APPENDIX D

STORMWATER CONTROL PLAN

for

AMPORTS Antioch
Vehicle Processing Facility Antioch Wharf – On-Site Facilities

2301 Wilbur Avenue
Antioch, California

ANTIOCH
CALIFORNIA

PREPARED BY:

TranSystems

TranSystems Corporation
2000 Center Street, Suite 303
Berkeley, CA 94704

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Tables

Figures

Attachments

This Stormwater Control Plan was prepared using the template dated February 2018.

I. PROJECT DATA

Table 1: Project Data

Project Name/Number	AMPORTS Antioch Vehicle Processing Facility
Application Submittal Date	11/20/2020
Project Location	2301 Wilbur Avenue, Antioch, California 94509
Name of Developer	AMPORTS
Project Phase No.	N/A
Project Type and Description	Automotive logistics and processing facility
Project Watershed	San Joaquin Delta
Total Project Site Area (acres)	38.9 Acres
Total Area of Land Disturbed (acres)	6.5 Acres
Total New Impervious Surface Area (sq. ft.)	0 sf
Total Replaced Impervious Surface Area	282,125 sf (6.5 Ac)
Total Pre-Project Impervious Surface Area	1,363,920 sf (31.3 Ac)
Total Post-Project Impervious Surface Area	1,351,770 sf (31.0 Ac)
50% Rule[*]	Doesn't Apply
Project Density	Floor Area Ratio = 1.77% = 0.69 Ac / 38.9 Ac
Applicable Special Project Categories [Complete even if all treatment is LID]	None
Percent LID and non-LID treatment	LID treatment for 20% of impervious surfaces, see section IV, "Documentation of Drainage Design" for details.
HMP Compliance [†]	Exempt – See page 6

[*50% rule applies if:
Total Replaced Impervious Surface Area > 0.5 x Pre-Project Impervious Surface Area]

[†HM required (unless project meets one of the exemptions on *Guidebook* p. 9) if:
(Total New Impervious Surface Area + Total Replaced Impervious Surface Area) ≥ 1 acre]

II. SETTING

II.A. Project Location and Description

AMPORTS is developing an automotive logistics and processing facility in Antioch, California on property located at 2301 Wilbur Avenue. The site was the previous location of the Gaylord Paper Mill, and is zoned for industrial use. The site will be used for delivery and storage of vehicles and limited processing prior to distributions to dealerships. The improved site will include conversion and upgrade of the existing wharf to support roll-on/roll-off (RORO) operations, a one-story vehicle processing building with offices, as well as grading, fencing, paving, and striping for car storage and loading prior to distribution. The project also includes select demolition of existing raised slabs and out of service utilities, new utility connections and on-site stormwater improvements.

AMPORTS is an automotive service industry import/export business. The company has been in the industry for over 60 years, and has locations throughout the United States and Mexico. This facility will accommodate ships arriving with new vehicles, off-loading vehicles, minor processing and storage of vehicles prior to truck hauling to area dealerships. The number of employees expected to be employed at the Antioch facility is approximately 45 people per shift with additional independent trucking companies hauling to and from the site. Employee parking will be restricted to the existing lot, east of the main entrance to the facility. ADA parking will be added to the southeast of the new planned building. One new pre-engineered metal building is to be built onsite. The building will be approximately 25,328 square feet (0.58 acres) in size and will include restrooms, vehicle processing and work space. A new perimeter fence which is 8' high chain link with barbed wire fence extensions will be installed around the property and along Wilbur Street. Minor landscaping will be installed along Wilbur Street and around the new processing building on-site. All existing pervious and open areas will remain.

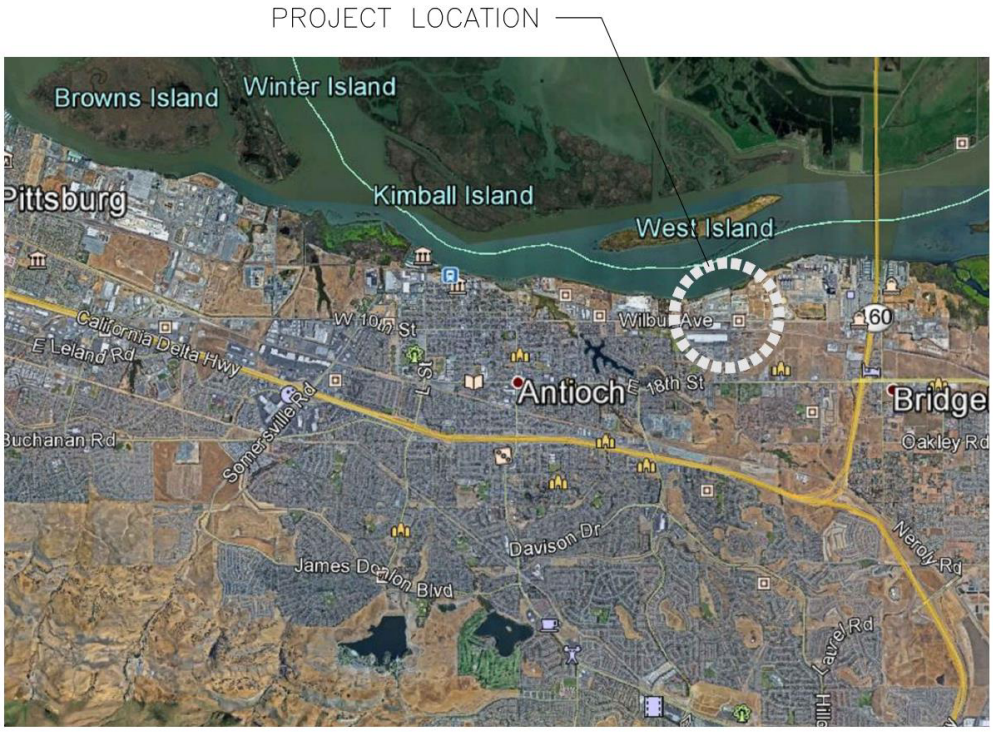


Figure 1: Vicinity Map

II.B. Existing Site Features and Conditions

The existing site is zoned for industrial use and was the previous location of the Gaylord Paper Mill. In recent years the site has been used as a lot for vehicle staging and storage. Therefore, the site now consists overwhelmingly of existing asphalt and concrete vehicle staging area pavement. There two raised slabs remaining from previous uses, although most have been previously demolished. The only existing building on site is a storage building that is approximately 5,000 square feet (0.11 acres) and a guard house near the front entrance, which are expected to remain in place.

