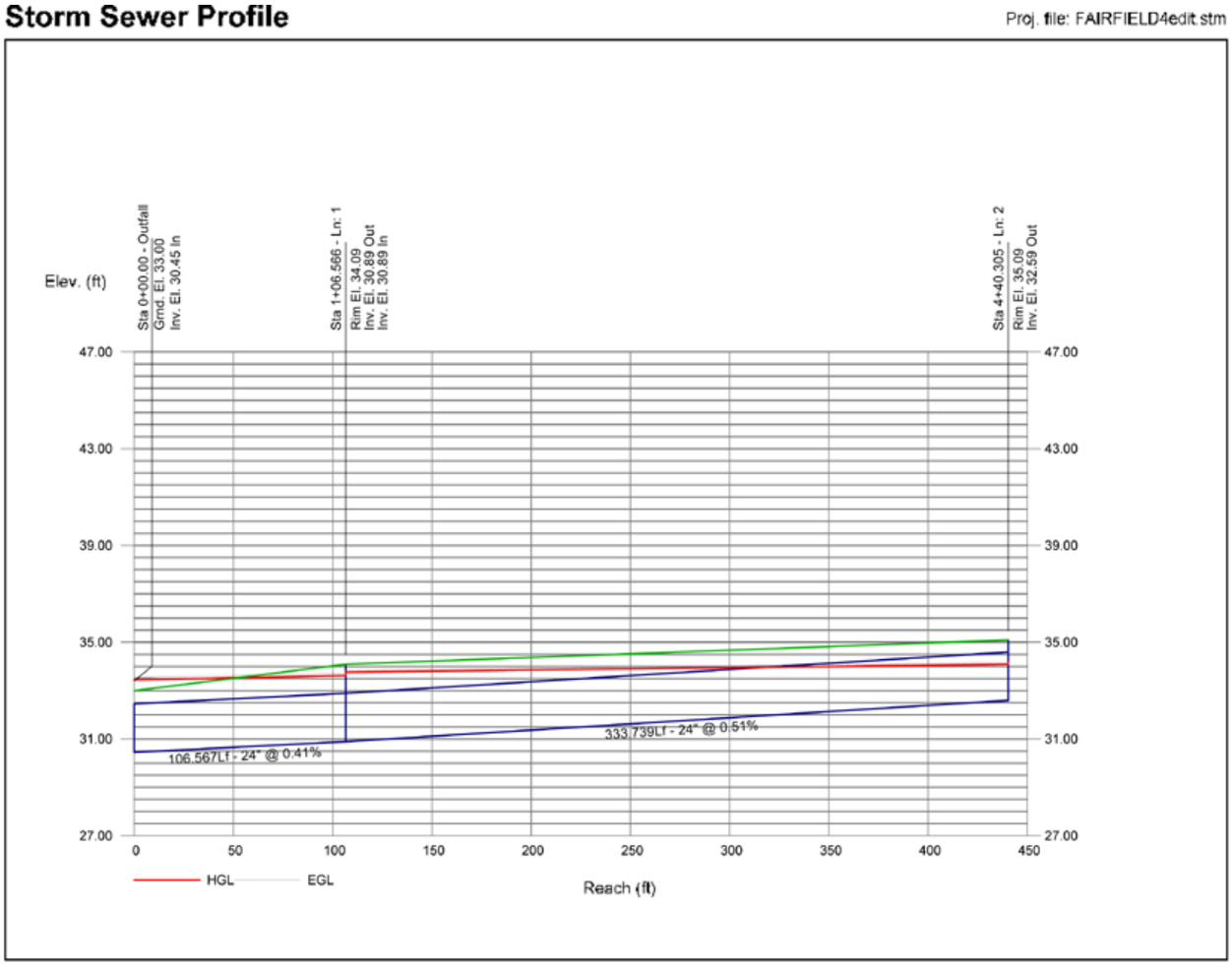
Project File: FAIRFIELD4edit.stm | Number of lines: 2 | Run Date: 2/19/2014

NOTES:Intensity = 13.15 / (Inlet time + 2.10) ^ 0.59 ; Return period =Yrs. 25 ; c = cir e = ellip b = box

Storm Sewers v5.00

Storm Sewer Profile

Proj. file: FAIRFIELD4edit.stm



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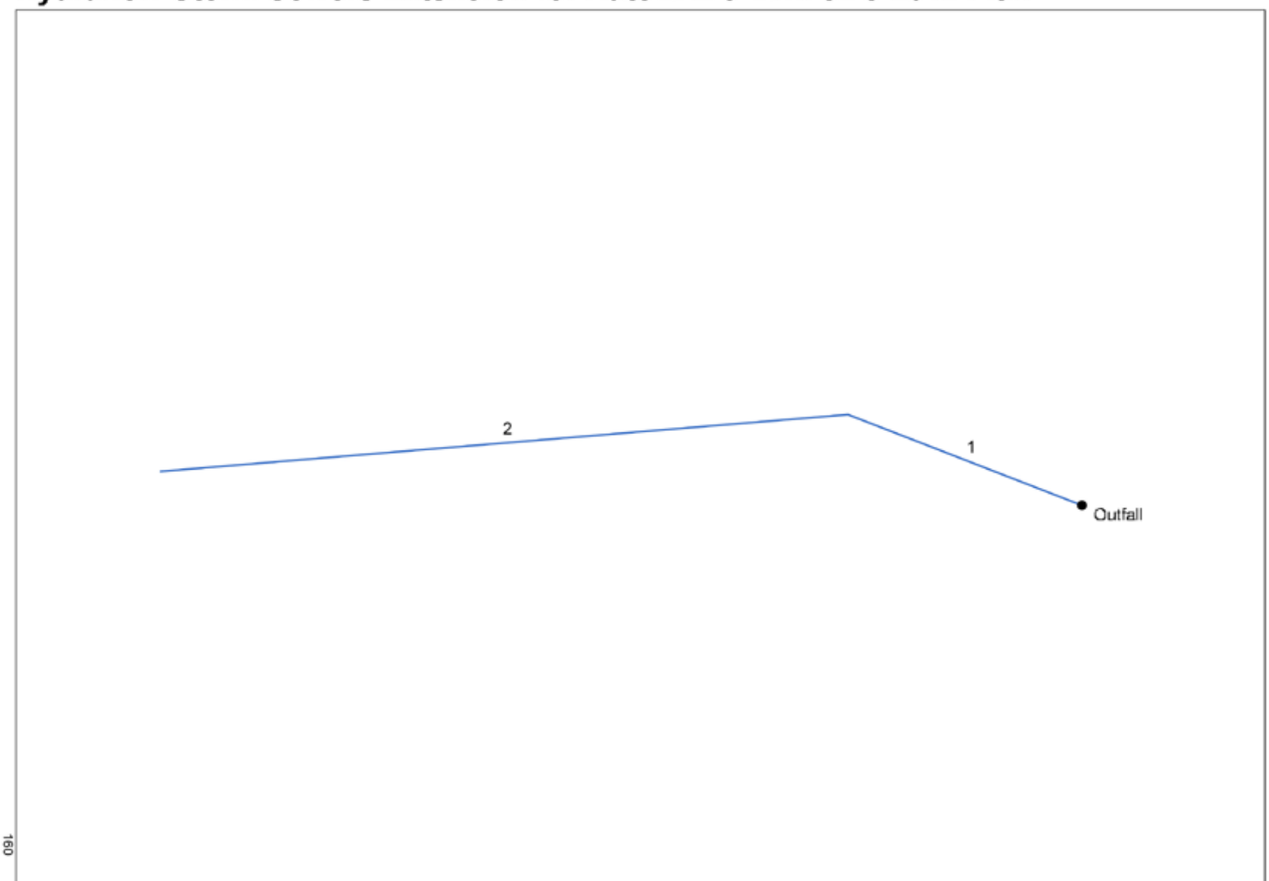
Storm Sewers

Appendix 9.8
Storm Sewers Output – System 5

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



Project File: FAIRFIELD5.stm	Number of lines: 2	Date: 2/19/2014

Storm Sewers v5.00

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	114.830	-160.557	Genr	0.00	5.01	0.59	21.5	32.52	0.41	32.99	24	Cir	0.012	0.69	36.34	1
2	1	320.181	-23.728	Genr	0.00	1.06	0.92	7.8	32.99	0.52	34.67	18	Cir	0.012	1.00	39.49	2

Project File: FAIRFIELD5.stm	Number of lines: 2	Date: 2/19/2014

Storm Sewers v5.00

Storm Sewer Tabulation

Page 1

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	114.830	5.01	6.07	0.59	2.96	3.93	21.5	21.5	2.0	8.06	15.68	2.56	24	0.41	32.52	32.99	35.12	35.24	39.00	36.34	1
2	1	320.181	1.06	1.06	0.92	0.98	0.98	7.8	7.8	3.4	3.33	8.24	2.33	18	0.52	32.99	34.67	35.31	35.64	36.34	39.49	2

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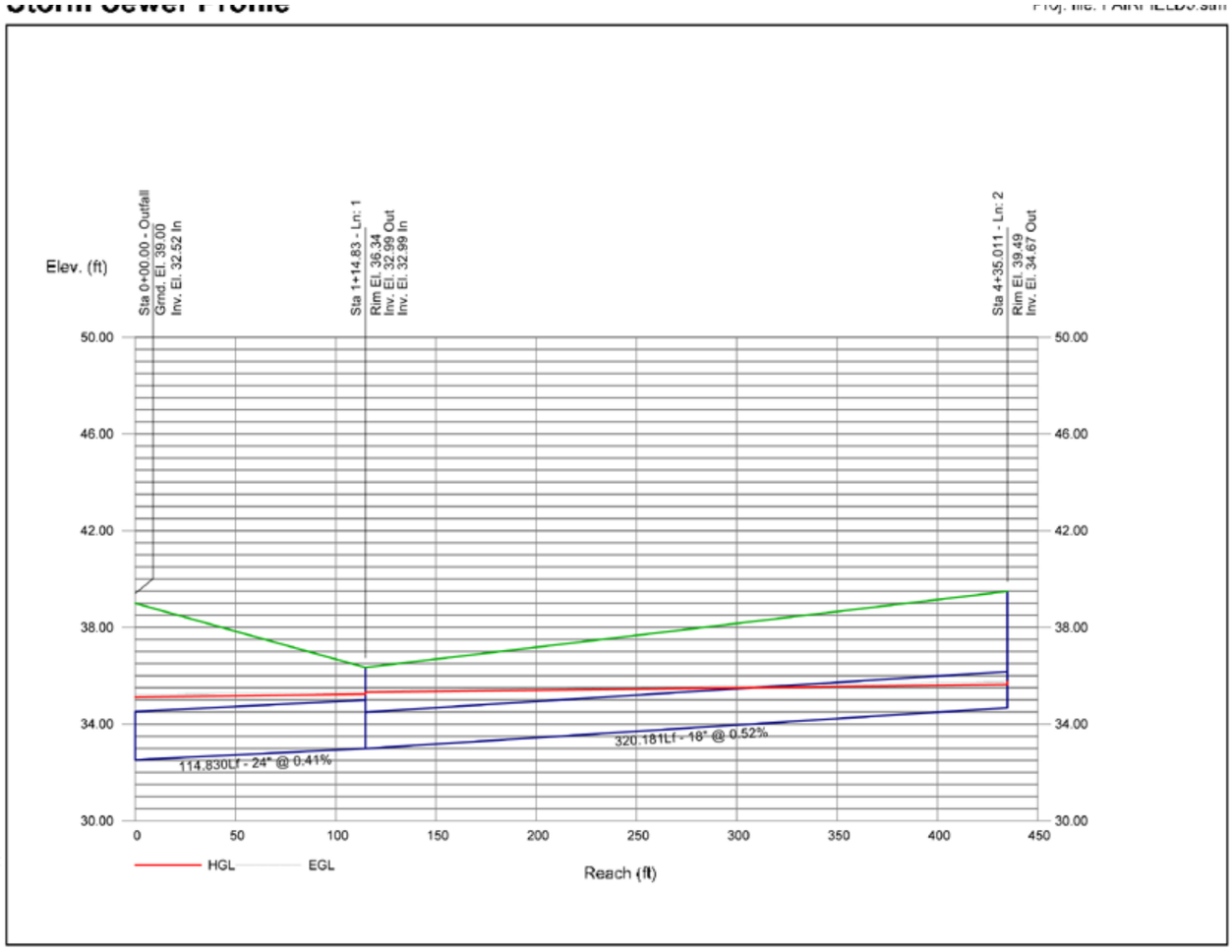
Project File: FAIRFIELD5.stm | Number of lines: 2 | Run Date: 2/19/2014

NOTES:Intensity = 13.15 / (Inlet time + 2.10) ^ 0.59 ; Return period =Yrs. 25 ; c = cir e = ellip b = box

from Sewers v5.00

Storm Sewer Profile

Proj. file: FAIRFIELD5.stm



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Storm Sewers

Appendix 9.9
Storm Sewers Output – System 6
System 6 – Existing Conditions

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan

Number of lines: 4 | Date: 2/19/2014

Project File: FAIRFIELD6.stm

Hydraflow Storm Sewers v6.00

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Storm Sewer Inventory Report

Line No.	Alignment					Flow Data						Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)				
1	End	86.279	-187.080	Genr	0.00	6.06	0.42	31.3	32.00	2.96	34.55	30	Cir	0.012	0.50	38.09				1
2	1	294.293	-6.862	Genr	0.00	4.48	0.44	31.9	34.55	0.51	35.84	30	Cir	0.012	0.50	39.89				2
3	2	341.349	0.090	Genr	0.00	3.76	0.95	7.6	35.84	0.50	37.55	24	Cir	0.012	0.50	42.09				3
4	3	342.533	0.160	Genr	0.00	4.62	0.95	7.3	37.55	0.50	39.27	18	Cir	0.012	1.00	44.34				4

Number of lines: 4 | Date: 2/19/2014

Project File: FAIRFIELD6.stm

Hydraflow Sewers v6.00

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Storm Sewer Tabulation

Page 1

Station Line	Station To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	86.279	6.06	18.92	0.42	2.55	12.48	31.3	32.7	1.6	20.36	76.38	5.31	30	2.96	32.00	34.55	34.90	36.08	36.00	38.09	1
2	1	254.293	4.48	12.86	0.44	1.97	9.93	31.9	31.9	1.7	16.42	31.64	5.59	30	0.51	34.55	35.84	36.08	37.21	38.09	39.89	2
3	2	341.349	3.76	8.38	0.95	3.57	7.96	7.6	8.0	3.4	26.95	17.34	8.58	24	0.50	35.84	37.55	37.84	41.97	39.89	42.09	3
4	3	342.533	4.62	4.62	0.95	4.39	4.39	7.3	7.3	3.5	15.45	8.06	8.75	18	0.50	37.55	39.27	42.54	48.86	42.09	44.34	4

Project File: FAIRFIELD6.stm | Number of lines: 4 | Run Date: 2/19/2014

NOTES:Intensity = 13.15 / (Inlet time + 2.10) ^ 0.59 ; Return period =Yrs. 25 ; c = cir e = ellip b = box

from Storms v5.00

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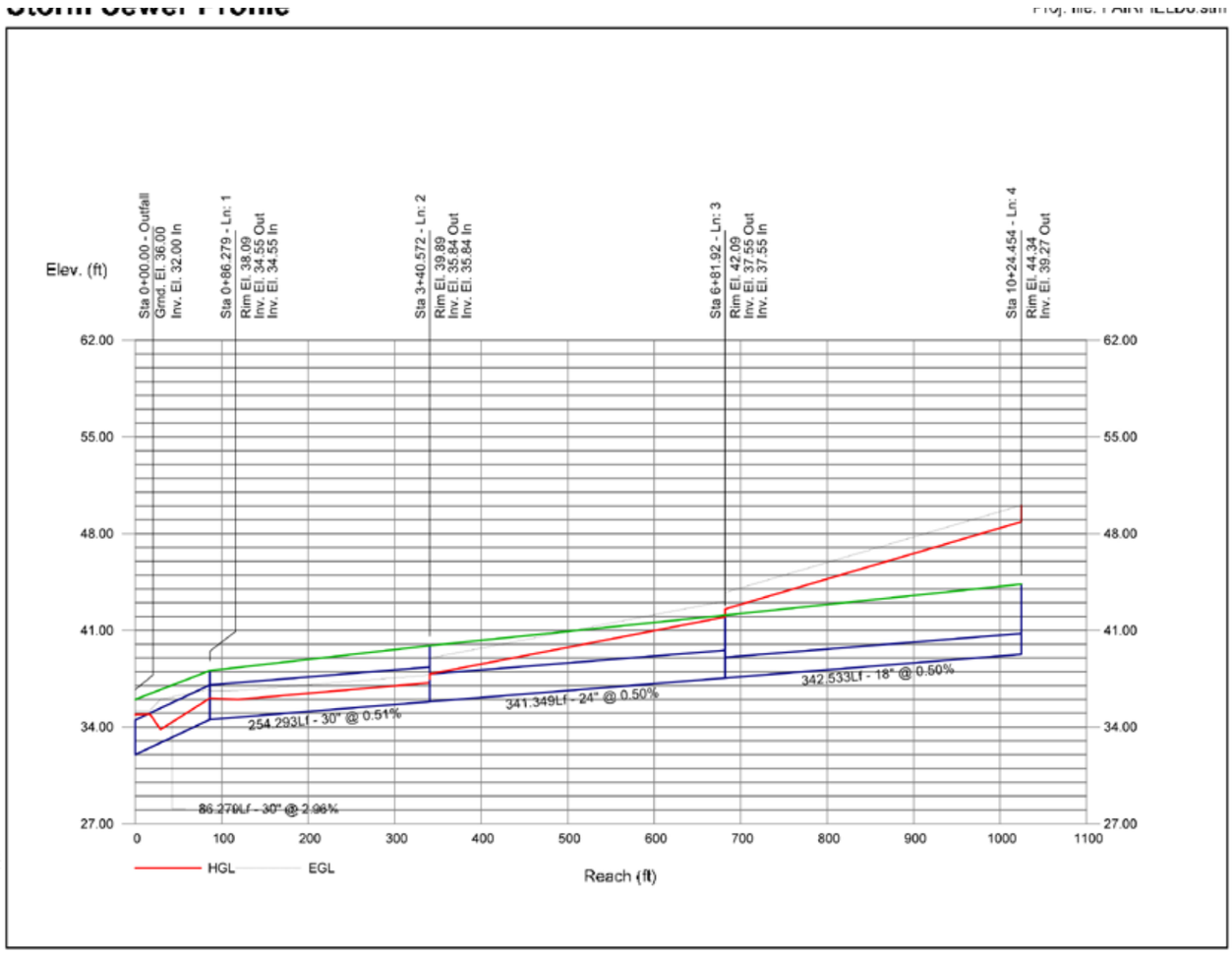
Storm Sewer Profile

Proj. file: FAIRFIELD6.stm



Storm Sewers

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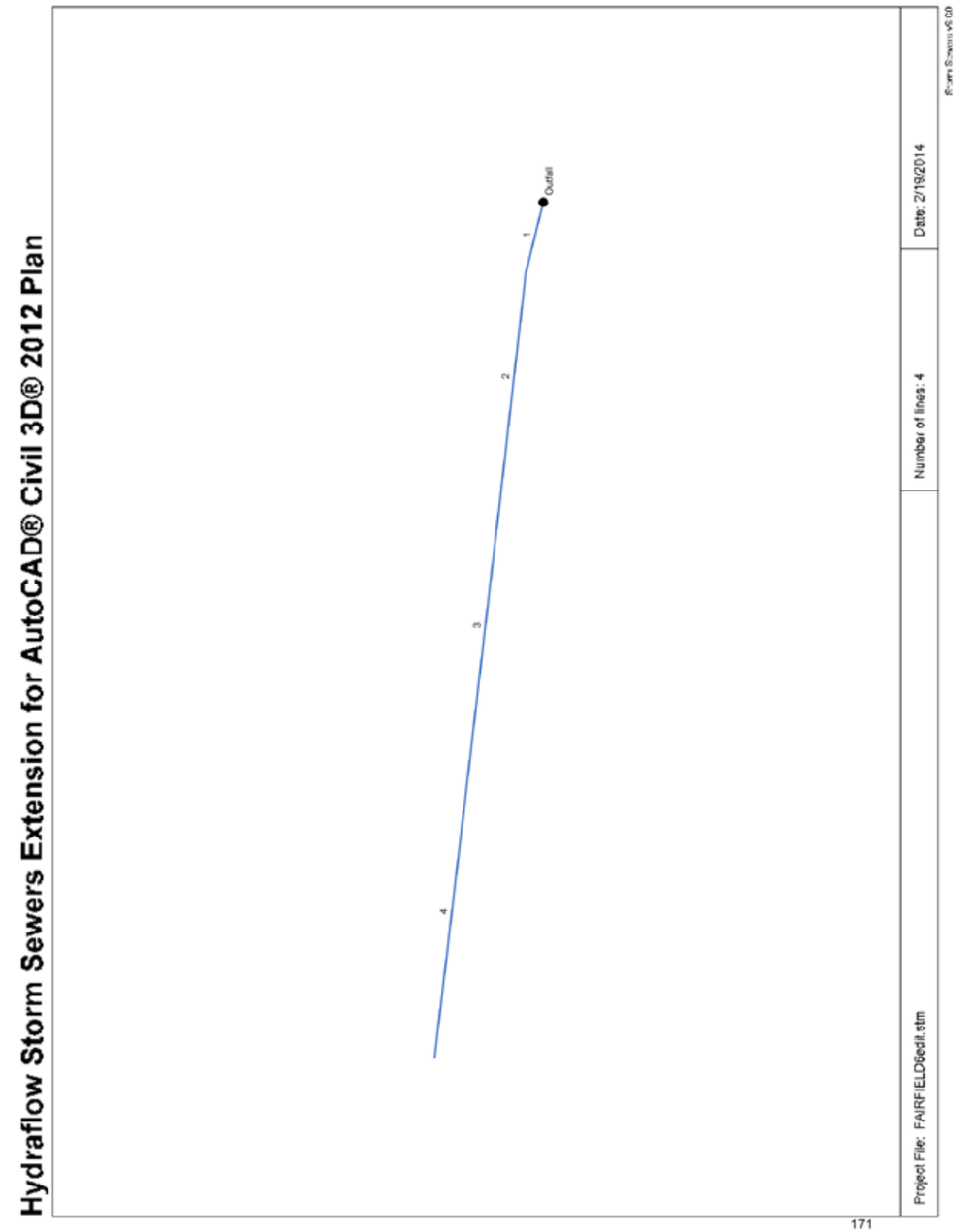
System 6
Improvement Example



Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	86.279	-167.080	Genr	0.00	6.06	0.42	31.3	32.00	2.96	34.55	30	Cir	0.012	0.50	38.09	1
2	1	254.293	-6.862	Genr	0.00	4.48	0.44	31.9	34.55	0.51	35.84	30	Cir	0.012	0.50	39.89	2
3	2	341.349	0.090	Genr	0.00	3.76	0.95	7.6	35.84	0.50	37.55	30	Cir	0.012	0.50	42.09	3
4	3	342.533	0.160	Genr	0.00	4.62	0.95	7.3	37.55	0.50	39.27	24	Cir	0.012	1.00	44.34	4

Project File: FAIRFIELD6edit.stm | Number of lines: 4 | Date: 2/19/2014

Storm Sewers v5.00

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Storm Sewer Tabulation

Page 1

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	86.279	6.06	18.92	0.42	2.55	12.48	31.3	32.7	1.6	20.36	76.38	5.31	30	2.96	32.00	34.55	34.90	36.08	36.00	38.09	1
2	1	254.293	4.48	12.86	0.44	1.97	9.93	31.9	31.9	1.7	16.42	31.64	5.59	30	0.51	34.55	35.84	36.08	37.21	38.09	39.89	2
3	2	341.349	3.76	8.38	0.95	3.57	7.96	7.6	8.4	3.3	26.27	31.45	7.16	30	0.50	35.84	37.55	37.59	39.30	39.89	42.09	3
4	3	342.533	4.62	4.62	0.95	4.39	4.39	7.3	7.3	3.5	15.45	17.36	5.21	24	0.50	37.55	39.27	39.70	40.94	42.09	44.34	4

Project File: FAIRFIELD6edit.stm | Number of lines: 4 | Run Date: 2/19/2014

NOTES:Intensity = 13.15 / (Inlet time + 2.10) ^ 0.59 ; Return period =Yrs. 25 ; c = cir e = ellip b = box

Storm Sewers v5.00

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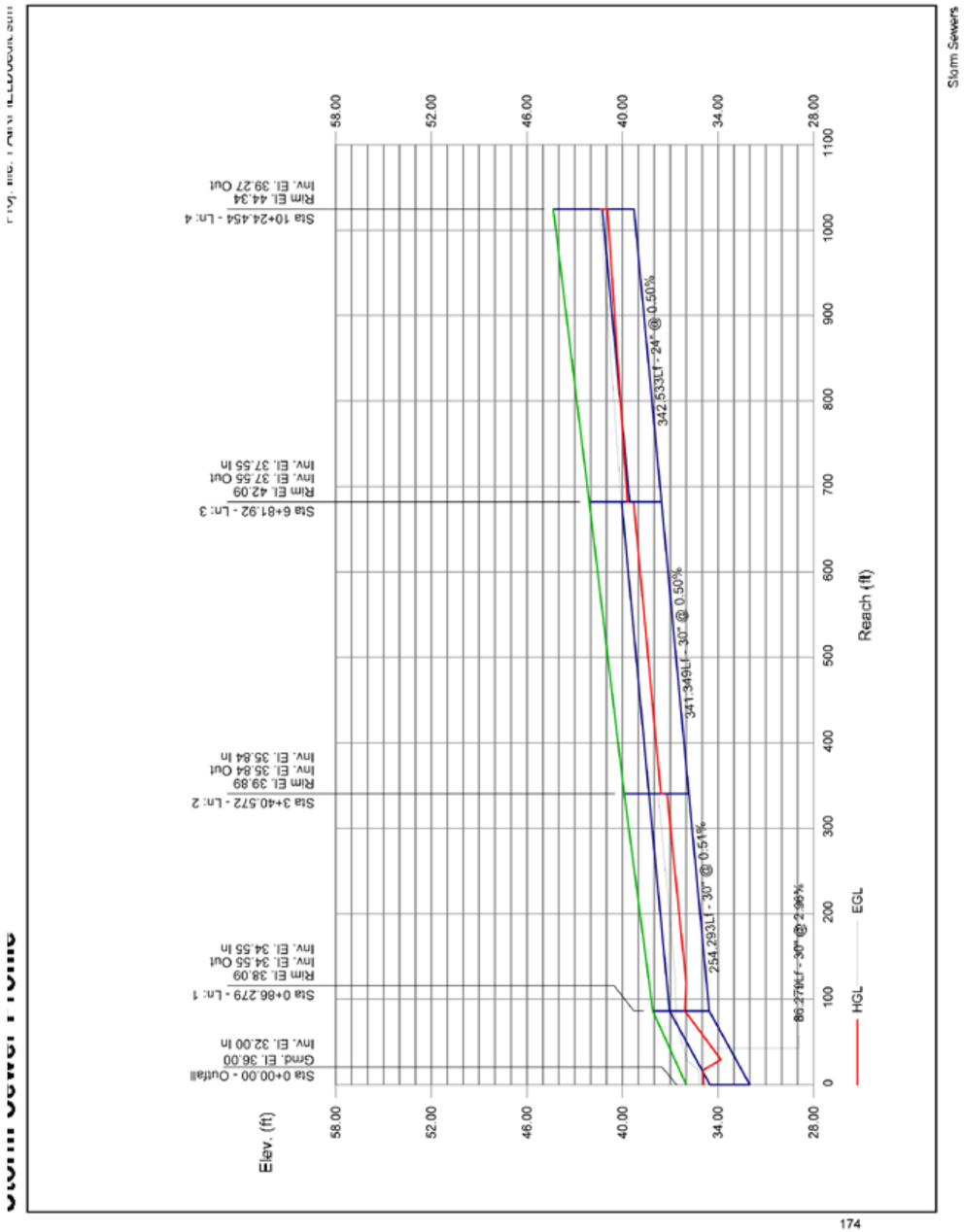
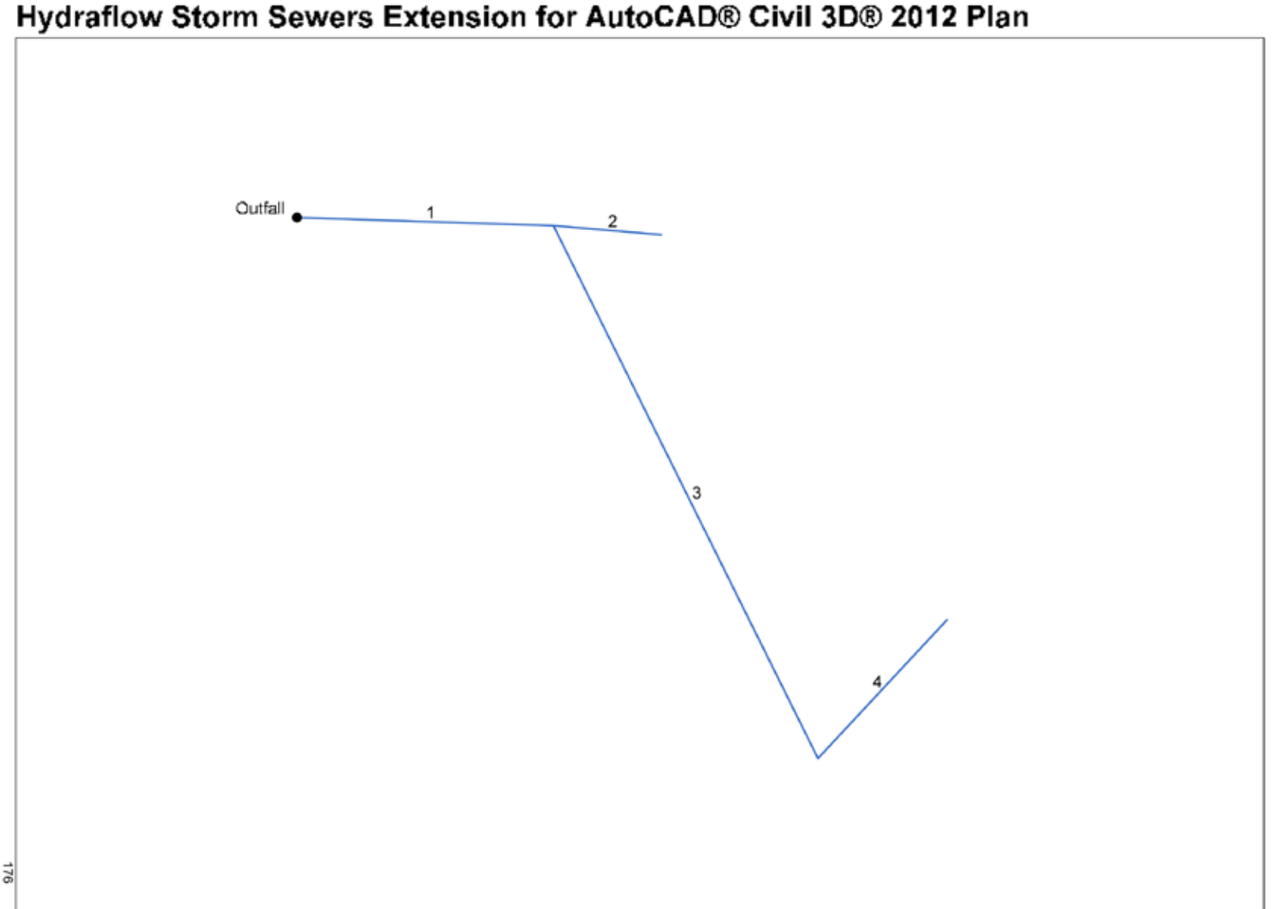
Appendix 9.10
Storm Sewers Output – System 7



Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



Project File: FAIRFIELD7.stm	Number of lines: 4	Date: 2/19/2014

Storm Sewers v5.00

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Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	79.724	1.735	Genr	0.00	1.76	0.52	31.2	28.75	0.51	29.16	18	Cir	0.012	1.34	34.01	1
2	1	33.369	2.660	Genr	0.00	0.39	0.70	9.7	29.31	13.76	33.90	12	Cir	0.012	1.00	37.65	2
3	1	174.777	60.304	Genr	0.00	1.11	0.49	28.3	29.26	0.57	30.25	12	Cir	0.012	1.50	34.70	3
4	3	56.699	-107.243	Genr	0.00	0.79	0.50	38.6	30.25	8.98	35.34	12	Cir	0.012	1.00	37.64	4

Project File: FAIRFIELD7.stm	Number of lines: 4	Date: 2/19/2014

Storm Sewers v5.00

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Storm Sewer Tabulation

Page 1

Station Line	Station To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	79.724	1.76	4.05	0.52	0.92	2.13	31.2	40.8	1.4	3.07	8.16	1.74	18	0.51	28.75	29.16	32.25	32.31	30.00	34.01	1
2	1	33.369	0.39	0.39	0.70	0.27	0.27	9.7	9.7	3.1	0.84	14.31	2.05	12	13.76	29.31	33.90	32.37	34.28	34.01	37.65	2
3	1	174.777	1.11	1.90	0.49	0.54	0.94	28.3	39.1	1.5	1.39	2.90	1.76	12	0.57	29.26	30.25	32.37	32.60	34.01	34.70	3
4	3	56.699	0.79	0.79	0.50	0.40	0.40	38.6	38.6	1.5	0.59	11.56	1.74	12	8.98	30.25	35.34	32.67	35.66	34.70	37.64	4

178

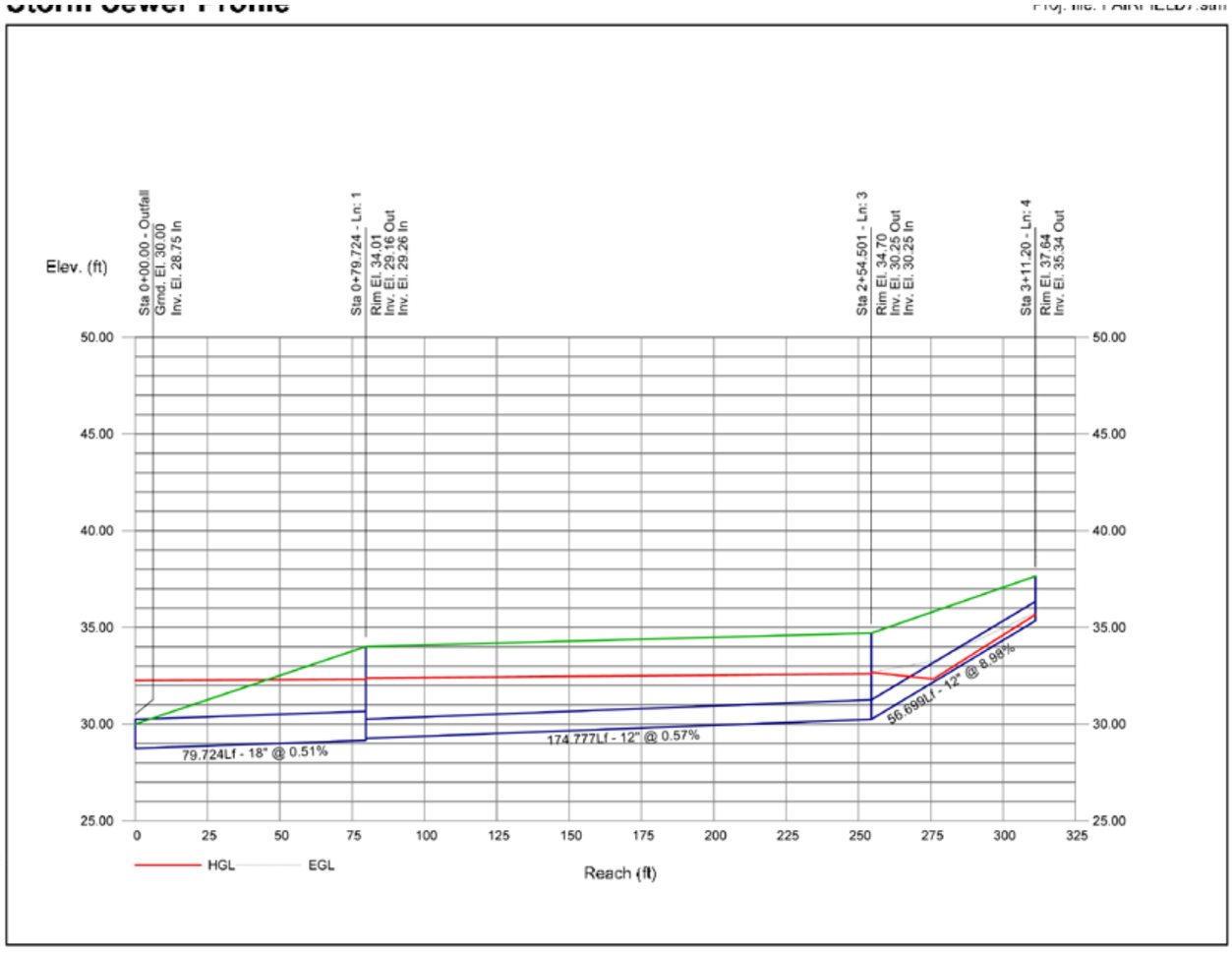
Project File: FAIRFIELD7.stm | Number of lines: 4 | Run Date: 2/19/2014

NOTES:Intensity = 13.15 / (Inlet time + 2.10) ^ 0.59 ; Return period =Yrs. 25 ; c = cir e = ellip b = box

from Storm v5.00

Storm Sewer Profile

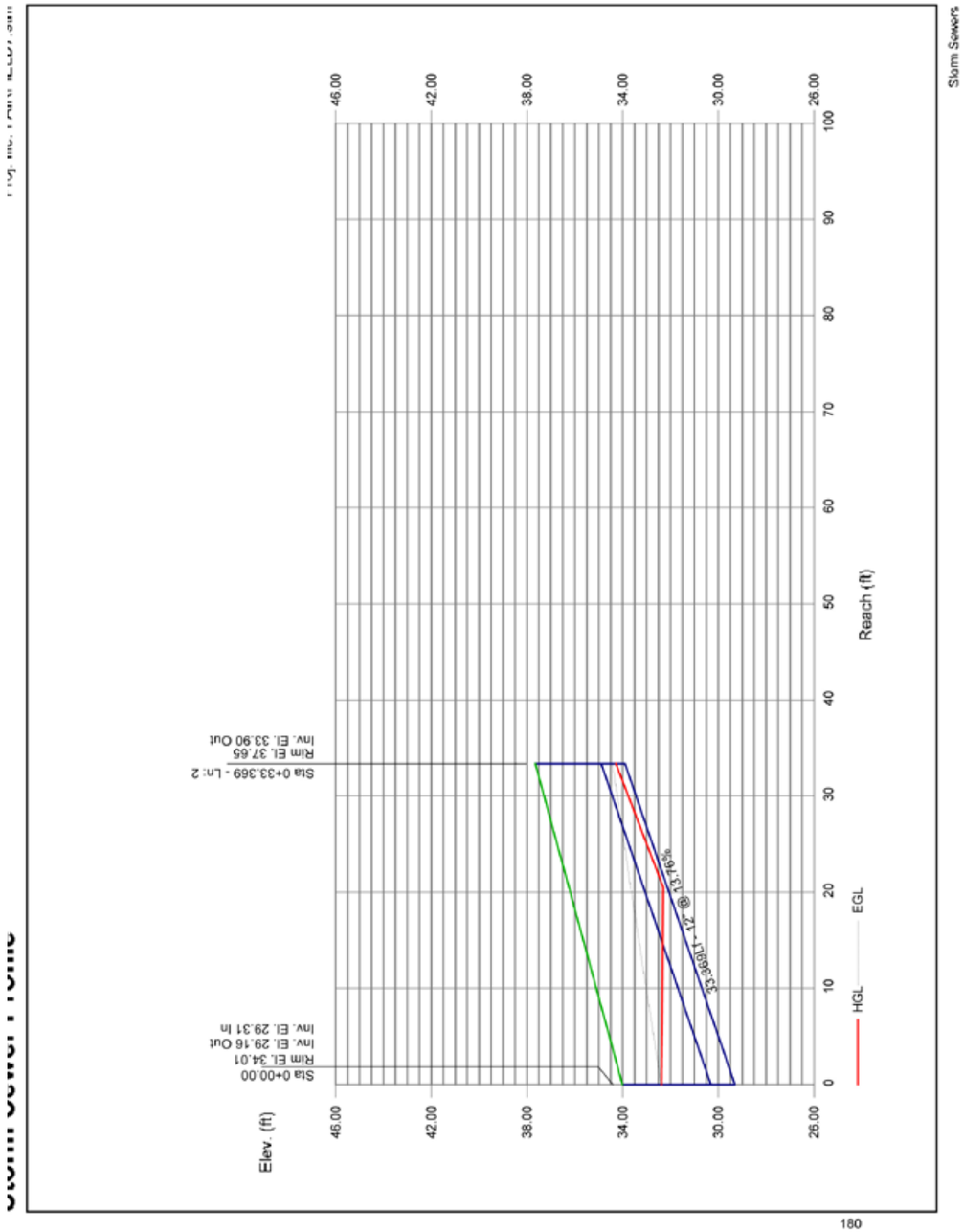
Proj. file: FAIRFIELD7.stm

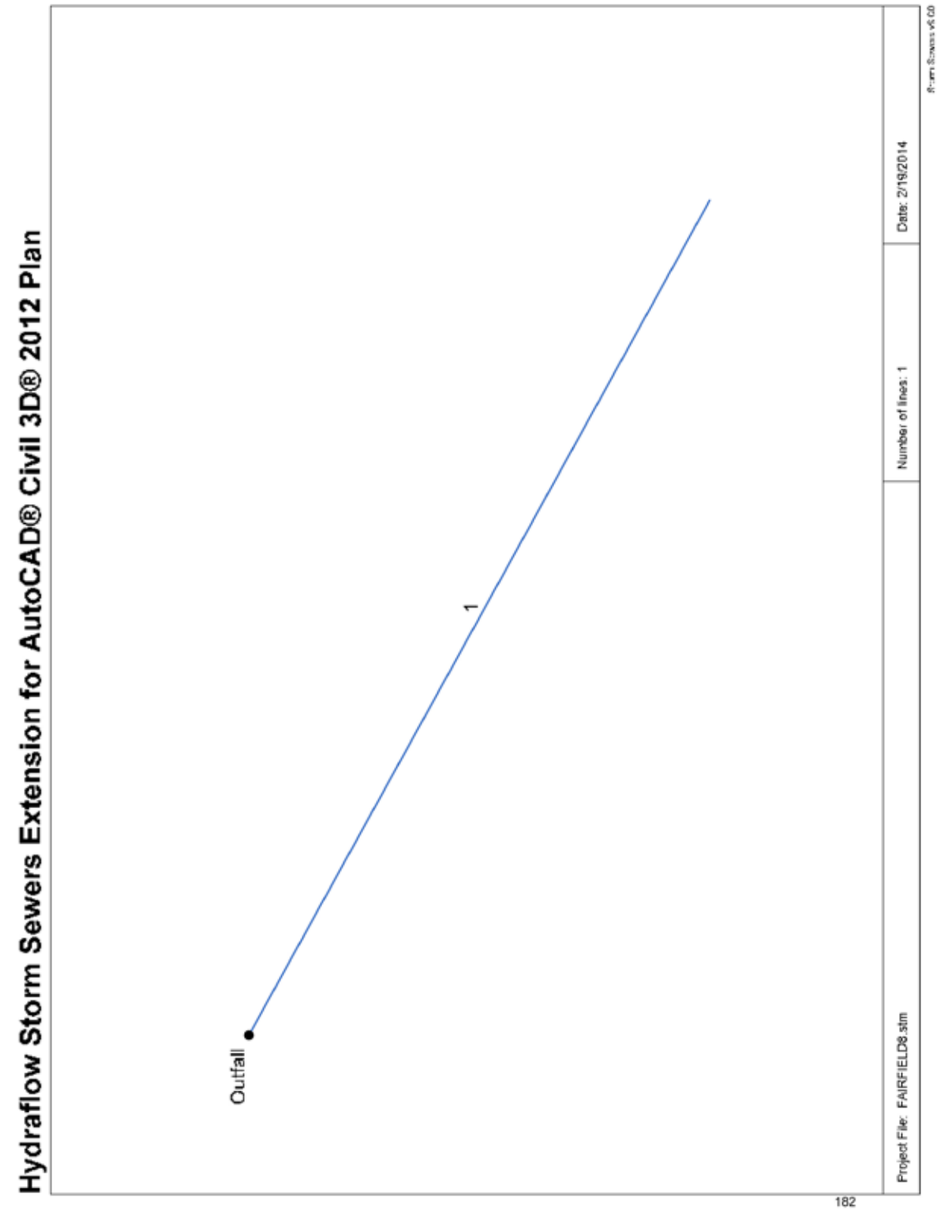


179

Storm Sewers

Appendix 9.11
Storm Sewers Output – System 8





Storm Sewer Inventory Report

Page 1

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	93.181	25.279	Genr	0.00	1.96	0.51	29.3	32.64	0.49	33.10	12	Cir	0.012	1.00	38.46	1

