Appendix G

Hydrologic Technical Reports

Appendix G-1

Preliminary Drainage Study

Preliminary Drainage Study for Sandpiper Golf Club

City of Goleta, CA

February 10, 2025

Prepared for:

Sandpiper Golf Trust, LLC

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Post-Project Conditions for 2-Year to 100-Year Events

1.0 INTRODUCTION

The purpose of this drainage study is to calculate and document the peak storm water runoff generated from the Sandpiper Golf Club in order to determine the layout and facility sizing of the proposed storm drain system to meet current Santa Barbara County Flood Control requirements. Storm water quality and treatment is addressed in a separate report titled “Preliminary Stormwater Control Plan for Sandpiper Golf Club” prepared by Stantec.

1.1 PROJECT INFORMATION

The Sandpiper Golf Club is located at 7925 Hollister Avenue, Goleta, CA. The existing parcel (APN 079-210-59) is approximately 193 acres and is designated open space active recreation zoning (OSAR) within the City of Goleta. The site is bordered by residential development and open space areas to the east and north, US 101, the UPRR, and Hollister Avenue to the north, open space and the Ellwood Oil facility to the west, and the Pacific Ocean to the south. The proposed project will include: replacement of the existing clubhouse, maintenance facilities, and comfort station; restoration of the historic Barnsdall building; replacement of existing parking areas and walkways; and, partial regrading and reconfiguration of the existing golf course. See Exhibits A & B in Appendix A for pre-project and post-project impervious areas and layout.