The Natural Resources Conservation Service's Web Soil Survey classifies the existing soil at the site as "Hydrologic Group A," which means that the soils have high infiltration rates even when thoroughly wetted. See Attachment A for the NRCS soil classification.

The entire site consistently drains to the north toward the San Joaquin Delta. The majority of runoff across the site surface drains toward various inlets. The lone exception to that rule is the strip of existing greenspace along the west property line. This area is self-treating and does not contribute to the overall site runoff, See sheet Attachment B for existing drainage patterns.

Through an on-site visit and observation, it has been confirmed that runoff from the existing site is eventually collected in the existing storm drain system and piped through closed hard pipe to the stormwater detention facility at the northwest corner of the site. From there it outfalls directly into the delta.

The AMPORTS project site meets two of the three possibly scenarios for exemption from HM requirements.

- The post-project impervious area is less than, or the same as, the pre-project impervious area.
- The project is located in a catchment or subwatershed that is highly developed (that is, 70% or more impervious)

No new impervious area will be added to the site. The proposed building and pavement improvements will only replace existing impervious surface on a site that already contains over 80% impervious surface and impervious pavement will be demolished for the proposed bioretention facilities. The proposed improvement will seek to protect and maintain all existing pervious area currently present on the site. Due to these factors, this stormwater control report seeks exemption from the CCCWP's hydrograph modification requirements and will propose the use of "Option 4: Bioretention Facility" to demonstrate compliance with the CCCWP's hydrograph modification requirements.

II.C. Opportunities and Constraints for Stormwater Control

The project site is constrained by the following:

- Site History
    - The historical and current use of the project site was for industrial use. Due to this, the presence of durable impervious pavement becomes valuable to the site operators. The impervious area shown on the project plans will be used for specific on-site operations.
- Existing Wharf-side Storm Drain Infrastructure
    - The existing storm drain system to which all surface stormwater tie into is located at the northwest corner of the site near the wharf. This location is extremely shallow due to its location and therefore provide limited space constraints with treating that portion of the project. Fortunately, the majority of pavement replacement is proposed at higher elevations and this plan proposed to treat water further upstream.

The project has the following opportunities:

- Existing soils
    - Soils on site are classified as hydrologic group A, which means there is good potential for infiltration, where possible. This means that any runoff directed toward existing pervious areas or bioretention basins has the potential to increase infiltration across the site.
- The existing grade change makes treatment possible
    - The large grade change across the site from south to north provide ample elevation for stormwater treatment via bioretention facilities. This will allow well place facilities to treat a larger percentage of the site than would have been possible otherwise.
- Existing stormwater detention facilities
    - The site currently already has stormwater detention in place and this project seeks to maintain or reduce the amount of impervious surface runoff directed toward the facility.
- The project will include new landscaping
    - Although the majority of the existing pervious area will be contained on site and behind the security fence. The project contains proposed landscaping along Wilbur Avenue, where currently there is none.

III. LOW IMPACT DEVELOPMENT DESIGN STRATEGIES

III.A. Optimization of Site Layout

III.A.1. Limitation of development envelope

The primary limitation for the project site is its use as an industrial business location. Give that it has valuable wharf access for processing vehicles, impervious area for staging vehicles becomes a premium priority. However, although the project proposes to replace over 6 acres of impervious surface, that amount has been reduced as much as possible in order to preserve existing conditions. The proposed pavement improvements are the minimum possible to make the site usable for its intended purpose. Other conceptual iterations of the design had a larger impervious footprint, however, it was decided to preserve all existing vegetated area on site.

III.A.2. Preservation of natural drainage features

There are obvious water quality and quantity benefits to allowing runoff to fall on grassy areas than on paved areas. For this reason what little green space exists on the site should be kept and maintained. The portion of the site along the west property line and directly to the west of the entrance is being retained as a grassy/vegetated area to allow as much of the existing stormwater benefits of that area to remain.

III.A.3. Minimization of imperviousness

The site proposes to leave as much pervious area as is feasible while still maintaining the underlying purpose of the project. The usability of each section of impervious pavement was evaluated to determine if it could be reused or needed to be replaced. The intention was to minimize the impacts of the project as much as possible while providing a well-functioning site post construction. In addition, all of the existing trees on site would be preserved.

III.B. Use of Permeable Pavements

The use of permeable pavements on this project is infeasible due to the long term durability and maintenance costs.

- If permeable pavement were to be used on site, it would not hold up to the long term wear and tear of the intended vehicular traffic. The site will see daily use of vehicles, similar to a city street, where permeable pavement would not be acceptable.
- The maintenance cost in the long-term would not provide a feasible product to the owner/operator of the facility from a cost-benefit perspective. – NO COST REASONING

III.C. Dispersal of Runoff to Pervious Areas

The location of the proposed work does not allow opportunities to direct runoff from impervious surfaces to pervious surfaces. For proposed grading and drainage design, see Attachment C.

III.D. Integrated Management Practices

The project will create two separate bioretention areas at the northern edge of the street side portion of the site that will collect and treat runoff from some of the new asphalt pavement as well as some of the old pavement areas.

This location is optimal as it captures the maximum amount of surface water runoff possible and provides ample elevation for the required 18" of biosoil and for gaining the proper hydraulic head needed for the bioretention basins to work correctly. The bioretention area will drain through an underdrain to an overflow structure, then to the nearest existing storm drain structure on site.

The portion of the site that does not drain to the bioretention basins will maintain existing drainage patterns.

See Attachment C for proposed drainage design and Attachment D for project site drainage management areas.