Project File: FAIRFIELD8.stm | Number of lines: 1 | Date: 2/19/2014

Storm Sewers v5.00

Storm Sewer Tabulation

Page 1

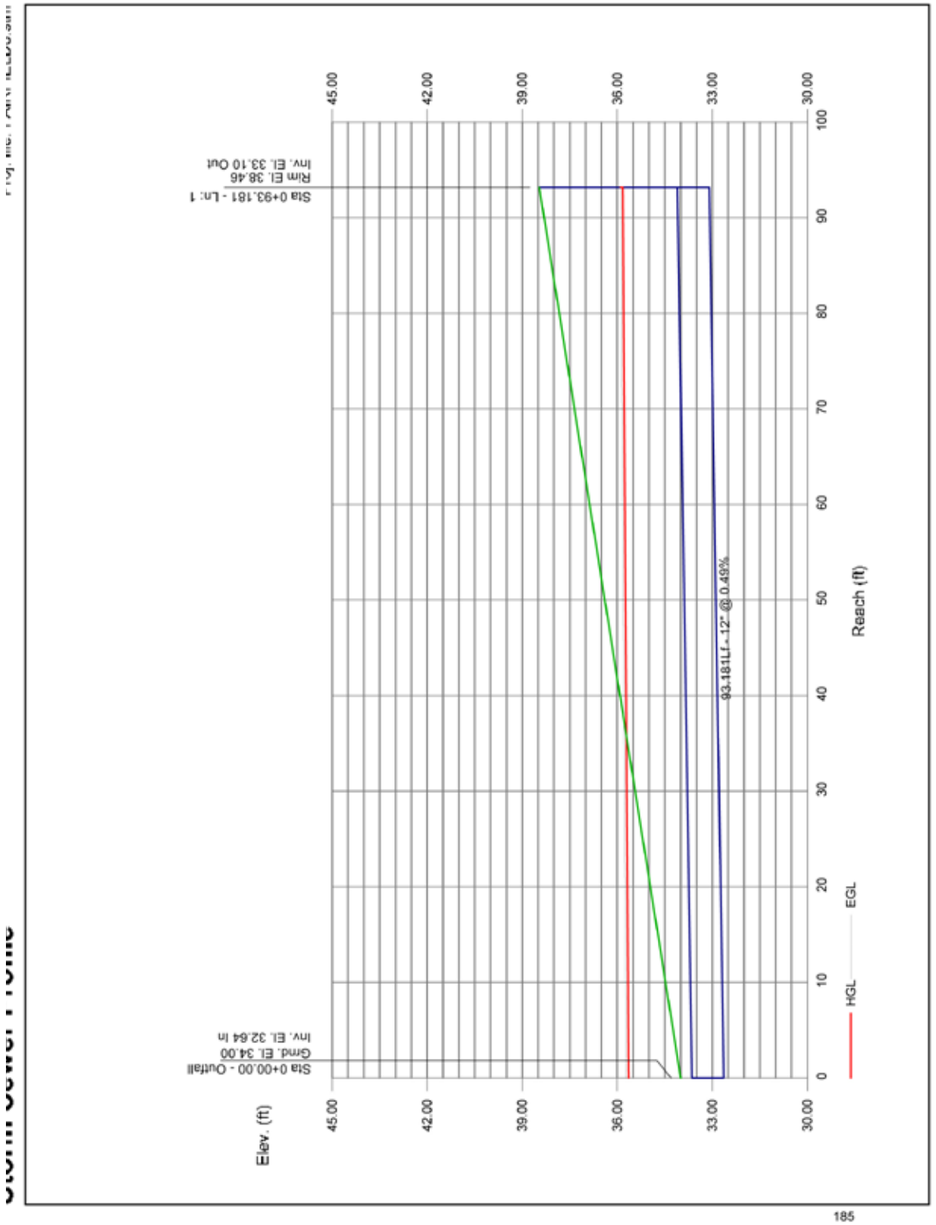
Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	93.181	1.96	1.96	0.51	1.00	1.00	29.3	29.3	1.7	1.73	2.71	2.20	12	0.49	32.64	33.10	35.64	35.83	34.00	38.46	1

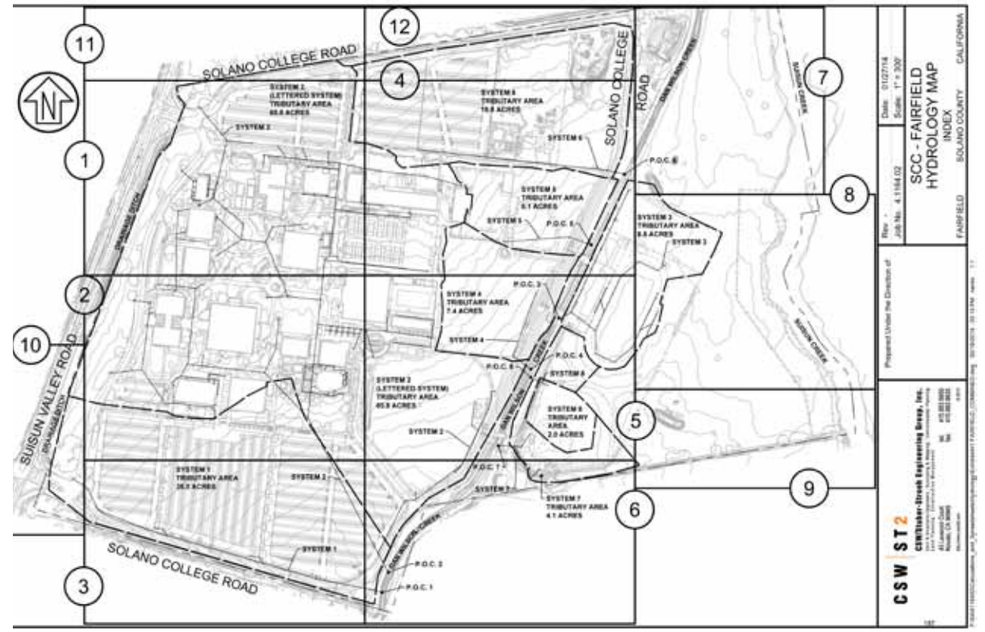
Project File: FAIRFIELD8.stm | Number of lines: 1 | Run Date: 2/19/2014

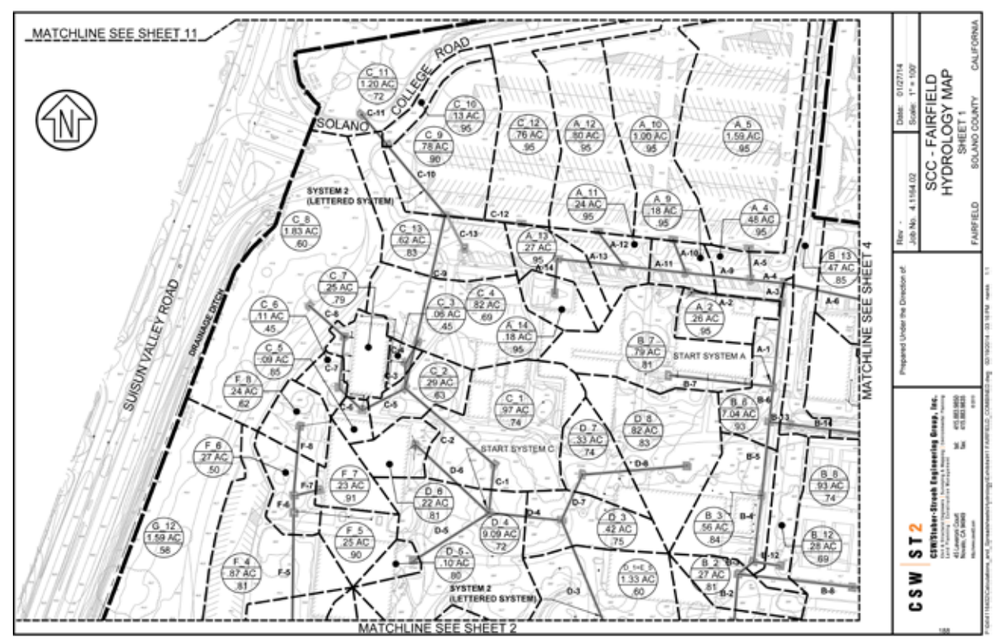
NOTES:Intensity = 13.15 / (Inlet time + 2.10) ^ 0.59 ; Return period =Yrs. 25 ; c = cir e = ellip b = box

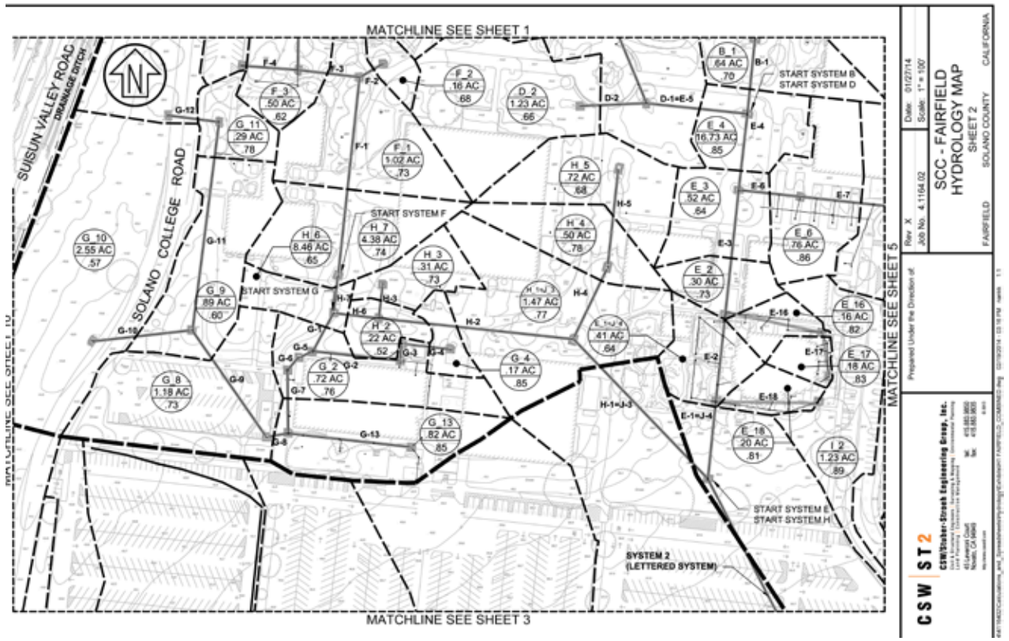
Storm Sewers v5.00

Appendix 9.12
Hydrology Map





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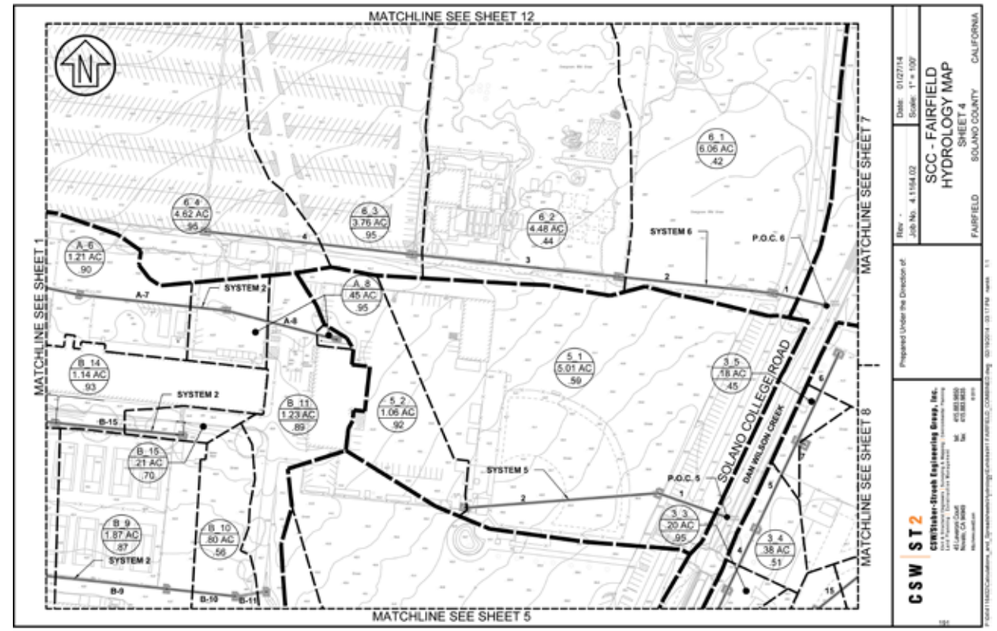
MATCHLINE SEE SHEET 3
MATCHLINE SEE SHEET 10
MATCHLINE SEE SHEET 5
SUISUN VALLEY ROAD
DRAINAGE DITCH
SOLANO COLLEGE ROAD
START SYSTEM B
START SYSTEM D
START SYSTEM F
START SYSTEM G
START SYSTEM E
START SYSTEM H
SYSTEM 2
(LETTERED SYSTEM)
SCC - FAIRFIELD
HYDROLOGY MAP
SHEET 2
SOLANO COUNTY
FAIRFIELD
CALIFORNIA
CSW ST2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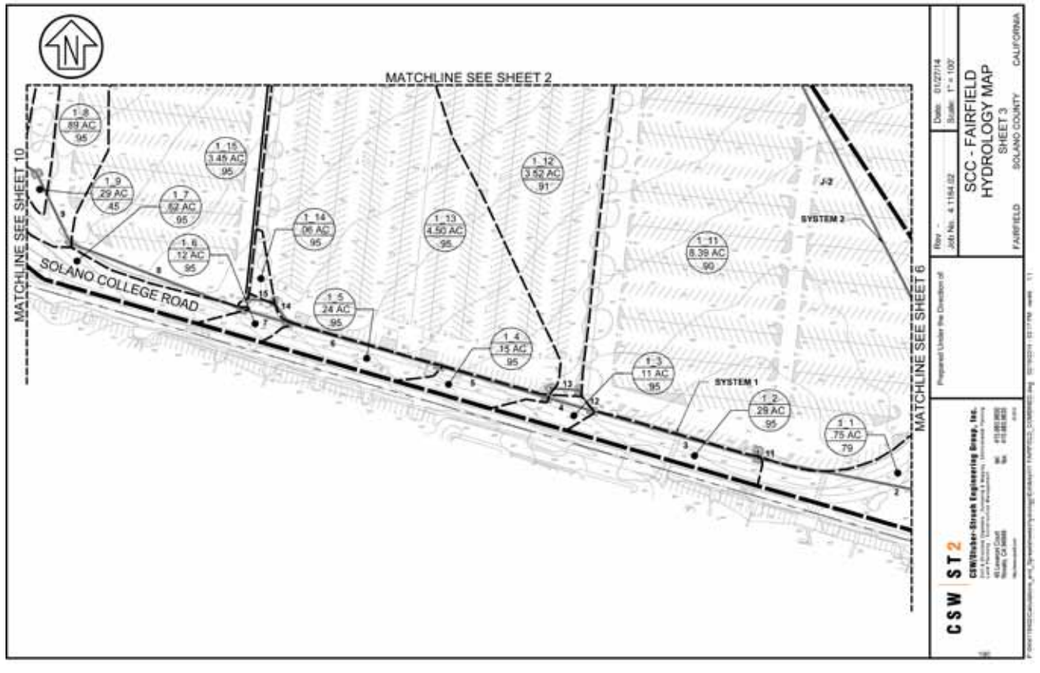
MATCHLINE SEE SHEET 5
MATCHLINE SEE SHEET 1
MATCHLINE SEE SHEET 7
MATCHLINE SEE SHEET 8
SYSTEM 2
SYSTEM 5
SYSTEM 6
P.O.C. 5
P.O.C. 6
SOLANO COLLEGE ROAD
DIAN WILSON CREEK
SCC - FAIRFIELD
HYDROLOGY MAP
SHEET 4
SOLANO COUNTY
FAIRFIELD
CALIFORNIA
CSW ST2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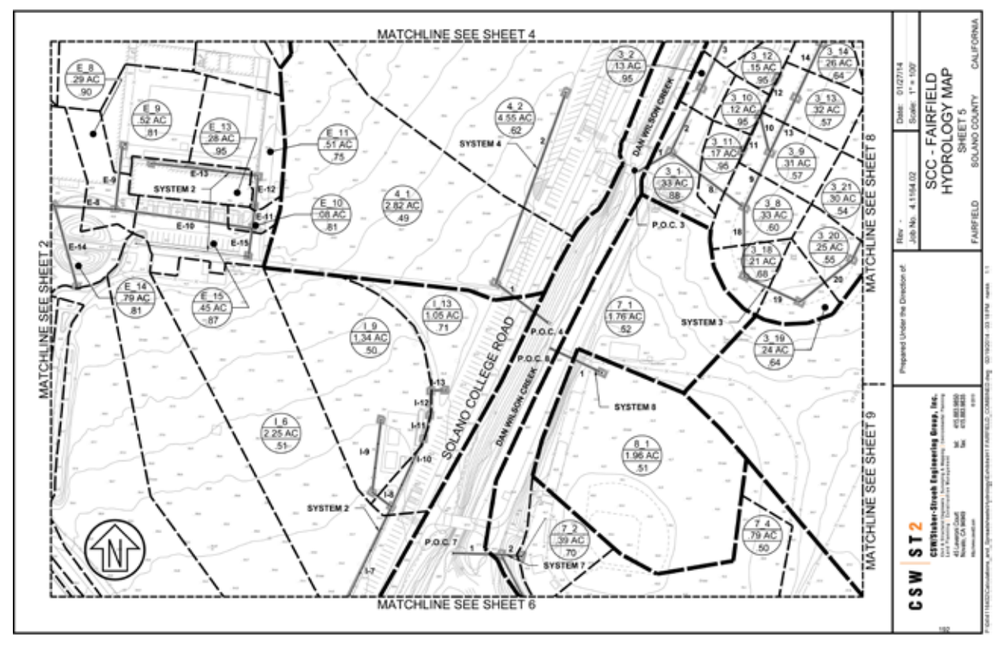
MATCHLINE SEE SHEET 10
MATCHLINE SEE SHEET 6
SOLANO COLLEGE ROAD
SYSTEM 1
SYSTEM 2
SCC - FAIRFIELD
HYDROLOGY MAP
SHEET 3
SOLANO COUNTY
FAIRFIELD
CALIFORNIA
CSW ST2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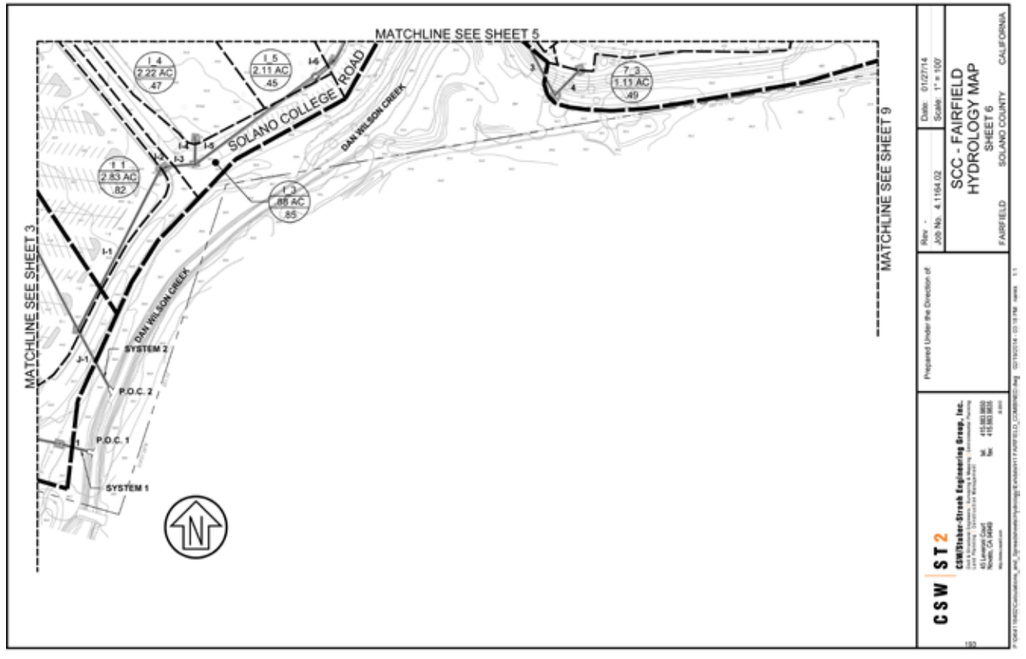
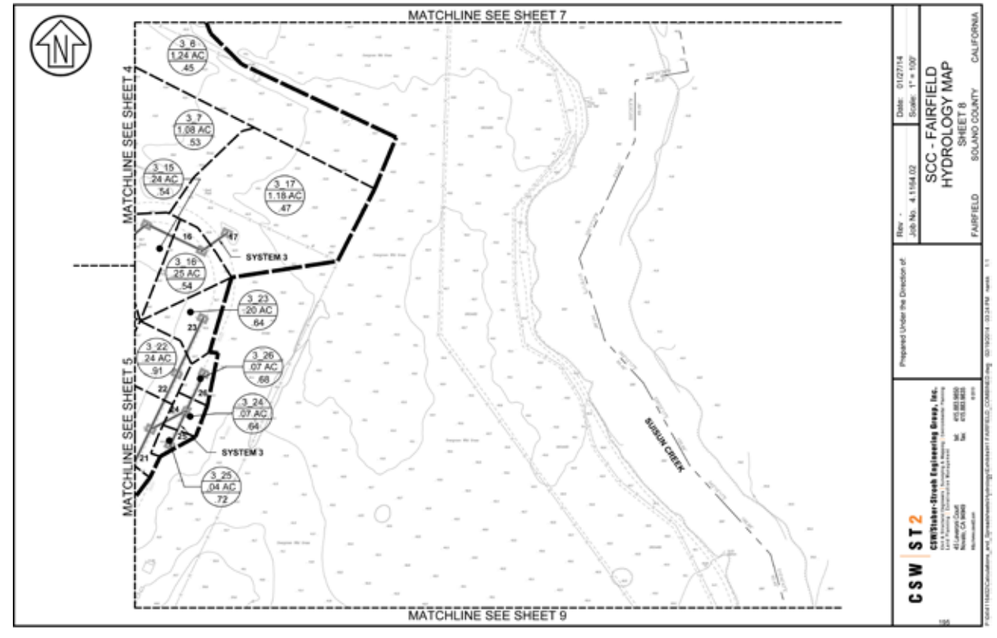
MATCHLINE SEE SHEET 6
MATCHLINE SEE SHEET 2
MATCHLINE SEE SHEET 8
MATCHLINE SEE SHEET 9
SYSTEM 2
SYSTEM 3
SYSTEM 4
SYSTEM 7
SYSTEM 8
P.O.C. 3
P.O.C. 4
P.O.C. 7
SOLANO COLLEGE ROAD
DIAN WILSON CREEK
SCC - FAIRFIELD
HYDROLOGY MAP
SHEET 5
SOLANO COUNTY
FAIRFIELD
CALIFORNIA
CSW ST2


MATCHLINE SEE SHEET 5
MATCHLINE SEE SHEET 3
MATCHLINE SEE SHEET 9
SOLANO COLLEGE ROAD
DAN WILSON CREEK
SYSTEM 2
P.O.C. 2
P.O.C. 1
SYSTEM 1
SCC - FAIRFIELD
HYDROLOGY MAP
SHEET 6
FAIRFIELD
SOLANO COUNTY
CALIFORNIA
CSW ST2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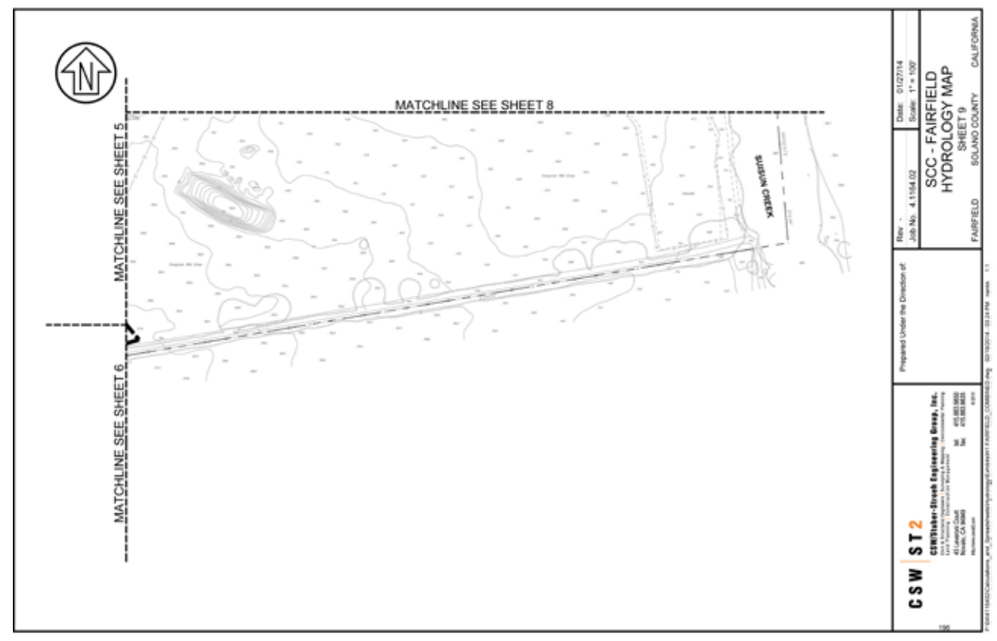
MATCHLINE SEE SHEET 4
MATCHLINE SEE SHEET 5
MATCHLINE SEE SHEET 9
SYSTEM 3
SUSUN CREEK
SCC - FAIRFIELD
HYDROLOGY MAP
SHEET 8
FAIRFIELD
SOLANO COUNTY
CALIFORNIA
CSW ST2

MATCHLINE SEE SHEET 4
MATCHLINE SEE SHEET 8
DAN WILSON CREEK
SUSUN CREEK
SCC - FAIRFIELD
HYDROLOGY MAP
SHEET 7
FAIRFIELD
SOLANO COUNTY
CALIFORNIA
CSW ST2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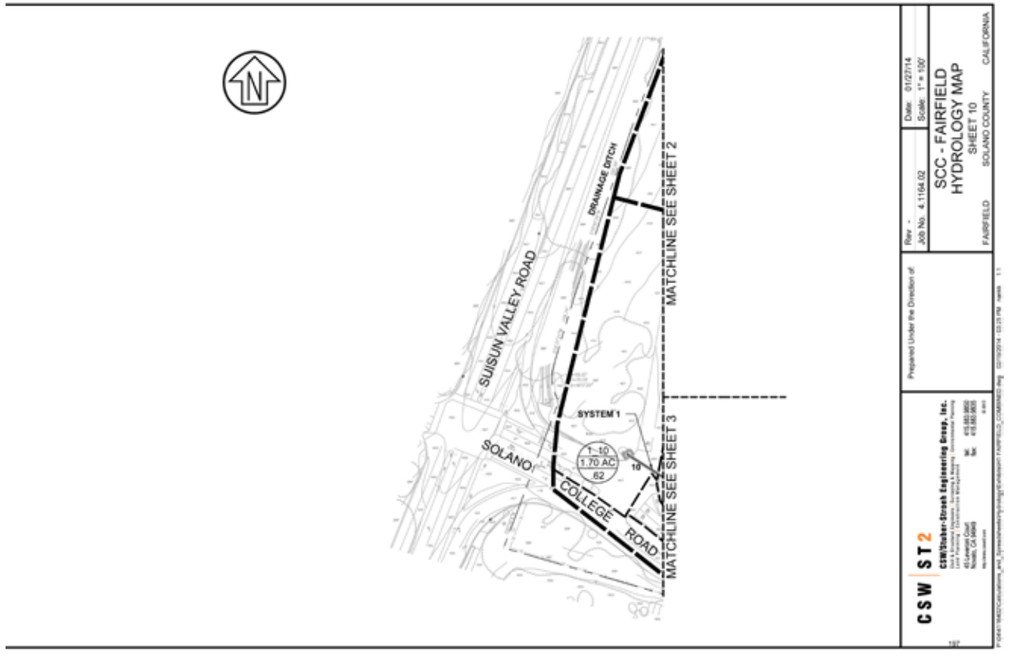
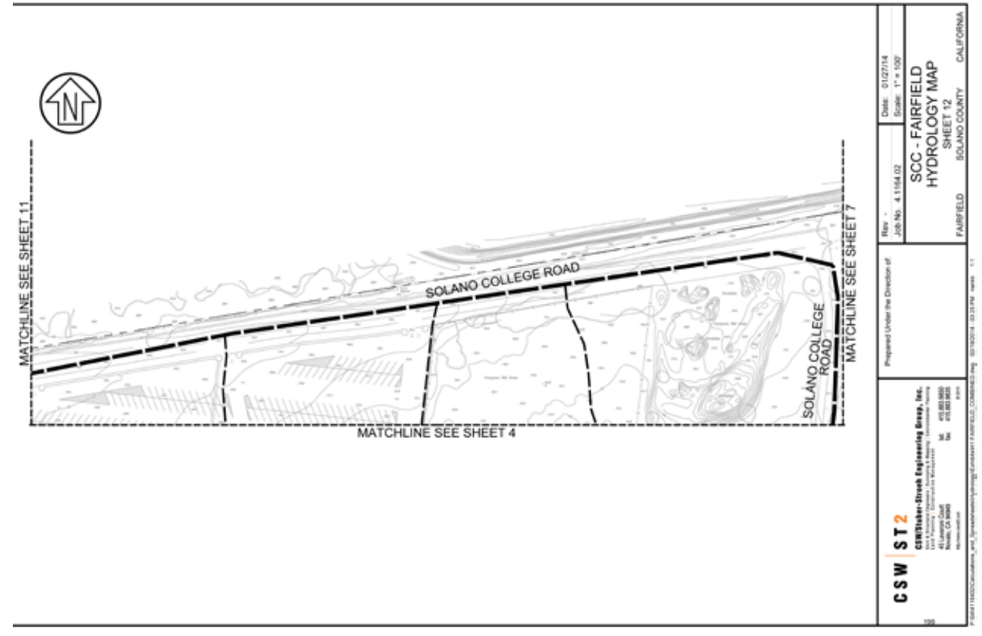
MATCHLINE SEE SHEET 5
MATCHLINE SEE SHEET 6
SUSUN CREEK
SCC - FAIRFIELD
HYDROLOGY MAP
SHEET 9
FAIRFIELD
SOLANO COUNTY
CALIFORNIA
CSW ST2


SUISUN VALLEY ROAD
DRAINAGE DITCH
SYSTEM 1
1-10
1.70 AC
62
10
SOLANO
COLLEGE
ROAD
MATCHLINE SEE SHEET 2
MATCHLINE SEE SHEET 3
Prepared Under the Direction of:
Rev -
Job No. 4.1164.02
Date: 01/27/14
Scale: 1" = 100'
SCC - FAIRFIELD
HYDROLOGY MAP
SHEET 10
FAIRFIELD
SOLANO COUNTY
CALIFORNIA
CSW ST2
CSW/Stuber-Stroeh Engineering Group, Inc.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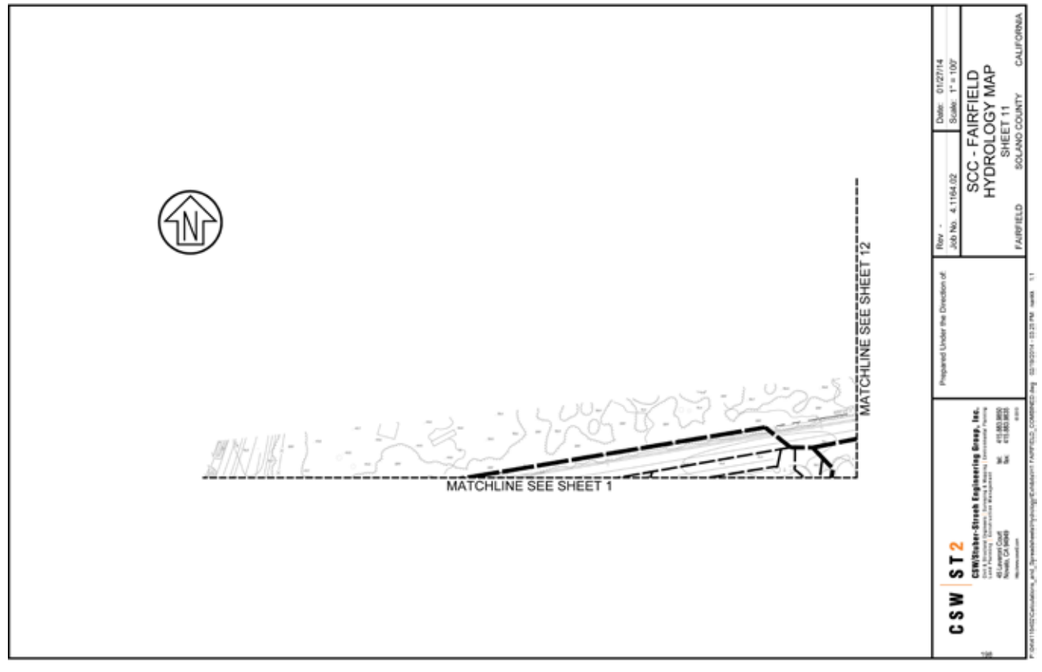
SOLANO COLLEGE ROAD
SOLANO COLLEGE ROAD
MATCHLINE SEE SHEET 7
MATCHLINE SEE SHEET 4
Prepared Under the Direction of:
Rev -
Job No. 4.1164.02
Date: 01/27/14
Scale: 1" = 100'
SCC - FAIRFIELD
HYDROLOGY MAP
SHEET 12
FAIRFIELD
SOLANO COUNTY
CALIFORNIA
CSW ST2
CSW/Stuber-Stroeh Engineering Group, Inc.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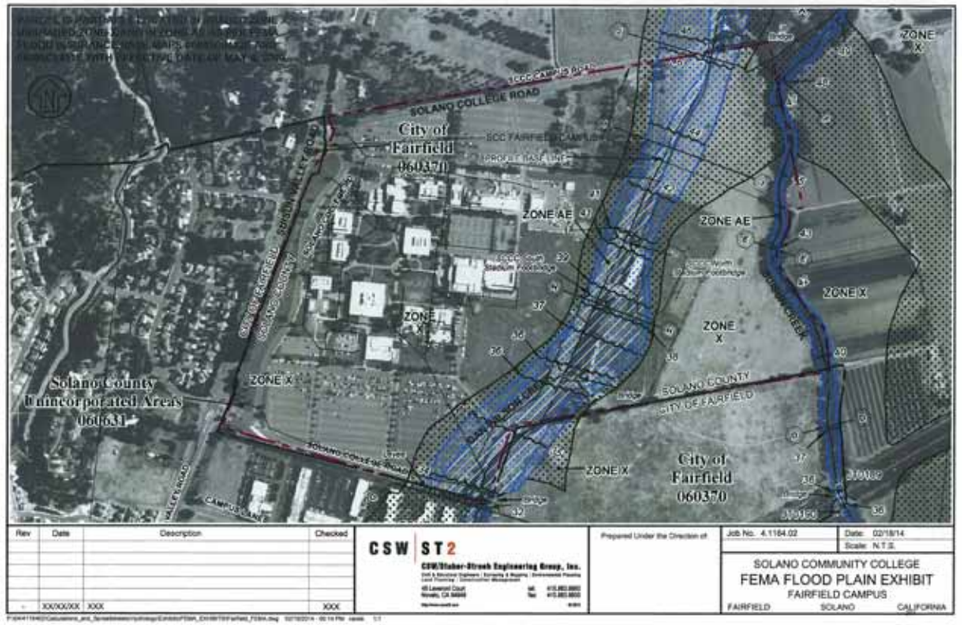
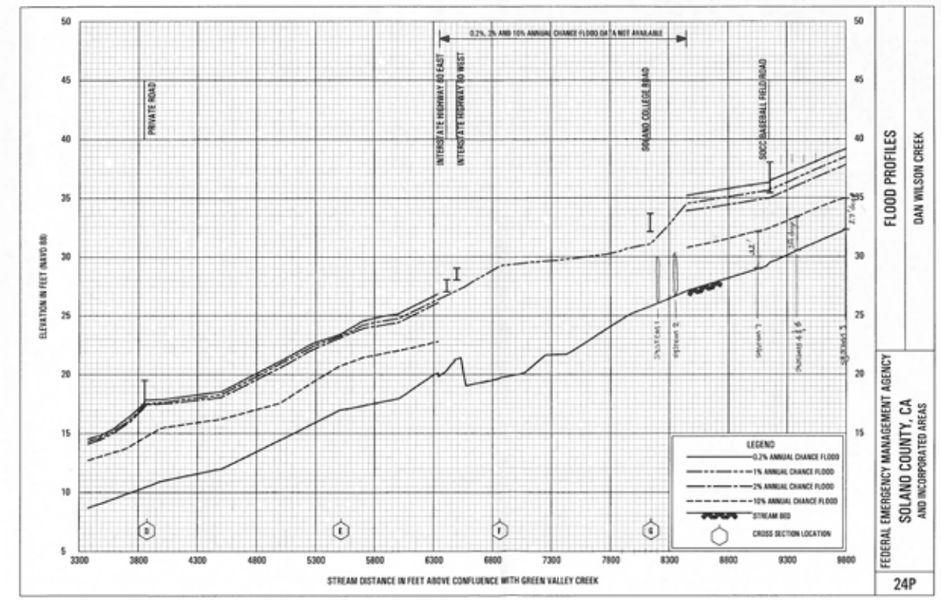
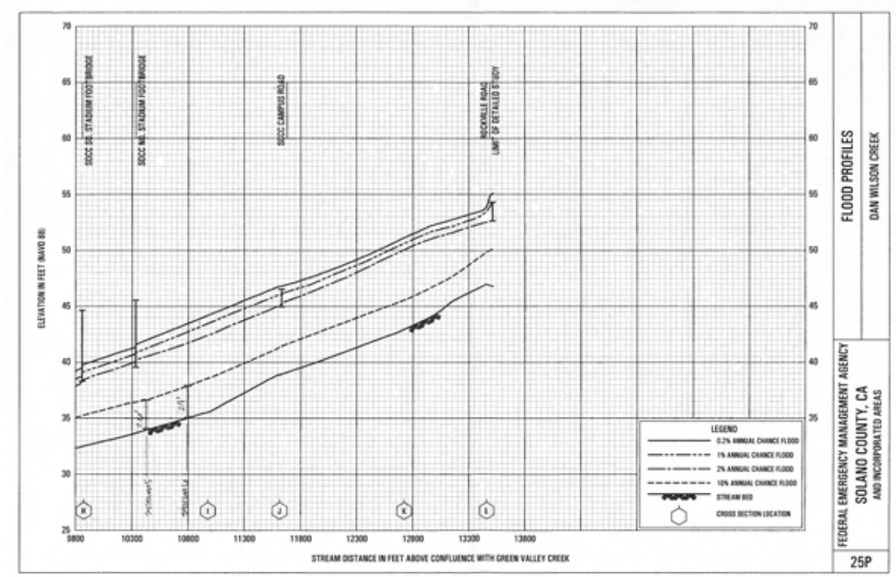
MATCHLINE SEE SHEET 1
Prepared Under the Direction of:
Rev -
Job No. 4.1164.02
Date: 01/27/14
Scale: 1" = 100'
SCC - FAIRFIELD
HYDROLOGY MAP
SHEET 11
FAIRFIELD
SOLANO COUNTY
CALIFORNIA
CSW ST2
CSW/Stuber-Stroeh Engineering Group, Inc.

Appendix 9.13
FEMA Floodplain Exhibit & Flood Profile







VV Storm Water Assessments Appendix

This is the Appendix to the Infrastructure Assessments Storm Water Review Reports that appear in Book 3, starting on page 94.

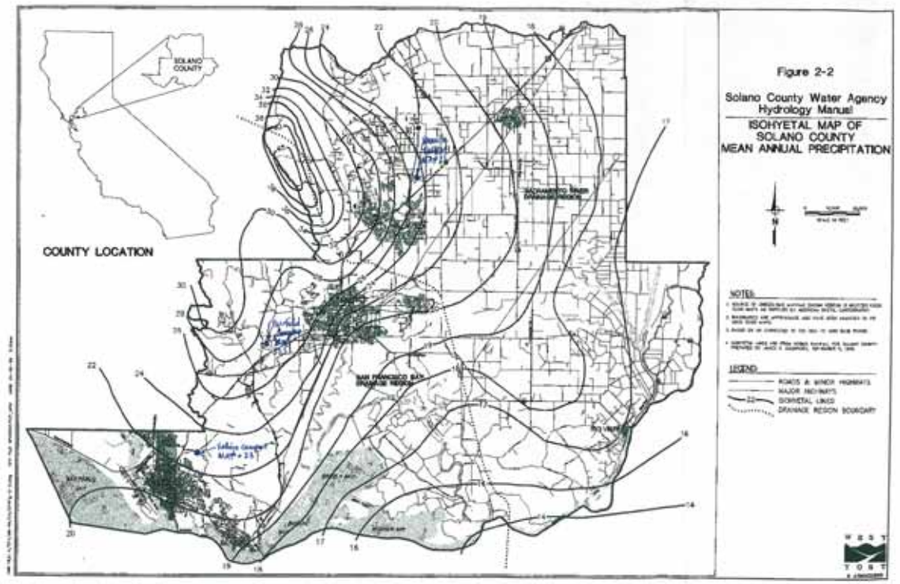
Appendix 9.1
Intensity-Duration-Frequency Curve

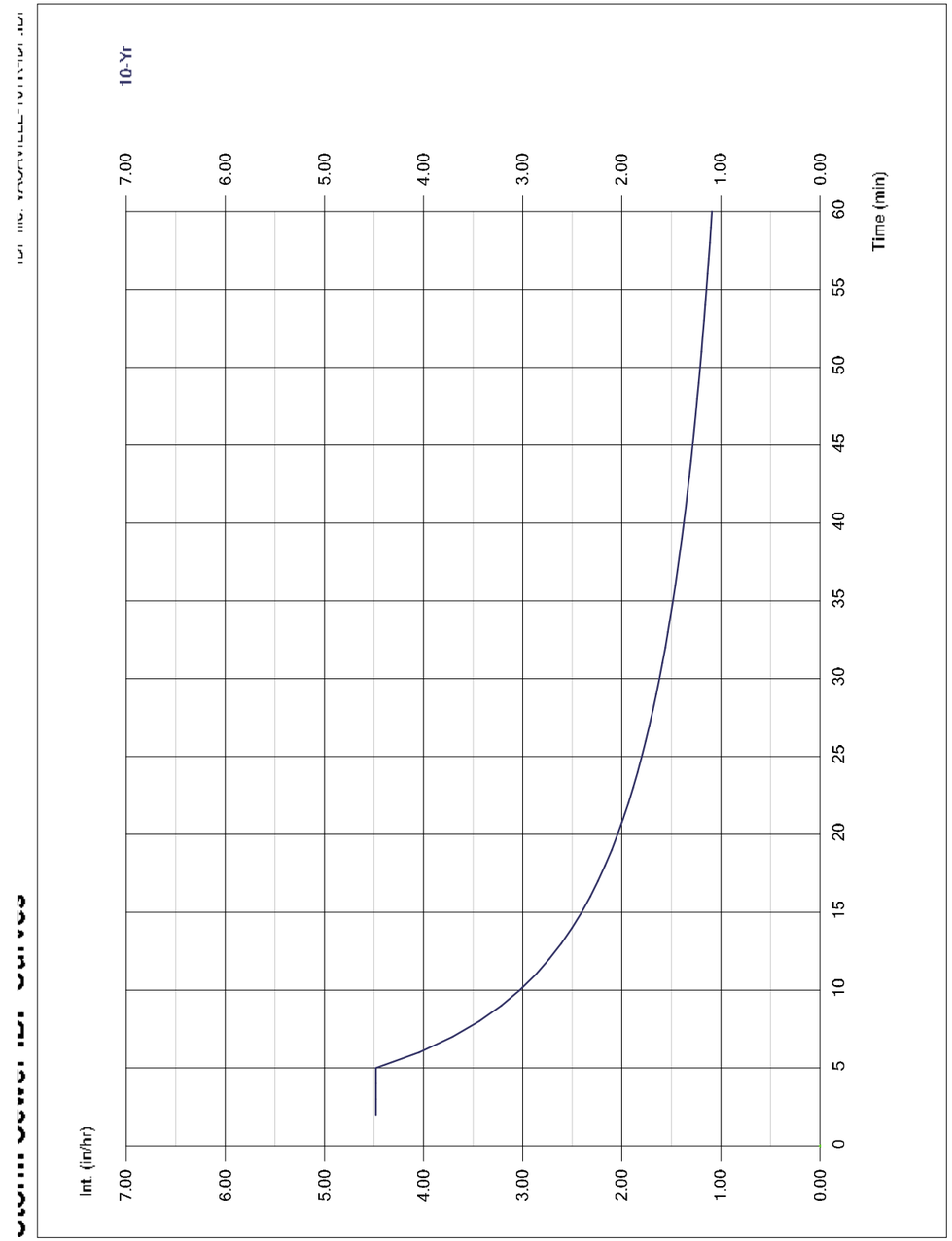
Solano Community College - Vacaville Campus
Intensity-Duration-Frequency Curve Data

10-Year Intensity Based on City of Vacaville Criteria

Return Period			
Vacaville 10 Year Storm	Actual MAP[4]=	25	
Duration of Design Storm (min)	Table 3-4B[1] Rainfall Depth based on MAP = 26 inches (in)	Intensity[2] based on MAP = 26 inches (in/hr)	Corrected Intensity[3] for Actual MAP (in/hr)
5	0.39	4.68	4.50
15	0.62	2.48	2.38
30	0.84	1.68	1.62
60	1.13	1.13	1.09

[1]Solano County Water Agency Hydrology Manual
[2]Intensity = (Table 3-4B Rainfall Depth)/((Duration of Design Storm)/60)
[3]Corrected Intensity = (Intensity)x(Actual MAP)/(26)
[4]MAP - Mean Annual Precipitation from Figure 2-2 (Solano County Water Agency Hydrology Manual)





Storm Sewers

Hydraflow IDF Report

Return Period (Yrs)	Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	--------
2	0.0000	0.0000	0.0000	--------
3	0.0000	0.0000	0.0000	--------
5	0.0000	0.0000	0.0000	--------
10	11.3971	0.1000	0.5730	--------
25	0.0000	0.0000	0.0000	--------
50	0.0000	0.0000	0.0000	--------
100	0.0000	0.0000	0.0000	--------

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	4.48	3.03	2.41	2.04	1.80	1.62	1.48	1.37	1.28	1.21	1.15	1.09
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Tc = time in minutes. Min Tc = 5

Solano Community College - Vacaville Campus
Tributary Area Data Tables

System 1

Area I.D.	Developed Area (sf)	Ground Cover Area (sf)	Total Area (sf)	Total Area (ac)	Runoff Coefficient (weighted)	Elevation Drop (feet)	Sheet Distance (feet)	Slope (%)	Tc Total (min)
1_1	MANHOLE								
1_2	MANHOLE								
1_3	MANHOLE								
1_4	4749.00	1224	5973	0.14	0.79	0.5	111.00	0.45	7.92
1_5	5476.00	923	6399	0.15	0.82	2	113.00	1.77	5.11
1_6	480.00	3830	4310	0.10	0.41	0.5	84.00	0.60	13.67
1_7	30955.00	7110	38065	0.87	0.80	3	217.00	1.38	8.12
1_8	MANHOLE								
1_9	1669.00	1225	2894	0.07	0.67	1	59.00	1.69	5.64
1_10	MANHOLE								
1_11	3300.00	1301	4601	0.11	0.74	3	149.00	2.01	7.12
1_12	0.00	12956	12956	0.30	0.35	2	110.00	1.82	12.85
1_13	MANHOLE								
1_14	STRUCTURE								
1_15	575.00	81	656	0.02	0.83	0.5	20.00	2.50	5.00
1_16	1809.00	0	1809	0.04	0.90				5.00
1_17	2225.00	1606	3831	0.09	0.67	2	37.00	5.41	5.00
1_18	STRUCTURE								
1_19	4943.00	3223	8166	0.19	0.68	2	148.00	1.35	9.12
1_20	1597.00	6875	8472	0.19	0.45	3	148.00	2.03	12.56
1_21	STRUCTURE								
1_22	762.00	87	849	0.02	0.84	0.5	20.00	2.50	5.00
1_23	1453.00	0	1453	0.03	0.90				5.00
1_24	STRUCTURE								
1_25	4136.00	0	4136	0.09	0.90				5.00
1_26	3973.00	0	3973	0.09	0.90	1	156.00	0.64	5.70
1_27	3837.00	1391	5228	0.12	0.75	1	99.00	1.01	6.73

Solano Community College - Vacaville Campus
Tributary Area Data Tables

System 1

1_28	829.00	549	1378	0.03	0.68	1	55.00	1.82	5.19
1_29	4899.00	147	5046	0.12	0.88	0.2	65.00	0.31	5.00
1_30	4104.00	0	4104	0.09	0.90				5.00
1_31	STRUCTURE								
1_32	785.00	4813	5598	0.13	0.43	1	50.00	2.00	7.61
1_33	STRUCTURE								
1_34	1294.00	1063	2357	0.05	0.65	1	59.00	1.69	5.83
1_35	STRUCTURE								
1_36	1272.00	1144	2416	0.06	0.64	1	59.00	1.69	5.98
1_37	STRUCTURE								
1_38	598.00	1823	2421	0.06	0.49	1	62.00	1.61	8.19
1_39	STRUCTURE								
1_40	2022.00	14378	16400	0.38	0.42	1	196.00	0.51	21.49
1_41	STRUCTURE								
1_42	STRUCTURE								
1_43	11580.00	5302	16882	0.39	0.73	2	194.00	1.03	10.05
1_44	STRUCTURE								
1_45	6757.00	0	6757	0.16	0.90				5.00
1_46	STRUCTURE								
1_47	13857.00	5344	19201	0.44	0.75	2	234.00	0.85	10.98
1_48	STRUCTURE								
1_49	1303.00	0	1303	0.03	0.90	1	15.00	6.67	5.00
1_50	STRUCTURE								
1_51	17986.00	3806	21792	0.50	0.80	1	190.00	0.53	9.47
1_52	STRUCTURE								
1_53	17544.00	3864	21408	0.49	0.80	1	161.00	0.62	8.45
1_54	466.00	987	1453	0.03	0.53	0.5	21.00	2.38	5.00
1_55	1534.00	2323	3857	0.09	0.57	0.5	54.00	0.93	7.63
1_56	612.00	1112	1724	0.04	0.55	0.5	31.00	1.61	5.25
1_57	744.00	2025	2769	0.06	0.50	0.5	49.00	1.02	8.01

Solano Community College - Vacaville Campus
Tributary Area Data Tables

System 1

1_58	STRUCTURE								
1_59	933.00	0	933	0.02	0.90	0.5	32.00	1.56	5.00
1_60	0.00	2033	2033	0.05	0.35	0.5	37.00	1.35	8.03
1_61	STRUCTURE								
1_62	STRUCTURE								
1_63	1952.00	0	1952	0.04	0.90	0.5	45.00	1.11	5.00
1_64	564.00	0	564	0.01	0.90	0.5	45.00	1.11	5.00
1_65	2724.00	0	2724	0.06	0.90	0.5	69.00	0.72	5.00
1_66	6861.00	0	6861	0.16	0.90	1	70.00	1.43	5.00
1_67	3995.00	255	4250	0.10	0.87	1	51.00	1.96	5.00
1_68	16682.00	370	17052	0.39	0.89	3	193.00	1.55	5.35

1. Runoff coefficients are weighted runoff coefficients per City of Vacaville Storm Drain Design Standards Page DS-4-7 note (b)
2. Runoff Coefficients for Undeveloped and Developed Areas per City of Vacaville Storm Drain Design Standards Table DS 4-1
3. Unimproved areas Runoff Coefficient 0.35, Developed areas Runoff Coefficient 0.90
4. Tc for sheet flow calculated using equation 3-2 on Page 3-9 of the SCWA Hydrology Manual as per City of Vacaville Storm Drain Design Standards Page DS-4-4.
5. Length and Slope are from longest runoff length from Hydrology Map per sub drainage area.
6. slopes of sheet flow and gutter flow situations estimated from slope of land, determined by existing contours

Appendix 9.3
Example Calculation for Time of Concentration

SOLANO COMMUNITY COLLEGE VACAVILLE CAMPUS

EXAMPLE CALCULATION OF TIME OF CONCENTRATION

TRIBUTARY AREA 1_4:

Total Area (square feet):

= Developed Area (square feet) + Ground Cover Area (square feet)

=4,749 square feet + 1,224 square feet = 5,973 square feet

Total Area (acres)

Total Area (acres)

$$=\frac{Total\ Area\ (square\ feet)}{43{,}560\ square\ feet\ per\ acre}$$

=.14 acres

Runoff Coefficient C (Weighted)

$$=\frac{Developed\ Area\ (feet)*.9+Ground\ Cover\ Area(feet)*.35}{Total\ Area\ (feet)}$$

$$=\frac{4{,}749\ feet*.9+1{,}224\ feet*.35}{5{,}973\ feet}$$

=.79

Elevation Drop (feet)

Amount of elevation difference between the highest and lowest parts of a single tributary area.