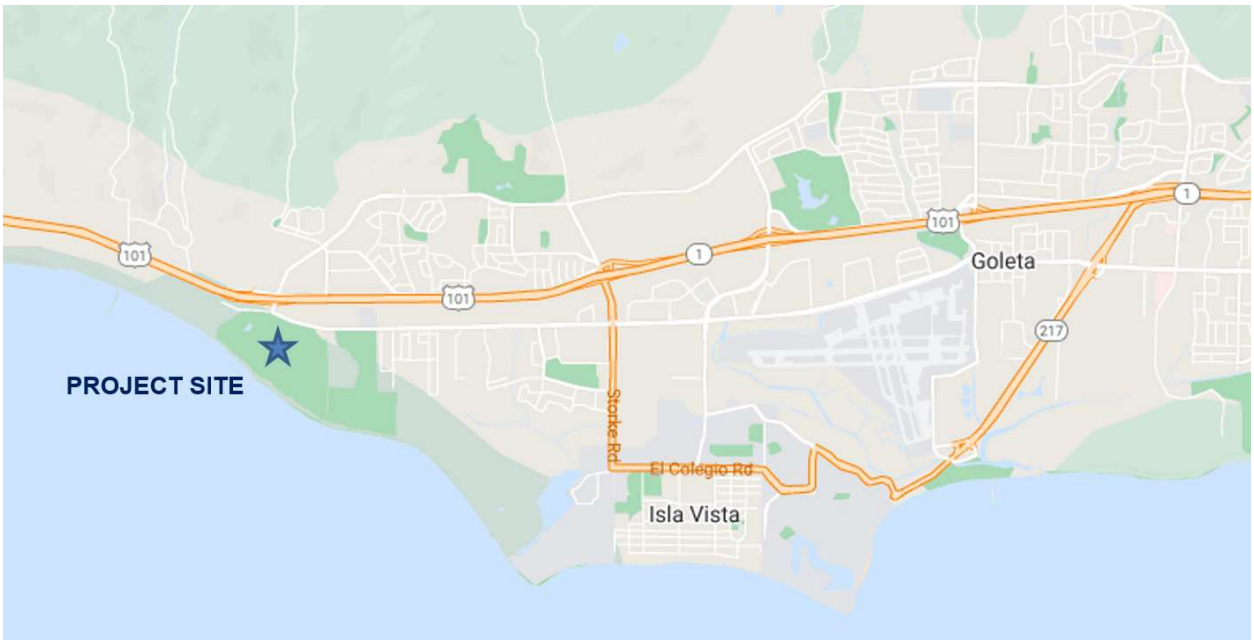


Figure: 1 Vicinity Map



Figure 2: Existing Site Conditions

1.2 EXISTING CONDITION & DRAINAGE PATTERN

The property is currently developed with a golf course, club house and related facilities. The proposed project is to reconstruct the same general facilities and will not change the overall use and improvement areas of the site. There are two main developed areas on the site: the clubhouse near the intersection of Hollister Avenue and Cathedral Oaks Road; and, the maintenance facilities and historic Barnsdall building at the northeast corner of the property. The site slopes moderately towards watercourses throughout the property and is primarily drained by surface flow. Two named creeks flow through the site. Bell Canyon at the western edge of the site which connects to the Pacific Ocean to the south, and Devereaux Creek which flows through the eastern portion of the property. Devereaux Creek enters via a culvert under Hollister Avenue and exiting along the eastern property boundary to the Santa Barbara Shores open space. There are also several open drainages which form on the site and outlet to either the Pacific Ocean or Devereaux Creek. At the southern boundary of the site there are coastal bluffs along the beach.

The site is mostly underlain by soils classified as Hydrologic Soil Group D, with the exception of a portion of HSG B along Bell Canyon and HSG C at the south east corner. The soils along the coast line at the southern boundary are undefined and will be assumed to be HSG D for calculation purposes. The majority of the golf course area is well maintained grass. Outside of the fairways there are portions of natural coastal shrubbery and vegetation and sandy beaches at the southerly property edge. The existing clubhouse and maintenance facilities have paved parking areas and walkways. Golf cart paths run throughout site as well. See Exhibit A in Appendix A for pre-project impervious areas and drainage patterns.

1.3 BASE FLOOD ELEVATIONS

The majority of the site, including all developed areas, is located in FEMA Zone X. There are flood zones AE with regulatory floodways along Bell Canyon and Devereaux Creek and the coast line is within Zone VE. All proposed structures are outside of the regulatory floodways and special flood hazard areas. Refer to Appendix A for Flood Zone maps.

1.4 PROJECT REQUIREMENTS

The project has been designed to meet the following requirements from Santa Barbara County Flood Control:

- Peak runoff from the site is at or below pre-project flow rates for the 2-year to 100-year storm events.
- On-Site storm drains and inlets have been sized for peak runoff from a 25-year storm event, or 100-year event when located in a sump position.
- Overland escape has been designed for peak runoff from a 100-year storm event.
- The 25-year storm event peak flow rate shall be contained within the curbs on roadways and within parking areas and the 100-year peak flow rate shall be contained within the right-of-way of public roads.
- Finish floor elevation shall be higher than the overland escape elevation.

2.0 ANALYSIS AND RESULTS

2.1 DRAINAGE AREAS

Both pre-project and post-project conditions were evaluated using the same total drainage area boundary which follows the property boundary. Along Hollister Avenue the proposed right-of-way was used for the boundary. Offsite run-on from the creeks, Hollister Avenue, and the Ellwood Oil Facility were ignored as these rates will remain unchanged. The site was further broken into sub-areas for pre- and post- project conditions as proposed grading of the golf course affected some of the sub-area boundaries. Refer to Exhibits A & B in Appendix A for drainage boundary delineation. All sub-areas are combined to determine the total peak runoff rates for pre- and post-project conditions. The proposed development generally follows historic drainage patterns with the exception of the clubhouse area. In pre-project conditions, the clubhouse parking lot drains to a storm drain system in Hollister Avenue which outlets to Bell Canyon. The proposed project will redirect this flow onto the golf course in order to provide stormwater quality treatment.

2.2 ON-SITE PEAK FLOW RATES

On-site peak flow rates were determined using the computer program HydroCAD and the Santa Barbara Unit Hydrograph Method (SBUH) as described in the Santa Barbara County Engineering Design Manual and using rainfall amounts as indicated for the South Coast. Both pre-project and post-project conditions were evaluated using the same drainage area boundary with sub-areas being combined to determine the total peak flow rates for the entire project area. Peak flow rates were determined for the 2-, 5-, 10-, 25-, 50-, and 100-year storm events. Refer to Appendix C for full HydroCAD results.