IV. DOCUMENTATION OF DRAINAGE DESIGN

IV.A. Descriptions of each Drainage Management Area

IV.A.1. Table of Drainage Management Areas

Table 2: Drainage Management Areas

DMA Name	*Area (SF)*	*Surface Type / Description*	*Drains to*
W-01	*146,770*	*Impervious Concrete and Asphalt Pavement*	*West Bioretention Area*
W-02	*73,710*	*Pervious, undisturbed, natural area that drains overland off-site*	*Off-Site*
E-01	*136,360*	*Impervious Concrete and Asphalt Pavement*	*East Bioretention Area*

IV.A.2. Drainage Management Area Descriptions

DMA W-01, totaling 146,770 square feet, drains existing and proposed impervious pavement used for vehicle staging. It drains to the West Bioretention Area.

DMA W-02, totaling 73,710 square feet, drains existing pervious, undisturbed natural area that will remain undisturbed area. It drains off-site to the west of the property. This area does not contribute to the existing on-site drainage infrastructure and is listed for completeness.

DMA E-01, totaling 136,360 square feet, drains existing and proposed impervious pavement used for vehicle staging. It drains to the East Bioretention Area.

The above drainage management areas do not account for the entire existing property. The rest of the existing project site drains to the existing drainage system on-site and ends up at the existing stormwater detention facility at the northwest corner of the site. This area consists primarily of impervious paved areas that will be used for the operations vehicle staging, as well as, the existing building, the new building, and some undisturbed existing pervious areas which will remain. See Attachment D for project site drainage management areas.

There is no proposed work on site that would allow for opportunities to utilize the existing natural landscaped areas as LID IMPs. Additionally, there is little to no offsite surface runoff that could be treated as a part of this project.

For the purposes of this project, these drainage and detention patterns will remain the same as the existing conditions. The project seeks to add the necessary LID treatment required to satisfy the CCCWP requirements, given the scope of the project goals.

IV.B. Tabulation and Sizing Calculations

IV.B.1. Areas Draining to IMPs

See Attachment E for CCCWP IMP calculator results.

IV.B.2. Information Summary for IMP Design

Table 3: Information Summary for IMP Design

Total Project Area (Square Feet)	283,130
Mean Annual Precipitation	13.1
IMPs Designed For:	Treatment Only

V. SOURCE CONTROL MEASURES

V.A. Site activities and potential sources of pollutants

The only site activities that may be a potential source of pollutants is vehicle traffic that will be present on site.

V.B. Source Control Table

Table 4: Sources and Source Control Measures

Potential source of runoff pollutants	*Permanent source control BMPs*	*Operational source control BMPs*
On-site storm drain inlets	Mark all inlets with "No Dumping! Drains to Bay" or similar.	Maintain and periodically repaint or replace inlet markings. Provide stormwater pollution prevention information to new site owners, lessees, or operators.
Interior floor drains	Interior floor drains will be plumbed to sanitary sewer.	Inspect and maintain drains to prevent blockages and overflow.
Plazas, sidewalks, and parking lots	None	Sweep drive aisles and parking areas regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect washwater containing any cleaning agent or degreaser and discharge to the sanitary sewer not to a storm drain.

V.C. Features, Materials, and Methods of Construction of Source Control BMPs

Facility cleaning and maintenance of storm drain inlet markings will be done as part of AMPORTS on-site maintenance.

VI. STORMWATER FACILITY MAINTENANCE

VI.A. Ownership and Responsibility for Maintenance in Perpetuity

See Attachment F for designation of responsible individuals.

VI.B. Summary of Maintenance Requirements for Each Stormwater Facility

Stormwater BMPs must be inspected regularly and maintained to ensure that the stormwater quality system functions as designed. The bioretention basin must be inspected at minimum on a yearly basis to verify that runoff infiltrates into the subsurface completely within the prescribed infiltration time of 48 hours or less after a storm and sediment hasn't built up. Any buildup of sediment must be removed and the bottom restored with the specified biotreatment soil and vegetation. Basin vegetation should be inspected at the same time to maintain the aesthetic appearance of the site as well as to prevent vegetation from interfering with basin operation. This may include mowing or pruning overgrown vegetation, re-vegetating areas that become bare, removal of fallen leaves and other debris, and removal of invasive vegetation.

See Attachment G for Stormwater BMP Inspection and Maintenance Log.

VII. CONSTRUCTION PLAN C.3 CHECKLIST

Table 5: Construction Plan C.3 Checklist

Stormwater Control Plan Page #	*BMP Description*	*See Plan Sheet #s*
Attachment C	East Bioretention Area and West Bioretention Area	CG-101

VIII. CERTIFICATIONS

The selection, sizing, and preliminary design of stormwater treatment and other control measures in this plan meet the requirements of Regional Water Quality Control Board Order R2-2009-0074 and Order R2-2011-0083.

ATTACHMENT A
HYDROLOGIC SOIL GROUP CLASSIFICATION

Map Scale: 1:3,000 if printed on B portrait (11" x 17") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Contra Costa County, California
Survey Area Data: Version 17, May 29, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 23, 2019—Apr 29, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DaC	Delhi sand, 2 to 9 percent slopes	49.7	78.9%
W	Water	13.3	21.1%
Totals for Area of Interest		**63.0**	**100.0%**

Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named, soils that are similar to the named components, and some minor components that differ in use and management from the major soils.