=.5 feet

Sheet distance (feet)

Longest sheet flow distance in tributary area.

=111 feet

Slope (%)

$$=\frac{Elevation\ Drop\ (feet)}{Sheet\ Distance\ (feet)}$$

$$=\frac{.5\ feet}{111\ feet}$$

= .45%

Overland Time of Concentration (minutes)

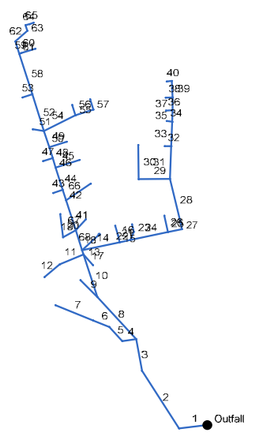
$$=\sqrt{\frac{D}{80*S^{1/2}}}*(18.5-16.5*C)$$

$$=\sqrt{\frac{111\ feet}{80*0.45^{1/2}}}*(18.5-16.5*0.79)$$

=7.92 minutes

Appendix 9.4
Storm Sewers Model Output – System 1

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



Project File: VACAVILLE.stm	Number of lines: 68	Date: 2/13/2014

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Storm Sewer Inventory Report

Page 1

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	68.013	173.114	MH	0.00	0.00	0.00	5.0	86.90	0.51	87.25	24	Cir	0.015	0.92	94.00	1
2	1	163.978	64.335	MH	0.00	0.00	0.00	5.0	87.25	0.52	88.10	24	Cir	0.015	0.43	94.00	2
3	2	77.000	22.265	MH	0.00	0.00	0.00	5.0	88.10	0.75	88.68	24	Cir	0.015	1.00	94.00	3
4	3	33.623	-88.293	Genr	0.00	0.14	0.79	7.9	89.97	0.89	90.27	12	Cir	0.015	1.29	93.30	4
5	4	46.078	56.336	Genr	0.00	0.15	0.82	5.1	90.27	1.09	90.77	12	Cir	0.015	0.74	93.46	5
6	5	41.167	-25.990	Genr	0.00	0.10	0.41	13.7	90.77	0.51	90.98	12	Cir	0.015	0.50	94.90	6
7	6	97.435	0.353	Genr	0.00	0.87	0.80	8.1	91.18	0.50	91.67	12	Cir	0.015	1.00	94.50	7
8	3	136.606	-32.488	MH	0.00	0.00	0.00	0.0	88.68	0.25	89.02	24	Cir	0.015	0.48	94.16	8
9	8	57.266	-1.961	Genr	0.00	0.07	0.67	5.6	91.00	0.96	91.55	8	Cir	0.012	1.00	95.45	9
10	8	107.675	24.946	MH	0.00	0.00	0.00	5.0	89.02	0.24	89.28	24	Cir	0.015	1.00	96.20	10
11	10	61.677	-95.038	Genr	0.00	0.11	0.75	7.1	91.57	1.01	92.19	12	Cir	0.015	0.52	95.45	11
12	11	46.963	-17.431	Genr	0.00	0.30	0.35	12.8	92.19	0.49	92.42	12	Cir	0.015	1.00	95.45	12
13	10	10.501	0.260	MH	0.00	0.00	0.00	0.0	89.28	0.95	89.38	24	Cir	0.015	1.00	96.30	13
14	13	91.144	95.595	MH	0.00	0.00	0.00	0.0	90.15	0.49	90.60	12	Cir	0.012	1.00	96.55	14
15	14	17.416	-90.011	Genr	0.00	0.02	0.83	5.0	90.66	0.98	90.83	12	Cir	0.012	0.50	96.70	15
16	15	23.399	-5.352	Genr	0.00	0.04	0.90	5.0	90.83	3.08	91.55	4	Cir	0.012	1.00	96.83	16
17	10	34.369	156.489	Genr	0.00	0.09	0.67	5.0	90.60	0.96	90.93	12	Cir	0.015	1.00	95.45	17
18	13	50.000	-0.106	MH	0.00	0.00	0.00	0.0	89.38	0.60	89.68	24	Cir	0.015	1.00	95.70	18
19	18	34.284	-101.355	Genr	0.00	0.19	0.68	9.1	92.02	1.02	92.37	12	Cir	0.015	1.50	95.45	19
20	19	55.750	111.571	Genr	0.00	0.19	0.45	12.5	92.37	0.99	92.92	12	Cir	0.015	1.00	95.20	20
21	14	26.869	-0.027	MH	0.00	0.00	0.00	0.0	90.84	0.52	90.98	12	Cir	0.012	0.86	96.55	21
22	21	21.046	-55.813	Genr	0.00	0.02	0.85	5.0	90.98	5.18	92.07	6	Cir	0.012	0.96	96.70	22
23	22	18.269	-36.096	Genr	0.00	0.03	0.90	5.0	92.07	0.77	92.21	6	Cir	0.012	1.00	96.70	23

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Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
24	21	90.946	0.000	MH	0.00	0.00	0.00	0.0	90.98	0.51	91.44	12	Cir	0.012	1.00	96.70	24
25	24	40.252	-90.320	Genr	0.00	0.09	0.90	5.0	91.44	2.48	92.44	6	Cir	0.015	1.00	96.70	25
26	24	33.916	0.149	Genr	0.00	0.09	0.90	5.7	91.44	0.50	91.61	12	Cir	0.015	1.50	96.55	26
27	26	19.071	-90.365	Genr	0.00	0.12	0.76	6.7	91.61	0.52	91.71	12	Cir	0.015	0.50	95.85	27
28	27	104.789	-1.214	Genr	0.00	0.03	0.68	5.2	91.71	0.51	92.24	12	Cir	0.015	1.62	97.12	28
29	28	74.381	-77.284	Genr	0.00	0.12	0.88	5.0	92.67	1.04	93.44	6	Cir	0.012	1.50	97.18	29
30	29	82.000	90.135	Genr	0.00	0.09	0.90	5.0	93.44	0.74	94.05	6	Cir	0.012	1.00	97.18	30
31	28	78.028	15.801	MH	0.00	0.00	0.00	0.0	92.24	0.50	92.63	12	Cir	0.012	1.00	97.18	31
32	31	15.631	-91.710	Genr	0.00	0.13	0.43	7.6	92.63	1.02	92.79	8	Cir	0.012	1.00	94.20	32
33	31	58.598	-0.032	MH	0.00	0.00	0.00	0.0	92.63	0.49	92.92	12	Cir	0.012	1.00	97.25	33
34	33	13.477	-84.503	Genr	0.00	0.05	0.65	5.8	93.42	0.96	93.55	6	Cir	0.012	1.00	94.62	34
35	33	27.833	0.000	MH	0.00	0.00	0.00	0.0	93.25	0.47	93.38	8	Cir	0.012	1.00	97.25	35
36	35	16.748	-95.466	Genr	0.00	0.06	0.64	6.0	93.38	1.97	93.71	6	Cir	0.012	1.00	94.74	36
37	35	30.324	-2.294	MH	0.00	0.00	0.00	0.0	93.38	0.53	93.54	8	Cir	0.012	1.00	97.25	37
38	37	17.131	-91.015	Genr	0.00	0.06	0.49	8.2	93.54	1.93	93.87	6	Cir	0.012	1.00	94.81	38
39	37	39.585	-3.500	MH	0.00	0.00	0.00	0.0	93.54	0.51	93.74	8	Cir	0.012	1.00	97.25	39
40	39	12.310	-93.022	Genr	0.00	0.38	0.42	21.5	93.91	1.22	94.06	6	Cir	0.012	1.00	95.21	40
41	18	75.157	0.000	MH	0.00	0.00	0.00	0.0	89.68	0.51	90.06	18	Cir	0.015	0.97	95.60	41
42	41	26.529	0.000	MH	0.00	0.00	0.00	0.0	90.06	0.49	90.19	18	Cir	0.015	1.00	95.38	42
43	42	24.522	-90.022	Genr	0.00	0.39	0.73	10.0	90.29	0.94	90.52	8	Cir	0.012	1.00	96.00	43
44	42	55.792	0.000	MH	0.00	0.00	0.00	0.0	90.29	0.50	90.57	15	Cir	0.015	1.00	96.00	44
45	44	60.179	89.727	Genr	0.00	0.16	0.90	5.0	90.57	1.63	91.55	12	Cir	0.012	1.00	96.00	45
46	44	24.000	0.000	MH	0.00	0.00	0.00	0.0	90.57	0.50	90.69	15	Cir	0.015	1.00	96.00	46

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Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
47	46	24.025	-90.160	Genr	0.00	0.44	0.75	10.9	90.69	4.41	91.75	8	Cir	0.012	1.00	94.70	47
48	46	27.411	0.804	MH	0.00	0.00	0.00	0.0	90.69	0.51	90.83	15	Cir	0.015	1.00	96.00	48
49	48	43.312	89.537	Genr	0.00	0.03	0.90	5.0	90.83	2.98	92.12	15	Cir	0.012	1.00	96.00	49
50	48	40.880	-1.462	MH	0.00	0.00	0.00	0.0	90.83	0.49	91.03	15	Cir	0.015	0.99	96.00	50
51	50	26.823	-63.175	Genr	0.00	0.50	0.80	9.4	91.28	2.24	91.88	8	Cir	0.012	1.00	94.90	51
52	50	91.873	0.728	MH	0.00	0.00	0.00	0.0	91.28	1.00	92.20	12	Cir	0.015	1.00	96.00	52
53	52	24.375	-90.473	Genr	0.00	0.49	0.80	8.4	92.53	0.98	92.77	18	Cir	0.012	1.00	96.00	53
54	50	83.863	81.882	Genr	0.00	0.03	0.53	5.0	91.61	0.61	92.12	8	Cir	0.012	2.11	96.00	54
55	54	25.999	-81.252	Genr	0.00	0.09	0.57	7.6	92.20	1.04	92.47	6	Cir	0.012	1.00	97.00	55
56	54	45.131	8.761	Genr	0.00	0.04	0.55	5.1	92.20	0.82	92.57	8	Cir	0.012	1.50	96.00	56
57	56	26.058	-90.012	Genr	0.00	0.06	0.50	8.0	92.65	1.04	92.92	6	Cir	0.012	1.00	97.00	57
58	52	102.000	-0.021	MH	0.00	0.00	0.00	0.0	92.53	1.05	93.60	8	Cir	0.012	1.00	96.00	58
59	58	4.670	90.000	Genr	0.00	0.02	0.90	5.0	93.60	1.07	93.65	8	Cir	0.012	0.50	96.48	59
60	59	35.072	0.235	Genr	0.00	0.05	0.35	8.0	93.65	1.71	94.25	8	Cir	0.012	1.00	96.90	60
61	58	31.063	-0.048	MH	0.00	0.00	0.00	0.0	93.60	0.90	93.88	8	Cir	0.012	0.93	96.00	61
62	61	37.890	66.007	MH	0.00	0.00	0.00	0.0	93.88	1.00	94.26	8	Cir	0.012	0.93	96.00	62
63	62	14.000	-66.007	Genr	0.00	0.04	0.90	5.0	94.26	0.71	94.36	8	Cir	0.012	1.50	96.00	63
64	63	10.119	91.887	Genr	0.00	0.01	0.90	5.0	94.36	0.99	94.46	8	Cir	0.012	0.50	96.00	64
65	64	10.006	-3.796	Genr	0.00	0.06	0.90	5.0	94.46	1.00	94.56	8	Cir	0.012	1.00	96.00	65
66	41	71.318	73.396	Genr	0.00	0.16	0.90	5.0	90.06	0.62	90.50	6	Cir	0.012	1.00	96.00	66
67	18	35.432	60.000	Genr	0.00	0.10	0.87	5.0	89.68	0.90	90.00	6	Cir	0.012	1.00	96.00	67
68	13	55.516	64.838	Genr	0.00	0.39	0.89	5.3	89.38	1.12	90.00	12	Cir	0.012	1.00	95.45	68

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Storm Sewer Tabulation

Station Line	Station To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
1	End	68.013	0.00	6.60	0.00	0.00	4.76	5.0	28.2	1.7	8.00	14.06	2.65	24	0.51	86.90	87.25	88.90	88.99	94.00	94.00	1
2	1	163.978	0.00	6.60	0.00	0.00	4.76	5.0	27.3	1.7	8.13	14.11	3.28	24	0.52	87.25	88.10	89.10	89.37	94.00	94.00	2
3	2	77.000	0.00	6.60	0.00	0.00	4.76	5.0	27.0	1.7	8.19	17.01	4.34	24	0.75	88.10	88.68	89.47	89.70	94.00	94.00	3
4	3	33.623	0.14	1.26	0.79	0.11	0.97	7.9	14.2	2.5	2.41	2.92	4.15	12	0.89	89.97	90.27	90.66	90.96	94.00	93.30	4
5	4	46.078	0.15	1.12	0.82	0.12	0.86	5.1	14.0	2.5	2.16	3.22	3.15	12	1.09	90.27	90.77	91.31	91.49	93.30	93.46	5
6	5	41.167	0.10	0.97	0.41	0.04	0.74	13.7	13.7	2.5	1.87	2.20	2.70	12	0.51	90.77	90.98	91.64	91.77	93.46	94.90	6
7	6	97.435	0.87	0.87	0.80	0.70	0.70	8.1	8.1	3.4	2.38	2.19	3.02	12	0.50	91.18	91.67	92.18	92.76	94.90	94.50	7
8	3	136.606	0.00	5.34	0.00	0.00	3.79	0.0	26.3	1.7	6.63	9.78	2.92	24	0.25	88.68	89.02	90.10	90.32	94.00	94.16	8
9	8	57.266	0.07	0.07	0.67	0.05	0.05	5.6	5.6	4.2	0.20	1.28	2.42	8	0.96	91.00	91.55	91.18	91.75	94.16	95.45	9
10	8	107.675	0.00	5.27	0.00	0.00	3.74	5.0	25.7	1.8	6.63	9.63	2.99	24	0.24	89.02	89.28	90.39	90.57	94.16	96.20	10
11	10	61.677	0.11	0.41	0.75	0.08	0.19	7.1	13.3	2.6	0.48	3.09	2.72	12	1.01	91.57	92.19	91.84	92.48	96.20	95.45	11
12	11	46.963	0.30	0.30	0.35	0.11	0.11	12.8	12.8	2.6	0.28	2.16	1.58	12	0.49	92.19	92.42	92.53	92.65	95.45	95.45	12
13	10	10.501	0.00	4.77	0.00	0.00	3.50	0.0	25.6	1.8	6.20	19.13	3.61	24	0.95	89.28	89.38	90.72	90.26	96.20	96.30	13
14	13	91.144	0.00	1.33	0.00	0.00	0.87	0.0	25.2	1.8	1.56	2.71	3.57	12	0.49	90.15	90.60	90.69	91.14	96.30	96.55	14
15	14	17.416	0.02	0.06	0.83	0.02	0.05	5.0	5.1	4.4	0.23	3.81	1.26	12	0.98	90.66	90.83	91.34	91.03	96.55	96.70	15
16	15	23.399	0.04	0.04	0.90	0.04	0.04	5.0	5.0	4.5	0.16	0.36	2.77	4	3.08	90.83	91.55	91.03	91.78	96.70	96.83	16
17	10	34.369	0.09	0.09	0.67	0.06	0.06	5.0	5.0	4.5	0.27	3.02	2.29	12	0.96	90.60	90.93	90.80	91.14	96.20	95.45	17
18	13	50.000	0.00	3.05	0.00	0.00	2.28	0.0	13.3	2.6	5.87	15.18	3.43	24	0.60	89.38	89.68	90.60	90.64	96.30	95.70	18
19	18	34.284	0.19	0.38	0.68	0.13	0.21	9.1	13.1	2.6	0.56	3.12	2.85	12	1.02	92.02	92.37	92.31	92.68	95.70	95.45	19
20	19	55.750	0.19	0.19	0.45	0.09	0.09	12.5	12.5	2.7	0.23	3.07	1.60	12	0.99	92.37	92.92	92.68	93.12	95.45	95.20	20
21	14	26.869	0.00	1.27	0.00	0.00	0.82	0.0	25.1	1.8	1.47	2.78	3.60	12	0.52	90.84	90.98	91.36	91.50	96.55	96.55	21
22	21	21.046	0.02	0.05	0.85	0.02	0.04	5.0	5.2	4.4	0.19	1.38	1.66	6	5.18	90.98	92.07	91.67	92.29	96.55	96.70	22

Project File: VACAVILLE.stm | Number of lines: 68 | Run Date: 2/13/2014

NOTES:Intensity = 11.40 *i* (Inlet time + 0.10) ^ 0.57 ; Return period =Yrs. 10 ; c = cir e = ellip b = box

Storm Sewers v5.00

Storm Sewer Tabulation

Page 2

Station Line	Station To Line	Len (ft)	Drng Area Incr (ac)	Drng Area Total (ac)	Rnoff coeff (C)	Area x C Incr	Area x C Total	Tc Inlet (min)	Tc Syst (min)	Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe Size (in)	Pipe Slope (%)	Invert Elev Dn (ft)	Invert Elev Up (ft)	HGL Elev Dn (ft)	HGL Elev Up (ft)	Grnd / Rim Elev Dn (ft)	Grnd / Rim Elev Up (ft)	Line ID
23	22	18.269	0.03	0.03	0.90	0.03	0.03	5.0	5.0	4.5	0.12	0.53	1.74	6	0.77	92.07	92.21	92.29	92.38	96.70	96.70	23
24	21	90.946	0.00	1.22	0.00	0.00	0.78	0.0	24.6	1.8	1.41	2.74	3.00	12	0.51	90.98	91.44	91.67	91.94	96.55	96.70	24
25	24	40.252	0.09	0.09	0.90	0.08	0.08	5.0	5.0	4.5	0.36	0.77	2.37	6	2.48	91.44	92.44	91.94	92.75	96.70	96.70	25
26	24	33.916	0.09	1.13	0.90	0.08	0.69	5.7	24.4	1.8	1.27	2.19	2.88	12	0.50	91.44	91.61	91.99	92.16	96.70	96.55	26
27	26	19.071	0.12	1.04	0.76	0.09	0.61	6.7	24.2	1.8	1.12	2.23	1.92	12	0.52	91.61	91.71	92.35	92.37	96.55	95.85	27
28	27	104.789	0.03	0.92	0.68	0.02	0.52	5.2	23.4	1.9	0.98	2.20	2.24	12	0.51	91.71	92.24	92.41	92.69	95.85	97.12	28
29	28	74.381	0.12	0.21	0.88	0.11	0.19	5.0	5.7	4.1	0.77	0.62	3.94	6	1.04	92.67	93.44	93.17	94.38	97.12	97.18	29
30	29	82.000	0.09	0.09	0.90	0.08	0.08	5.0	5.0	4.5	0.36	0.52	1.85	6	0.74	93.44	94.05	94.74	95.03	97.18	97.18	30
31	28	78.028	0.00	0.68	0.00	0.00	0.32	0.0	22.7	1.9	0.60	2.73	1.92	12	0.50	92.24	92.63	92.89	92.95	97.12	97.18	31
32	31	15.631	0.13	0.13	0.43	0.06	0.06	7.6	7.6	3.5	0.20	1.32	1.68	8	1.02	92.63	92.79	92.95	92.99	97.18	94.20	32
33	31	58.598	0.00	0.55	0.00	0.00	0.26	0.0	22.3	1.9	0.50	2.71	2.44	12	0.49	92.63	92.92	92.95	93.21	97.18	97.25	33
34	33	13.477	0.05	0.05	0.65	0.03	0.03	5.8	5.8	4.1	0.13	0.60	2.26	6	0.96	93.42	93.55	93.58	93.73	97.25	94.62	34
35	33	27.833	0.00	0.50	0.00	0.00	0.23	0.0	22.2	1.9	0.44	0.89	2.55	8	0.47	93.25	93.38	93.58	93.71	97.25	97.25	35
36	35	16.748	0.06	0.06	0.64	0.04	0.04	6.0	6.0	4.0	0.16	0.85	1.52	6	1.97	93.38	93.71	93.81	93.91	97.25	94.74	36
37	35	30.324	0.00	0.44	0.00	0.00	0.19	0.0	21.9	1.9	0.37	0.95	1.94	8	0.53	93.38	93.54	93.81	93.85	97.25	97.25	37
38	37	17.131	0.06	0.06	0.49	0.03	0.03	8.2	8.2	3.4	0.10	0.84	1.26	6	1.93	93.54	93.87	93.93	94.03	97.25	94.81	38
39	37	39.585	0.00	0.38	0.00	0.00	0.16	0.0	21.6	2.0	0.31	0.93	1.95	8	0.51	93.54	93.74	93.93	94.00	97.25	97.25	39
40	39	12.310	0.38	0.38	0.42	0.16	0.16	21.5	21.5	2.0	0.31	0.67	3.04	6	1.22	93.91	94.06	94.15	94.34	97.25	95.21	40
41	18	75.157	0.00	2.57	0.00	0.00	1.98	0.0	11.7	2.8	5.47	6.47	3.78	18	0.51	89.68	90.06	90.88	91.16	95.70	95.60	41
42	41	26.529	0.00	2.41	0.00	0.00	1.83	0.0	11.6	2.8	5.11	6.37	3.15	18	0.49	90.06	90.19	91.39	91.46	95.60	95.38	42
43	42	24.522	0.39	0.39	0.73	0.28	0.28	10.0	10.0	3.0	0.86	1.27	2.47	8	0.94	90.29	90.52	91.62	91.72	95.38	96.00	43
44	42	55.792	0.00	2.02	0.00	0.00	1.55	0.0	11.3	2.8	4.37	3.96	3.56	15	0.50	90.29	90.57	91.62	91.96	95.38	96.00	44

Project File: VACAVILLE.stm | Number of lines: 68 | Run Date: 2/13/2014

NOTES:Intensity = 11.40 *i* (Inlet time + 0.10) ^ 0.57 ; Return period =Yrs. 10 ; c = cir e = ellip b = box

Storm Sewers v5.00

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
45	44	60.179	0.16	0.16	0.90	0.14	0.14	5.0	5.0	4.5	0.65	4.92	1.05	12	1.63	90.57	91.55	92.15	92.17	96.00	96.00	45
46	44	24.000	0.00	1.86	0.00	0.00	1.40	0.0	11.2	2.8	3.99	3.96	3.25	15	0.50	90.57	90.69	92.15	92.28	96.00	96.00	46
47	46	24.025	0.44	0.44	0.75	0.33	0.33	10.9	10.9	2.9	0.95	2.75	2.73	8	4.41	90.69	91.75	92.44	92.57	96.00	94.70	47
48	46	27.411	0.00	1.42	0.00	0.00	1.07	0.0	11.0	2.9	3.08	4.00	2.51	15	0.51	90.69	90.83	92.44	92.52	96.00	96.00	48
49	48	43.312	0.03	0.03	0.90	0.03	0.03	5.0	5.0	4.5	0.12	12.07	0.18	15	2.98	90.83	92.12	92.62	92.62	96.00	96.00	49
50	48	40.880	0.00	1.39	0.00	0.00	1.05	0.0	10.7	2.9	3.05	3.91	2.48	15	0.49	90.83	91.03	92.62	92.74	96.00	96.00	50
51	50	26.823	0.50	0.50	0.80	0.40	0.40	9.4	9.4	3.1	1.25	1.96	3.60	8	2.24	91.28	91.88	92.84	93.09	96.00	94.90	51
52	50	91.873	0.00	0.67	0.00	0.00	0.53	0.0	9.3	3.1	1.66	3.09	2.19	12	1.00	91.28	92.20	92.84	93.08	96.00	96.00	52
53	52	24.375	0.49	0.49	0.80	0.39	0.39	8.4	8.4	3.3	1.31	11.29	2.51	18	0.98	92.53	92.77	93.16	93.20	96.00	96.00	53
54	50	83.863	0.03	0.22	0.53	0.02	0.12	5.0	9.4	3.1	0.37	1.02	1.07	8	0.61	91.61	92.12	92.84	92.91	96.00	96.00	54
55	54	25.999	0.09	0.09	0.57	0.05	0.05	7.6	7.6	3.5	0.18	0.62	0.92	6	1.04	92.20	92.47	92.94	92.97	96.00	97.00	55
56	54	45.131	0.04	0.10	0.55	0.02	0.05	5.1	8.3	3.4	0.17	1.18	0.67	8	0.82	92.20	92.57	92.94	92.95	96.00	96.00	56
57	56	26.058	0.06	0.06	0.50	0.03	0.03	8.0	8.0	3.4	0.10	0.62	1.35	6	1.04	92.65	92.92	92.97	93.08	96.00	97.00	57
58	52	102.000	0.00	0.18	0.00	0.00	0.13	0.0	8.5	3.3	0.45	1.34	2.05	8	1.05	92.53	93.60	93.16	93.91	96.00	96.00	58
59	58	4.670	0.02	0.07	0.90	0.02	0.04	5.0	8.5	3.3	0.12	1.35	1.31	8	1.07	93.60	93.65	93.91	93.81	96.00	96.48	59
60	59	35.072	0.05	0.05	0.35	0.02	0.02	8.0	8.0	3.4	0.06	1.71	1.27	8	1.71	93.65	94.25	93.81	94.36	96.48	96.90	60
61	58	31.063	0.00	0.11	0.00	0.00	0.10	0.0	5.5	4.3	0.42	1.24	2.69	8	0.90	93.60	93.88	93.91	94.18	96.00	96.00	61
62	61	37.890	0.00	0.11	0.00	0.00	0.10	0.0	5.2	4.4	0.43	1.31	2.78	8	1.00	93.88	94.26	94.18	94.57	96.00	96.00	62
63	62	14.000	0.04	0.11	0.90	0.04	0.10	5.0	5.2	4.4	0.44	1.11	2.77	8	0.71	94.26	94.36	94.57	94.67	96.00	96.00	63
64	63	10.119	0.01	0.07	0.90	0.01	0.06	5.0	5.1	4.4	0.28	1.30	2.09	8	0.99	94.36	94.46	94.67	94.70	96.00	96.00	64
65	64	10.006	0.06	0.06	0.90	0.05	0.05	5.0	5.0	4.5	0.24	1.31	2.20	8	1.00	94.46	94.56	94.70	94.79	96.00	96.00	65
66	41	71.318	0.16	0.16	0.90	0.14	0.14	5.0	5.0	4.5	0.65	0.48	3.29	6	0.62	90.06	90.50	91.39	92.20	95.60	96.00	66

Project File: VACAVILLE.stm | Number of lines: 68 | Run Date: 2/13/2014

NOTES:Intensity = 11.40 *i* (Inlet time + 0.10) ^ 0.57 ; Return period =Yrs. 10 ; c = cir e = ellip b = box

Storm Sewers v5.00

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
67	18	35.432	0.10	0.10	0.87	0.09	0.09	5.0	5.0	4.5	0.39	0.58	1.99	6	0.90	89.68	90.00	90.88	91.03	95.70	96.00	67
68	13	55.516	0.39	0.39	0.89	0.35	0.35	5.3	5.3	4.3	1.51	4.08	2.85	12	1.12	89.38	90.00	90.26	90.52	96.30	95.45	68

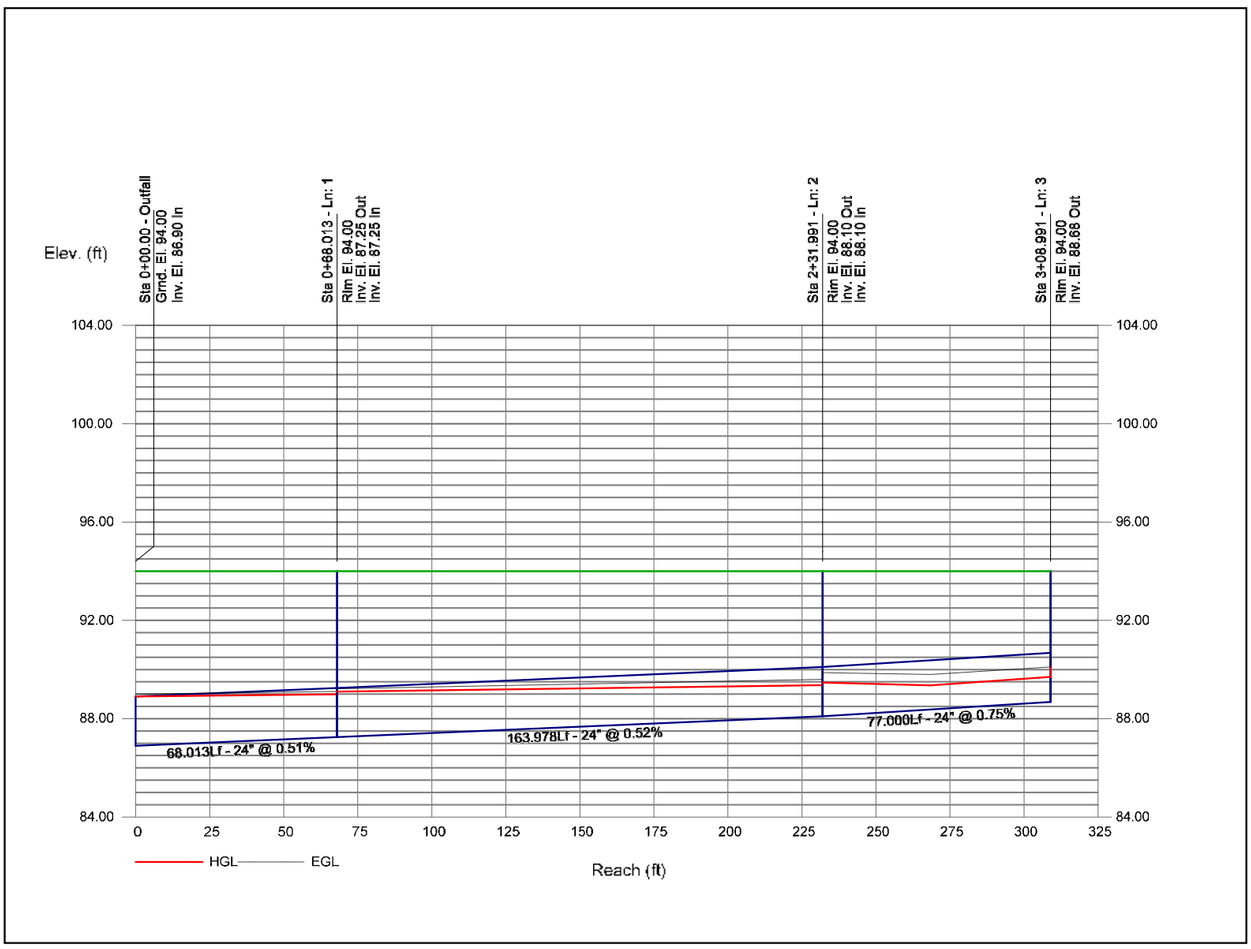
Project File: VACAVILLE.stm | Number of lines: 68 | Run Date: 2/13/2014

NOTES:Intensity = 11.40 *i* (Inlet time + 0.10) ^ 0.57 ; Return period =Yrs. 10 ; c = cir e = ellip b = box

Storm Sewers v5.00

Storm Sewer Profile

Proj. file: VACAVILLE.stm



Storm Sewers

Storm Sewer Profile

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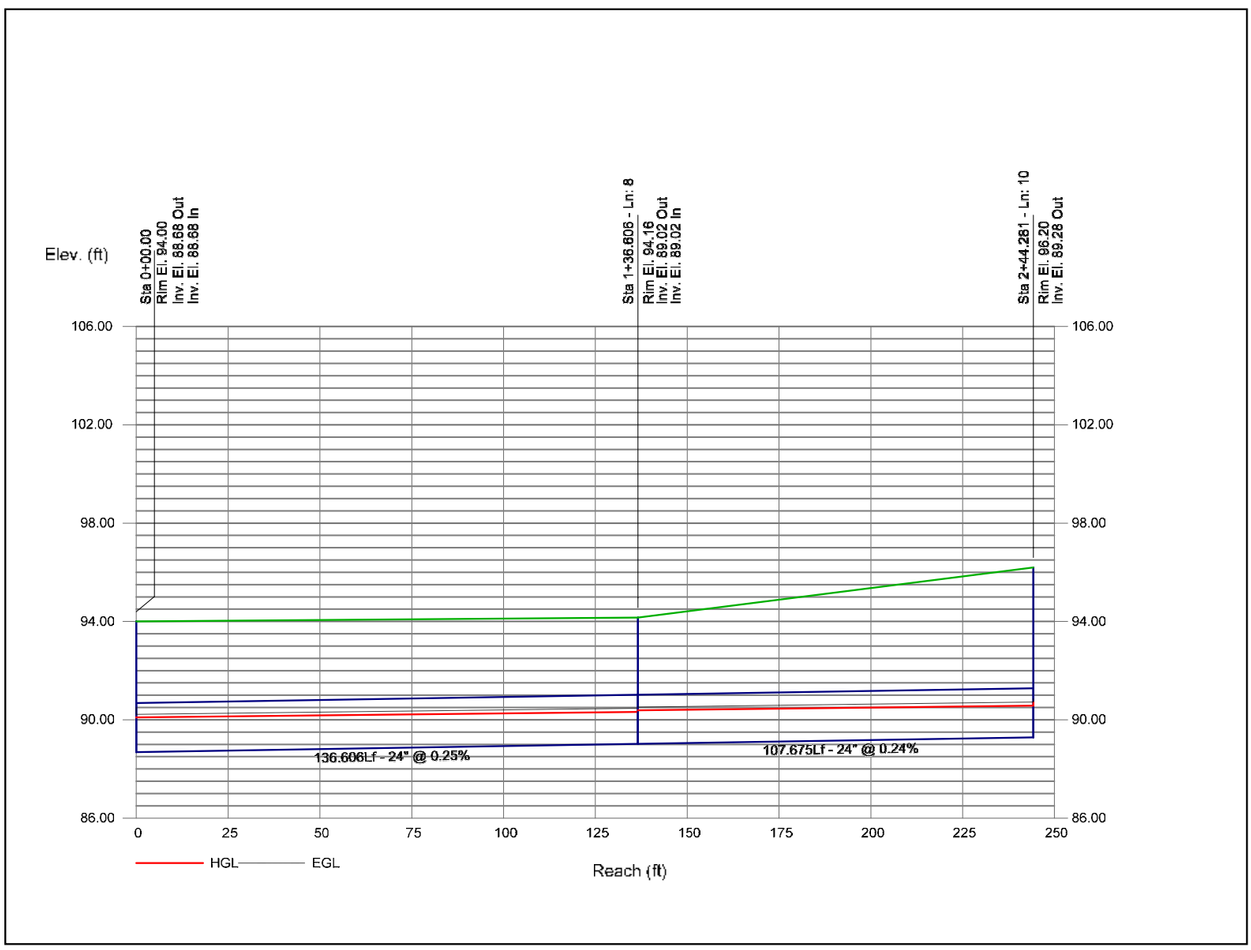

Storm Sewers

Storm Sewer Profile

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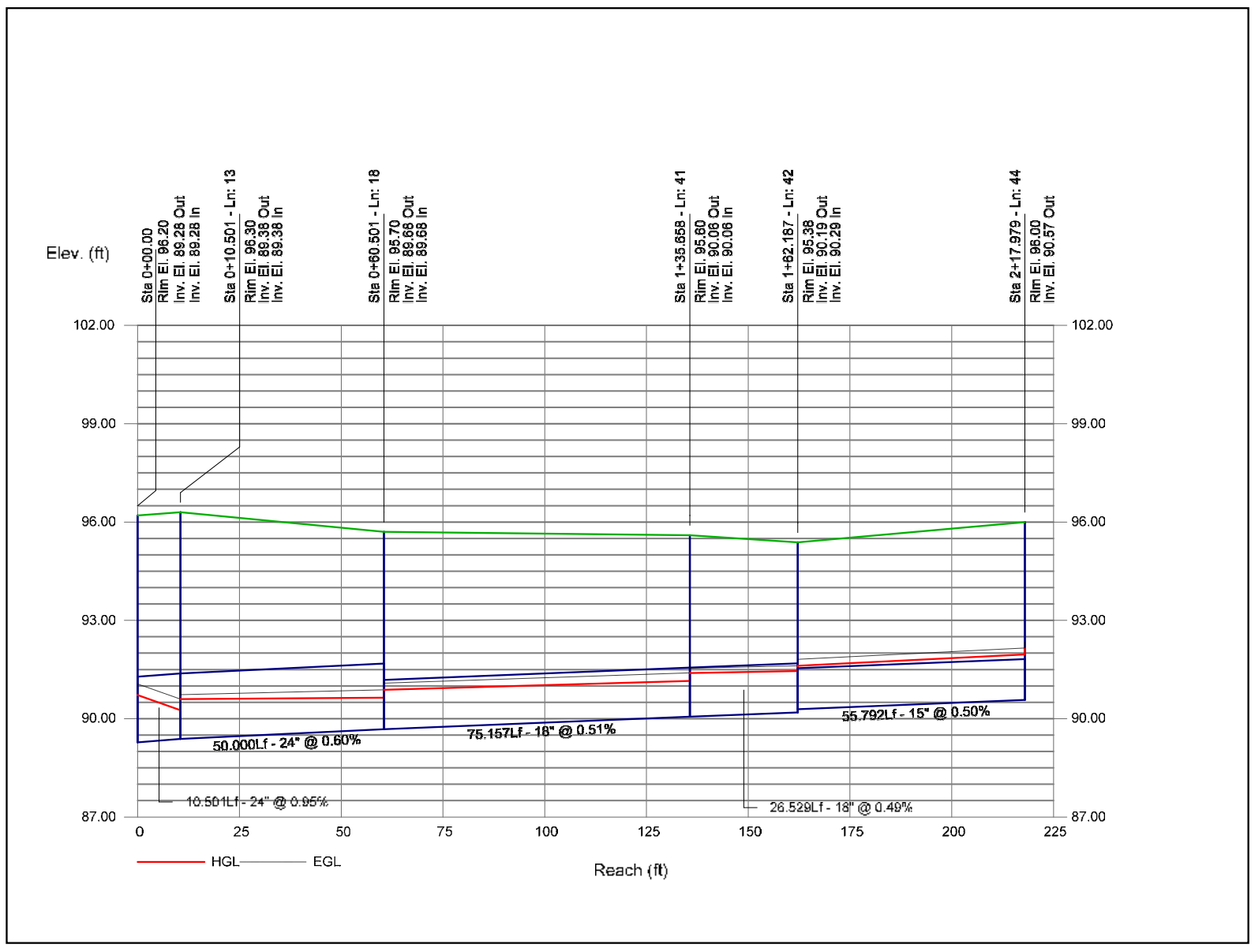