2.2.1 Hydrology Model

HydroCAD v.10.0 was utilized to develop a Santa Barbara Urban Hydrograph (SBUH) model for both the pre- and post-development site conditions. The model was set up using the following values per Flood Control standards within the HydroCAD program:

Runoff Method: SBUH
Pond Routing Method: Storage-Indication
Rainfall Distribution: SCS 24-hour, Type I distribution
Antecedent Moisture Condition: AMC II
Hydrograph Ordinate Time Increment: 0.10 hour
Rainfall Amounts, 24-hour totals, inches:

Area	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year
South Coast	3.20	4.61	5.55	6.71	7.56	8.38

The Time of Concentration was determined using HydroCAD and TR-55 methods with a set minimum of 12 minutes. The NRCS Web Soil Survey list the soils within our area of interest as Group B, C, D, and undefined which was assumed HSG D for calculations. The land use was determined throughout the site based on visual observations. Curve Numbers were chosen based on the closest applicable surface type for each land use and underlying soil group. See Exhibit C in Appendix A for land use and soil information.

2.2.2 Peak Flow Rates

Table 1 presents the peak flow rates for all event years for pre-project & post-project. The total project peak flow rates represent the combined flow rates for all subareas and should be used to evaluate the overall peak flow reduction for the project. Refer to Appendix C for detailed calculations.

As can be seen from Table 1, below, the total project post-detention peak flows are less than the total project pre-project peak flows. While the proposed development does minimally increase the impervious area of the site, by re-routing the clubhouse area drainage through the site, the impacts of the increased impervious areas are mitigated by longer flow paths. Therefore, the project meets the peak flow requirements of Santa Barbara County Flood Control District without introducing detention basins.

Table 1 On-Site Peak Flow Rates

Condition/Sub-Area	Area (ac)	Storm Event Peak Flow (cfs)					
		2-Year	5-Year	10-Year	25-year	50-Year	100-Year
Pre-Project X1	15.17	1.21	5.51	9.23	14.41	18.51	22.66
Pre-Project X2	25.57	11.75	23.42	31.82	42.52	50.50	58.27
Pre-Project X3	39.07	14.97	30.22	41.21	55.25	65.73	75.94
Pre-Project X4	96.71	45.54	90.46	122.72	163.85	194.53	224.37
Pre-Project X5	5.60	2.45	5.51	7.74	10.64	12.83	14.97
Pre-Project X6	8.68	2.88	7.44	10.89	15.45	18.93	22.38
Pre-Project X7	2.72	3.28	5.11	6.36	7.91	9.06	10.16
Total Pre-Project	**193.52**	**81.61**	**166.62**	**228.57**	**308.20**	**367.92**	**426.25**
Post-Project P1	15.17	1.21	5.51	9.23	14.41	18.51	22.66
Post-Project P2	24.74	11.85	23.42	31.71	42.29	50.17	57.84
Post-Project P3	42.60	17.27	33.98	45.98	61.28	72.69	83.80
Post-Project P4	96.71	45.47	90.38	122.64	163.78	194.45	224.29
Post-Project P5	5.60	2.45	5.51	7.74	10.64	12.83	14.97
Post-Project P6	8.68	2.88	7.44	10.89	15.45	18.93	22.38
Total Post-Project	**193.52**	**80.96**	**165.54**	**227.20**	**306.47**	**365.93**	**424.00**

2.3 STORM DRAIN SIZING

The storm drains in improved areas will be sized during final design to convey 25-year peak flow rates through the site. Inlet will be designed to pass the 25-year peak flow rates, or the 100-year peak flow rates if in sump positions.

2.4 STORMWATER QUALITY

Bioretention basins are proposed to address the stormwater quality requirements for this project using Santa Barbara Project Clean Water guidelines. The basins and requirements are discussed in a separate report titled “Preliminary Stormwater Control Plan for Sandpiper Golf Club” prepared by Stantec.

2.5 STREET CAPACITY

During final design, the roadways and parking areas will be designed so that the 25-year peak flow rate shall be contained within the curbs of roadways and parking areas and the 100-year peak flow rate shall be contained within the right-of-way of public roads.

2.6 OVERLAND ESCAPE

The overland escape route will convey the 100-year flows through the site without adverse effect to the development in the event that the proposed inlets do not function (e.g. plugging).