Most of the soils similar to the major components have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Some minor components, however, have properties and behavior characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

Contra Costa County, California

DaC—Delhi sand, 2 to 9 percent slopes

Map Unit Setting

National map unit symbol: h98s
Elevation: 10 to 150 feet
Mean annual precipitation: 12 to 14 inches
Mean annual air temperature: 59 degrees F
Frost-free period: 260 to 300 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Delhi and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Delhi

Setting

Landform: Alluvial fans, flood plains, terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Eolian deposits derived from igneous and sedimentary rock

Typical profile

H1 - 0 to 5 inches: sand
H2 - 5 to 60 inches: sand

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 12 percent
Hydric soil rating: No

Laugenour

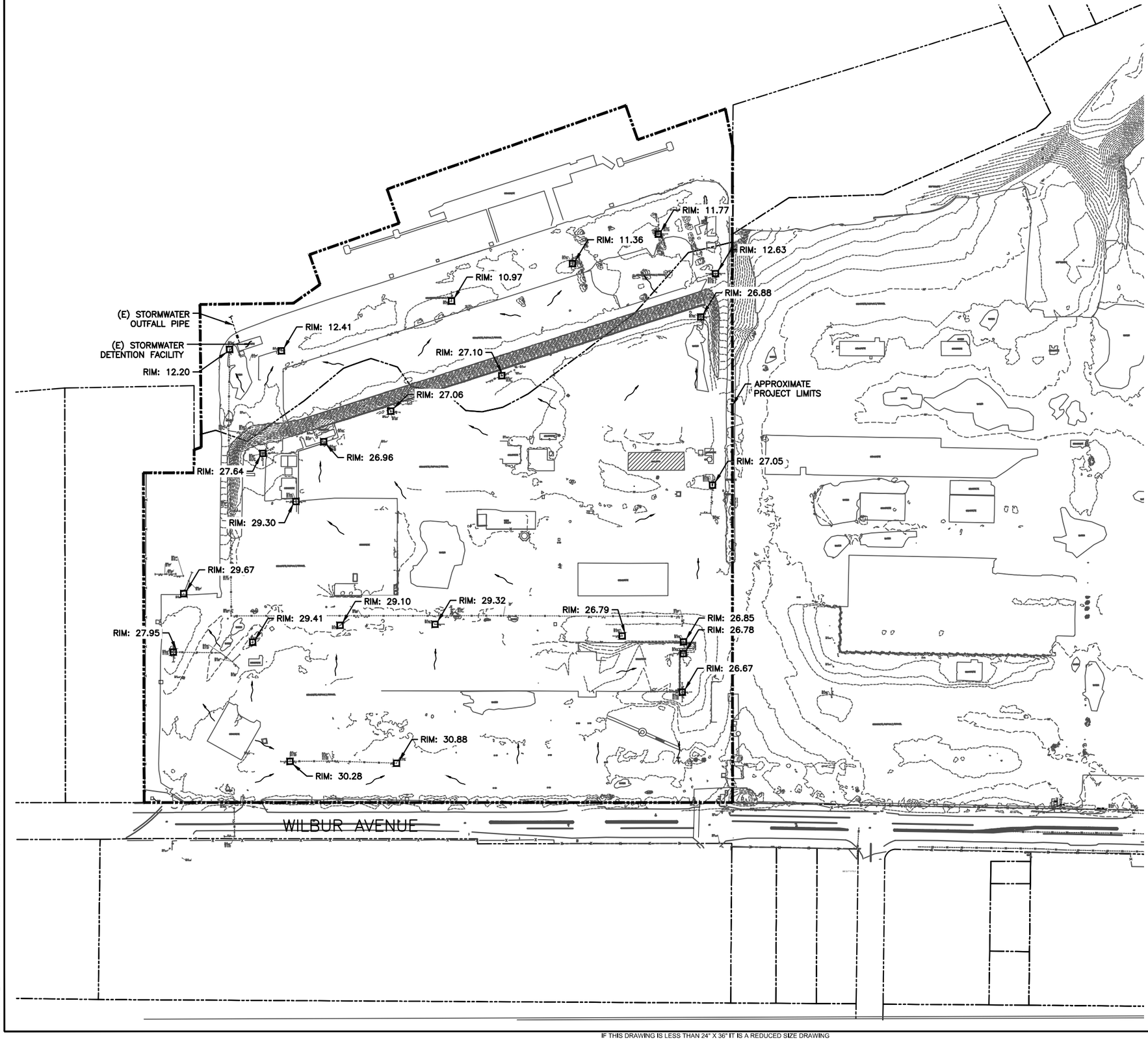
Percent of map unit: 3 percent

Hydric soil rating: No

Data Source Information

Soil Survey Area: Contra Costa County, California
Survey Area Data: Version 17, May 29, 2020

ATTACHMENT B
EXISTING DRAINAGE CONDITIONS



PRELIMINARY SCOPING PLANS
NOT FOR CONSTRUCTION

TranSystems
2000 CENTER ST
SUITE 303
BERKELEY, CA 94704
PHONE: 510-835-2761
FAX: 510-842-1579

CONSULTANTS:

AMPORTS ANTIOCH
VEHICLE PROCESSING FACILITY
2301 WILBUR AVENUE, ANTIOCH, CA

AMPORTS

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO:	P309190180
SCALE:	AS SHOWN
DATE:	11/20/2020
DESIGNED BY:	GMS
DRAWN BY:	GMS
CHECKED BY:	RC/MLR

SHEET TITLE:

EXISTING DRAINAGE CONDITIONS

SHEET NO.
ATTACHMENT - B

SHEET OF 13

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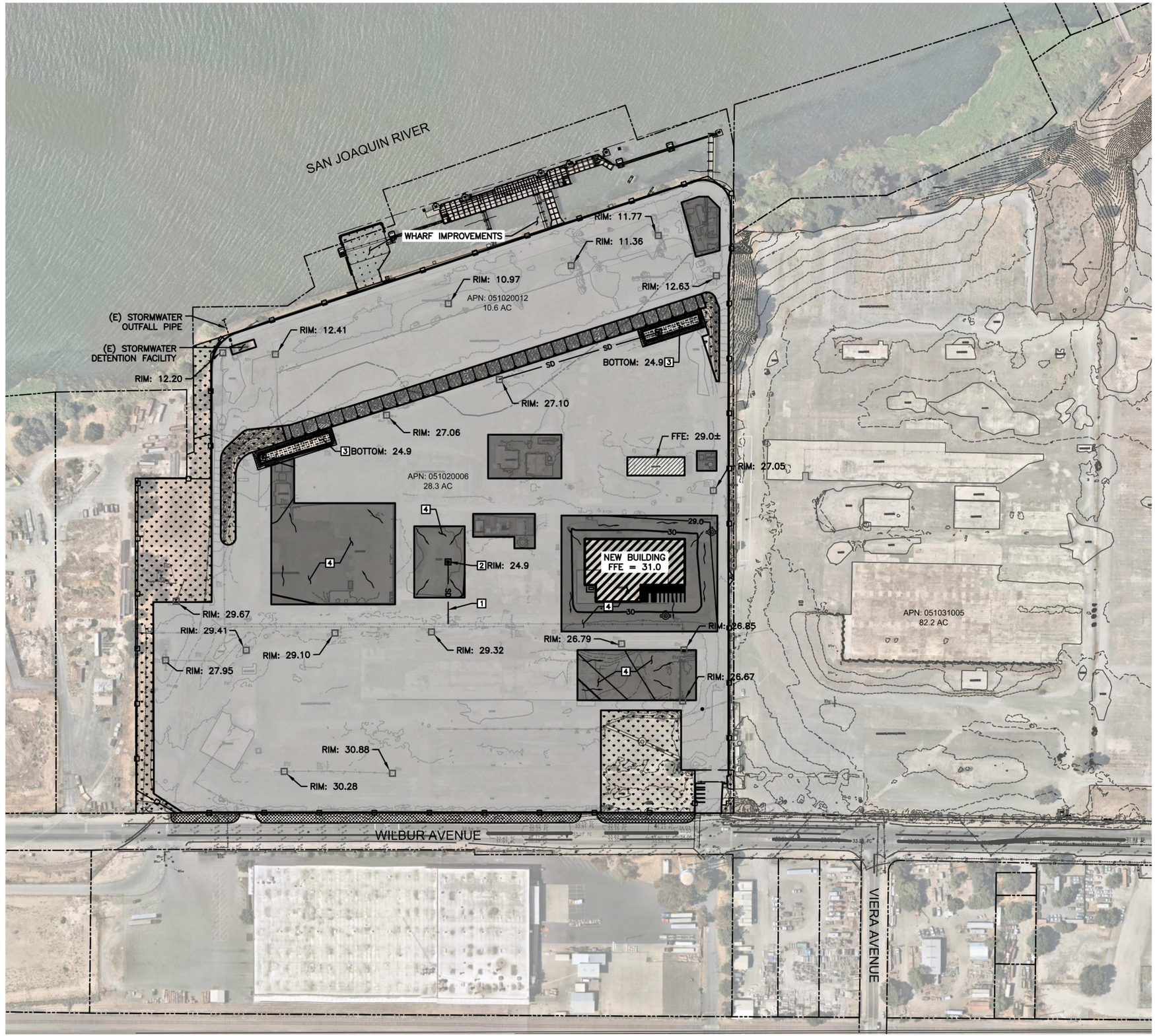
ATTACHMENT C
PROPOSED DRAINAGE



GENERAL NOTES

A. SEE G–001 FOR PROJECT VICINITY AND LOCATION MAPS.

B. PRELIMINARY EARTHWORK CALCULATIONS HAVE BEEN PERFORMED AT THIS TIME WITHOUT A GEOTECHNICAL REPORT OR ASSESSMENT AND UTILIZING ASSUMPTIONS FOR EXISTING SITE INFRASTRUCTURE SECTIONS. EARTHWORK CALCULATIONS WILL BE UPDATED AS THE CONCEPTUAL DESIGN PROGRESSES TO CONSTRUCTION DOCUMENTS.

[X] KEY NOTES

1. NEW STORM DRAIN LINE. TIE INTO EXISTING STORM DRAIN SYSTEM ON–SITE.
2. NEW STORM DRAIN AREA INLET.
3. EAST BIORETENTION AREA AND WEST BIORETENTION AREA FOR STORMWATER TREATMENT. 3:1 SIDE SLOPE, TYP.
4. NEW AC PAVEMENT AREA WILL REQUIRE GRADE CHANGES. SEE FLOW ARROWS FOR PROPOSED FLOW DIRECTION.

LEGEND

- (E) PAVEMENT TO REMAIN
- NEW AC PAVEMENT
- NEW BIORETENTION BASIN
- (E) PERVIOUS AREA TO REMAIN
- SD NEW STORM DRAIN LINE
- STORM DRAIN INLET
- (E) STORM DRAIN INLET
- SURFACE FLOW DIRECTION

PRELIMINARY EARTHWORK	
CUT (CY)	6,660
FILL (CY)	4,110
NET CUT (CY)	2,550

PRELIMINARY SCOPING PLANS
NOT FOR CONSTRUCTION

N

0 100 200 300
SCALE FEET
1" = 100'

TranSystems
2000 CENTER ST
SUITE 303
BERKELEY, CA 94704
PHONE: 510-835-2761
FAX: 510-842-1579

CONSULTANTS:

AMPORTS ANTIOCH
VEHICLE PROCESSING FACILITY
2301 WILBUR AVENUE, ANTIOCH, CA

AMPORTS

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO.	P309190180
SCALE:	AS SHOWN
DATE:	11/20/2020
DESIGNED BY:	GMS
DRAWN BY:	GMS
CHECKED BY:	RC/MLR