Storm Sewers

Storm Sewer Profile

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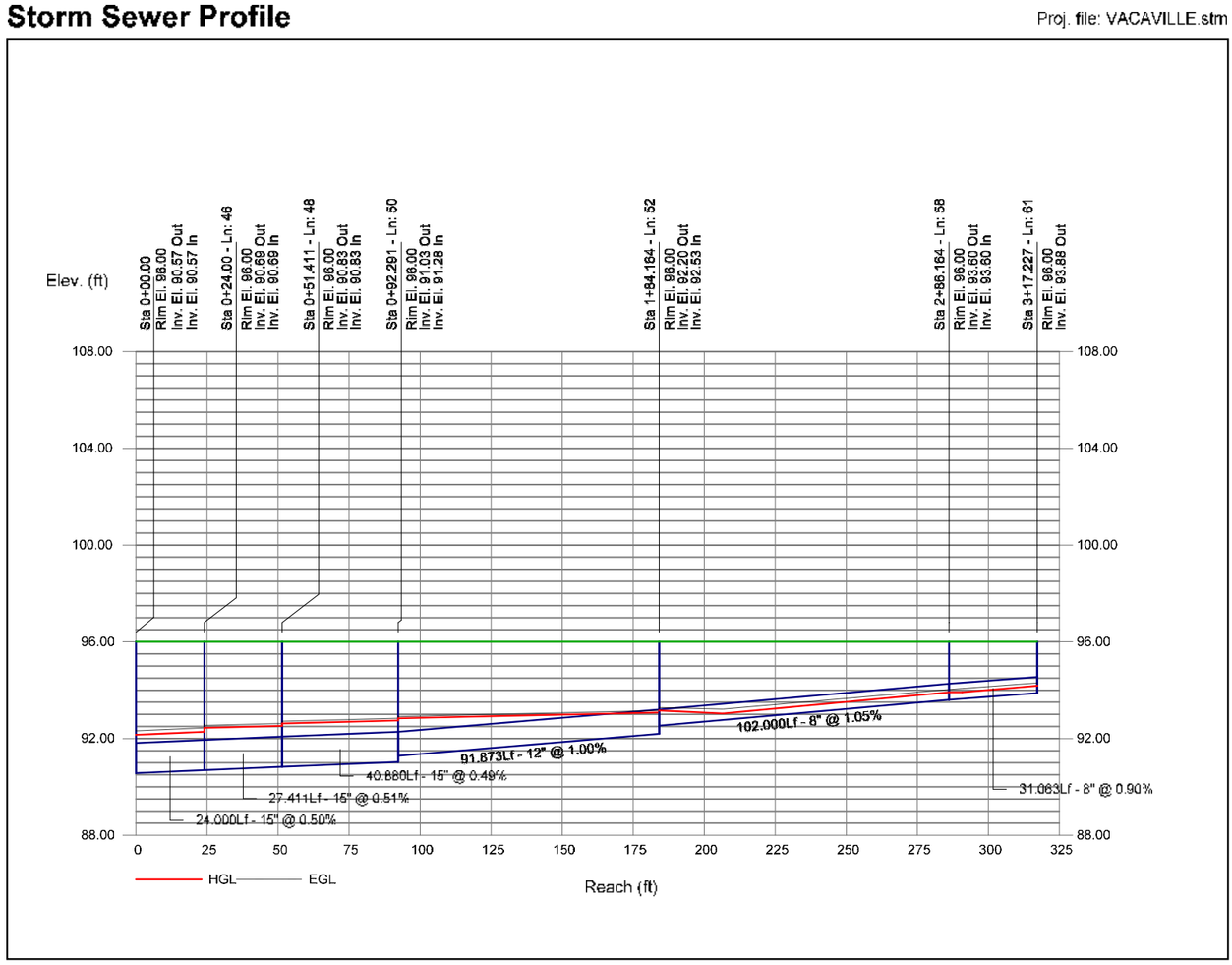

Storm Sewers

Storm Sewer Profile

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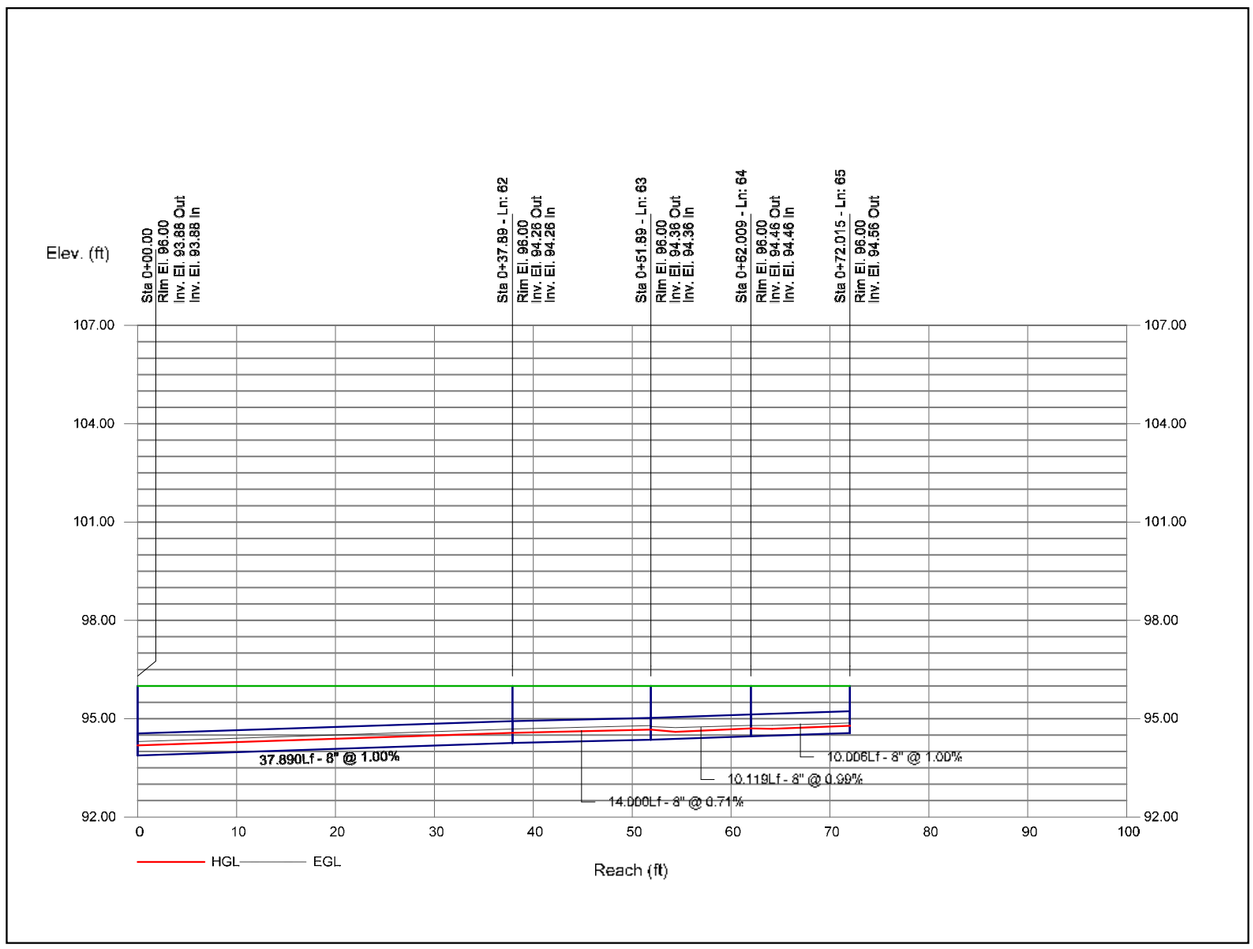

Storm Sewers

Storm Sewer Profile

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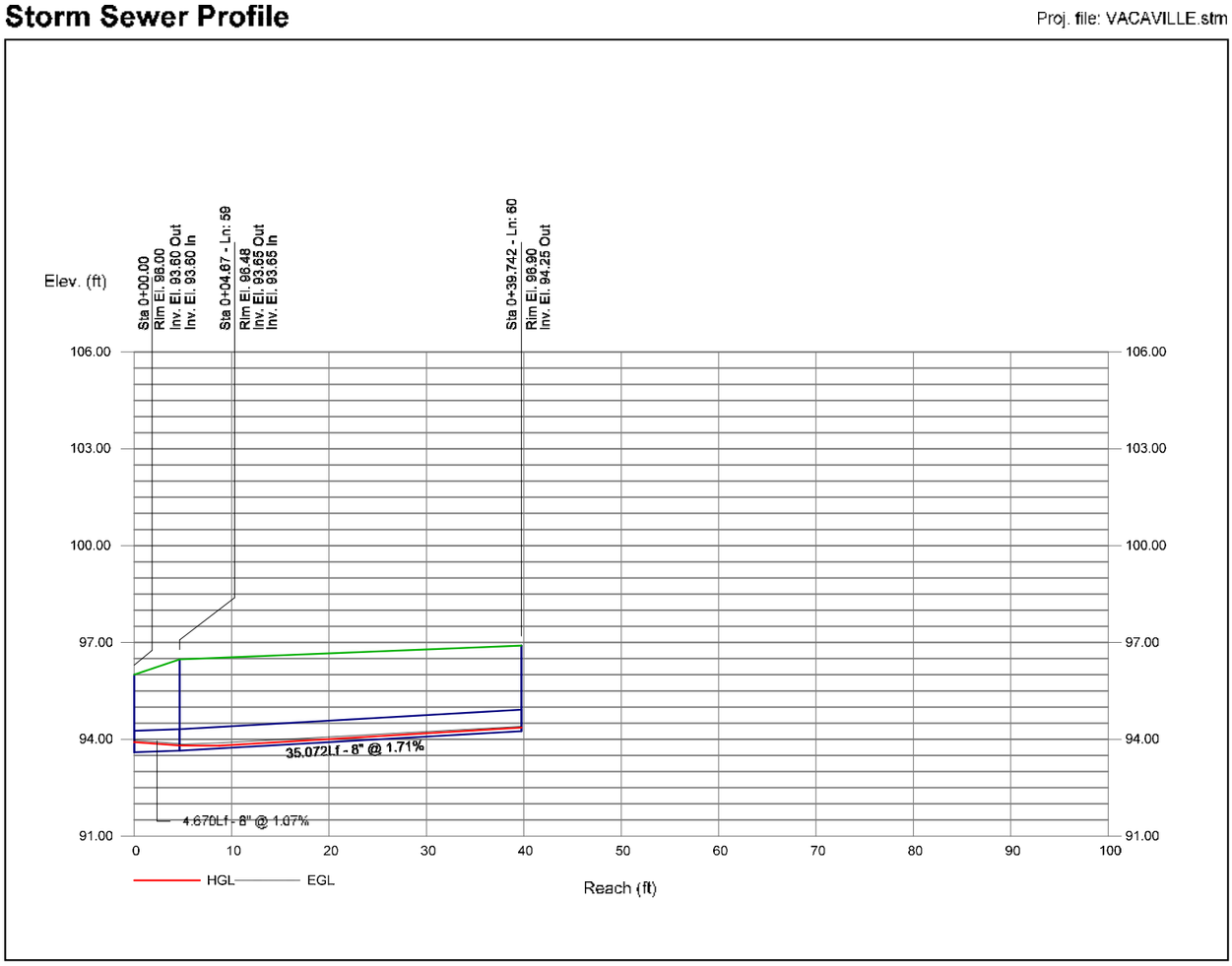

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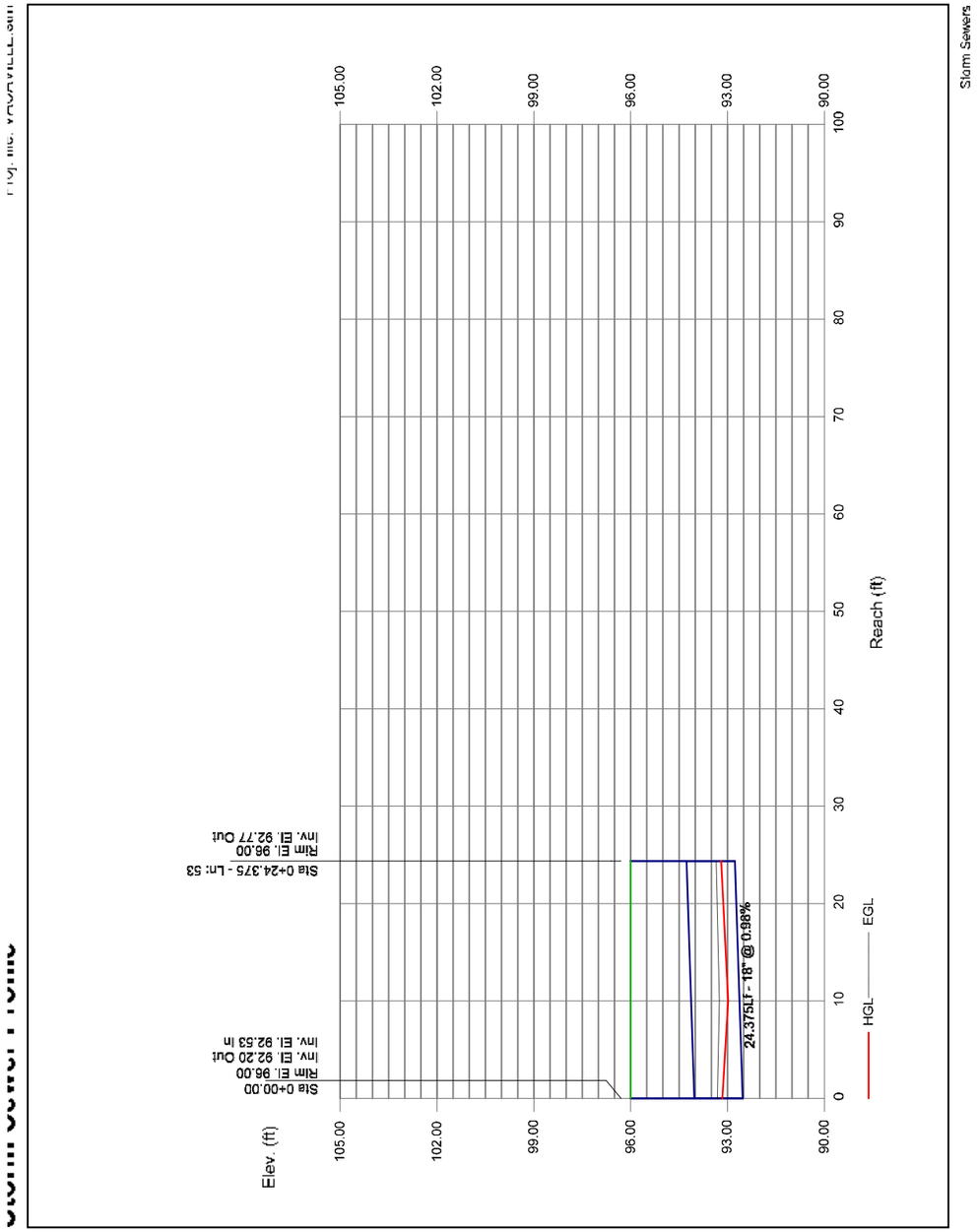
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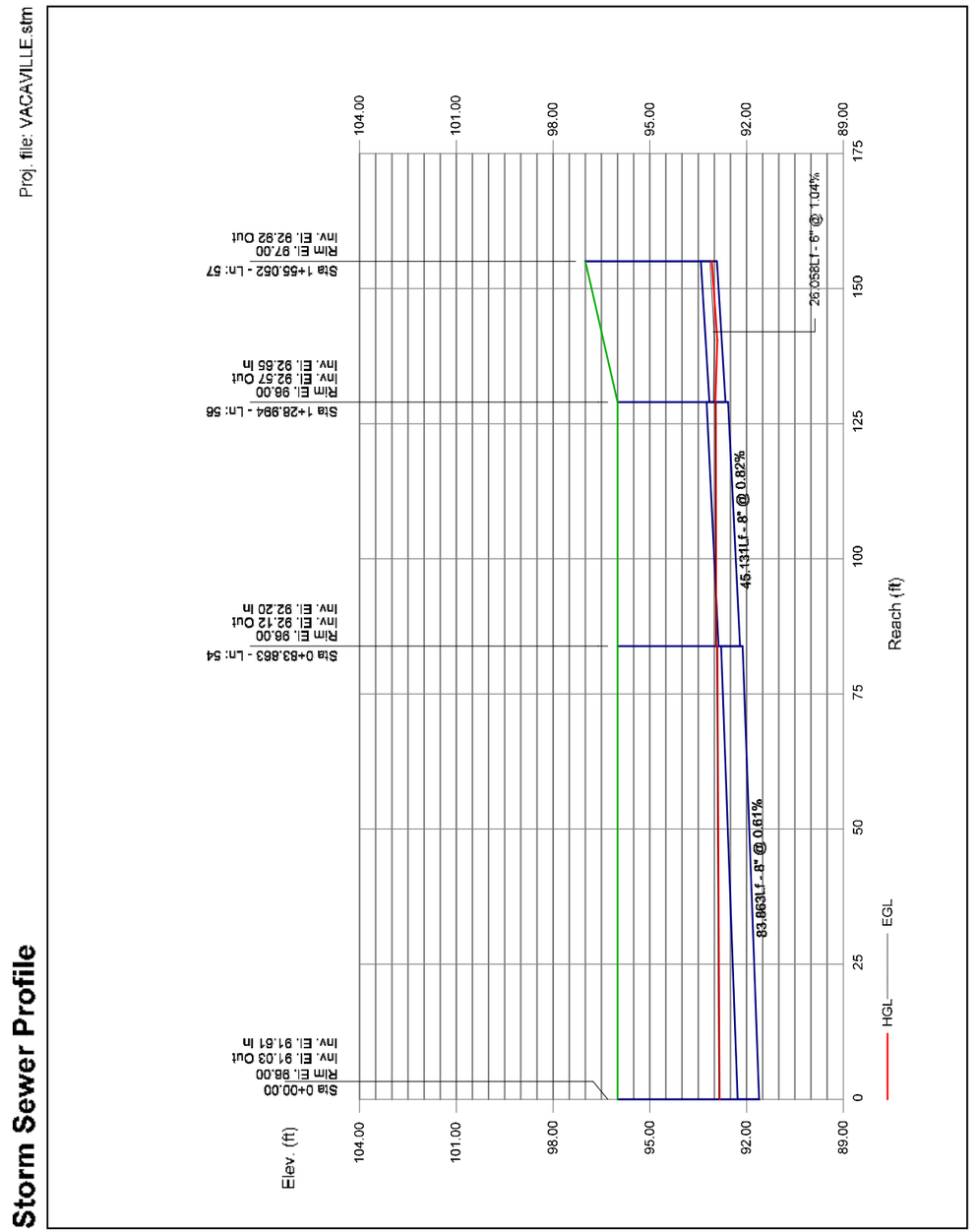
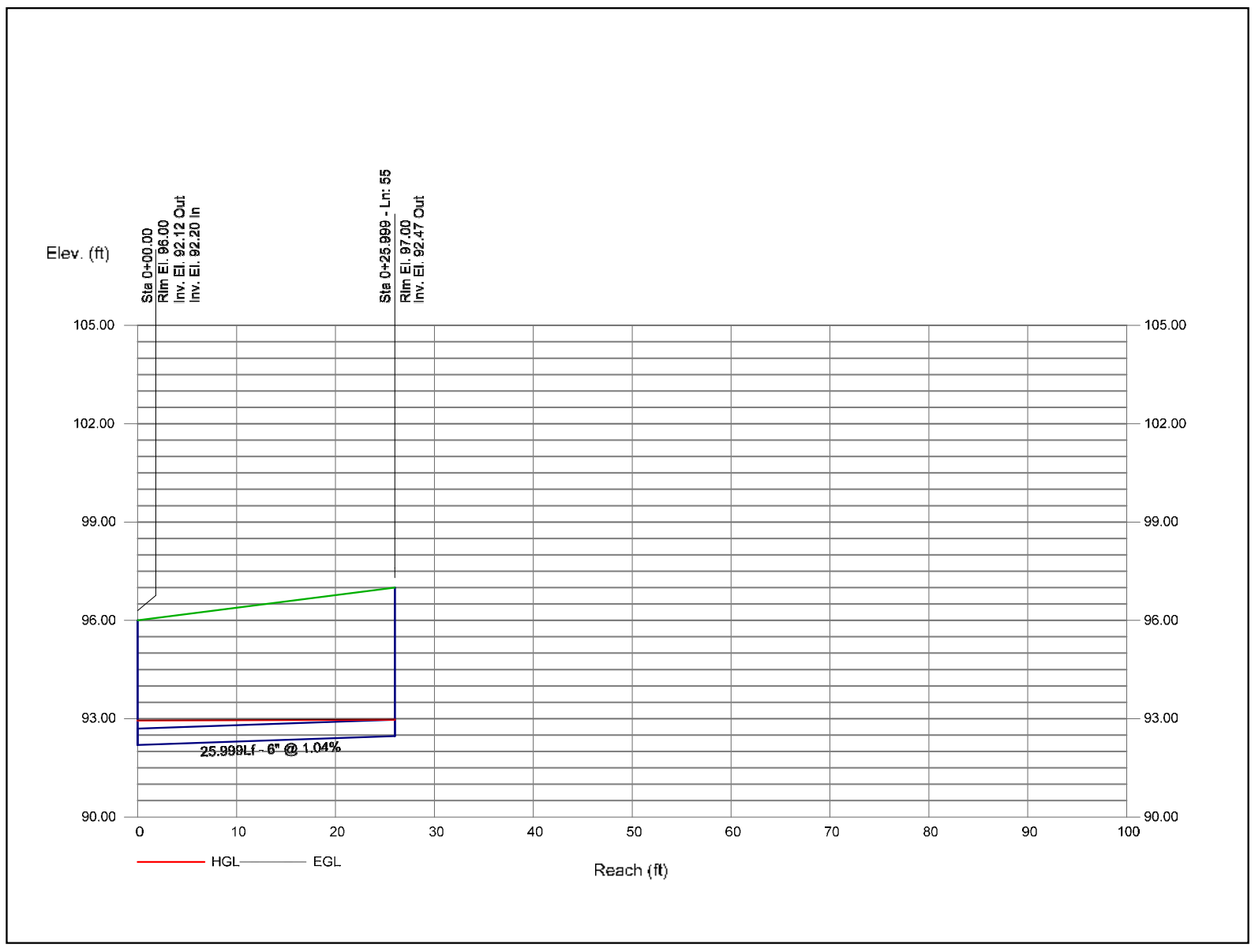
Storm Sewer Profile
Elev. (ft)
Reach (ft)
Sta 0+00.00
Rim El. 96.00
Inv. El. 92.20 Out
Inv. El. 92.53 In
Sta 0+24.375 - Ln: 53
Rim El. 96.00
Inv. El. 92.77 Out
24.375Lf - 18" @ 0.98%
HGL
EGL
Storm Sewers


Proj. file: VACAVILLE.stm
Storm Sewer Profile
Elev. (ft)
Reach (ft)
Sta 0+00.00
Rim El. 96.00
Inv. El. 91.03 Out
Inv. El. 91.61 In
Sta 0+83.863 - Ln: 54
Rim El. 96.00
Inv. El. 92.12 Out
Inv. El. 92.20 In
Sta 1+28.994 - Ln: 56
Rim El. 96.00
Inv. El. 92.57 Out
Inv. El. 92.65 In
Sta 1+55.052 - Ln: 57
Rim El. 97.00
Inv. El. 92.92 Out
83.863Lf - 8" @ 0.61%
45.131Lf - 8" @ 0.82%
26.058Lf - 6" @ 1.04%
HGL
EGL
Storm Sewers

Storm Sewer Profile

Proj. file: VACAVILLE.stm



Storm Sewers

Storm Sewer Profile

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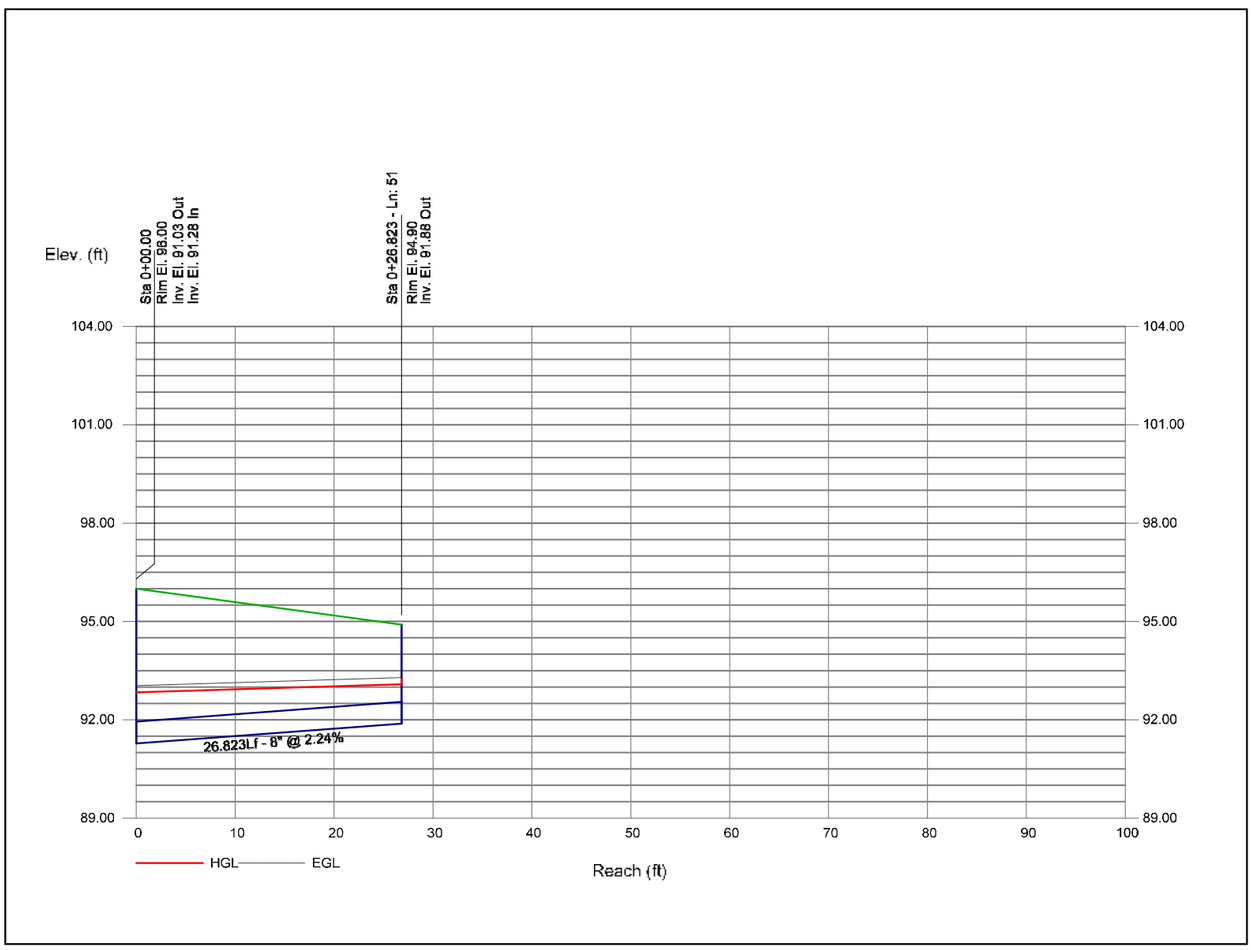

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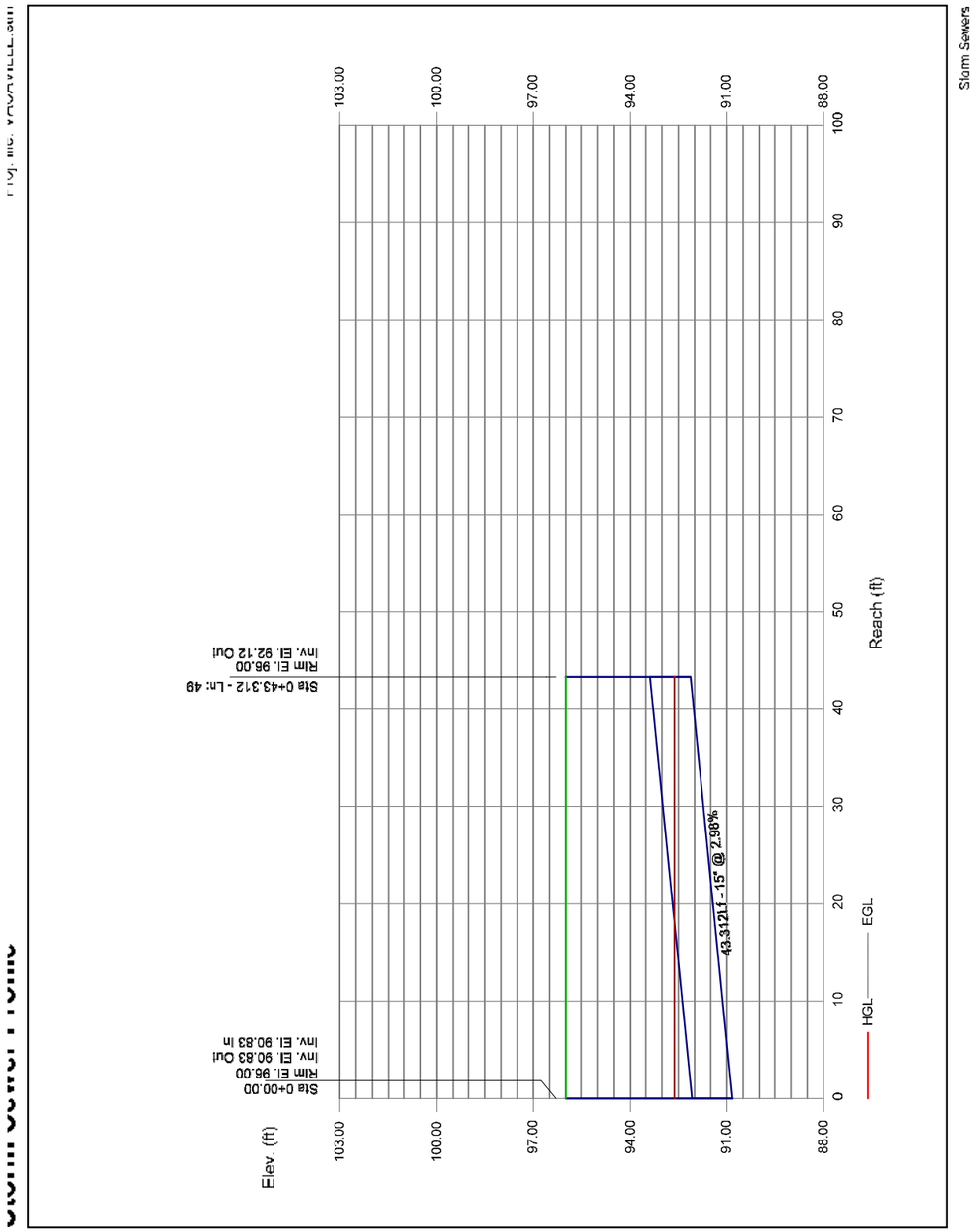
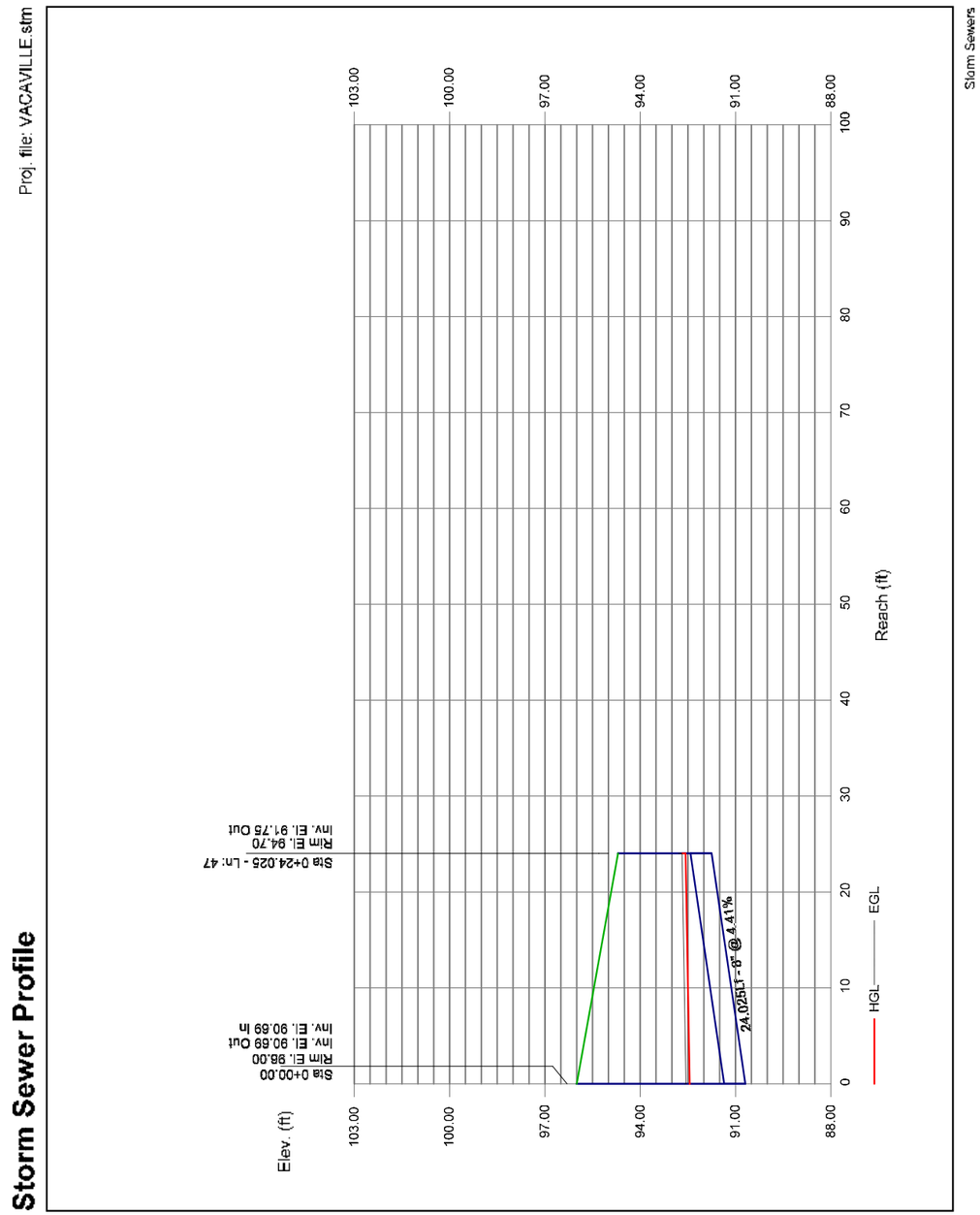
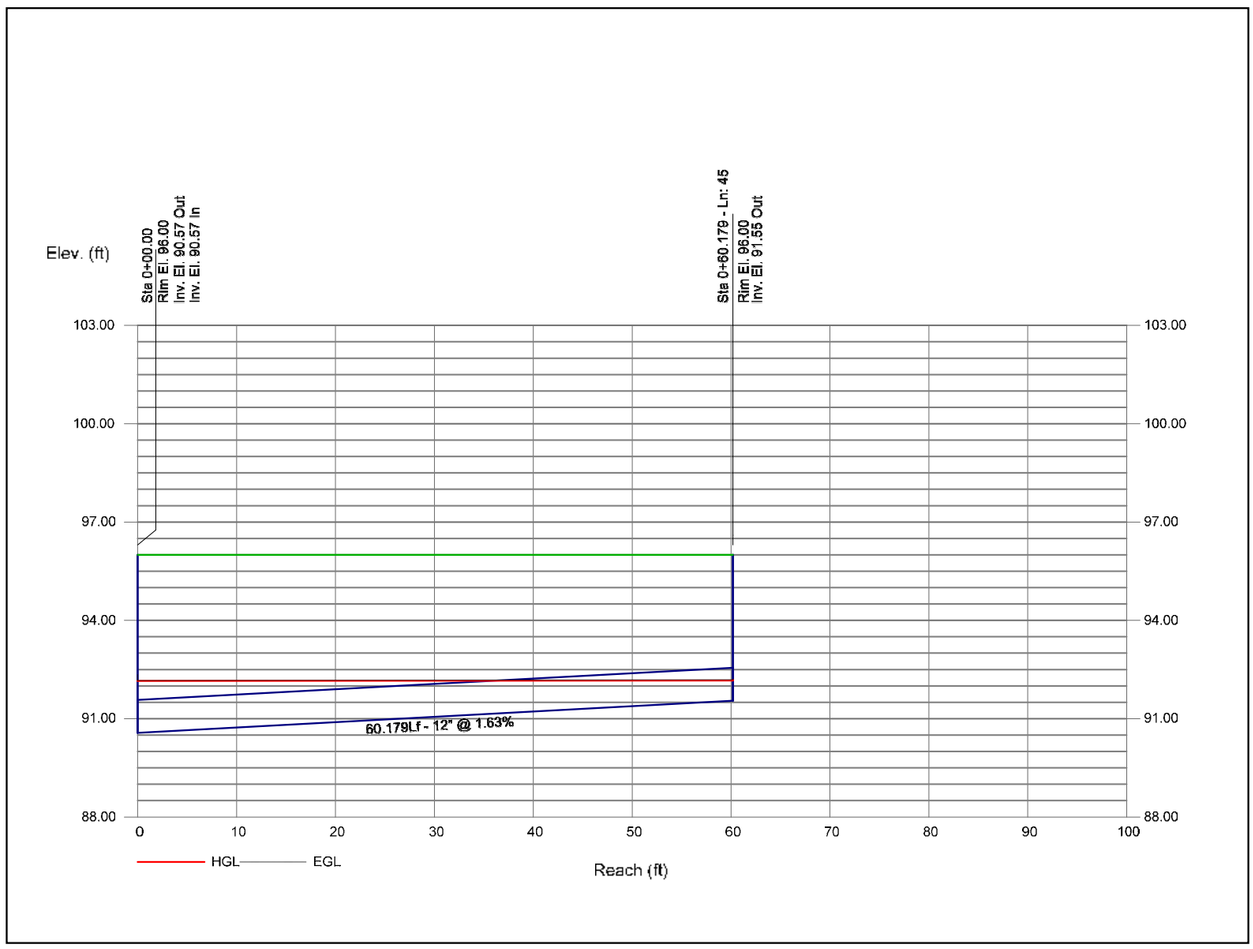

Proj. file: VACAVILLE.stm
Elev. (ft)
103.00
100.00
97.00
94.00
91.00
88.00
Sta 0+00.00
Rim El. 96.00
Inv. El. 90.83 Out
Inv. El. 90.83 In
43.312L1 - 15" @ 2.98%
Sta 0+43.312 - Ln: 48
Rim El. 96.00
Inv. El. 92.12 Out
0
10
20
30
40
50
60
70
80
90
100
Reach (ft)
HGL
EGL
Storm Sewers


Storm Sewer Profile
Proj. file: VACAVILLE.stm
Elev. (ft)
103.00
100.00
97.00
94.00
91.00
88.00
Sta 0+00.00
Rim El. 96.00
Inv. El. 90.69 Out
Inv. El. 90.69 In
24.025L1 - 8" @ 4.41%
Sta 0+24.025 - Ln: 47
Rim El. 94.70
Inv. El. 91.75 Out
0
10
20
30
40
50
60
70
80
90
100
Reach (ft)
HGL
EGL
Storm Sewers

Storm Sewer Profile

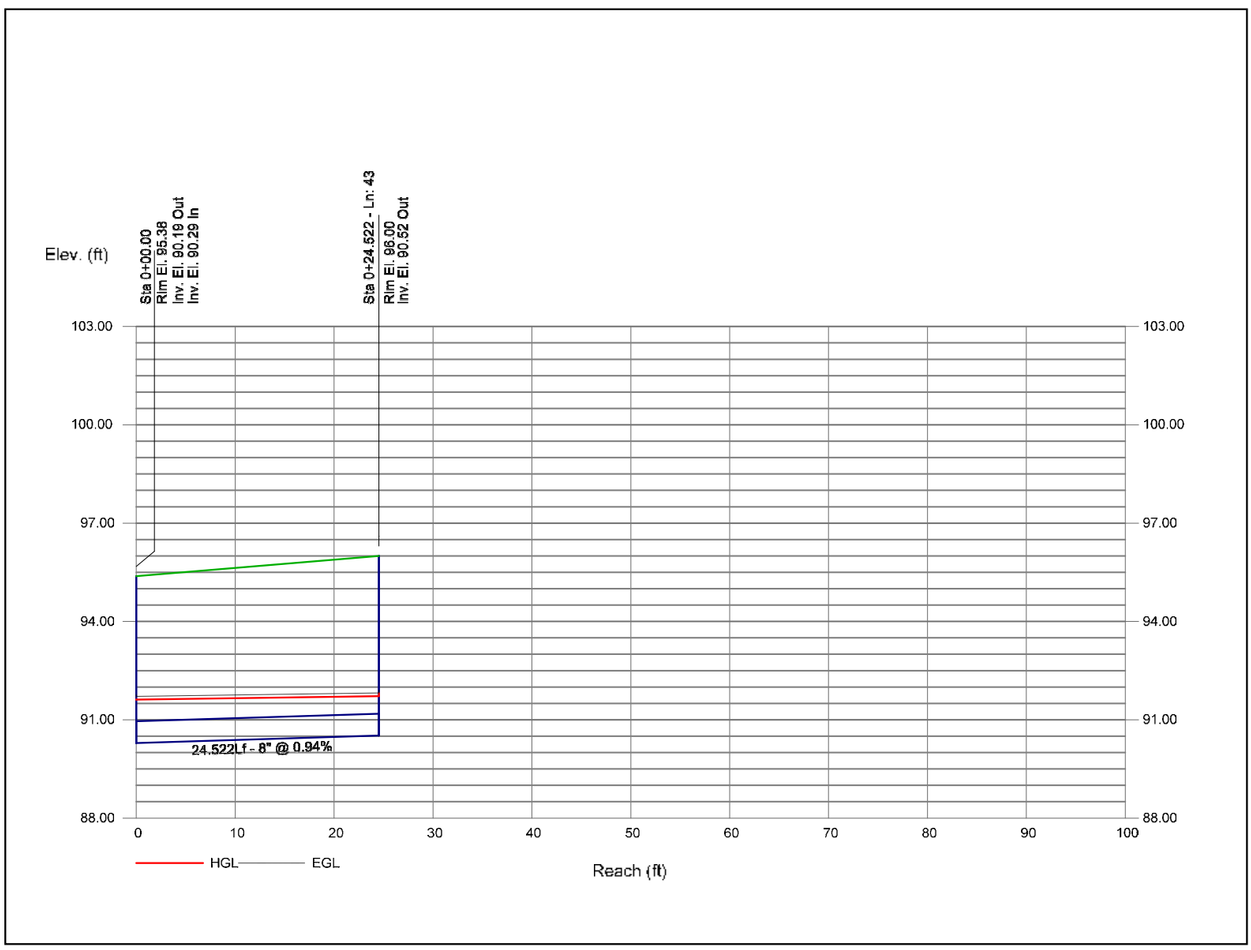
Proj. file: VACAVILLE.stm



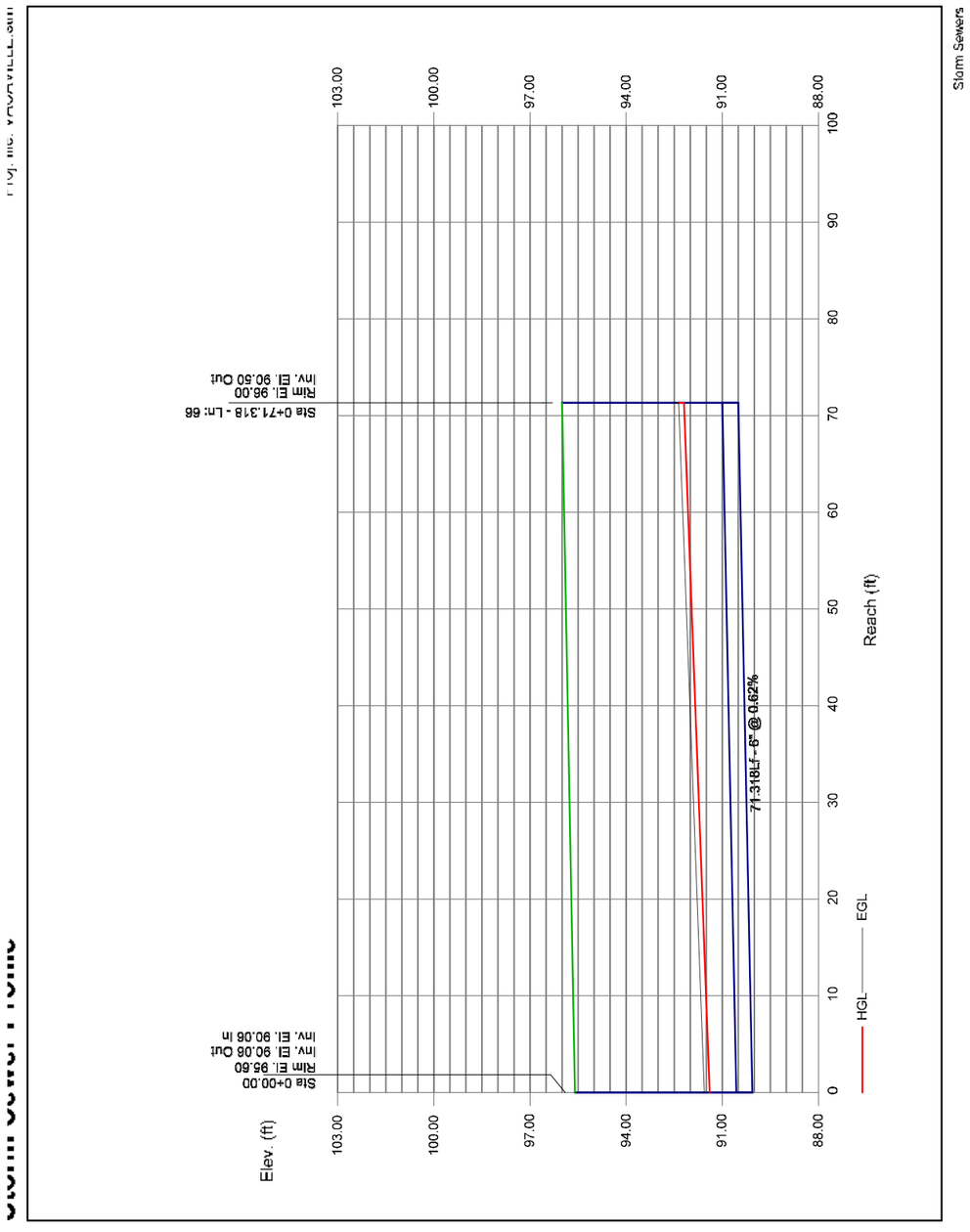
Storm Sewers

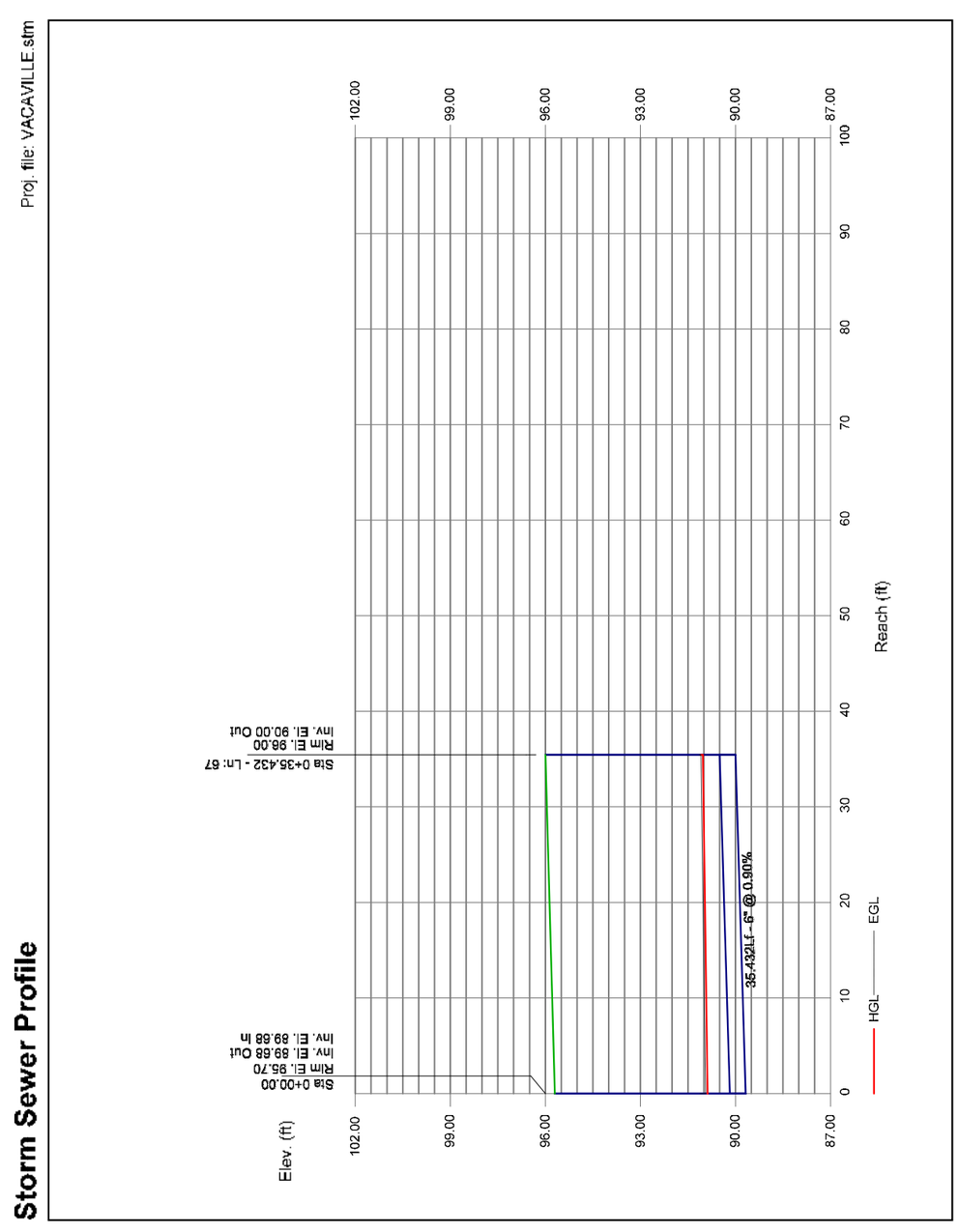
Storm Sewer Profile

Proj. file: VACAVILLE.stm



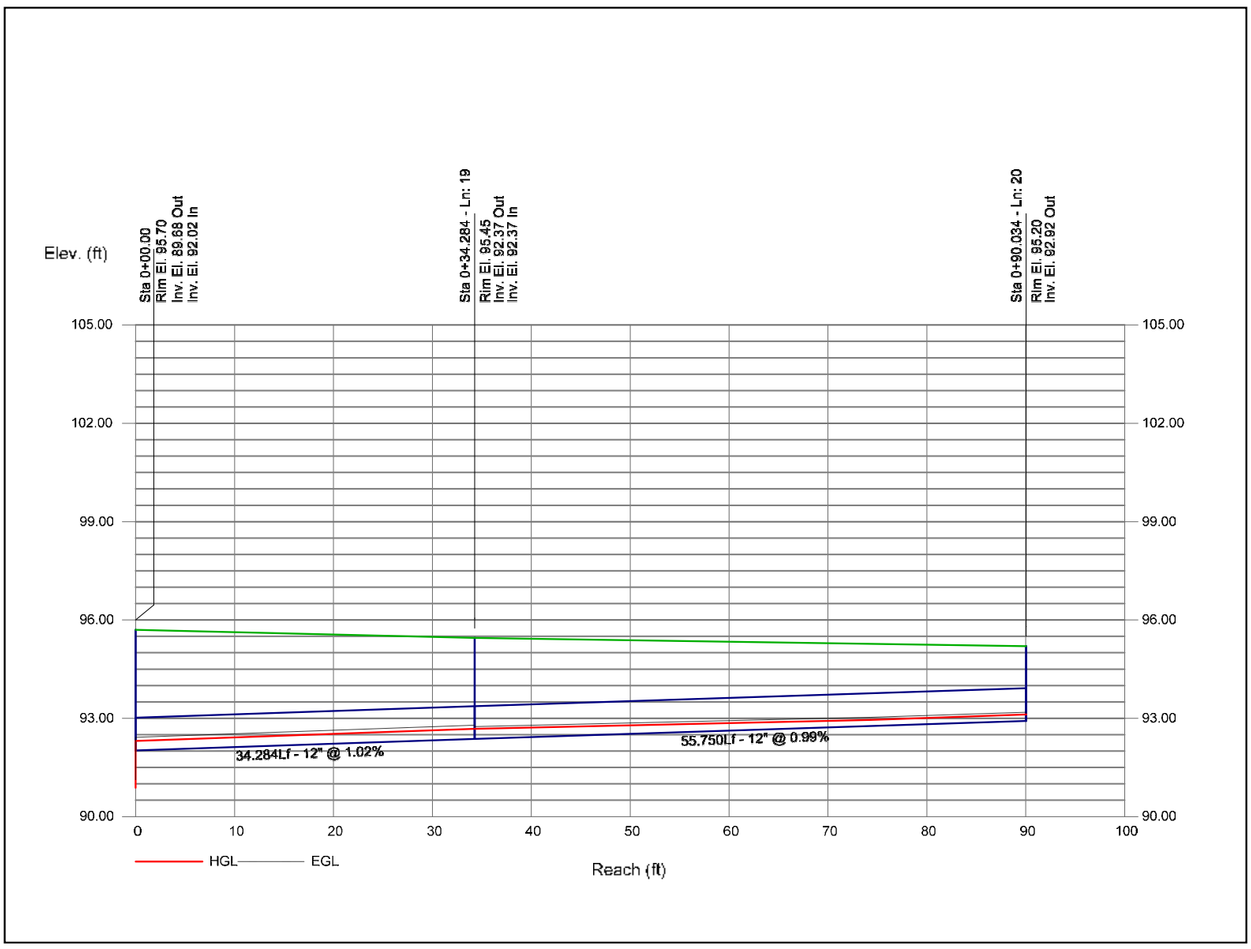
Storm Sewers


Storm Sewer Profile
Proj. file: VACAVILLE.stm
Elev. (ft)
Reach (ft)
Sta 0+00.00
Rim El. 95.60
Inv. El. 90.06 Out
Inv. El. 90.06 In
Sta 0+71.318 - Ln: 66
Rim El. 96.00
Inv. El. 90.50 Out
71.318LF - 6" @ 0.62%
HGL
EGL
Storm Sewers