SHEET TITLE:
PROPOSED DRAINAGE

SHEET NO.
ATTACHMENT - C
SHEET OF 13

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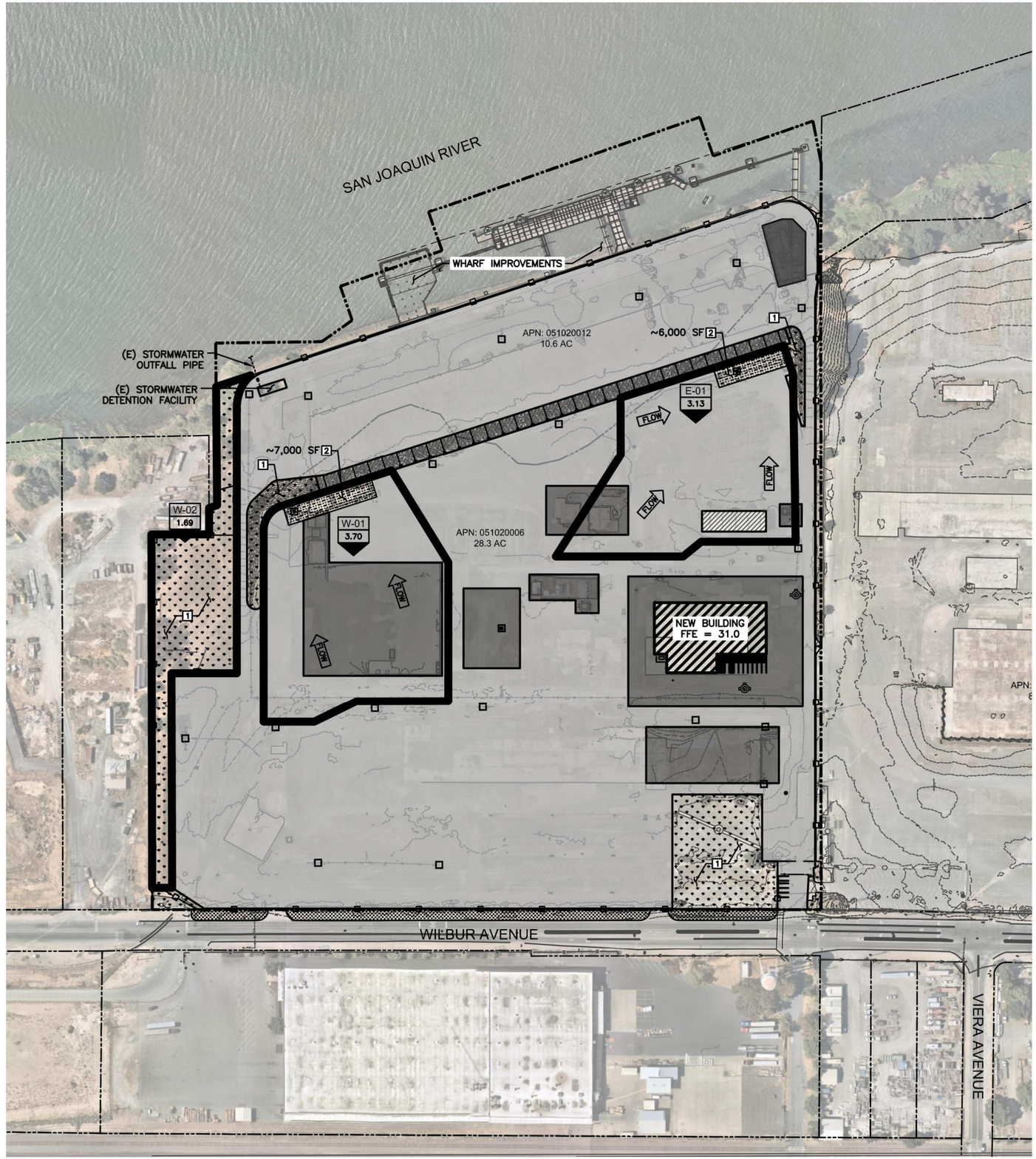
ATTACHMENT D
DRAINAGE MANAGEMENT AREAS



PROJECT AREA TOTALS		
DESCRIPTION	AREA (SF)	AREA (AC)
TOTAL PROPERTY AREA	1,693,232	38.9
EXISTING IMPERVIOUS AREA	1,363,920	31.3
NEW OR REPLACED IMPERVIOUS AREA	282,125	6.5
FINAL IMPERVIOUS AREA	1,351,770	31.0
(%) CHANGE IMPERVIOUS AREA	1% DECREASE	1% DECREASE
CONSTRUCTION DISTURBANCE AREA	282,125	6.5

DRAINAGE MANAGEMENT AREAS				
DMA	DESCRIPTION	AREA (SF)	AREA (AC)	DRAINS TO:
W-01	IMPERVIOUS VEHICLE PARKING AREA	146,770	3.7	WEST BIORETENTION
W-02	PERVIOUS, UNDISTURBED, NATURAL AREA THAT IS SELF TREATING	73,710	1.7	OFF-SITE
E-01	IMPERVIOUS VEHICLE PARKING AND BUILDING AREA	136,360	3.1	EAST BIORETENTION

TREATMENT AREA TOTALS			
AREA TYPE	AMOUNT REQ'D TO BE TREATED	AMOUNT TREATED BY PROJECT	DIFFERENCE
NEW OR REPLACED IMPERVIOUS AREA	282,125 SF (6.5 AC)	283,130 SF (6.83 AC)*	1,005 SF (0.33 AC) EXCESS (TREATING MORE THAN REQ'D)

* INCLUDES BIORETENTION AREAS

GENERAL NOTES

A. SEE G-001 FOR PROJECT VICINITY AND LOCATION MAPS.

B. THE NRCS CLASSIFIES THE EXISTING SOIL AT THE SITE AS "HYDRAULIC GROUP A".

KEY NOTES

1. EXISTING PERVIOUS AREA TO REMAIN UNDISTURBED.
2. BIORETENTION BASIN FOR STORMWATER TREATMENT. CONSISTS OF 4% OF NEW LAND SIDE IMPROVEMENT AREAS (~12,200 SF TOTAL).