Storm Sewer Profile
Proj. file: VACAVILLE.stm
Elev. (ft)
Reach (ft)
Sta 0+00.00
Rim El. 95.70
Inv. El. 89.68 Out
Inv. El. 89.68 In
Sta 0+35.432 - Ln: 67
Rim El. 96.00
Inv. El. 90.00 Out
35.432LF - 6" @ 0.90%
HGL
EGL
Storm Sewers

Storm Sewer Profile

Proj. file: VACAVILLE.stm



Storm Sewers

Storm Sewer Profile

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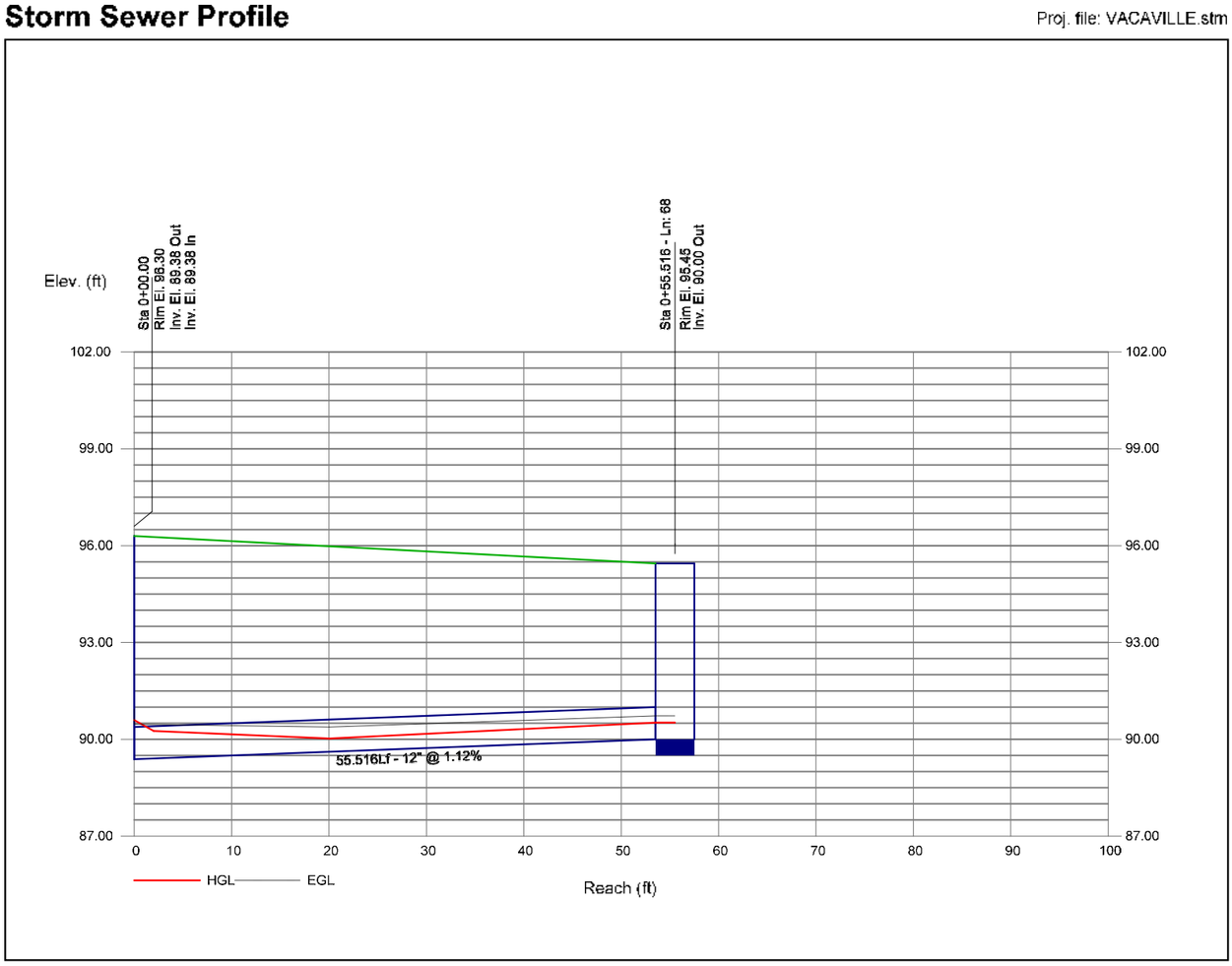
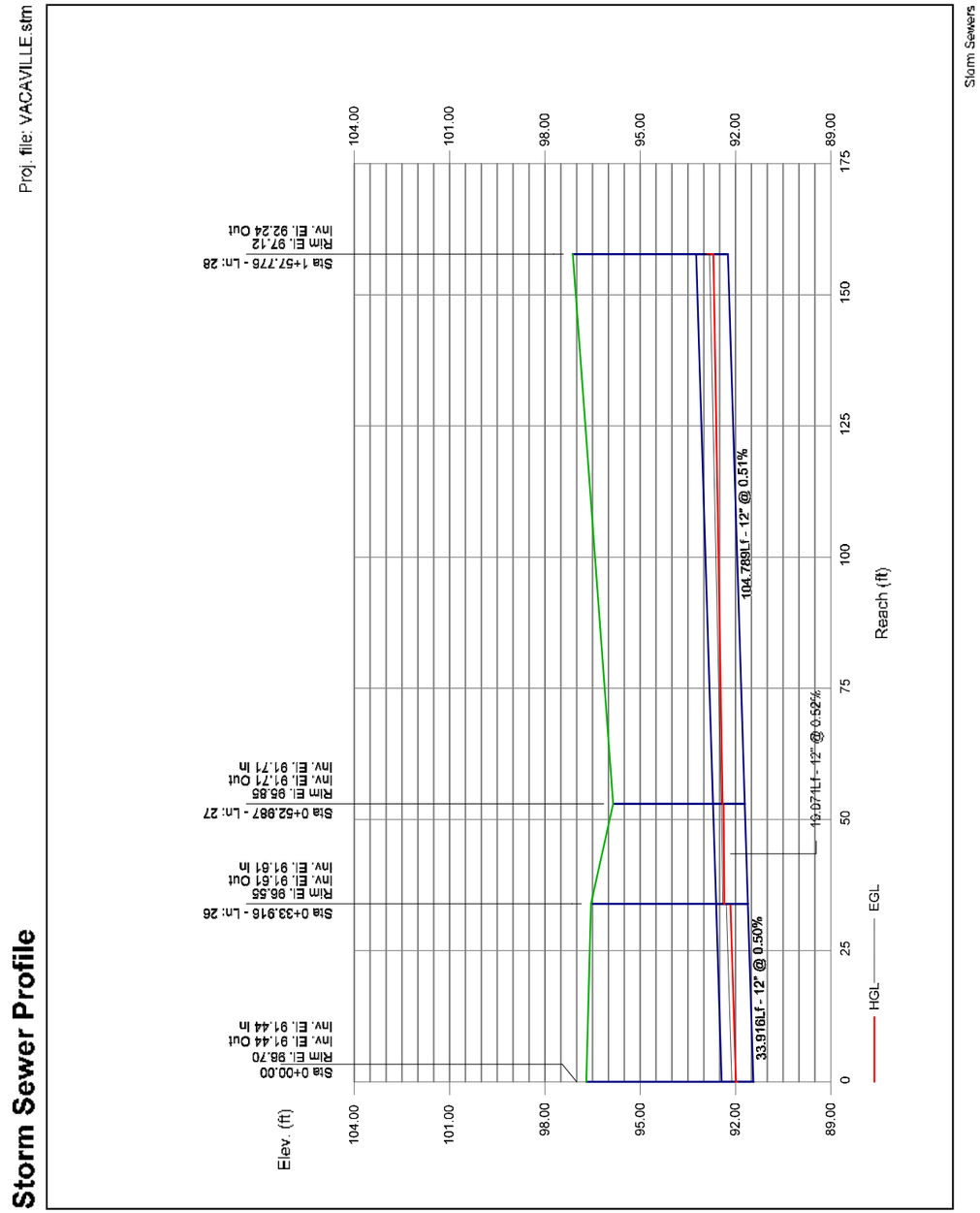
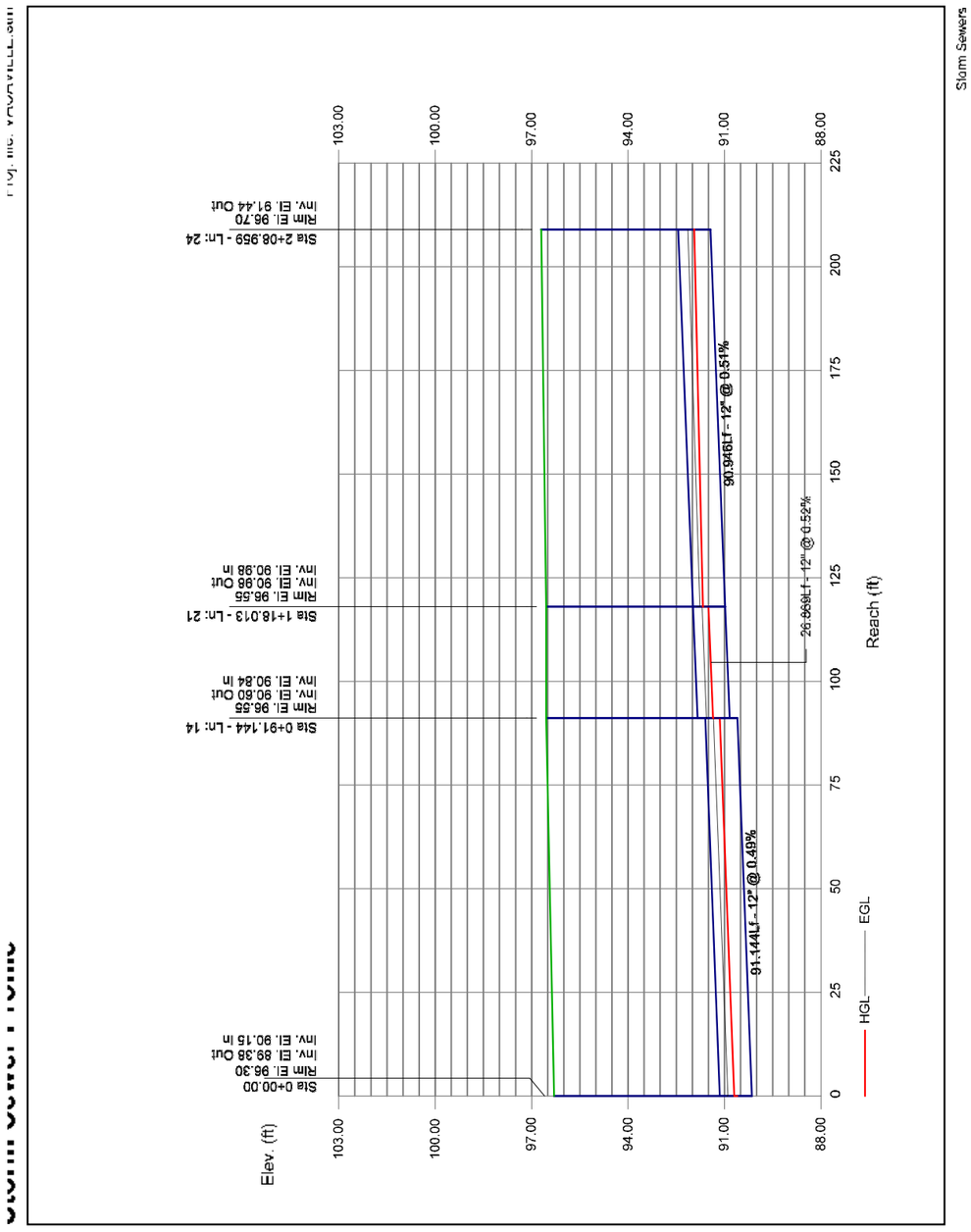


Storm Sewers


Storm Sewer Profile
Proj. file: VACAVILLE.stm
Storm Sewers
Elev. (ft)
Reach (ft)
HGL
EGL
Sta 0+00.00
Rim El. 96.70
Inv. El. 91.44 Out
Inv. El. 91.44 In
Sta 0+33.916 - Ln: 26
Rim El. 96.55
Inv. El. 91.61 Out
Inv. El. 91.61 In
Sta 0+52.987 - Ln: 27
Rim El. 96.85
Inv. El. 91.71 Out
Inv. El. 91.71 In
Sta 1+57.776 - Ln: 28
Rim El. 97.12
Inv. El. 92.24 Out
33.916LF - 12" @ 0.50%
104.789LF - 12" @ 0.51%
19.071LF - 12" @ 0.52%


Storm Sewer Profile
Proj. file: VACAVILLE.stm
Storm Sewers
Elev. (ft)
Reach (ft)
HGL
EGL
Sta 0+00.00
Rim El. 96.30
Inv. El. 89.38 Out
Inv. El. 90.15 In
Sta 0+91.144 - Ln: 14
Rim El. 96.55
Inv. El. 90.60 Out
Inv. El. 90.84 In
Sta 1+18.013 - Ln: 21
Rim El. 96.55
Inv. El. 90.98 Out
Inv. El. 90.98 In
Sta 2+08.959 - Ln: 24
Rim El. 96.70
Inv. El. 91.44 Out
91.144LF - 12" @ 0.49%
26.868LF - 12" @ 0.52%
90.946LF - 12" @ 0.51%

Storm Sewer Profile

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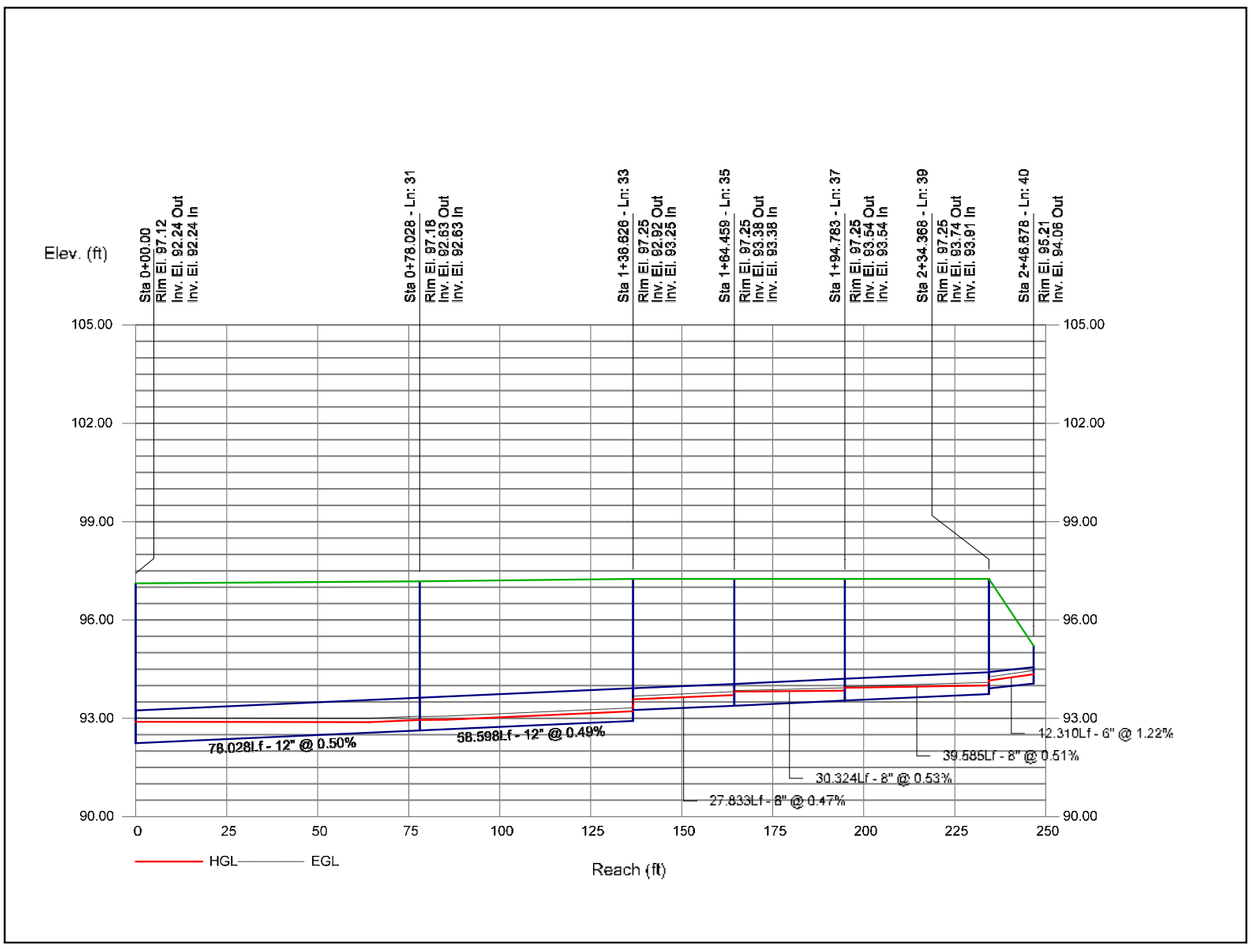
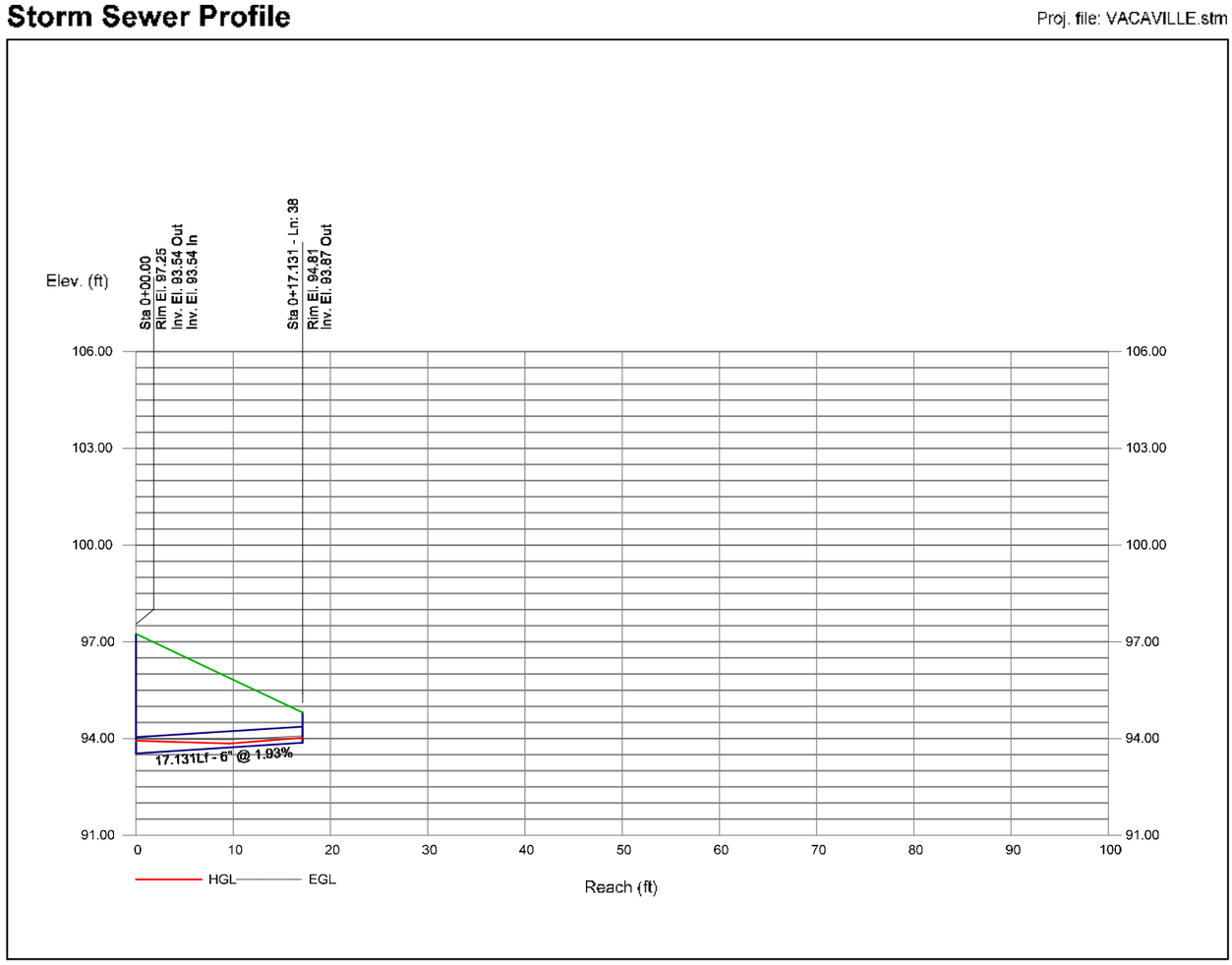


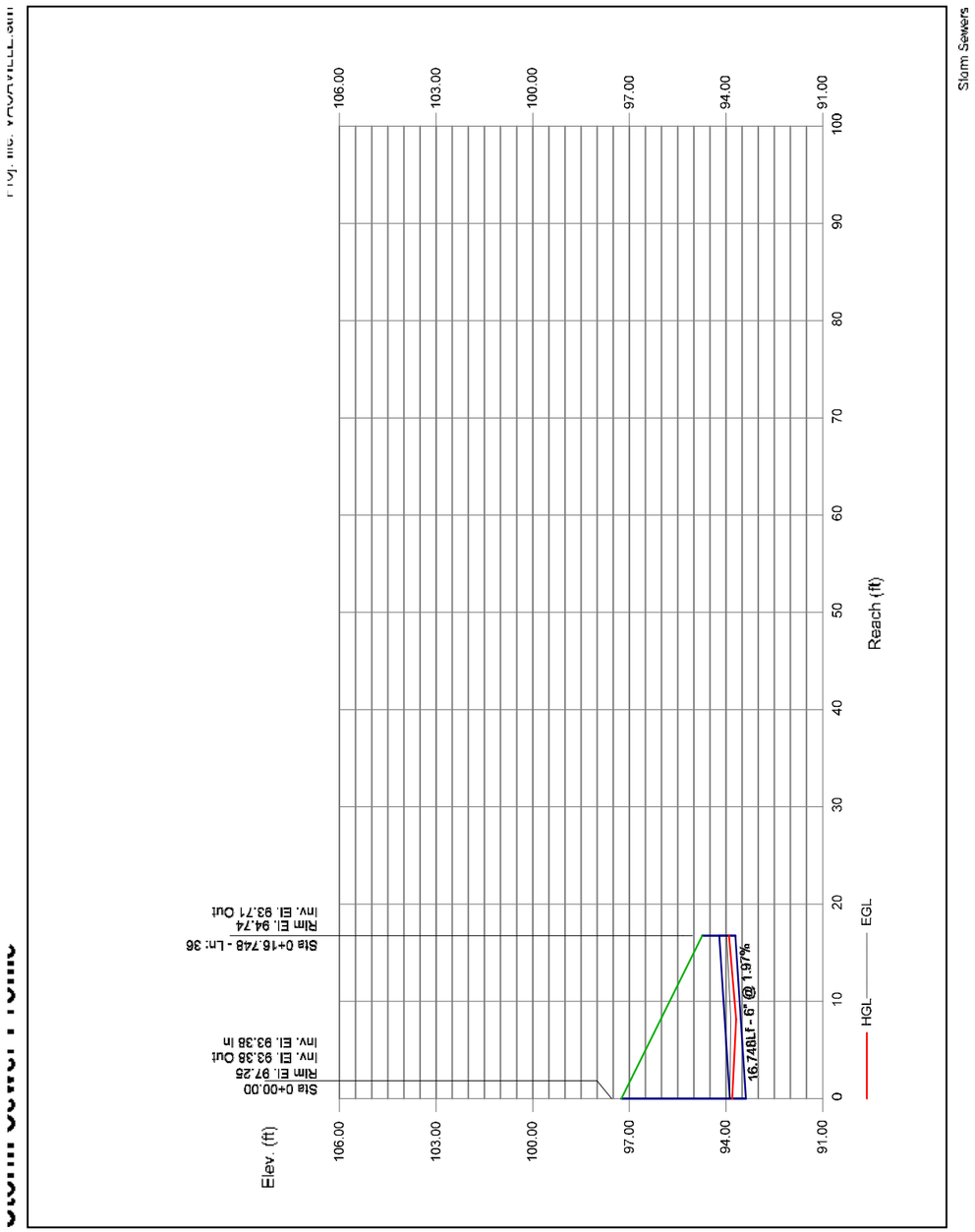
Storm Sewers

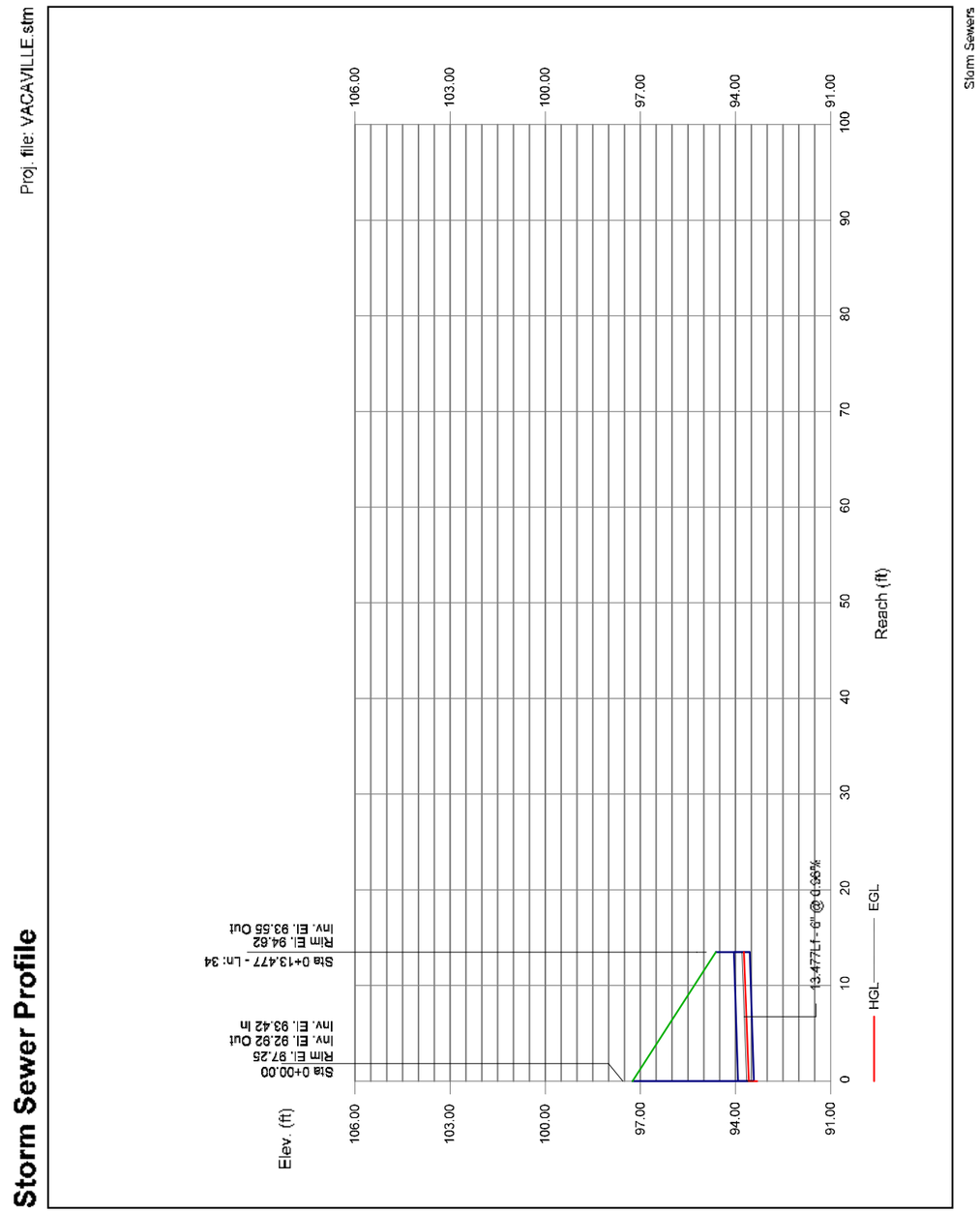
Storm Sewer Profile

Proj. file: VACAVILLE.stm



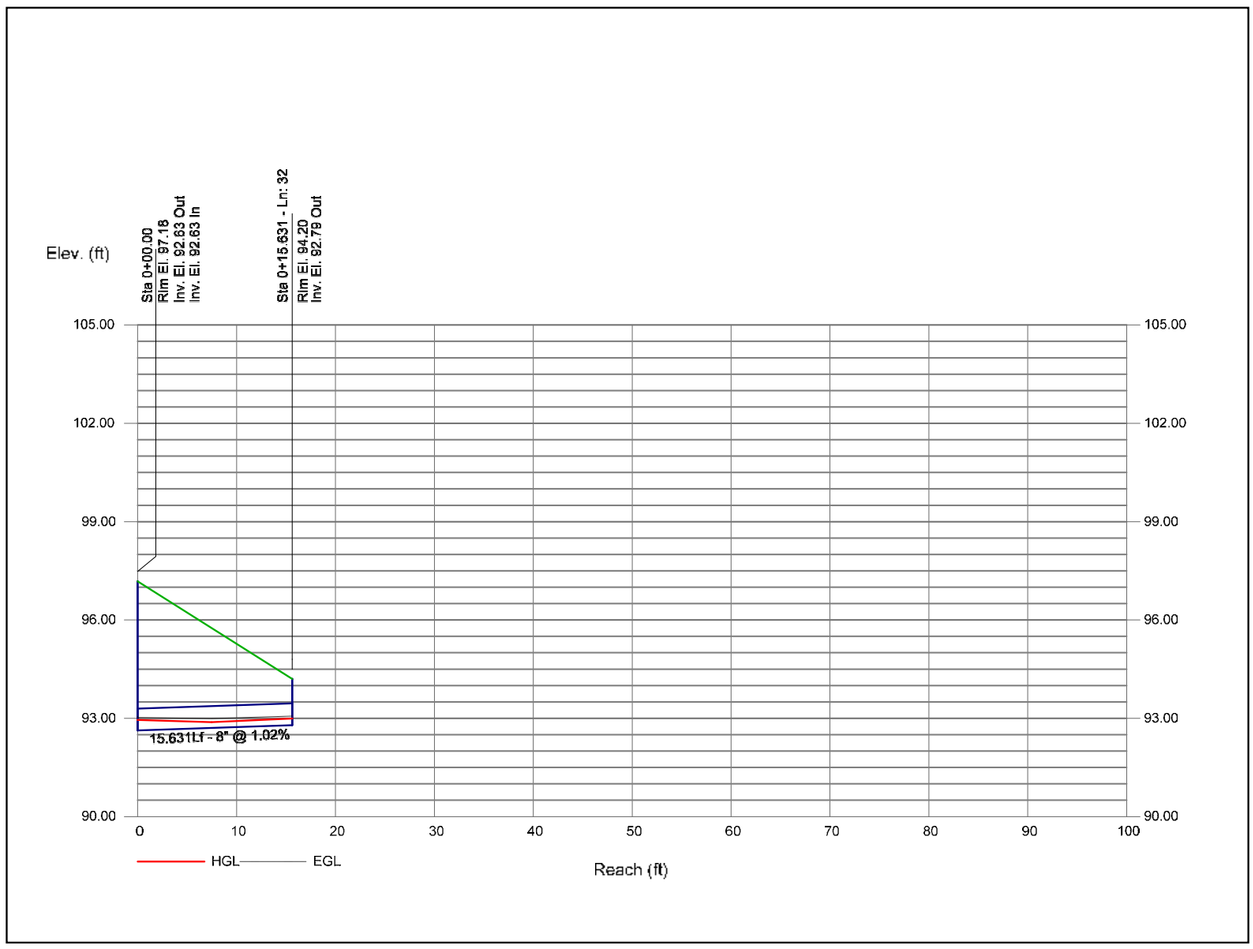
Storm Sewers


Proj. file: VACAVILLE.stm
Storm Sewers
Elev. (ft)
106.00
103.00
100.00
97.00
94.00
91.00
Sta 0+00.00
Rim El. 97.25
Inv. El. 93.38 Out
Inv. El. 93.38 In
Sta 0+16.748 - Ln: 36
Rim El. 94.74
Inv. El. 93.71 Out
16.748LF - 6" @ 1.97%
0
10
20
30
40
50
60
70
80
90
100
Reach (ft)
HGL
EGL


Storm Sewer Profile
Proj. file: VACAVILLE.stm
Storm Sewers
Elev. (ft)
106.00
103.00
100.00
97.00
94.00
91.00
Sta 0+00.00
Rim El. 97.25
Inv. El. 92.92 Out
Inv. El. 93.42 In
Sta 0+13.477 - Ln: 34
Rim El. 94.62
Inv. El. 93.55 Out
13.477LF - 6" @ 0.66%
0
10
20
30
40
50
60
70
80
90
100
Reach (ft)
HGL
EGL

Storm Sewer Profile

Proj. file: VACAVILLE.stm



Storm Sewers

Storm Sewer Profile

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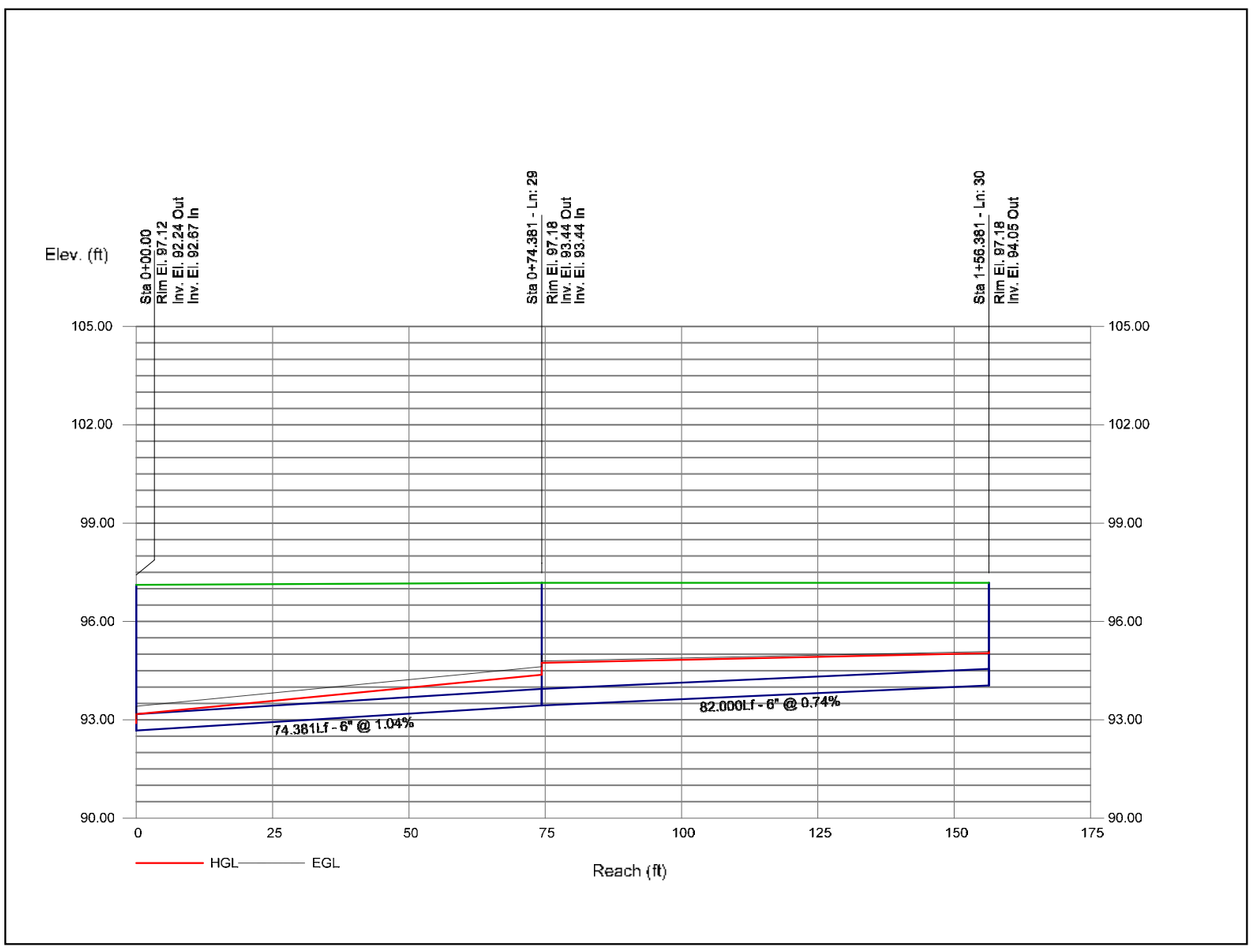
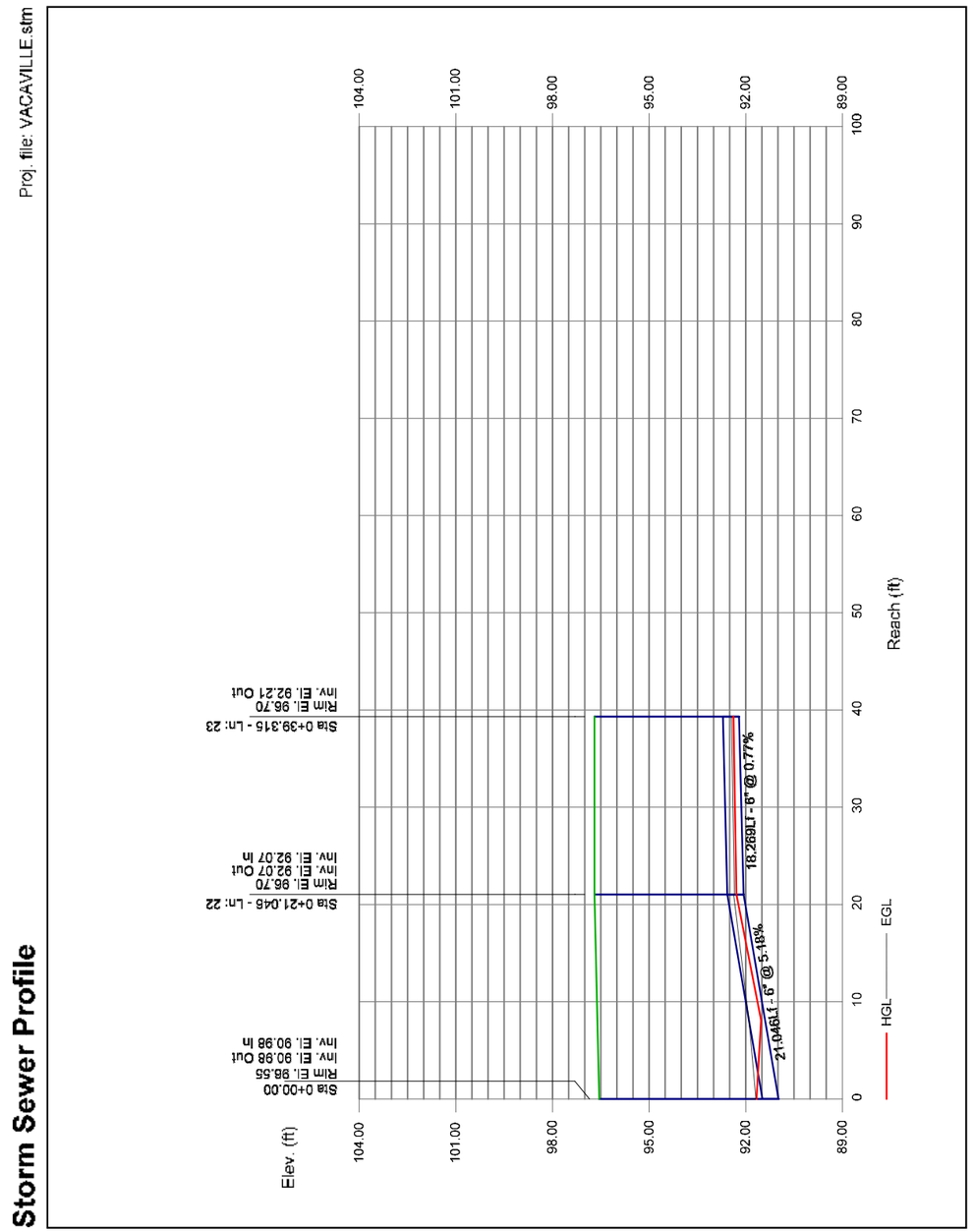
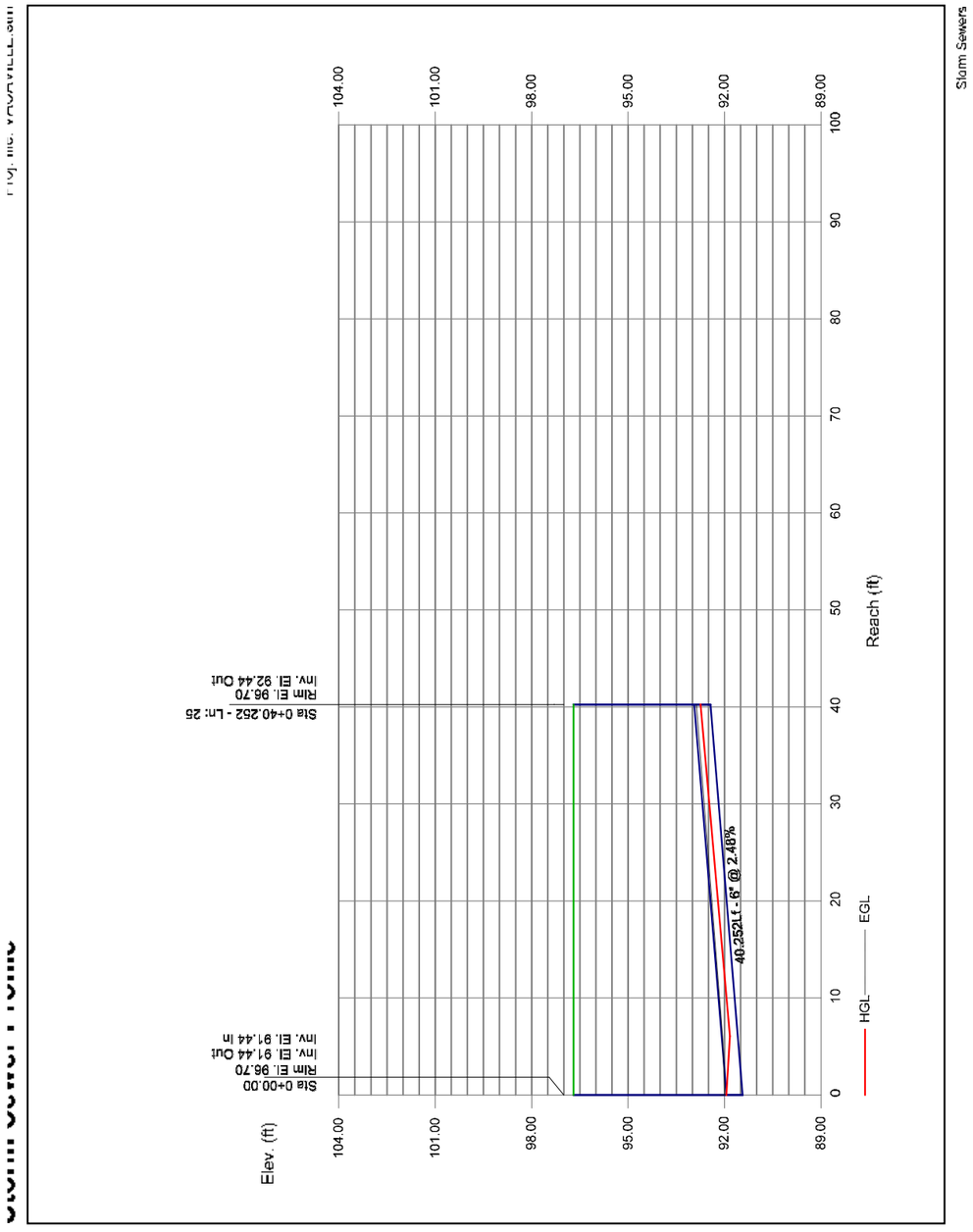


Storm Sewers

Storm Sewer Profile





Storm Sewer Profile

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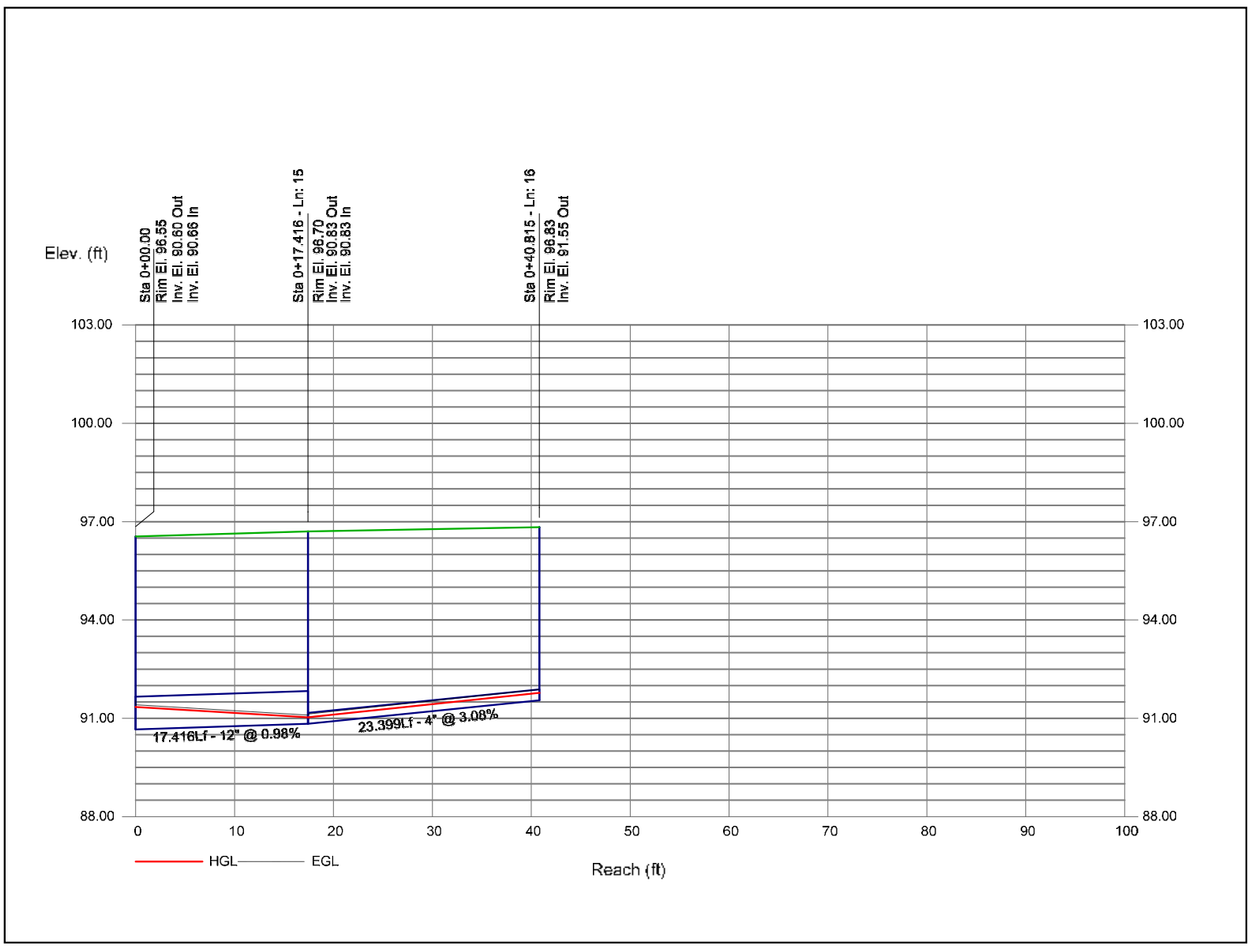
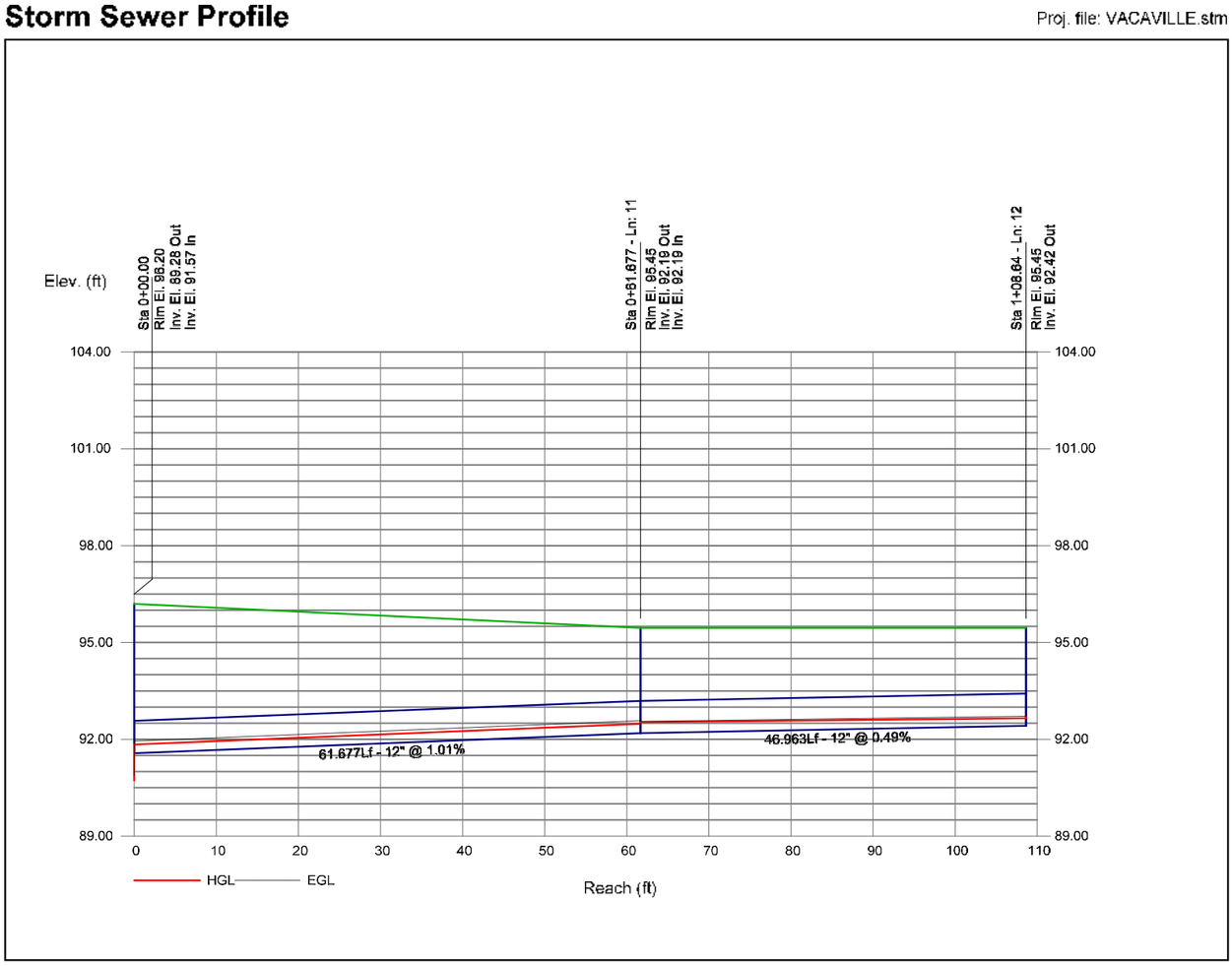


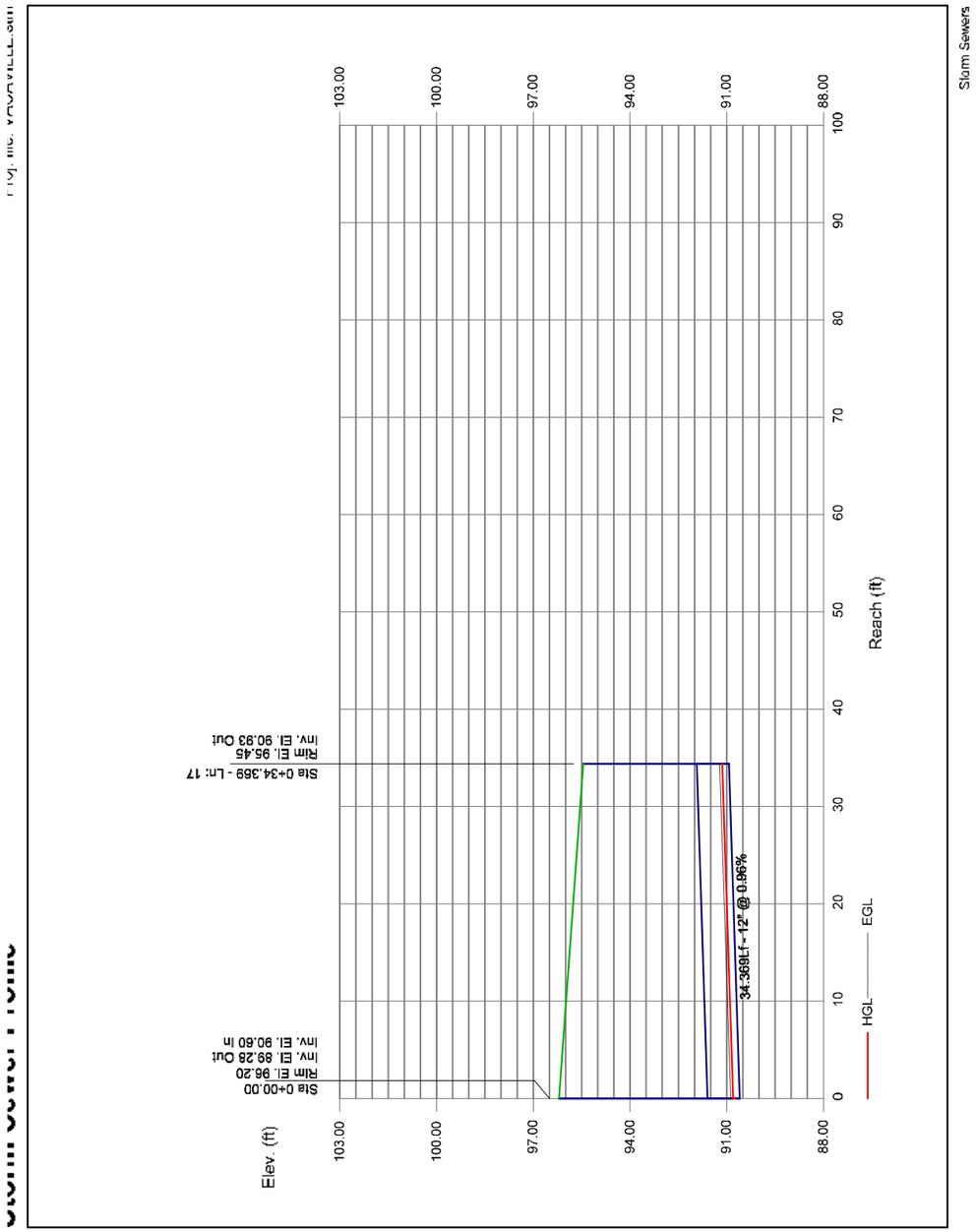
Storm Sewers

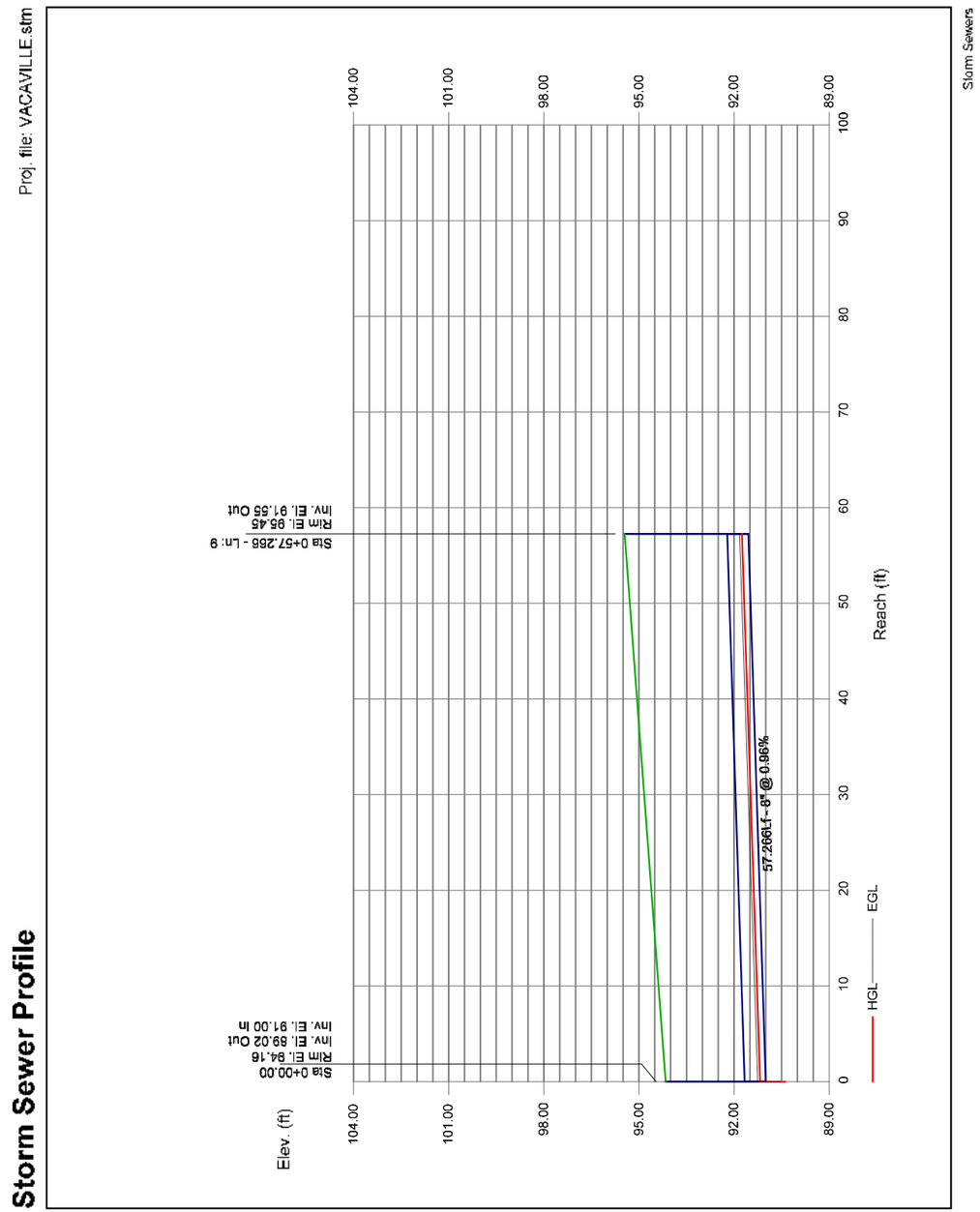
Storm Sewer Profile

Proj. file: VACAVILLE.stm

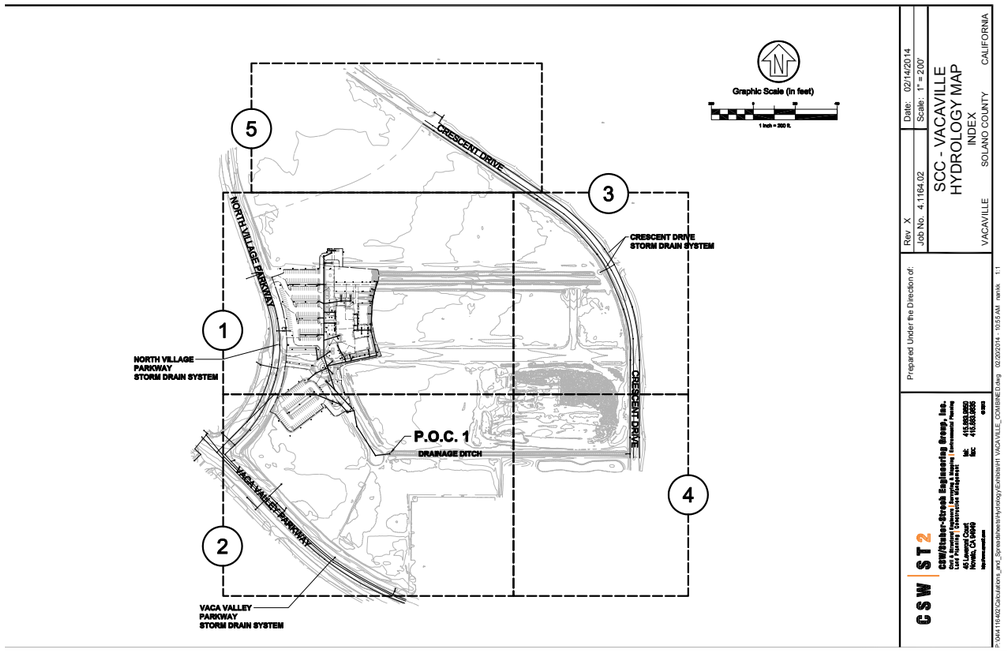


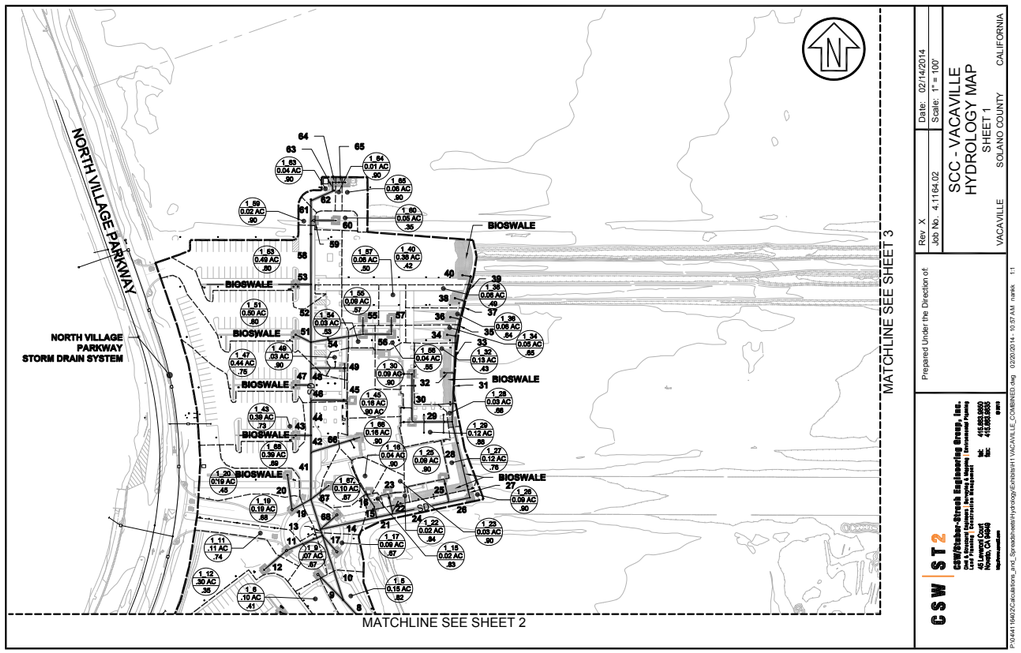
Storm Sewers

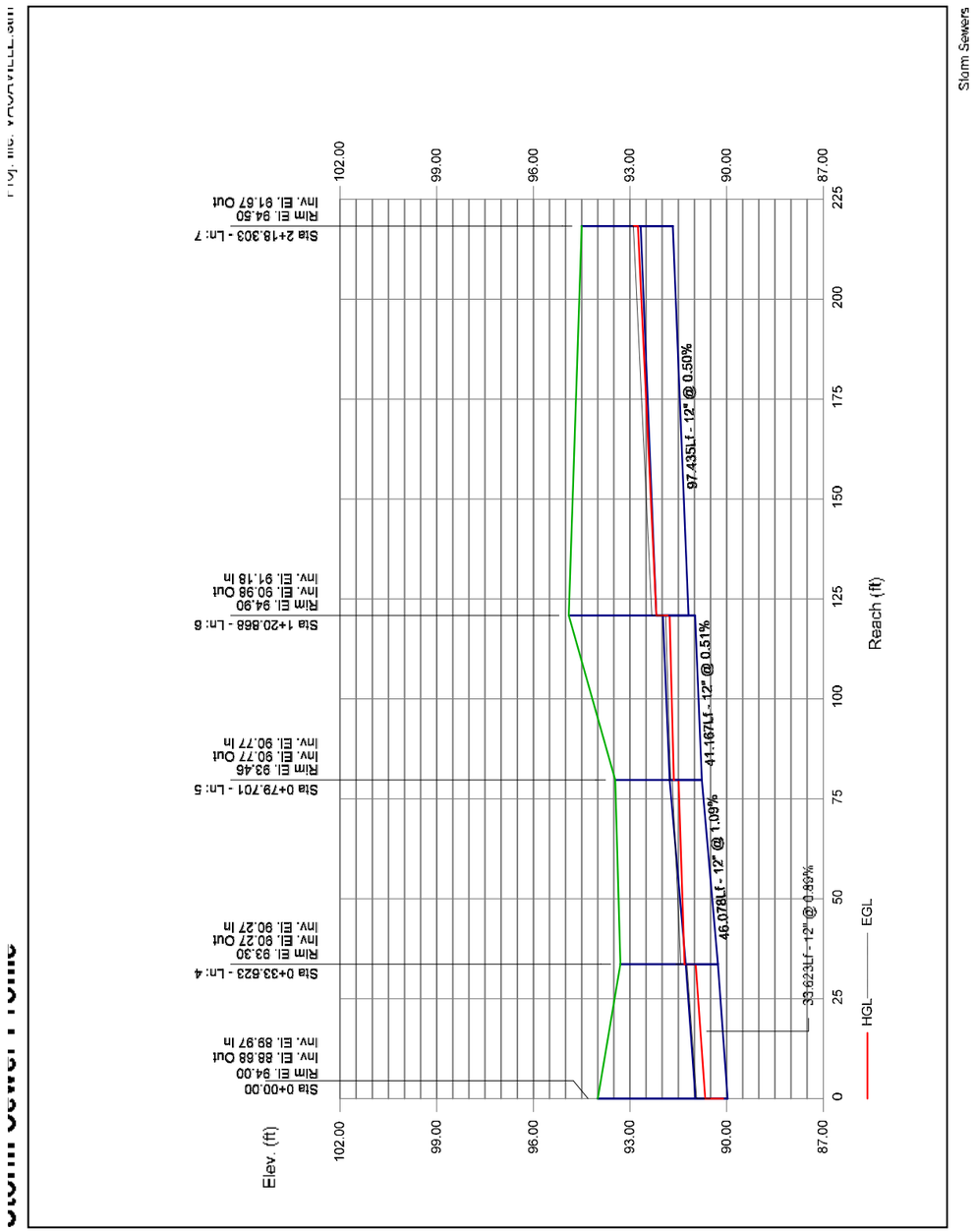

Proj. file: VACAVILLE.stm
Elev. (ft)
103.00
100.00
97.00
94.00
91.00
88.00
Sta 0+00.00
Rim El. 96.20
Inv. El. 89.28 Out
Inv. El. 90.60 In
Sta 0+34.369 - Ln: 17
Rim El. 95.45
Inv. El. 90.93 Out
34.369LF - 12" @ 0.96%
HGL
EGL
0
10
20
30
40
50
60
70
80
90
100
Reach (ft)
Storm Sewers

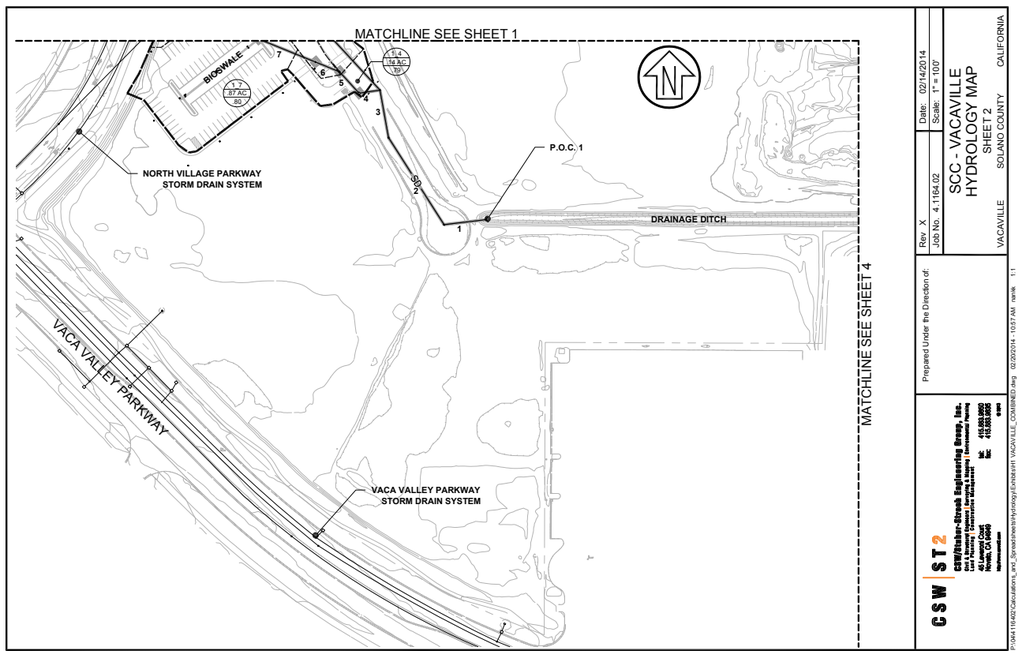

Storm Sewer Profile
Proj. file: VACAVILLE.stm
Elev. (ft)
104.00
101.00
98.00
95.00
92.00
89.00
Sta 0+00.00
Rim El. 94.16
Inv. El. 89.02 Out
Inv. El. 91.00 In
Sta 0+57.266 - Ln: 9
Rim El. 95.45
Inv. El. 91.55 Out
57.266LF - 8" @ 0.96%
HGL
EGL
0
10
20
30
40
50
60
70
80
90
100
Reach (ft)
Storm Sewers

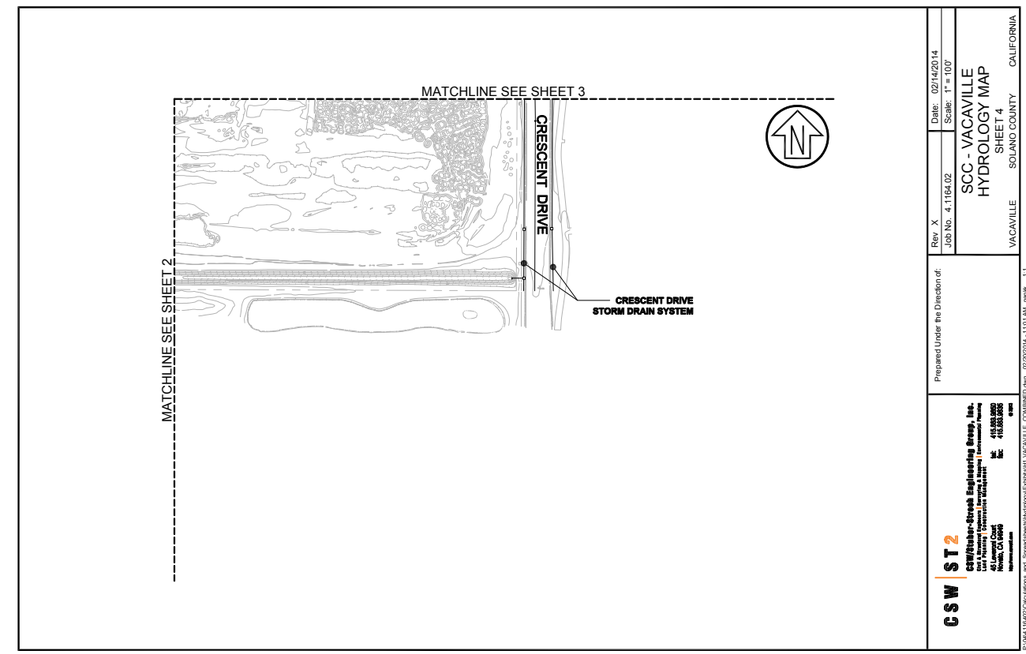
Appendix 9.5
Hydrology Map

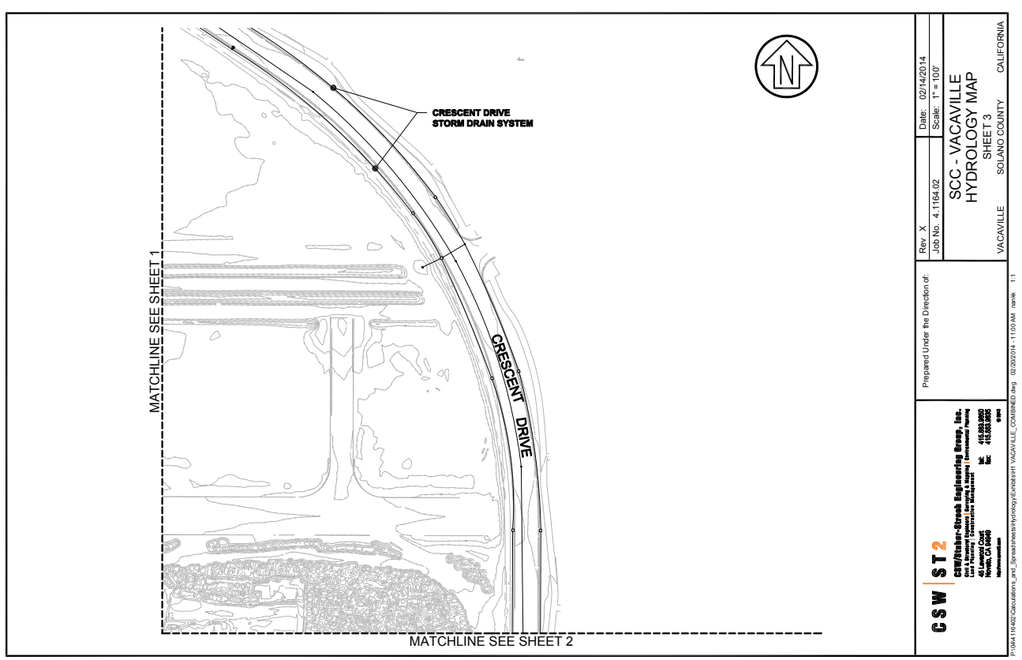


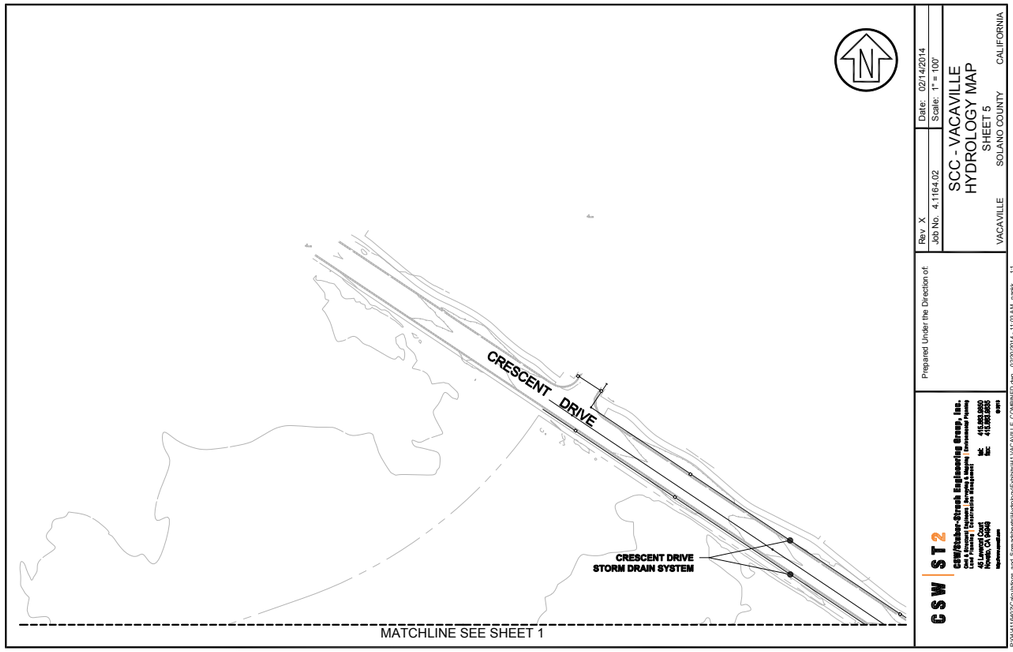




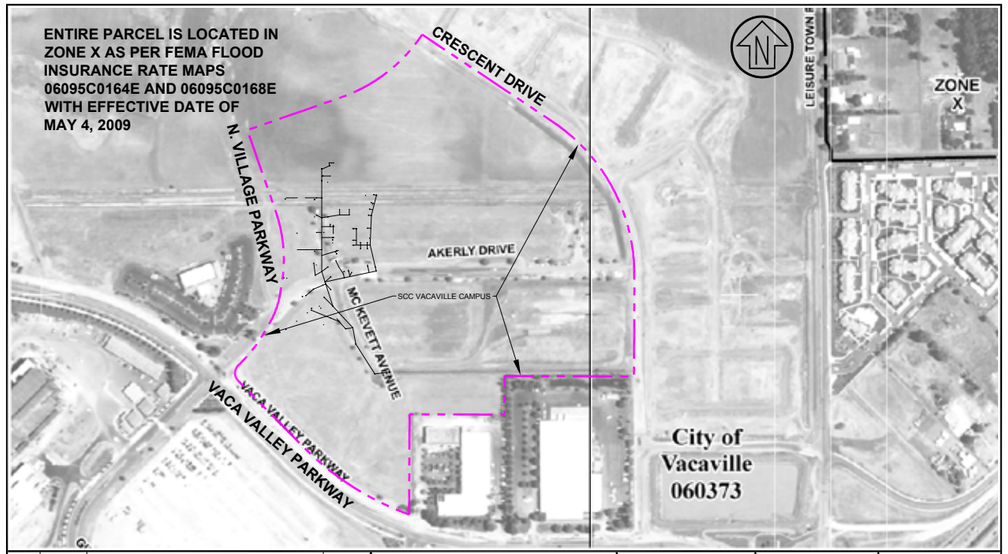

MATCHLINE SEE SHEET 1
MATCHLINE SEE SHEET 4
BIOSWALE
NORTH VILLAGE PARKWAY
STORM DRAIN SYSTEM
P.O.C. 1
DRAINAGE DITCH
VACA VALLEY PARKWAY
VACA VALLEY PARKWAY
STORM DRAIN SYSTEM
SCC - VACAVILLE
HYDROLOGY MAP
SHEET 2
VACAVILLE
SOLANO COUNTY
CALIFORNIA
Rev X
Job No. 4.1164.02
Date: 02/14/2014
Scale: 1" = 100'
Prepared Under the Direction of:
CSW ST2


MATCHLINE SEE SHEET 3
MATCHLINE SEE SHEET 2
CRESCENT DRIVE
CRESCENT DRIVE
STORM DRAIN SYSTEM
SCC - VACAVILLE
HYDROLOGY MAP
SHEET 4
VACAVILLE
SOLANO COUNTY
CALIFORNIA
Rev X
Job No. 4.1164.02
Date: 02/14/2014
Scale: 1" = 100'
Prepared Under the Direction of:
CSW ST2


CRESCENT DRIVE
STORM DRAIN SYSTEM
MATCHLINE SEE SHEET 1
CRESCENT DRIVE
MATCHLINE SEE SHEET 2
SCC - VACAVILLE
HYDROLOGY MAP
SHEET 3
VACAVILLE
SOLANO COUNTY
CALIFORNIA
Rev X
Job No. 4.1164.02
Date: 02/14/2014
Scale: 1" = 100'
Prepared Under the Direction of:
CSW ST2


CRESCENT DRIVE
CRESCENT DRIVE
STORM DRAIN SYSTEM
MATCHLINE SEE SHEET 1
SCC - VACAVILLE
HYDROLOGY MAP
SHEET 5
VACAVILLE
SOLANO COUNTY
CALIFORNIA
Rev X
Job No. 4.1164.02
Date: 02/14/2014
Scale: 1" = 100'
Prepared Under the Direction of:
CSW ST2

Appendix 9.6
FEMA Floodplain Exhibit



Rev	Date	Description	Checked
-	XX/XX/XX	XXX	XXX

CSW | ST2
CSW/Stuber-Stroeh Engineering Group, Inc.
Civil & Structural Engineers | Surveying & Mapping | Environmental Planning
Land Planning | Construction Management
45 Leveroni Court tel: 415.883.9650
Novato, CA 94949 fax: 415.883.9635
http://www.cswst2.com

Prepared Under the Direction of:

Job No. 4.1164.02
Date: 2/07/14
Scale: N.T.S.

SOLANO COUNTY COMMUNITY COLLEGES
FEMA FLOODPLAIN EXHIBIT
VACAVILLE CAMPUS
VACAVILLE SOLANO CALIFORNIA

P:\04\4116402\Calculations_and_Spreadsheets\Hydrology\Exhibits\FEMA_EXHIBITS\Vacaville_FEMA.dwg 02/07/2014 - 03:26 PM nankk 1:1

VJ Storm Water Assessments Appendix

This is the Appendix to the Infrastructure Assessments Storm Water Review Reports that appear in Book 3, starting on page 96.