LEGEND

- (E) PAVEMENT TO REMAIN
- NEW AC PAVEMENT
- NEW BIORETENTION BASIN
- (E) PERVIOUS UNDISTURBED AREA
- STORM DRAIN INLET LOCATION
- FLOW — SURFACE WATER FLOW DIRECTION
- PROJECT LIMITS
- DRAINAGE BASIN LIMITS
- XXX / XXX.XX — DRAINAGE BASIN CALLOUT

N

PRELIMINARY SCOPING PLANS
NOT FOR CONSTRUCTION

0 100 200 300
SCALE FEET
1" = 100'

TranSystems
2000 CENTER ST
SUITE 303
BERKELEY, CA 94704
PHONE: 510-835-2761
FAX: 510-842-1579

CONSULTANTS:

AMPORTS ANTIOCH
VEHICLE PROCESSING FACILITY
2301 WILBUR AVENUE, ANTIOCH, CA

AMPORTS

REVISIONS:			
MARK	DATE	DESCRIPTION	

PROJ NO:	P309190180
SCALE:	AS SHOWN
DATE:	11/20/2020
DESIGNED BY:	GMS
DRAWN BY:	GMS
CHECKED BY:	RC/MLR

SHEET TITLE:

DRAINAGE MANAGEMENT AREAS

SHEET NO.
ATTACHMENT - D
SHEET OF 13

IF THIS DRAWING IS LESS THAN 24" X 36" IT IS A REDUCED SIZE DRAWING

ATTACHMENT E
IMP CALCULATOR RESULTS

Project Name: AMPORTS Antioch Vehicle Processing Facility
Project Type: Treatment Only
APN: N/A
Drainage Area: 296,130
Mean Annual Precipitation: 13.1

IV. Areas Draining to IMPs

IMP Name: West Bioretention
IMP Type: Bioretention Facility
Soil Group: West Bioretention

DMA Name	Area (sq ft)	Post Project Surface Type	DMA Runoff Factor	DMA Area x Runoff Factor
W-01	146,770	Concrete or Asphalt	1.00	146,770
			Total	146,770

IMP Sizing			
IMP Sizing Factor	Rain Adjustment Factor	Minimum Area or Volume	Proposed Area or Volume
0.040	1.000	5,871	7,000
Area			

IMP Name: East Bioretention
IMP Type: Bioretention Facility
Soil Group: East Bioretention

DMA Name	Area (sq ft)	Post Project Surface Type	DMA Runoff Factor	DMA Area x Runoff Factor
E-01	136,360	Concrete or Asphalt	1.00	136,360
			Total	136,360

IMP Sizing			
IMP Sizing Factor	Rain Adjustment Factor	Minimum Area or Volume	Proposed Area or Volume
0.040	1.000	5,454	6,000
Area			

Report generated on 11/17/2020 12:00:00 AM by the Contra Costa Clean Water Program IMP Sizing Tool software (version 1.3.1.0).

ATTACHMENT F
DESIGNATION OF RESPONSIBLE INDIVIDUALS

Designation of Individuals Responsible for Stormwater Treatment BMP Operation and Maintenance	
Date Completed TBD	
Facility Name **AMPORTS Antioch Vehicle Processing Facility**	
Facility Address 2301 Wilbur Avenue, Antioch, CA 94509	
Designated Contact for Operation and Maintenance	
Name:	Title or Position:
Telephone:	Alternate Telephone:
Email:	
Off-Hours or Emergency Contact	
Name:	Title or Position:
Telephone:	Alternate Telephone:
Email:	
Corporate Officer (authorized to execute contracts with the City, Town, or County)	
Name:	Title or Position:
Address:	
Telephone:	Alternate Telephone:
Email:	

ATTACHMENT G

STORMWATER BMP INSPECTION AND MAINTENANCE LOG AND OPERATIONS & MAINTENANCE PLAN

Stormwater BMP Inspection and Maintenance Log

Facility Name AMPORTS Antioch Vehicle Processing Facility	
Address 2301 Wilbur Avenue, Antioch, CA 94509	
Begin Date	End Date

Date	BMP ID#	BMP Description	Inspected by:	Cause for Inspection	Exceptions Noted	Comments and Actions Taken

Instructions: Record all inspections and maintenance for all treatment BMPs on this form. Use additional log sheets and/or attach extended comments or documentation as necessary. Submit a copy of the completed log with the annual independent inspectors' report to the municipality, and start a new log at that time.

- BMP ID# — Always use ID# from the Operation and Maintenance Manual.
- Inspected by — Note all inspections and maintenance on this form, including the required independent annual inspection.
- Cause for inspection — Note if the inspection is routine, pre-rainy-season, post-storm, annual, or in response to a noted problem or complaint.
- Exceptions noted — Note any condition that requires correction or indicates a need for maintenance.
- Comments and actions taken — Describe any maintenance done and need for follow-up.

AMPORTS ANTIOCH VEHICLE PROCESSING FACILITY

MAINTENANCE MATRIX

The stormwater treatment facilities include the bioswale and its associated overflow structure and outflow storm pipe and the curb inlet, storm drain pipe, and self-retaining/ponding area at the west end of the site. A blockage in the storm drain system at the bioswale or self-retaining area will cause water to back up into the treatment facility or storm drain infrastructure and may damage it. For this reason, inspection and maintenance of these storm drain components is considered part of the inspection and maintenance of the treatment facilities. Normal functioning of the facilities may involve retention of water for up to 72 hours following significant storm events.

STORM DRAIN SYSTEM

Frequency Before each rainy season.	**Observation** Inspect the storm drain outfall at the creek. Look for obstructions, vegetation, debris, litter, sediment, etc. blocking the outfall. Check for bushes, trees, or other dense vegetation growing immediately in front of the outfall.	**Maintenance Activity** Remove obstructions, etc.
	Observation Inspect all catch basins. Look for obstructions, vegetation, debris, litter, sediment, etc. blocking the catch basins.	**Maintenance Activity** Remove obstructions, etc.
Frequency Before each rainy season and after the first heavy rain.	**Observation** Inspect the entire storm drain system from the upstream end to the outfall, including all catch basins. Observe the flow of water. Any evidence of ponding in the catch basins indicates a blockage.	**Maintenance Activity** Find and remove any obstructions. Flushing may be necessary.

BIORETENTION AREA – SUBDRAINS

Frequency Before each rainy season	**Observation** Inspect all subdrain cleanouts. Ensure that all cleanout caps are present. Look for obstructions, debris, trash, leaves, vegetation, etc. growing inside the subdrain or covering the cleanout.	**Maintenance Activity** Remove any obstructions by hand (if near the cleanout entrance) or by flushing (with pressurized water) if too far down the pipe. Replace missing caps and secure to prevent unauthorized removal or accidental displacement.
	Observation Inspect each subdrain where it enters the catch basin to see whether the subdrain pipe is dry, or is clogged with vegetation. Ensure that the subdrain is flowing by testing with water from the cleanout end.	**Maintenance Activity** If water does not flow through the subdrain, rod or flush the line to ensure flow.

BIORETENTION AREA - GENERAL

Frequency Before each rainy season	**Observation** Inspect curb cuts (gaps in curb for water to flow down to treatment facility). Look for any obstructions that will prevent water from leaving the street and flowing into the treatment facility. This includes litter, debris and vegetation. There should be at least a 1-inch drop from the curb cut to the erosion control rock. No vegetation should obstruct the flow of water through the curb cut.	**Maintenance Activity** Remove obstructions, clean litter and cut vegetation.
	Observation Inspect bank between curb cuts and treatment facility. Look for gullies, washouts, evidence of uncontrolled surface water flow or any other evidence of distress to the slope.	**Maintenance Activity** Repair bank by excavating gullies and replacing soil in its original configuration, properly compacted. Replace gravel or other erosion control device so that bank does not erode again.
	Observation Determine whether the bioretention area / swale is draining correctly. Inspect adjacent infrastructure, such as retaining walls, curbs and pavement for signs of failure caused by water intrusion into the surrounding soil. This is a sign of poor drainage from the treatment facility.	**Maintenance Activity** Determine the cause of the poor drainage (i.e. siltation of "sandy loam" soil mix, blocked subdrains, blocked catch basin, blocked storm drain) and repair.
Frequency After the first heavy rain.	**Observation** Determine whether the bioretention area / swale is draining correctly. Look for standing water or soggy, saturated soil. Look for holes containing standing water and permitting mosquitoes. This is a sign of poor drainage from the treatment facility. Water should drain from bioretention area / swale within 72 hours. After 72 hours, there should be no patches of standing water – bioretention area / swale should drain evenly.	**Maintenance Activity** Determine the cause of the poor drainage (siltation of "sandy loam" soil mix, blocked subdrains, blocked catch basin, blocked storm drain) and repair. Fill holes containing standing water with "sandy loam" soil mix. Tilling of "sandy loam" soil mix may be required. After several years, the soil medium may become impermeable because of silt deposition, in which case removal and replacement of the "sandy loam" soil mix and gravel will be required
Frequency Each month	**Observation** Inspect the bioretention area / swale for litter, debris, leaves, dead vegetation and anything else that might interfere with flow, filtration or growth of grass.	**Maintenance Activity** Remove all such litter, debris, leaves, dead vegetation, etc. by hand or with hand tools. Replace dead vegetation as appropriate.
Frequency Each month	**Observation** Inspect for growth of trees or invasive plants in grassy bioretention area / swale areas.	**Maintenance Activity** Remove invasive plants, weeds, shrubs, trees, or anything with a woody stem from grassy bioretention area / swale areas.

Frequency Each month	**Observation** Inspect condition of grass in bioretention area / swale. Grass must be of sufficient density and health to provide filtration and protect from erosion.	**Maintenance Activity** Mow as necessary, fertilize as necessary, note bare spots and reseed as necessary, remove dead grass and reseed as necessary. Fertilization is to be performed by a licensed professional. Only the minimum effective amount of fertilizer is to be used, to prevent downstream eutrification. Fertilizers used should be the most environmentally benign products available.
Frequency Before each dry season and each month throughout the dry season.	**Observation** Test the irrigation system. Observe whether all grassy areas in the bioretention area / swale are receiving the correct amount of water. Observe whether excessive irrigation is creating flow in the subdrains (irrigation should not cause any flow in subdrain).	**Maintenance Activity** Clean out all plugged sprinkler heads and filters. Straighten any displaced sprinkler heads. Replace any damaged sprinkler heads. Adjust for correct direction and throw distance. Set the sprinkler timer to provide enough water depending on the anticipated weather until the next irrigation inspection. Reduce the watering time if excess water flows from the subdrains.
Frequency Each month.	**Observation** Inspect for presence of pests which constitute a nuisance and/or threaten the survival of the grass in the bioretention area / swale.	**Maintenance Activity** Apply pesticide to the minimum amount necessary to control pests. All application of pesticide is to be performed by a licensed professional pest control contractor trained in Integrated Pest Management (IPM) techniques.
Frequency Ongoing	**Observation** Before making any modification to on-lot swales, downspouts, grading, landscaping or drainage patterns, ascertain what effect such modification will have on the flow of water to the treatment swales and/or bioretention area.	**Maintenance Activity** Refrain from any construction, grading, landscaping, piping or any other construction that will affect the flow of water to the treatment swales and/or bioretention area. Correct any changes that divert stormwater away from treatment facilities or otherwise reduce their effectiveness.
Frequency When treatment facilities are substantially failing to perform (estimated 15 years from installation)	**Observation** Treatment facilities are failing to drain and/or discharging "dirty water" into creek. Minor maintenance activities have failed to rectify problem.	**Maintenance Activity** Thorough inspection of stormwater facility by licensed professional (i.e., landscape contractor, landscape architect, civil engineer, etc.) Replacement of failed components and repair of stormwater facility to design specifications (per the Stormwater Control Plan).

SELF-RETAINING AREA

Frequency Before each rainy season.	**Observation** Inspect the vegetated area for debris. Look for trash or other particles or foreign matter that does not belong. Check inflow pipes for blockages. Look for accumulated sediment.	**Maintenance Activity** Remove obstructions, etc.
	Observation Inspect the grass/vegetation. Look for damaged, unhealthy, or dying plants.	**Maintenance Activity** Replace vegetation.
Frequency Before each rainy season and after the first heavy rain.	**Observation** Inspect the entire storm drain system from the upstream end to the outfall, including all catch basins. Observe the flow of water. Any evidence of ponding in the catch basins indicates a blockage.	**Maintenance Activity** Find and remove any obstructions. Flushing may be necessary.