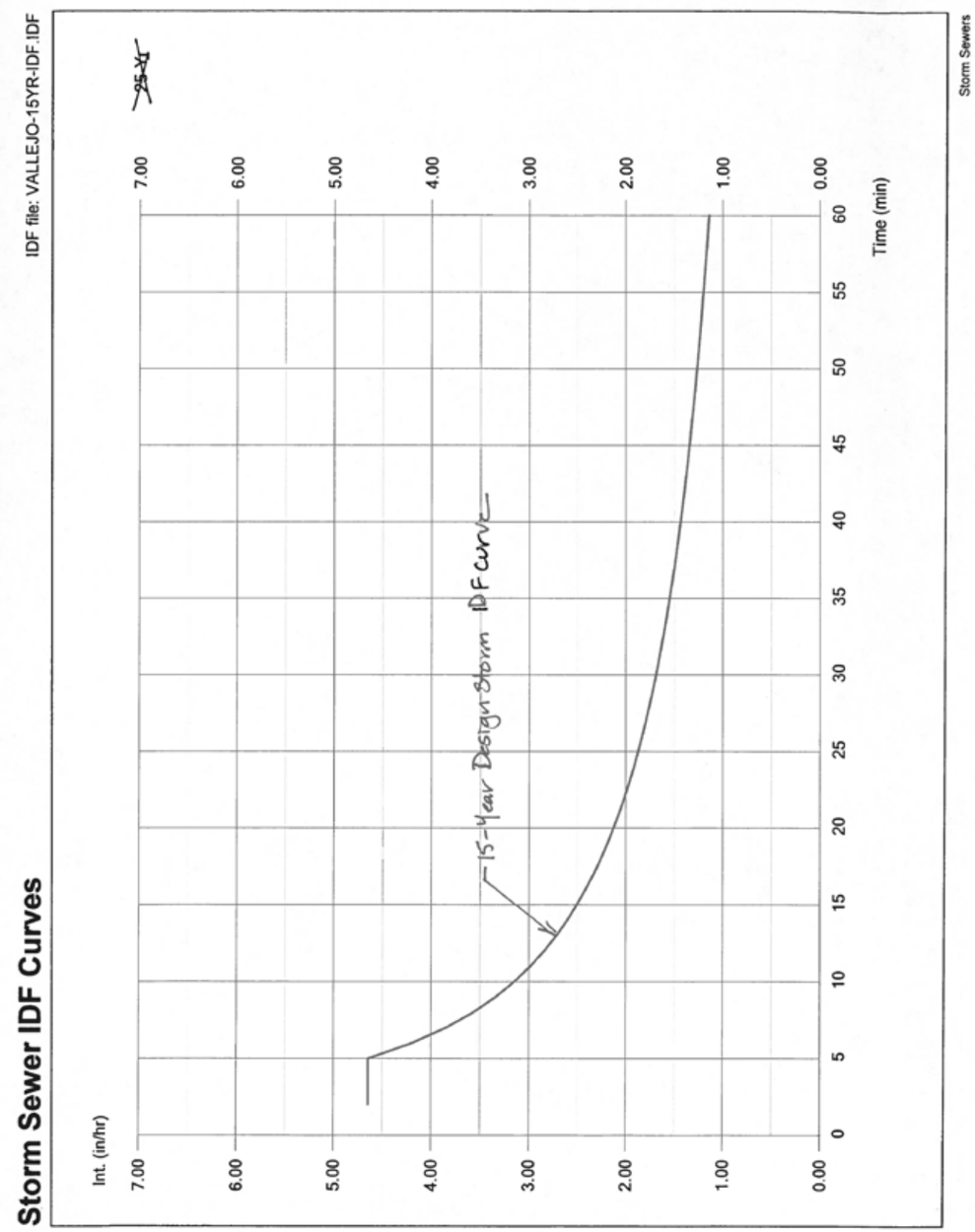
Appendix 9.1
Intensity-Duration-Frequency Curve

Solano Community College - Vallejo Campus
Intensity-Duration-Frequency Curve Data

15-Year Intensity Based on City of Vallejo Criteria

Return Period			
Vallejo 15 Year Storm	Actual MAP[4]=	23	
Duration of Design Storm (min)	Table 3-4A[1] Rainfall Depth based on MAP = 24 inches (in)	Intensity[2] based on MAP = 24 inches (in/hr)	Corrected Intensity[3] for Actual MAP (in/hr)
5	0.41	4.92	4.72
15	0.66	2.64	2.53
30	0.88	1.76	1.69
60	1.19	1.19	1.14

[1]Solano County Water Agency Hydrology Manual
[2]Intensity = (Table 3-4A Rainfall Depth)/((Duration of Design Storm)/60)
[3]Corrected Intensity = (Intensity)x(Actual MAP)/(24)
[4]MAP - Mean Annual Precipitation from Figure 2-2 (Solano County Water Agency Hydrology Manual)



Hydraflow IDF Report

Return Period (Yrs)	Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	--------
2	0.0000	0.0000	0.0000	--------
3	0.0000	0.0000	0.0000	--------
5	0.0000	0.0000	0.0000	--------
10	0.0000	0.0000	0.0000	--------
25	11.7413	0.1000	0.5694	--------
50	0.0000	0.0000	0.0000	--------
100	0.0000	0.0000	0.0000	--------

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
~~25~~ 15	4.64	3.15	2.50	2.13	1.87	1.69	1.55	1.44	1.34	1.26	1.20	1.14
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Tc = time in minutes. Min Tc = 5

VALLEJO-15YR-IDF

Table 3-4A. Solano County Design Rainfall for San Francisco Bay Drainage Region

2-Year Return Period

MAP	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	1 Day	2 Day	3 Day	4 Day	5 Day	6 Day	8 Day	10 day	15 Day	20 Day	30 Day	60 Day	Year
14	0.13	0.18	0.21	0.28	0.38	0.51	0.61	0.82	1.11	1.49	1.95	2.04	2.30	2.48	2.67	2.98	3.31	3.87	4.65	5.13	7.54	13.61
15	0.14	0.19	0.22	0.30	0.41	0.55	0.65	0.88	1.18	1.59	2.07	2.19	2.47	2.67	2.87	3.21	3.57	4.16	4.97	5.50	8.11	14.58
16	0.15	0.20	0.24	0.32	0.43	0.59	0.70	0.94	1.26	1.70	2.20	2.34	2.64	2.86	3.07	3.44	3.82	4.45	5.29	5.87	8.68	15.55
17	0.16	0.21	0.25	0.34	0.46	0.62	0.74	1.00	1.34	1.81	2.32	2.49	2.81	3.05	3.27	3.67	4.07	4.74	5.61	6.24	9.25	16.53
18	0.17	0.23	0.27	0.36	0.49	0.66	0.78	1.06	1.42	1.91	2.45	2.64	2.97	3.24	3.47	3.91	4.33	5.03	5.93	6.61	9.82	17.50
19	0.18	0.24	0.28	0.38	0.52	0.70	0.83	1.11	1.50	2.02	2.57	2.79	3.14	3.43	3.67	4.14	4.58	5.33	6.25	6.98	10.39	18.47
20	0.19	0.25	0.30	0.40	0.54	0.73	0.87	1.17	1.58	2.13	2.70	2.94	3.31	3.62	3.87	4.37	4.83	5.62	6.57	7.35	10.96	19.44
22	0.21	0.28	0.33	0.44	0.60	0.81	0.96	1.29	1.74	2.34	2.94	3.24	3.65	4.00	4.27	4.83	5.34	6.20	7.21	8.09	12.10	21.39
24	0.22	0.30	0.36	0.48	0.65	0.88	1.05	1.41	1.90	2.55	3.19	3.54	3.99	4.38	4.67	5.30	5.84	6.79	7.85	8.84	13.24	23.33
26	0.24	0.33	0.39	0.52	0.71	0.95	1.13	1.52	2.05	2.76	3.44	3.84	4.33	4.76	5.07	5.76	6.35	7.37	8.49	9.58	14.38	25.27
28	0.26	0.35	0.42	0.57	0.76	1.02	1.22	1.64	2.21	2.98	3.69	4.14	4.67	5.13	5.47	6.22	6.85	7.96	9.13	10.32	15.52	27.22
30	0.28	0.38	0.45	0.61	0.82	1.10	1.31	1.76	2.37	3.19	3.94	4.44	5.01	5.51	5.87	6.69	7.36	8.54	9.78	11.06	16.66	29.16
32	0.30	0.40	0.48	0.65	0.87	1.17	1.39	1.88	2.53	3.40	4.19	4.74	5.34	5.89	6.28	7.15	7.86	9.13	10.42	11.80	17.80	31.11
34	0.32	0.43	0.51	0.69	0.92	1.24	1.48	1.99	2.68	3.61	4.44	5.04	5.68	6.27	6.68	7.61	8.37	9.71	11.06	12.54	18.94	33.05
36	0.34	0.45	0.54	0.73	0.98	1.32	1.57	2.11	2.84	3.83	4.69	5.34	6.02	6.65	7.08	8.08	8.88	10.30	11.70	13.28	20.08	35.00
38	0.36	0.48	0.57	0.77	1.03	1.39	1.66	2.23	3.00	4.04	4.94	5.64	6.36	7.03	7.48	8.54	9.38	10.88	12.34	14.02	21.22	36.94
40	0.37	0.50	0.60	0.81	1.09	1.46	1.74	2.35	3.16	4.25	5.19	5.94	6.70	7.41	7.88	9.00	9.89	11.47	12.98	14.76	22.36	38.88
45	0.42	0.57	0.67	0.91	1.22	1.65	1.96	2.64	3.55	4.78	5.82	6.69	7.55	8.26	8.88	10.16	11.15	12.93	14.58	16.62	25.21	43.75

5-Year Return Period

MAP	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	1 Day	2 Day	3 Day	4 Day	5 Day	6 Day	8 Day	10 day	15 Day	20 Day	30 Day	60 Day	Year
14	0.18	0.25	0.29	0.40	0.53	0.72	0.85	1.15	1.55	2.08	2.81	2.93	3.27	3.54	3.81	4.22	4.62	5.33	6.39	7.06	10.25	17.80
15	0.20	0.26	0.32	0.42	0.57	0.77	0.92	1.23	1.66	2.23	2.99	3.15	3.51	3.81	4.10	4.55	4.97	5.74	6.83	7.57	11.02	19.07
16	0.21	0.28	0.34	0.45	0.61	0.82	0.98	1.31	1.77	2.38	3.17	3.36	3.75	4.08	4.38	4.88	5.32	6.14	7.27	8.08	11.80	20.34
17	0.22	0.30	0.36	0.48	0.65	0.87	1.04	1.40	1.88	2.53	3.35	3.58	3.99	4.35	4.67	5.20	5.67	6.54	7.71	8.59	12.57	21.62
18	0.24	0.32	0.38	0.51	0.69	0.92	1.10	1.48	1.99	2.68	3.53	3.80	4.23	4.62	4.95	5.53	6.02	6.95	8.15	9.10	13.35	22.89
19	0.25	0.34	0.40	0.54	0.72	0.97	1.16	1.56	2.10	2.83	3.71	4.01	4.47	4.89	5.24	5.86	6.38	7.35	8.59	9.60	14.12	24.16
20	0.26	0.35	0.42	0.57	0.76	1.03	1.22	1.64	2.21	2.98	3.89	4.23	4.71	5.17	5.53	6.19	6.73	7.75	9.03	10.11	14.90	25.43
22	0.29	0.39	0.46	0.62	0.84	1.13	1.34	1.81	2.43	3.28	4.25	4.66	5.19	5.71	6.10	6.84	7.43	8.56	9.92	11.13	16.45	27.97
24	0.31	0.42	0.50	0.68	0.91	1.23	1.46	1.97	2.65	3.57	4.61	5.09	5.68	6.25	6.67	7.50	8.14	9.37	10.80	12.15	18.00	30.52
26	0.34	0.46	0.55	0.74	0.99	1.33	1.59	2.14	2.88	3.87	4.97	5.52	6.16	6.79	7.24	8.16	8.84	10.18	11.68	13.17	19.55	33.06
28	0.37	0.49	0.59	0.79	1.07	1.44	1.71	2.30	3.10	4.17	5.33	5.95	6.64	7.33	7.81	8.81	9.54	10.98	12.56	14.19	21.10	35.60
30	0.39	0.53	0.63	0.85	1.14	1.54	1.83	2.46	3.32	4.47	5.69	6.39	7.12	7.87	8.39	9.47	10.25	11.79	13.44	15.21	22.65	38.14
32	0.42	0.56	0.67	0.91	1.22	1.64	1.95	2.63	3.54	4.77	6.05	6.82	7.60	8.41	8.96	10.13	10.95	12.60	14.32	16.23	24.20	40.69
34	0.45	0.60	0.71	0.96	1.29	1.74	2.07	2.79	3.76	5.06	6.41	7.25	8.08	8.95	9.53	10.78	11.66	13.40	15.20	17.25	25.75	43.23
36	0.47	0.64	0.76	1.02	1.37	1.85	2.20	2.96	3.98	5.36	6.78	7.68	8.57	9.50	10.10	11.44	12.36	14.21	16.09	18.27	27.30	45.77
38	0.50	0.67	0.80	1.07	1.45	1.95	2.32	3.12	4.20	5.66	7.14	8.11	9.05	10.04	10.68	12.10	13.06	15.02	16.97	19.29	28.85	48.32
40	0.52	0.71	0.84	1.13	1.52	2.05	2.44	3.29	4.42	5.96	7.50	8.55	9.53	10.58	11.25	12.75	13.77	15.82	17.85	20.31	30.40	50.86
45	0.59	0.79	0.95	1.27	1.71	2.31	2.75	3.70	4.98	6.70	8.40	9.62	10.73	11.93	12.68	14.39	15.53	17.84	20.05	22.85	34.27	57.22

10-Year Return Period

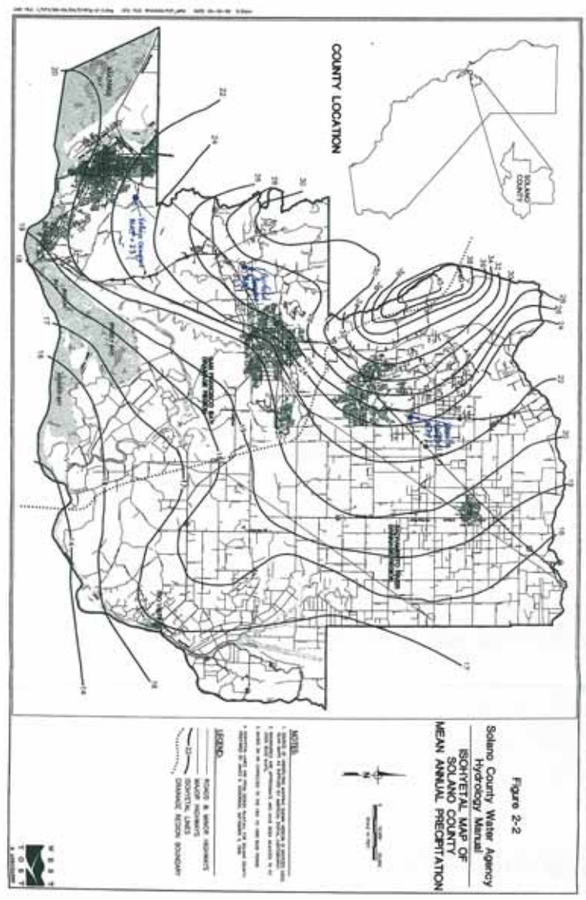
MAP	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	1 Day	2 Day	3 Day	4 Day	5 Day	6 Day	8 Day	10 day	15 Day	20 Day	30 Day	60 Day	Year
14	0.22	0.30	0.35	0.47	0.64	0.86	1.02	1.37	1.85	2.49	3.40	3.54	3.93	4.11	4.42	4.89	5.44	6.23	7.45	8.25	11.85	20.22
15	0.23	0.32	0.38	0.51	0.68	0.92	1.09	1.47	1.98	2.67	3.62	3.80	4.22	4.43	4.76	5.27	5.85	6.70	7.97	8.85	12.74	21.67
16	0.25	0.34	0.40	0.54	0.73	0.98	1.17	1.57	2.11	2.85	3.83	4.06	4.50	4.74	5.09	5.65	6.27	7.17	8.48	9.45	13.64	23.11
17	0.27	0.36	0.43	0.57	0.77	1.04	1.24	1.67	2.25	3.02	4.05	4.32	4.79	5.05	5.42	6.03	6.68	7.64	9.00	10.04	14.53	24.56
18	0.28	0.38	0.45	0.61	0.82	1.10	1.31	1.77	2.38	3.20	4.27	4.58	5.08	5.37	5.75	6.41	7.10	8.11	9.51	10.64	15.43	26.00
19	0.30	0.40	0.48	0.64	0.86	1.16	1.38	1.86	2.51	3.38	4.49	4.84	5.37	5.68	6.08	6.79	7.51	8.59	10.02	11.23	16.33	27.45
20	0.31	0.42	0.50	0.68	0.91	1.22	1.46	1.96	2.64	3.56	4.70	5.10	5.66	6.00	6.42	7.17	7.93	9.06	10.54	11.83	17.22	28.89
22	0.34	0.46	0.55	0.74	1.00	1.35	1.60	2.16	2.91	3.91	5.14	5.62	6.24	6.63	7.08	7.93	8.75	10.00	11.57	13.02	19.01	31.78
24	0.38	0.51	0.60	0.81	1.09	1.47	1.75	2.35	3.17	4.27	5.58	6.14	6.82	7.25	7.74	8.69	9.58	10.94	12.59	14.21	20.81	34.67
26	0.41	0.55	0.65	0.88	1.18	1.59	1.89	2.55	3.43	4.62	6.01	6.67	7.40	7.88	8.41	9.45	10.41	11.88	13.62	15.41	22.60	37.56
28	0.44	0.59	0.70	0.95	1.27	1.71	2.04	2.75	3.70	4.98	6.45	7.19	7.98	8.51	9.07	10.21	11.24	12.83	14.65	16.60	24.39	40.45
30	0.47	0.63	0.75	1.01	1.36	1.84	2.19	2.94	3.96	5.33	6.88	7.71	8.56	9.14	9.74	10.97	12.07	13.77	15.68	17.79	26.18	43.34
32	0.50	0.67	0.80	1.08	1.46	1.96	2.33	3.14	4.23	5.69	7.32	8.23	9.13	9.77	10.40	11.73	12.90	14.71	16.70	18.98	27.97	46.22
34	0.53	0.72	0.85	1.15	1.55	2.08	2.48	3.34	4.49	6.05	7.75	8.75	9.71	10.40	11.07	12.49	13.73	15.65	17.73	20.18	29.76	49.11
36	0.56	0.76	0.90	1.22	1.64	2.20	2.62	3.53	4.75	6.40	8.19	9.27	10.29	11.02	11.73	13.25	14.56	16.60	18.76	21.37	31.56	52.00
38	0.59	0.80	0.95	1.28	1.73	2.33	2.77	3.73	5.02	6.76	8.63	9.79	10.87	11.65	12.39	14.01	15.39	17.54	19.79	22.56	33.35	54.89
40	0.63	0.84	1.00	1.35	1.82	2.45	2.91	3.92	5.28	7.11	9.06	10.31	11.45	12.28	13.06	14.77	16.22	18.48	20.82	23.75	35.14	57.78
45	0.70	0.95	1.13	1.52	2.05	2.75	3.28	4.41	5.94	8.00	10.15	11.62	12.90	13.85	14.72	16.67	18.29	20.84	23.39	26.73	39.62	65.00

15-Year Return Period

MAP	5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	1 Day	2 Day	3 Day	4 Day	5 Day	6 Day	8 Day	10 day	15 Day	20 Day	30 Day	60 Day	Year
14	0.24	0.32	0.38	0.52	0.69	0.93	1.11	1.50	2.02	2.71	3.73	3.88	4.29	4.60	4.95	5.46	5.89	6.71	8.03	8.90	12.69	21.50
15	0.26	0.34	0.41	0.55	0.74	1.00	1.19	1.60	2.16	2.91	3.97	4.17	4.61	4.96	5.33	5.89	6.34	7.22	8.58	9.55	13.65	23.04
16	0.27	0.37	0.44	0.59	0.79	1.07	1.27	1.71	2.30	3.10	4.20	4.45	4.92	5.31	5.70	6.31	6.79	7.73	9.14	10.19	14.61	24.57
17	0.29	0.39	0.47	0.63	0.84	1.13	1.35	1.82	2.45	3.30	4.44	4.74	5.24	5.66	6.07	6.74	7.24	8.24	9.69	10.83	15.57	26.11
18	0.31	0.41	0.49	0.66	0.89	1.20	1.43	1.93	2.59	3.49	4.68	5.02	5.56	6.01	6.44	7.16	7.69	8.75	10.24	11.48	16.53	27.65
19	0.32	0.44	0.52	0.70	0.94	1.27	1.51	2.03	2.74	3.68	4.92	5.31	5.87	6.36	6.81	7.59	8.13	9.25	10.80	12.12	17.49	29.18
20	0.34	0.46	0.55	0.74	0.99	1.34	1.59	2.14	2.88	3.88	5.16	5.59	6.19	6.72	7.18	8.01	8.58	9.76	11.35	12.76	18.45	30.72
22	0.38	0.51	0.60	0.81	1.09	1.47	1.75	2.35	3.17	4.27	5.64	6.17	6.82	7.42	7.93	8.86	9.48	10.78	12.46	14.05	20.37	33.79
24	0.41	0.55	0.66	0.88	1.19	1.60	1.91	2.57	3.46	4.65	6.12	6.74	7.46	8.12	8.67	9.71	10.38	11.79	13.56	15.34	22.29	36.86
26	0.44	0.60	0.71	0.96	1.29	1.74	2.07	2.78	3.74	5.04	6.60	7.31	8.09	8.83	9.42	10.56	11.28	12.81	14.67	16.62	24.21	39.93
28	0.48	0.64	0.77	1.03	1.39	1.87	2.22	3.00	4.03	5.43	7.07	7.88	8.72	9.53	10.16	11.41	12.18	13.82	15.78	17.91	26.13	43.01
30	0.51	0.69	0.82	1.10	1.49	2.00	2.38	3.21	4.32	5.82	7.55	8.45	9.35	10.23	10.90	12.26	13.07	14.84	16.89	19.19	28.05	46.08
32	0.55	0.74	0.88	1.18	1.59	2.14	2.54	3.42	4.61	6.21	8.03	9.02	9.99	10.94	11.65	13.11	13.97	15.86	17.99	20.48	29.98	49.15
34	0.58	0.78	0.93	1.25	1.69	2.27	2.70	3.64	4.90	6.59	8.51	9.59	10.62	11.64	12.39	13.96	14.87	16.87	19.10	21.77	31.90	52.22
36	0.61	0.83	0.98	1.33	1.79	2.40	2.86	3.85	5.18	6.98	8.99	10.17	11.25	12.35	13.14	14.81	15.77	17.89	20.21	23.05	33.82	55.29
38	0.65	0.87	1.04	1.40	1.88	2.54	3.02	4.06	5.47	7.37	9.46	10.74	11.89	13.05	13.88	15.66	16.67	18.90	21.32	24.34	35.74	58.36
40	0.68	0.92	1.09	1.47	1.98	2.67	3.18	4.28	5.76	7.76	9.94	11.31	12.52	13.75	14.62	16.51	17.57	19.92	22.42	25.63	37.66	61.44
45	0.77	1.03	1.23	1.66	2.23	3.00	3.58	4.81	6.48	8.73	11.14	12.74	14.10	15.51	16.48	18.63	19.81	22.46	25.19	28.84	42.46	69.12

June 1999

SCWA Hydrology



Appendix 9.2
Tributary Area Data Tables

Tributary Area Data Tables

System 1

Area I.D.	Developed Area (sf)	Ground Cover Area (sf)	Total Area (sf)	Total Area (ac)	Runoff Coefficient (weighted)	Elevation Drop (feet)	Sheet Flow Distance (feet)	Gutter Distance (feet)	Slope (%)	Gutter Velocity (ft/sec)	Gutter Tc (min)	Overland Tc (min)	Tc Total (min)
1_1	0	5661	5661	0.13	0.21	7.00	142	0	4.93			13.47	13.47
1_2	15036	11346	26382	0.61	0.59	12.00	0	398	3.02	5.15	1.29	0.00	5.00
1_3	9804	1233	11037	0.25	0.81	4.00	129	0	3.10			4.94	4.94
1_4	5030	1007	6037	0.14	0.77	4.00	105	0	3.81			4.74	4.74
1_5	33023.6	445.8	33469.4	0.77	0.87	12.00	213	322	2.24	4.45	1.21	5.42	6.62
1_6	12825	1199	14024	0.32	0.83	1.00	182	0	0.55			8.53	8.53
1_7	22166	10247	32413	0.74	0.67	2.00	135	0	1.48			8.76	8.76
1_8	16510	1727	18237	0.42	0.82	1.00	183	0	0.55			8.74	8.74
1_9	5542	1455	6997	0.16	0.74	5.00	117	0	4.27			5.24	5.24
1_10	STRUCTURE												
1_11	11471	77670	89141	2.05	0.29	7.00	330	0	2.12			22.94	22.94
1_12	5107	1407	6514	0.15	0.74	3.00	113	0	2.65			5.89	5.89
1_13	6717	1216	7933	0.18	0.78	4.00	110	0	3.64			4.78	4.78
1_14	5671	1294	6965	0.16	0.76	4.00	111	0	3.60			5.12	5.12

1. Runoff coefficients are weighted runoff coefficients per City of Vallejo Storm Drain Design Standards Page 3-6
2. Runoff Coefficients for Undeveloped and Developed Areas per Storm Drain Design Standards Table 3-7
3. Unimproved Areas Runoff Coefficient 0.20, Developed areas Runoff Coefficient 0.85
4. Tc for sheet flow calculated using Equation 3-2 on Page 3-9 of the SCWA Hydrology Manual
5. Tc, for gutter flow calculated using Equation 3-3 on Page 3-9 of the SCWA Hydrology Manual
6. Length and Slope are from longest runoff length from Hydrology Map per sub draianage area.
7. Slopes of sheet flow and gutter flow situations estimated from slope of land, determined by existing contours

Solano Community College - Vallejo Campus
Tributary Area Data Tables

System 2

Area I.D.	Developed Area (sf)	Ground Cover Area (sf)	Total Area (sf)	Total Area (ac)	Runoff Coefficient (weighted)	Elevation Drop (feet)	Sheet Flow Distance (feet)	Slope (%)	Tc Total (min)
2_1	0	5880	5880	0.13	0.21	6.00	152	3.95	14.74
2_2	11541	2082	13623	0.31	0.78	6.00	286	2.10	8.83
2_3	15617	3317	18934	0.43	0.77	5.00	220	2.27	7.93
2_4	8509	1424	9933	0.23	0.79	4.00	150	2.67	5.91
2_5	8460	2967	11427	0.26	0.71	4.00	133	3.01	6.67
2_6	10664	715	11379	0.26	0.84	3.00	155	1.94	5.45
2_7	7426.4	871.2	8297.6	0.19	0.81	2.00	90	2.22	5.00
2_8	5268	983	6251	0.14	0.78	3.00	89	3.37	5.00

1. Runoff coefficients are weighted runoff coefficients per City of Vallejo Storm Drain Design Standards Page 3-6
2. Runoff Coefficients for Undeveloped and Developed Areas per Storm Drain Design Standards Table 3-7
3. Unimproved areas Runoff Coefficient 0.20, Developed areas Runoff Coefficient 0.85
4. Tc for sheet flow calculated using Equation 3-2 on Page 3-9 of the SCWA Hydrology Manual
5. Tc, for gutter flow calculated using Equation 3-3 on Page 3-9 of the SCWA Hydrology Manual
6. Length and Slope are from longest runoff length from Hydrology Map per sub draianage area.
7. slopes of sheet flow and gutter flow situations estimated from slope of land, determined by existing contours

Solano Community College - Vallejo Campus
Tributary Area Data Tables

System 3

Area I.D.	Developed Area (sf)	Ground Cover Area (sf)	Total Area (sf)	Total Area (ac)	Runoff Coefficient (weighted)	Elevation Drop (feet)	Sheet Flow Distance (feet)	Slope (%)	Tc Total (min)
3_1	0	2530	2530	0.06	0.21	1.00	77	1.30	13.85
3_2	0	2312	2312	0.05	0.21	4.00	73	5.48	9.41
3_3	741	1256	1997	0.05	0.46	1.00	110	0.91	13.12
3_4	628	3491	4119	0.09	0.31	7.00	101	6.93	9.26
3_5	3067	7977	11044	0.25	0.40	9.00	101	8.91	7.78
3_6	STRUCTURE								
3_7	14933	4839	19772	0.45	0.72	2.00	117	1.71	7.03
3_8	1587	1529	3116	0.07	0.55	1.00	71	1.41	8.12
3_9	7283	2301	9584	0.22	0.72	1.00	47	2.13	5.00
3_10	107	4026	4133	0.09	0.23	1.00	81	1.23	14.11
3_11	6221	2506	8727	0.20	0.69				5.00
3_12	2876	0	2876	0.07	0.88				5.00
3_13	4733	0	4733	0.11	0.88				5.00
3_14	0	3046	3046	0.07	0.21	2.00	71	2.82	10.96

1. Runoff coefficients are weighted runoff coefficients per City of Vallejo Storm Drain Design Standards Page 3-6
2. Runoff Coefficients for Undeveloped and Developed Areas per Storm Drain Design Standards Table 3-7
3. Unimproved areas Runoff Coefficient 0.20, Developed areas Runoff Coefficient 0.85
4. Tc for sheet flow calculated using Equation 3-2 on Page 3-9 of the SCWA Hydrology Manual
5. Tc, for gutter flow calculated using Equation 3-3 on Page 3-9 of the SCWA Hydrology Manual
6. Length and Slope are from longest runoff length from Hydrology Map per sub draianage area.
7. slopes of sheet flow and gutter flow situations estimated from slope of land, determined by existing contours

Appendix 9.3
Example Calculation for Time of Concentration

SOLANO COMMUNITY COLLEGE VALLEJO CAMPUS

EXAMPLE CALCULATION OF TIME OF CONCENTRATION

TRIBUTARY AREA 1_5:

Total Area (square feet):

= Developed Area (square feet) + Ground Cover Area (square feet)

=25,340 square feet + 8,720 square feet = 34,060 square feet

Total Area (acres)

Total Area (acres)

$$=\frac{Total\ Area\ (square\ feet)}{43{,}560\ square\ feet\ per\ acre}$$

=.78 acres

Runoff Coefficient C (Weighted)

$$=\frac{Developed\ Area\ (feet)*.85+Ground\ Cover\ Area(feet)*.2}{Total\ Area\ (feet)}*1.04$$ (correction factor for 15 year storm event)

$$=\frac{33{,}024\ feet*.85+446\ feet*.2}{26{,}382\ feet}*1.04$$

=.71

Elevation Drop (feet)

Amount of elevation difference between the highest and lowest parts of the tributary area.

=12 feet

Sheet distance (feet)

Longest sheet flow distance in tributary area

=90 feet

Gutter Distance (feet)

Longest gutter flow distance in tributary area

=427 feet

Slope (%)

$$=\frac{Elevation\ Drop\ (feet)}{Sheet\ Distance\ (feet)+Gutter\ Distance(feet)}$$

$$=\frac{12\ feet}{90\ feet+427\ feet}$$

= 2.32%

Gutter Flow Rate

$$V=\frac{1.486}{n}*R^{2/3}*S^{1/2}$$

Where:

V = flow velocity in pipe or channel (feet per second)

n = Manning roughness coefficient

= 0.015 for concrete gutter

R = Hydraulic Radius (feet)

$$R=\frac{\text{flow cross sectional area}}{\text{wetted perimeter}}$$

= 0.0938 feet

S = channel or pipe longitudinal slope (feet/foot)

= 0.0232

$$V=\frac{1.486}{0.015}*0.0938\ feet^{2/3}*0.0232^{1/2}$$

= 3.12 (ft/sec)

Gutter Time of Concentration (minutes)

$$=\frac{Gutter\ Distance\ (feet)}{Gutter\ Flow\ Rate\ (feet/second)}*\frac{1\ minute}{60\ seconds}$$

$$=\frac{427\ feet}{3.12\ feet/second}*\frac{1\ minute}{60\ seconds}$$

=2.28 minutes

Overland Time of Concentration (minutes)

$= \sqrt{\frac{D}{80*S^{1/2}}}*(18.5-16.5*C)$

Where:

D = Overland flow distance in feet

= 90 feet

S = Slope in percent

= 2.32%

C = Runoff coefficient

= .84

$= \sqrt{\frac{90\ feet}{80*2.32^{1/2}}}*(18.5-16.5*0.84)$

=3.99 minutes

Total Time of Concentration

= Tc Gutter + Tc Overland

2.28 minutes + 3.99 minutes

= 6.27 minutes

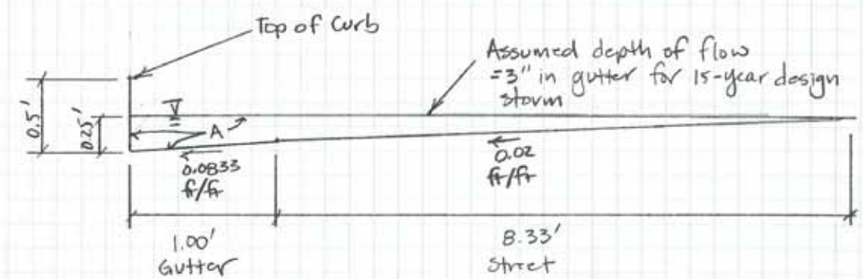
CSW | ST2
CSW/Stuber-Stroeh Engineering Group, Inc.
45 Leveroni Court, Novato, CA 94949 Tel 415.883.9850 Fax 415.883.9835
1310 Redwood Way, Suite 200, Petaluma, CA 94954 Tel 707.795.4764 Fax 707.795.0516

SHEET NO. _____

JOB NO. 4116402 JOB Solano Community College BY KNP DATE _____

CLIENT _____ SUBJECT Storm Water Review Report CHK'D _____ DATE _____

Gutter Flow - Area/Wetted Perimeter Assumption



From AutoCad:

A = cross-sectional area of flow = 0.90 square feet

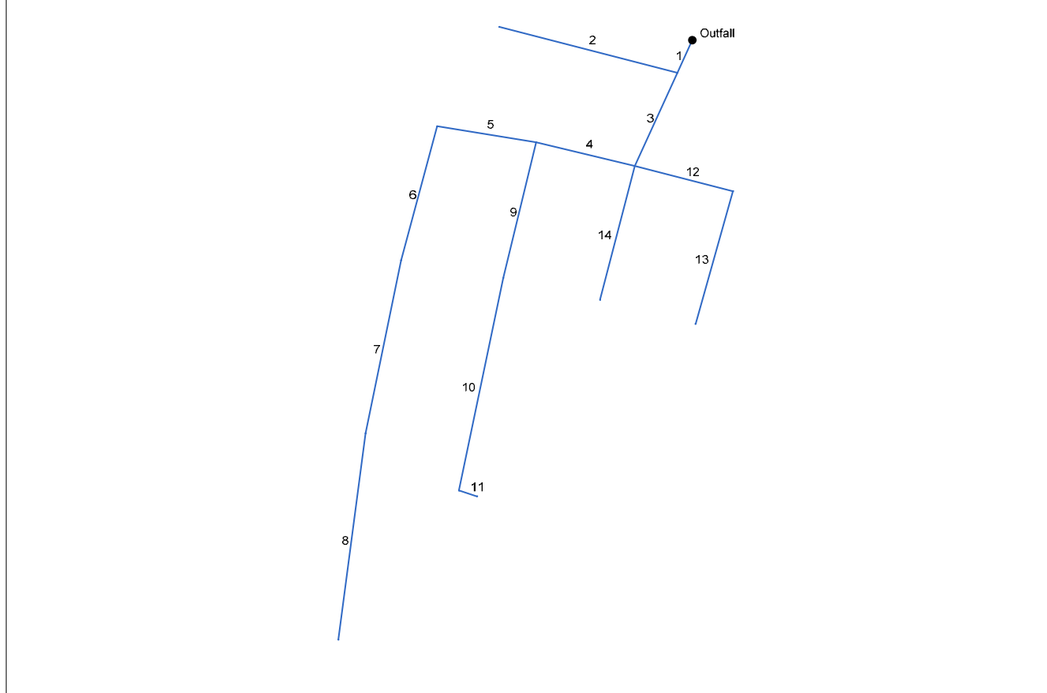
P_W = wetted perimeter = 0.25' + 1.00' + 8.34' = 9.59'

Hydraulic Radius = $\frac{A}{P_W} = \frac{0.90\ ft^2}{9.59\ ft} = \boxed{0.0938\ ft = R = \text{Hydraulic Radius}}$

For use in Gutter Flow velocity calculations to determine time of concentration.

Appendix 9.4
Storm Sewers Model Output – System 1

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



Project File: VALLEJO1.stm	Number of lines: 14	Date: 1/31/2014

Storm S

Storm Sewer Inventory Report

Page 1

Line No.	Alignment: Dnstr Line No.	Alignment: Line Length (ft)	Alignment: Defl angle (deg)	Alignment: Junc Type	Flow Data: Known Q (cfs)	Flow Data: Drng Area (ac)	Flow Data: Runoff Coeff (C)	Flow Data: Inlet Time (min)	Physical Data: Invert El Dn (ft)	Physical Data: Line Slope (%)	Physical Data: Invert El Up (ft)	Physical Data: Line Size (in)	Physical Data: Line Shape	Physical Data: N Value (n)	Physical Data: J-Loss Coeff (K)	Physical Data: Inlet/ Rim El (ft)	Line ID
1	End	27.000	114.509	Genr	0.00	0.13	0.21	13.6	207.89	1.85	208.39	24	Cir	0.015	1.48	215.00	1
2	1	138.000	80.000	Genr	0.00	0.61	0.59	5.0	208.39	0.53	209.12	10	Cir	0.015	1.00	212.82	2
3	1	77.000	0.000	Genr	0.00	0.25	0.81	5.4	208.39	3.95	211.43	24	Cir	0.015	1.50	217.79	3
4	3	76.014	79.040	Genr	0.00	0.14	0.77	5.1	211.43	2.00	212.95	18	Cir	0.015	1.50	215.69	4
5	4	75.139	-4.302	Genr	0.00	0.77	0.87	7.5	212.95	0.51	213.33	15	Cir	0.015	1.49	215.30	5
6	5	104.493	-84.230	Genr	0.00	0.32	0.83	9.5	213.33	0.51	213.86	15	Cir	0.015	0.50	217.70	6
7	6	132.770	-3.467	Genr	0.00	0.74	0.67	9.3	213.86	0.50	214.52	12	Cir	0.012	0.50	218.50	7
8	7	156.664	-4.057	Genr	0.00	0.42	0.82	9.6	214.52	0.50	215.31	12	Cir	0.012	1.00	219.85	8
9	4	104.974	-90.000	Genr	0.00	0.16	0.74	5.6	212.95	0.50	213.47	15	Cir	0.015	0.50	218.65	9
10	9	163.389	-1.794	MH	0.00	0.00	0.00	0.0	213.47	0.50	214.29	12	Cir	0.012	0.99	220.00	10
11	10	14.245	-83.576	Genr	0.00	2.05	0.29	23.3	214.48	1.05	214.63	12	Cir	0.012	1.00	221.20	11
12	3	76.020	-100.000	Genr	0.00	0.15	0.74	6.3	211.43	3.00	213.71	12	Cir	0.012	1.50	219.88	12
13	12	103.748	91.166	Genr	0.00	0.18	0.78	5.2	213.71	0.40	214.13	10	Cir	0.012	1.00	222.28	13
14	3	104.000	-10.000	Genr	0.00	0.16	0.76	5.5	211.43	2.00	213.51	10	Cir	0.012	1.00	220.43	14

Project File: VALLEJO1.stm	Number of lines: 14	Date: 1/31/2014

Storm Sewers v5.00

Storm Sewer Tabulation

Page

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	27.000	0.13	6.08	0.21	0.03	3.56	13.6	26.5	1.8	6.45	26.68	2.31	24	1.85	207.89	208.39	209.89	209.89	215.00	215.00	1
2	1	138.000	0.61	0.61	0.59	0.36	0.36	5.0	5.0	4.6	1.67	1.38	3.06	10	0.53	208.39	209.12	210.04	211.11	215.00	212.82	2
3	1	77.000	0.25	5.34	0.81	0.20	3.17	5.4	26.1	1.8	5.80	38.95	3.33	24	3.95	208.39	211.43	210.04	212.28	215.00	217.79	3
4	3	76.014	0.14	4.60	0.77	0.11	2.60	5.1	25.9	1.8	4.77	12.87	4.66	18	2.00	211.43	212.95	212.28	213.79	217.79	215.69	4
5	4	75.139	0.77	2.25	0.87	0.67	1.78	7.5	12.8	2.7	4.85	3.98	3.95	15	0.51	212.95	213.33	214.30	214.87	215.69	215.30	5
6	5	104.493	0.32	1.48	0.83	0.27	1.11	9.5	12.2	2.8	3.12	3.99	2.54	15	0.51	213.33	213.86	215.23	215.55	215.30	217.70	6
7	6	132.770	0.74	1.16	0.67	0.50	0.84	9.3	11.4	2.9	2.45	2.72	3.12	12	0.50	213.86	214.52	215.60	216.14	217.70	218.50	7
8	7	156.664	0.42	0.42	0.82	0.34	0.34	9.6	9.6	3.2	1.11	2.74	1.41	12	0.50	214.52	215.31	216.22	216.31	218.50	219.85	8
9	4	104.974	0.16	2.21	0.74	0.12	0.71	5.6	24.5	1.9	1.35	3.94	1.27	15	0.50	212.95	213.47	214.30	214.36	215.69	218.65	9
10	9	163.389	0.00	2.05	0.00	0.00	0.59	0.0	23.4	1.9	1.16	2.73	2.43	12	0.50	213.47	214.29	214.38	214.75	218.65	220.00	10
11	10	14.245	2.05	2.05	0.29	0.59	0.59	23.3	23.3	2.0	1.16	3.96	3.44	12	1.05	214.48	214.63	214.92	215.08	220.00	221.20	11
12	3	76.020	0.15	0.33	0.74	0.11	0.25	6.3	6.3	4.1	1.03	6.68	2.33	12	3.00	211.43	213.71	212.28	214.14	217.79	219.88	12
13	12	103.748	0.18	0.18	0.78	0.14	0.14	5.2	5.2	4.5	0.64	1.51	1.93	10	0.40	213.71	214.13	214.38	214.53	219.88	222.28	13
14	3	104.000	0.16	0.16	0.76	0.12	0.12	5.5	5.5	4.4	0.54	3.36	1.88	10	2.00	211.43	213.51	212.76	213.83	217.79	220.43	14

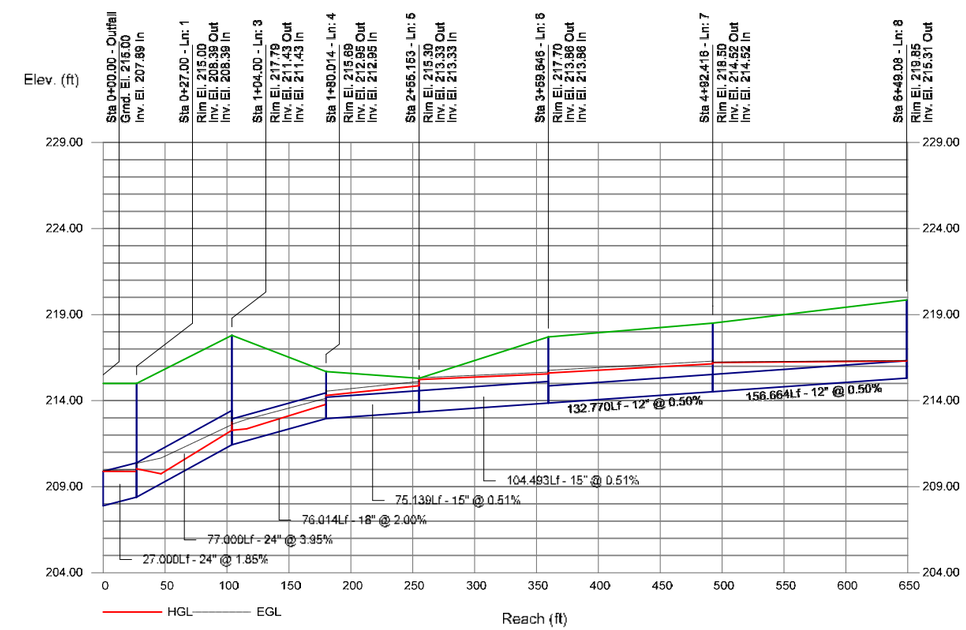
Project File: VALLEJO1.stm | Number of lines: 14 | Run Date: 1/31/2014

NOTES:Intensity = 11.74 / (Inlet time + 0.10) ^ 0.57 ; Return period =Yrs. 25 ; c = cir e = ellip b = box

Storm Sewers v5.0

Storm Sewer Profile

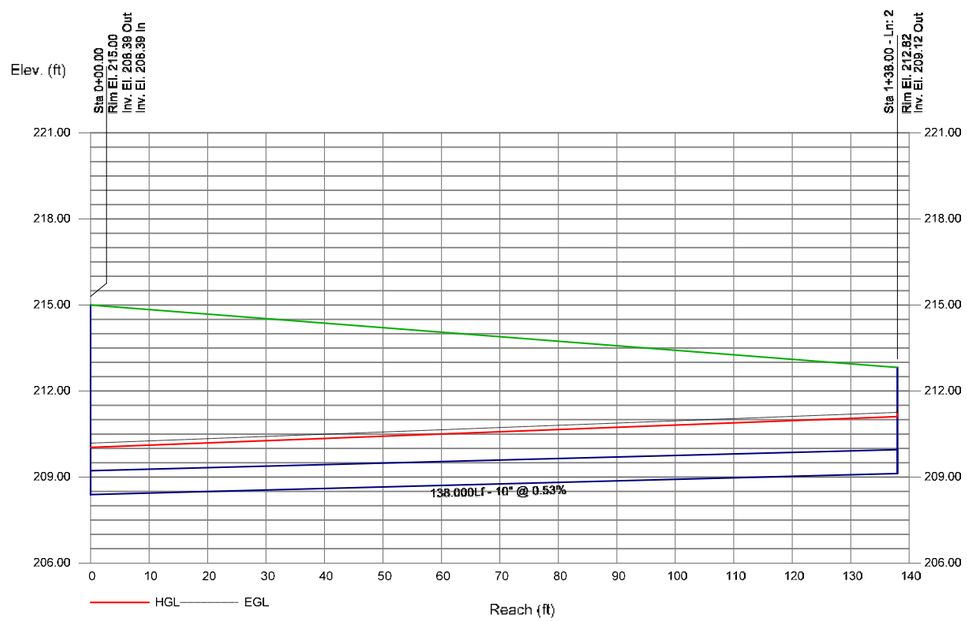
Proj. file: VALLEJO1.stm



Storm Sewers

Storm Sewer Profile

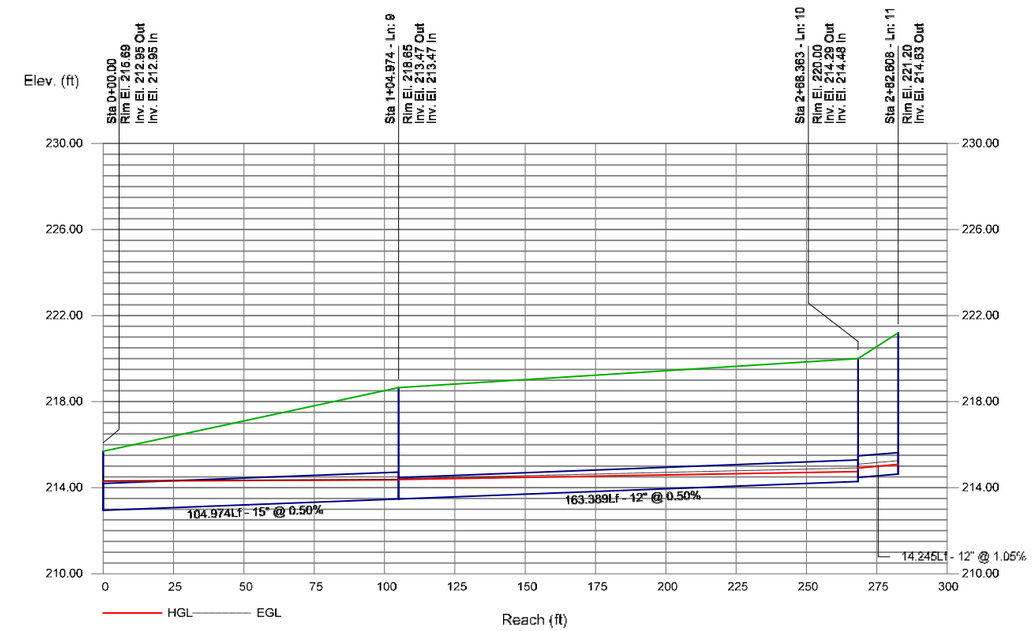
Proj. file: VALLEJO1.stm



Storm Sewers

Storm Sewer Profile

Proj. file: VALLEJO1.stm



Storm Sewers

Storm Sewer Profile

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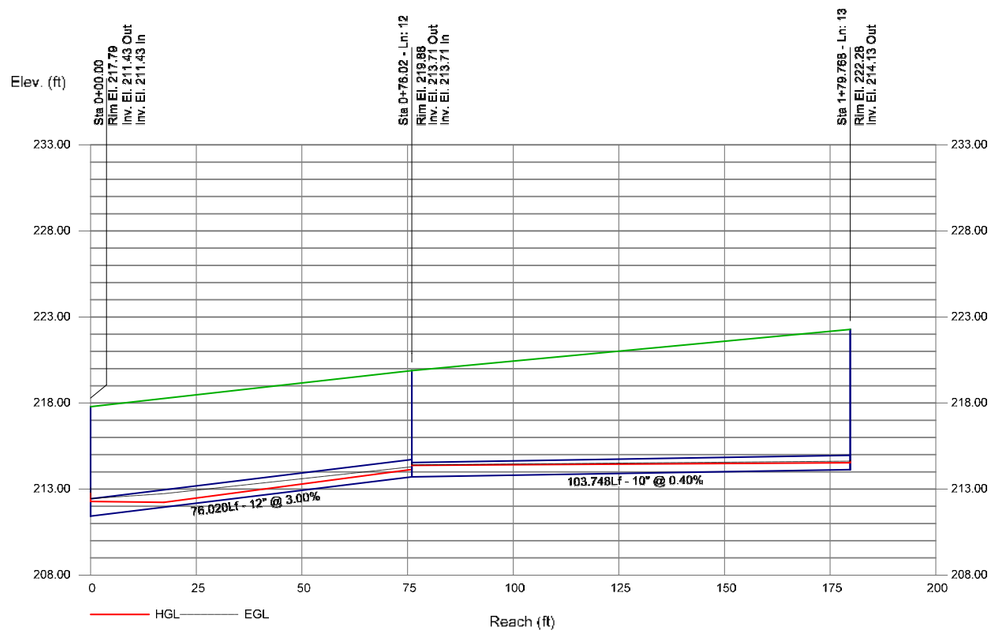
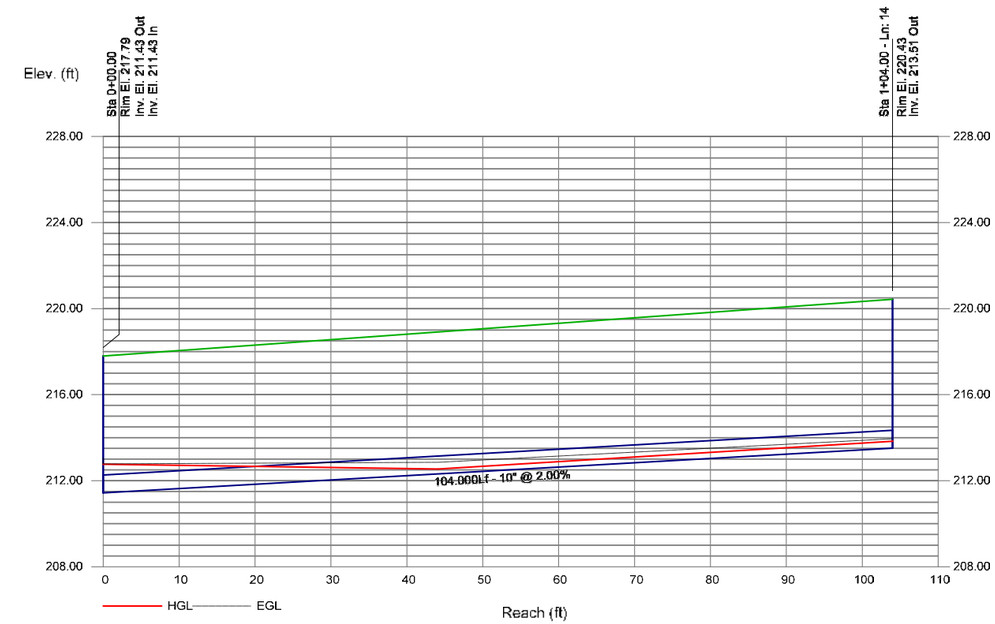


Storm Sewers

Storm Sewer Profile

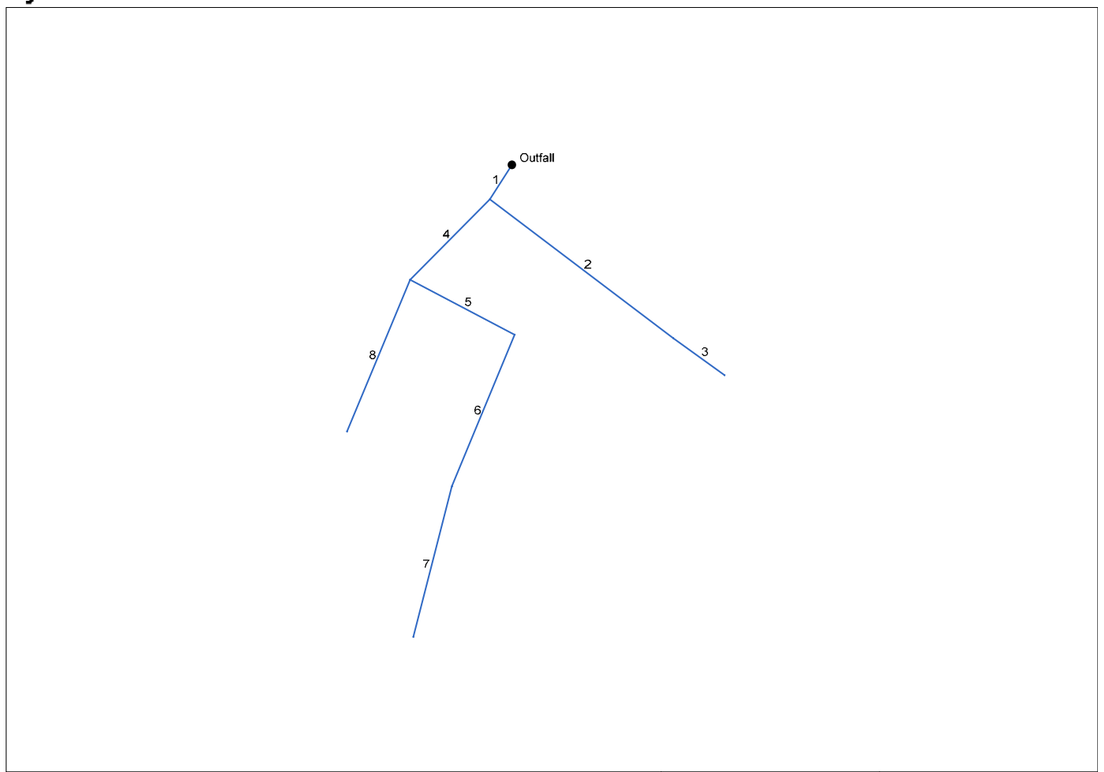
Proj. file: VALLEJO1.stm



Storm Sewers

Appendix 9.5
Storm Sewers Model Output – System 2

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



Project File: VALLEJO2.stm	Number of lines: 8	Date: 1/31/2014

Storm Sewers v5.00

Storm Sewer Inventory Report

Page 1

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	26.142	122.897	Genr	0.00	0.13	0.21	14.9	213.50	2.07	214.04	24	Cir	0.015	1.93	220.00	1
2	1	147.834	-86.139	Genr	0.00	0.31	0.78	9.6	214.04	3.36	219.00	10	Cir	0.015	0.50	225.00	2
3	2	40.634	-1.307	Genr	0.00	0.44	0.77	8.6	219.00	0.49	219.20	10	Cir	0.015	1.00	226.92	3
4	1	72.703	12.263	Genr	0.00	0.23	0.79	6.4	214.04	3.01	216.23	12	Cir	0.012	1.50	219.48	4
5	4	76.061	-107.788	Genr	0.00	0.26	0.71	7.1	216.23	2.96	218.48	18	Cir	0.015	1.50	224.08	5
6	5	104.788	85.408	Genr	0.00	0.26	0.84	6.1	218.48	2.98	221.60	12	Cir	0.012	0.50	225.86	6
7	6	99.096	-8.293	Genr	0.00	0.19	0.81	4.9	221.60	2.94	224.51	12	Cir	0.012	1.00	229.37	7
8	4	104.844	-22.279	Genr	0.00	0.14	0.78	4.8	216.23	1.98	218.31	10	Cir	0.012	1.00	223.11	8

Project File: VALLEJO2.stm	Number of lines: 8	Date: 1/31/2014

Storm Sewers v5.0

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
ne	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
	End	26.142	0.13	1.96	0.21	0.03	1.46	14.9	14.9	2.5	3.66	28.17	1.33	24	2.07	213.50	214.04	215.50	215.50	218.00	220.00	1
:	1	147.834	0.31	0.75	0.78	0.24	0.58	9.6	9.6	3.2	1.87	3.48	3.89	10	3.36	214.04	219.00	215.56	219.61	220.00	225.00	2
:	2	40.634	0.44	0.44	0.77	0.34	0.34	8.6	8.6	3.4	1.16	1.33	2.72	10	0.49	219.00	219.20	219.61	219.80	225.00	226.92	3
:	1	72.703	0.23	1.08	0.79	0.18	0.85	6.4	7.5	3.7	3.13	6.70	4.45	12	3.01	214.04	216.23	215.56	216.99	220.00	219.48	4
:	4	76.061	0.26	0.71	0.71	0.18	0.56	7.1	7.1	3.8	2.13	15.65	3.00	18	2.96	216.23	218.48	216.99	219.03	219.48	224.08	5
:	5	104.788	0.26	0.45	0.84	0.22	0.37	6.1	6.1	4.2	1.55	6.66	3.59	12	2.98	218.48	221.60	219.03	222.13	224.08	225.86	6
:	6	99.096	0.19	0.19	0.81	0.15	0.15	4.9	4.9	4.6	0.71	6.61	2.30	12	2.94	221.60	224.51	222.13	224.86	225.86	229.37	7
:	4	104.844	0.14	0.14	0.78	0.11	0.11	4.8	4.8	4.6	0.51	3.34	1.85	10	1.98	216.23	218.31	216.99	218.62	219.48	223.11	8

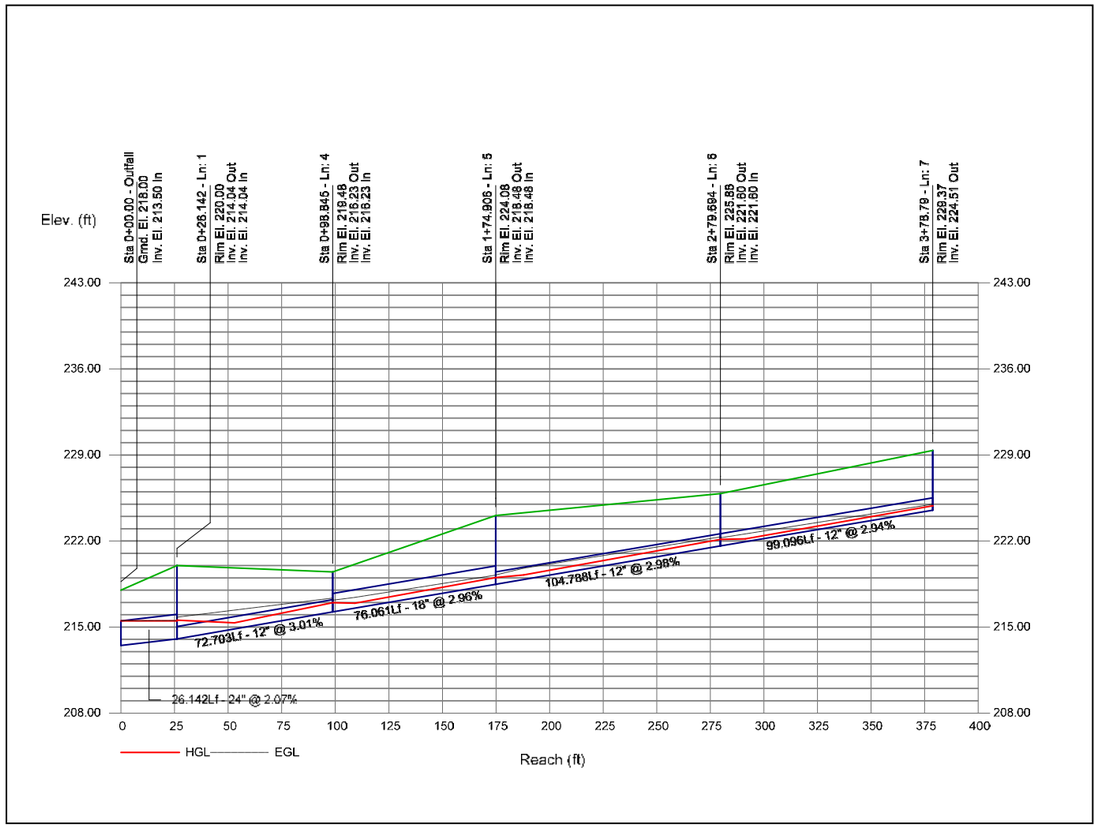
Project File: VALLEJO2.stm | Number of lines: 8 | Run Date: 1/31/2014

NOTES:Intensity = 11.74 / (Inlet time + 0.10) ^ 0.57 ; Return period =Yrs. 25 ; c = cir e = ellip b = box

Storm Sewers v5.00

Storm Sewer Profile

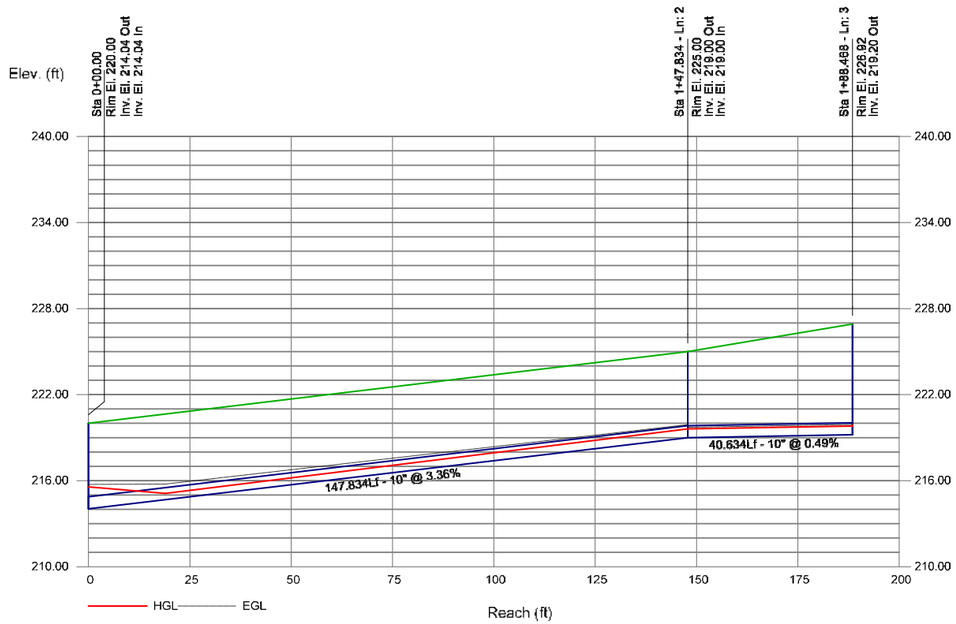
Proj. file: VALLEJO2.stm



Storm Sewers

Storm Sewer Profile

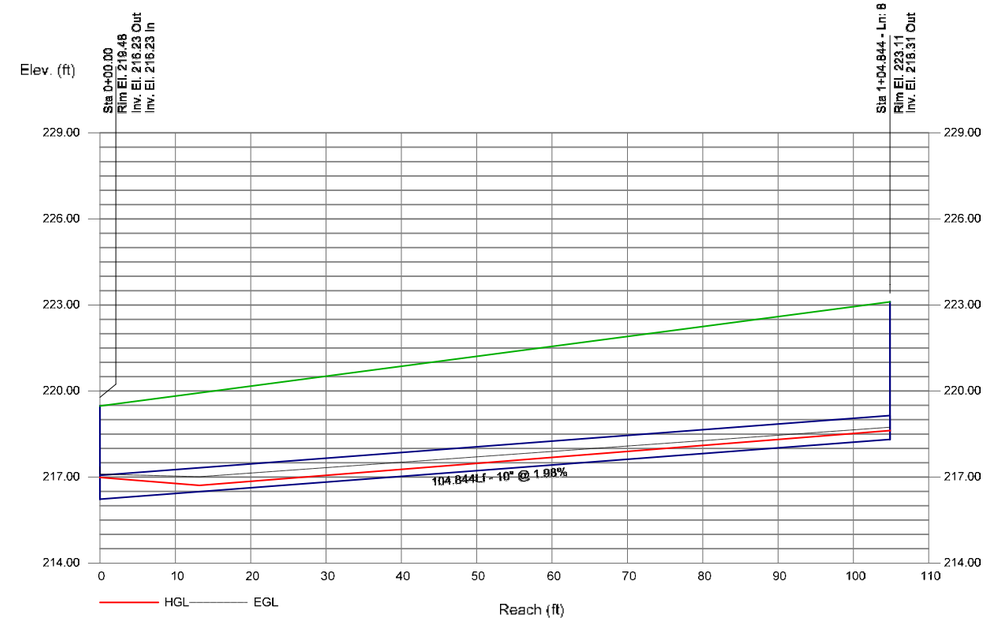
Proj. file: VALLEJO2.stm



Storm Sewers

Storm Sewer Profile

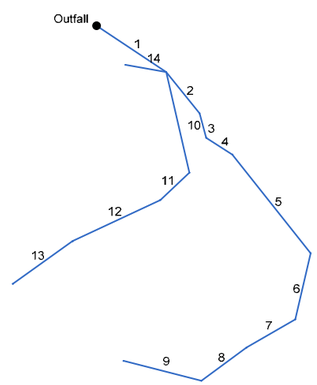
Proj. file: VALLEJO2.stm



Storm Sewers

Appendix 9.6
Storm Sewers Model Output – System 3

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



Project File: VALLEJO3.stm	Number of lines: 14	Date: 1/31/2014

Storm S

Storm Sewer Inventory Report

Page 1

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	86.493	33.745	Genr	0.00	0.06	0.21	14.0	221.00	0.68	221.59	24	Cir	0.015	1.50	229.20	1
2	1	55.081	17.393	Genr	0.00	0.05	0.21	9.9	221.59	1.22	222.26	18	Cir	0.015	0.69	230.50	2
3	2	26.194	23.820	Genr	0.00	0.05	0.46	13.5	222.26	0.38	222.36	12	Cir	0.012	1.08	229.00	3
4	3	32.206	-42.187	Genr	0.00	0.09	0.31	9.4	222.36	0.40	222.49	12	Cir	0.012	0.56	229.00	4
5	4	130.242	18.930	Genr	0.00	0.25	0.40	8.0	222.49	0.40	223.01	10	Cir	0.012	1.22	227.00	5
6	5	70.422	51.339	Genr	0.00	0.00	0.00	5.0	223.01	0.45	223.33	10	Cir	0.012	1.15	228.00	6
7	6	58.208	46.804	Genr	0.00	0.45	0.72	7.5	223.33	0.46	223.60	10	Cir	0.012	0.50	227.00	7
8	7	57.955	-6.361	Genr	0.00	0.07	0.55	8.4	223.60	0.31	223.78	10	Cir	0.012	1.22	227.00	8
9	8	83.143	50.980	Genr	0.00	0.17	0.72	5.0	223.78	0.29	224.02	10	Cir	0.012	1.00	227.00	9
10	1	107.000	43.306	Genr	0.00	0.09	0.23	14.2	221.59	0.17	221.77	18	Cir	0.015	1.33	229.70	10
11	10	41.277	59.541	Genr	0.00	0.20	0.69	5.0	221.77	1.53	222.40	6	Cir	0.012	0.55	230.10	11
12	11	100.171	18.198	Genr	0.00	0.07	0.88	5.0	222.40	1.16	223.56	6	Cir	0.012	0.50	230.48	12
13	12	76.000	-10.395	Genr	0.00	0.11	0.88	5.0	223.56	4.08	226.66	6	Cir	0.012	1.00	231.00	13
14	1	42.716	156.353	Genr	0.00	0.07	0.21	11.1	221.59	0.70	221.89	8	Cir	0.012	1.00	228.00	14

Project File: VALLEJO3.stm	Number of lines: 14	Date: 1/31/2014

Storm Sewers v5.00

Storm Sewer Tabulation

Page

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	86.493	0.06	1.73	0.21	0.01	0.99	14.0	17.8	2.3	2.25	16.19	0.83	24	0.68	221.00	221.59	223.00	223.01	228.00	229.20	1
2	1	55.081	0.05	1.13	0.21	0.01	0.65	9.9	13.6	2.6	1.71	10.04	2.19	18	1.22	221.59	222.26	223.03	222.75	229.20	230.50	2
3	2	26.194	0.05	1.08	0.46	0.02	0.64	13.5	13.5	2.7	1.69	2.38	3.29	12	0.38	222.26	222.36	222.88	222.98	230.50	229.00	3
4	3	32.206	0.09	1.03	0.31	0.03	0.61	9.4	10.7	3.0	1.85	2.45	2.86	12	0.40	222.36	222.49	223.16	223.23	229.00	229.00	4
5	4	130.242	0.25	0.94	0.40	0.10	0.58	8.0	10.1	3.1	1.83	1.50	3.36	10	0.40	222.49	223.01	223.32	224.10	229.00	227.00	5
6	5	70.422	0.00	0.69	0.00	0.00	0.48	5.0	9.7	3.2	1.55	1.60	2.85	10	0.45	223.01	223.33	224.31	224.62	227.00	228.00	6
7	6	58.208	0.45	0.69	0.72	0.32	0.48	7.5	9.3	3.3	1.59	1.62	2.91	10	0.46	223.33	223.60	224.76	225.02	228.00	227.00	7
8	7	57.955	0.07	0.24	0.55	0.04	0.16	8.4	8.4	3.5	0.56	1.32	1.02	10	0.31	223.60	223.78	225.09	225.12	227.00	227.00	8
9	8	83.143	0.17	0.17	0.72	0.12	0.12	5.0	5.0	4.6	0.57	1.27	1.04	10	0.29	223.78	224.02	225.14	225.19	227.00	227.00	9
10	1	107.000	0.09	0.47	0.23	0.02	0.32	14.2	14.2	2.6	0.82	3.73	0.49	18	0.17	221.59	221.77	223.03	223.03	229.20	229.70	10
11	10	41.277	0.20	0.38	0.69	0.14	0.30	5.0	5.9	4.2	1.25	0.75	5.37	6	1.53	221.77	222.40	223.04	224.79	229.70	230.10	11
12	11	100.171	0.07	0.18	0.88	0.06	0.16	5.0	5.5	4.4	0.70	0.65	3.56	6	1.16	222.40	223.56	225.14	226.46	230.10	230.48	12
13	12	76.000	0.11	0.11	0.88	0.10	0.10	5.0	5.0	4.6	0.45	1.23	2.69	6	4.08	223.56	226.66	226.56	227.01	230.48	231.00	13
14	1	42.716	0.07	0.07	0.21	0.01	0.01	11.1	11.1	3.0	0.04	1.10	0.12	8	0.70	221.59	221.89	223.03	223.03	229.20	228.00	14

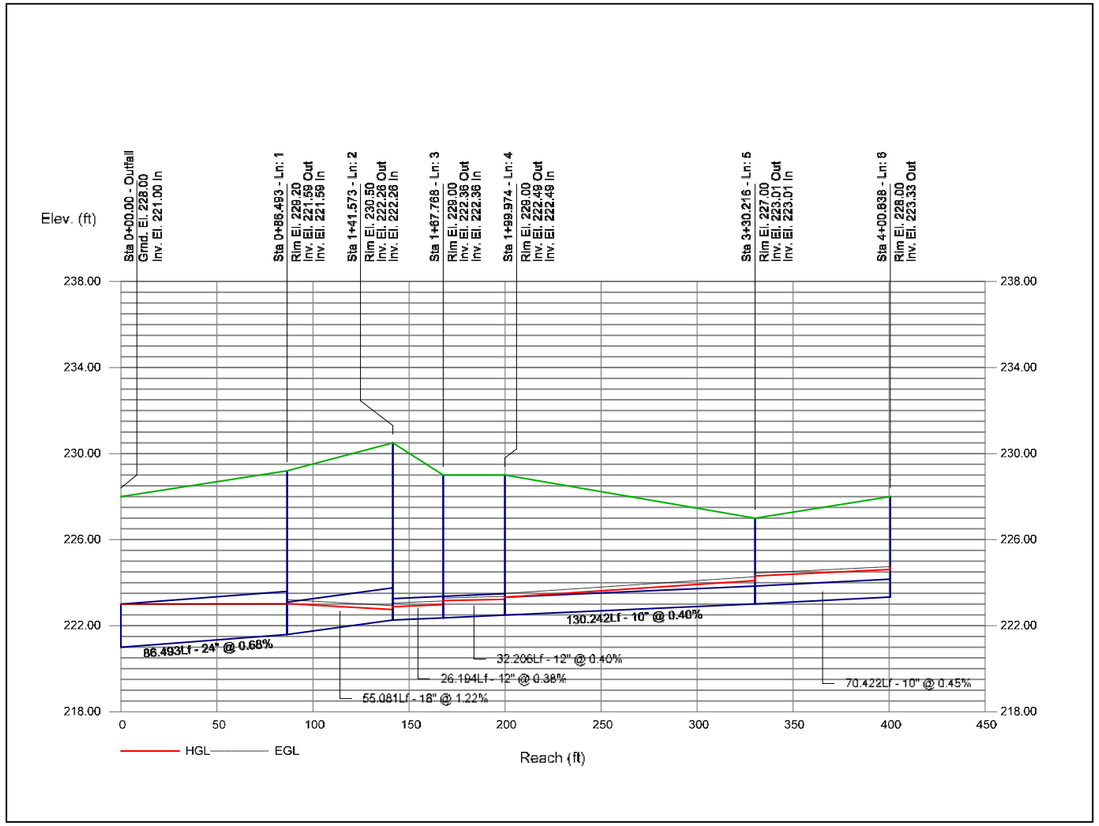
Project File: VALLEJO3.stm | Number of lines: 14 | Run Date: 1/31/2014

NOTES:Intensity = 11.74 / (Inlet time + 0.10) ^ 0.57 ; Return period =Yrs. 25 ; c = cir e = ellip b = box

Storm Sewers v5.0

Storm Sewer Profile

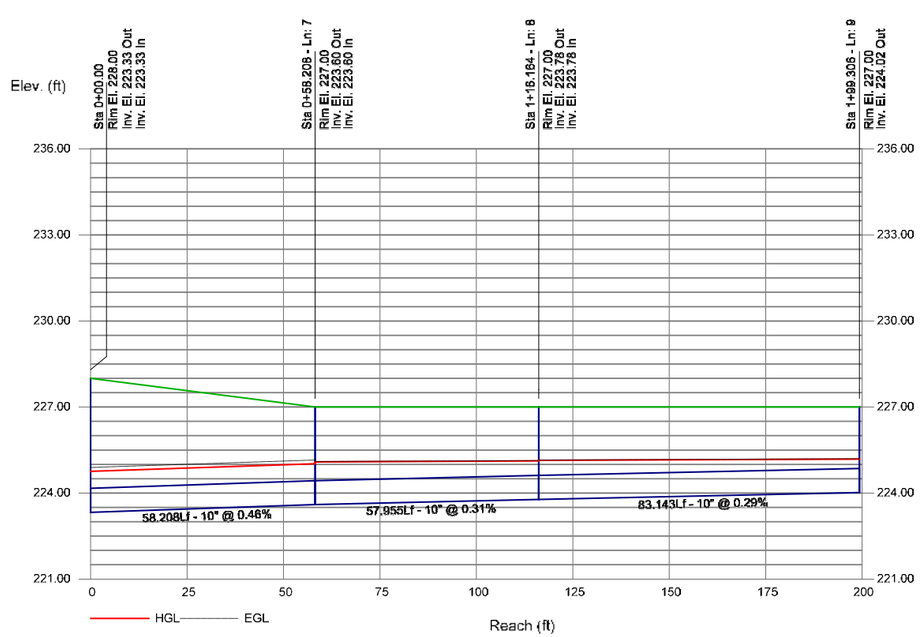
Proj. file: VALLEJO3.stm



Storm Sewers

Storm Sewer Profile

Proj. file: VALLEJO3.stm



Storm Sewers

Storm Sewer Profile

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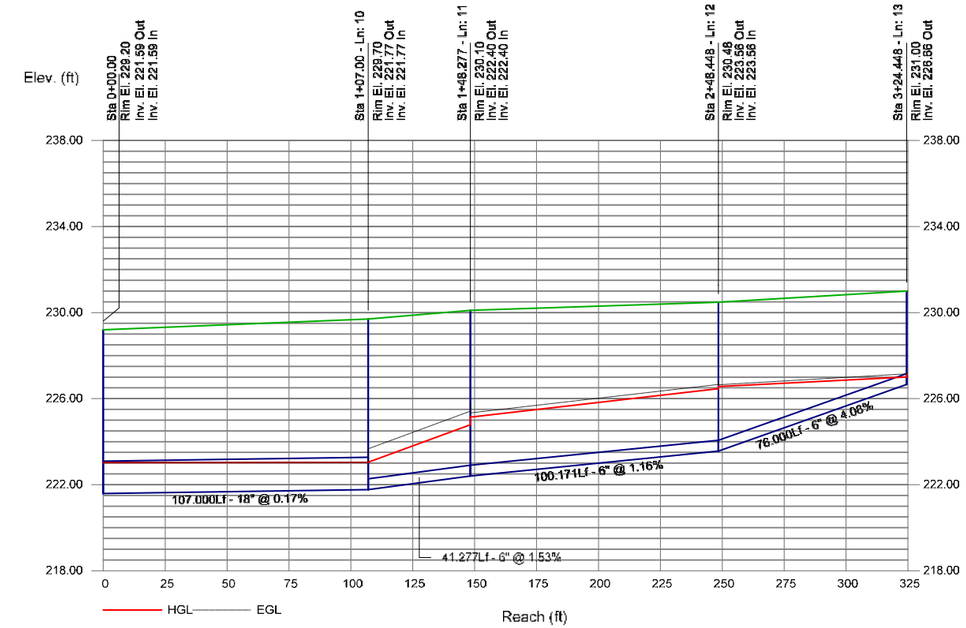

Storm Sewers

Storm Sewer Profile

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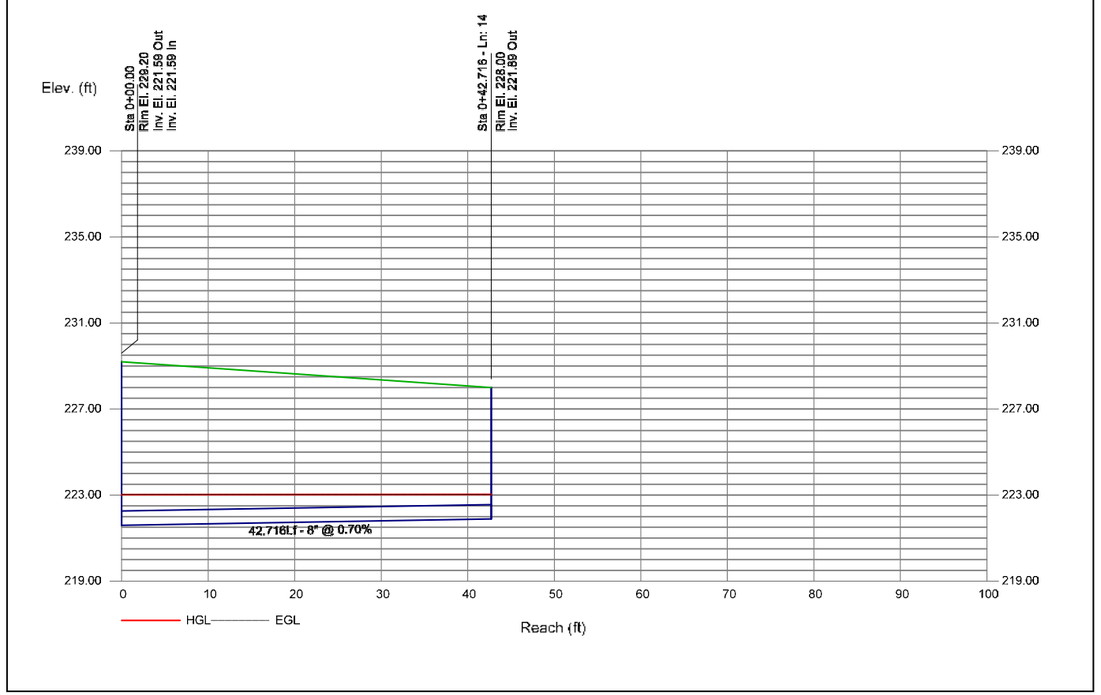
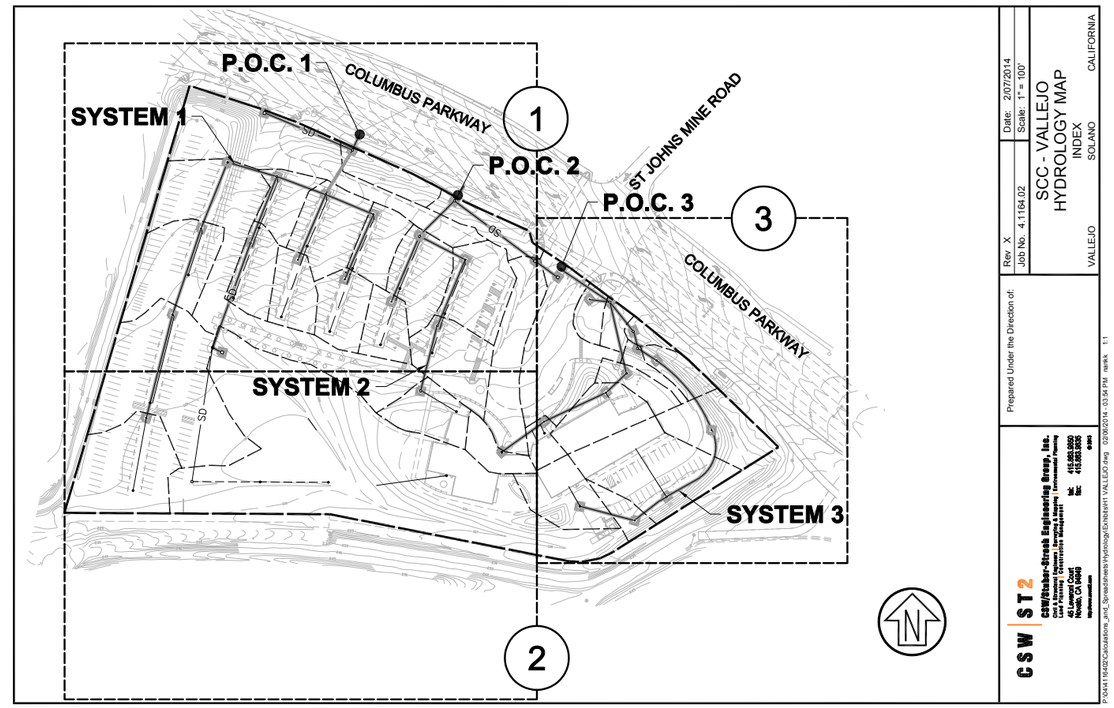
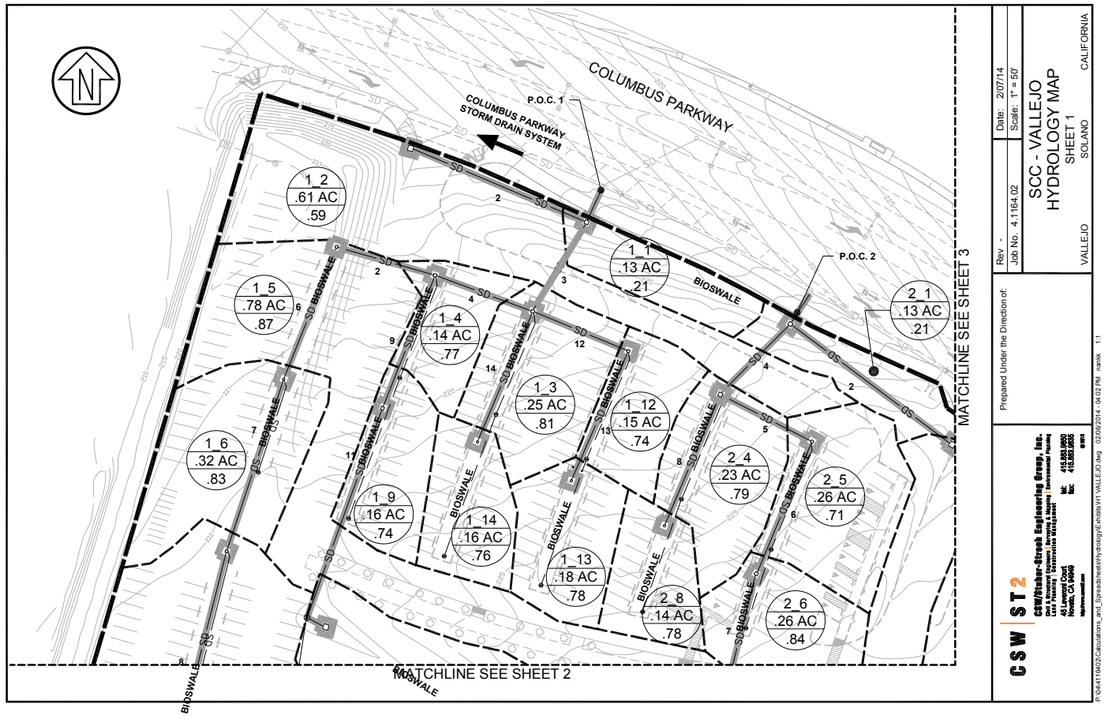
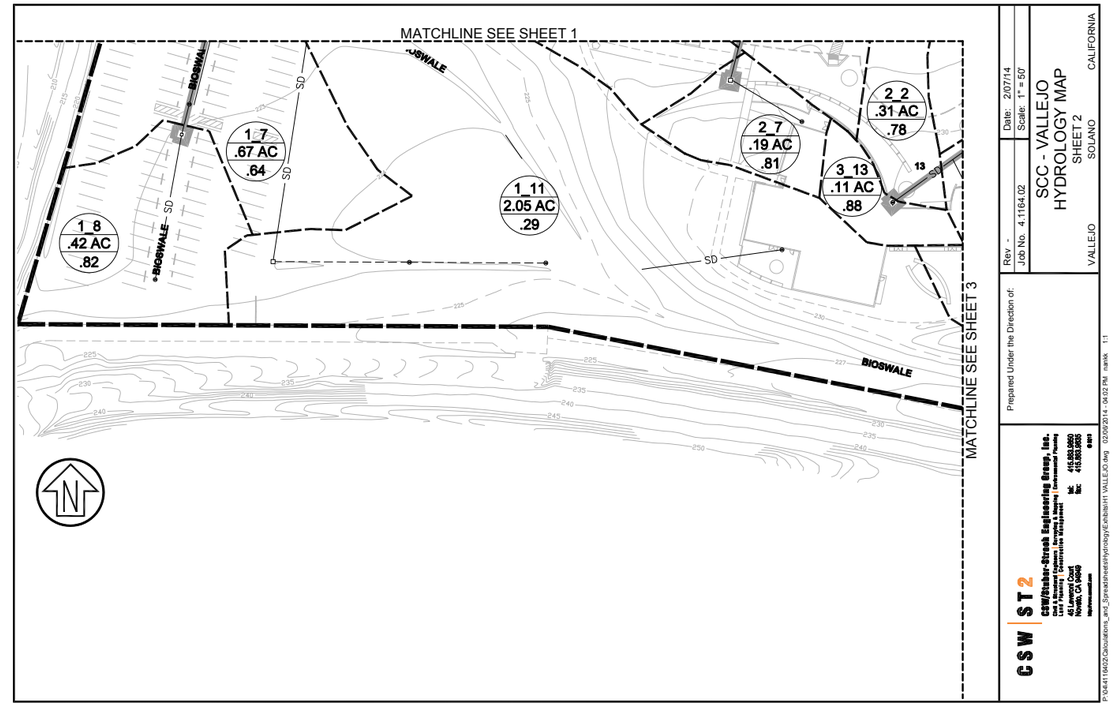


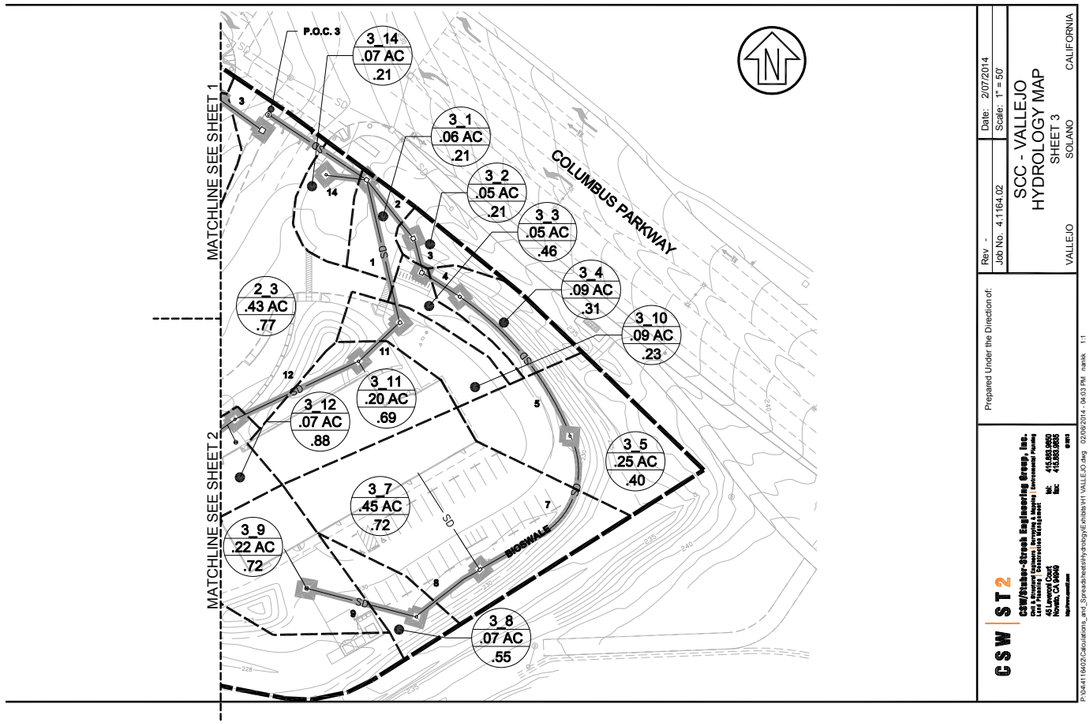
Storm Sewers

Appendix 9.7
Hydrology Map

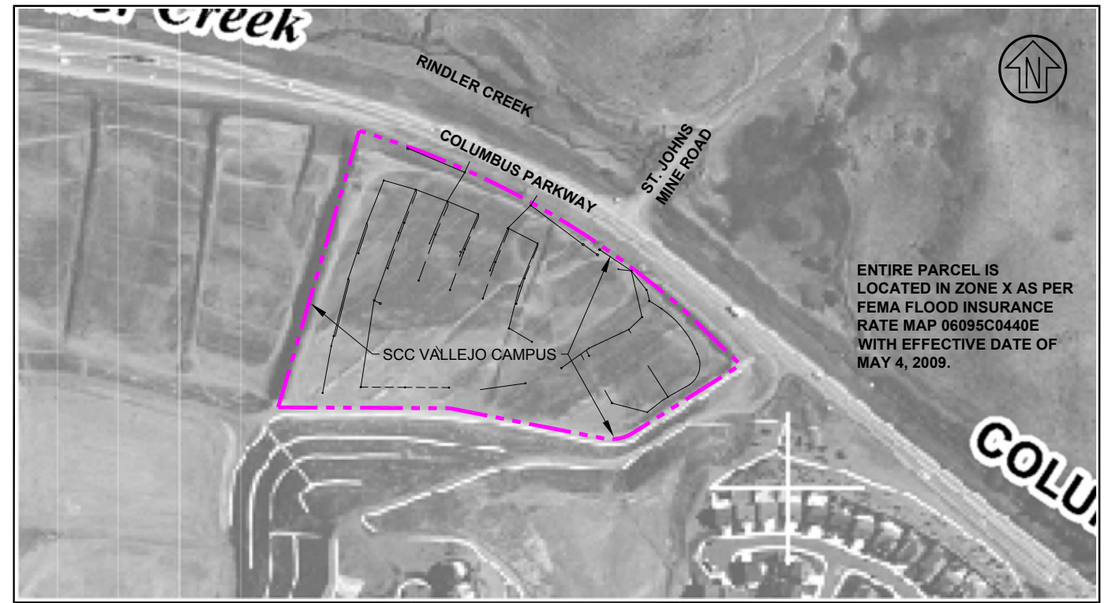



COLUMBUS PARKWAY
COLUMBUS PARKWAY STORM DRAIN SYSTEM
P.O.C. 1
P.O.C. 2
BIOSWALE
MATCHLINE SEE SHEET 2
MATCHLINE SEE SHEET 3
1_2 .61 AC .59
1_1 .13 AC .21
2_1 .13 AC .21
1_5 .78 AC .87
1_4 .14 AC .77
1_3 .25 AC .81
1_12 .15 AC .74
1_6 .32 AC .83
2_4 .23 AC .79
2_5 .26 AC .71
1_9 .16 AC .74
1_14 .16 AC .76
1_13 .18 AC .78
2_8 .14 AC .78
2_6 .26 AC .84
Rev -
Job No. 4.1164.02
Date: 2/07/14
Scale: 1" = 50'
SCC - VALLEJO HYDROLOGY MAP
SHEET 1
VALLEJO SOLANO CALIFORNIA
Prepared Under the Direction of:
CSW ST2
CSW/Stuber-Stroeh Engineering Group, Inc.


MATCHLINE SEE SHEET 1
MATCHLINE SEE SHEET 3
BIOSWALE
1_8 .42 AC .82
1_7 .67 AC .64
1_11 2.05 AC .29
2_7 .19 AC .81
2_2 .31 AC .78
3_13 .11 AC .88
Rev -
Job No. 4.1164.02
Date: 2/07/14
Scale: 1" = 50'
SCC - VALLEJO HYDROLOGY MAP
SHEET 2
VALLEJO SOLANO CALIFORNIA
Prepared Under the Direction of:
CSW ST2
CSW/Stuber-Stroeh Engineering Group, Inc.



Appendix 9.8
FEMA Floodplain Exhibit



Rev	Date	Description	Checked
-	XX/XX/XX	XXX	XXX

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Civil & Structural Engineers | Surveying & Mapping | Environmental Planning
Land Planning | Construction Management
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Prepared Under the Direction of:

Job No. 4.1164.02
Date: 02/07/14
Scale: N.T.S.

SOLANO COMMUNITY COLLEGE
FEMA FLOODPLAIN EXHIBIT
VALLEJO CAMPUS
VALLEJO SOLANO CALIFORNIA

P:\04\41164\02\Calculations_and_Spreadsheets\Hydrology\Exhibits\FEMA_EXHIBITS\Vallejo_FEMA.dwg 02/19/2014 - 06:50 PM rankk 1:1