2.7 FINISH FLOOR ELEVATIONS

All proposed structures are located in FEMA Flood Zone X.

3.0 CONCLUSIONS

The proposed development has been designed to meet the “Standard Conditions of Project Plan Approval” prepared by the Santa Barbara County Flood Control and Water Conservation District. The proposed project reduces the post-project peak flows to less that the pre-project peak flow rates.

APPENDIX A

EXHIBITS

US HWY 101
UPRR
HOLLISTER AVENUE
TRACT 32,032
"THE HIDEAWAY"
BARNSDALL
BUILDING
ELLWOOD
OIL
FACILITY
BELL CANYON
CLUBHOUSE
POND
ZONE AE
ZONE AE
MAINTENANCE
FACILITIES
DEVEREAUX CREEK
TRACT 32,008
"THE BLUFFS"
ZONE VE
PACIFIC OCEAN
COMFORT
STATION
ELLWOOD
MESA
ZONE VE
X1
X2
X3
X4
X5
X6
X7

LEGEND

- ONSITE DRAINAGE BOUNDARY
- SUBAREA DRAIN. BOUNDARY
- PROJECT BOUNDARY
- IMPERVIOUS AREAS
- TIME OF CONCENTRATION PATH
- FLOOD HAZARD AREA LIMITS
- FLOW DIRECTION
- X — DRAINAGE SUBAREA LABEL

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Stantec
200 E Carrillo St, Ste 101, Santa Barbara, CA 93101
Phone: (805) 963-9532

N

1" = 400'

EXHIBIT A
PRE-PROJECT IMPERVIOUS AREAS
SANDPIPER GOLF CLUB
APN 079-210-059
GOLETA, CA
7/11/2023

US HWY 101
UPRR
HOLLISTER AVENUE
TRACT 32,032
"THE HIDEAWAY"
BARNSDALL
BUILDING
ELLWOOD
OIL
FACILITY
BELL CANYON
CLUBHOUSE
POND
ZONE AE
ZONE AE
MAINTENANCE
FACILITIES
P1
P2
P3
P4
P5
P6
DEVEREAUX CREEK
TRACT 32,008
"THE BLUFFS"
ZONE VE
CART PATH (TYP)
PACIFIC OCEAN
COMFORT
STATION
ELLWOOD
MESA
ZONE VE

LEGEND

- ONSITE DRAINAGE BOUNDARY
- SUB–AREA DRAIN. BOUNDARY
- PROJECT BOUNDARY
- IMPERVIOUS AREAS
- TIME OF CONCENTRATION PATH
- PROPOSED STORM DRAIN
- SURFACE FLOW DIRECTION

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Stantec
200 E Carrillo St, Ste 101, Santa Barbara, CA 93101
Phone: (805) 963–9532

N

1" = 400'

EXHIBIT B
POST-PROJECT IMPERVIOUS AREAS
SANDPIPER GOLF CLUB
APN 079-210-059
GOLETA, CA
7/11/2023

US HWY 101
UPRR
TRACT 32,032
"THE HIDEAWAY"
HOLLISTER AVENUE
HSG D
ELLWOOD
OIL
FACILITY
WOODS
WOODS
GRASS
IMPERVIOUS
IMPERVIOUS
POND
HSG B
SOIL GROUP
BOUNDARY (TYP)
HSG D
WOODS
GRASS
MEADOW
TRACT 32,008
"THE BLUFFS"
HSG UNKNOWN
SHRUB
BEACH
GRASS
SHRUB
PACIFIC OCEAN
SOIL GROUP
BOUNDARY (TYP)
BEACH
HSG UNKNOWN
SHRUB
ELLWOOD
MESA
HSG C
BEACH
HSG D

LEGEND

ONSITE DRAINAGE BOUNDARY

NOTE: LAND USE REMAINED THE SAME FOR ALL AREAS BETWEEN PRE– AND POST–PROJECT EXCEPT FOR IMPERVIOUS AREA LIMITS

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Stantec
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Phone: (805) 963–9532

N

1" = 400'

EXHIBIT C
LAND USE AND SOIL GROUP MAPPING
SANDPIPER GOLF CLUB
APN 079-210-059
GOLETA, CA
7/11/2023

National Flood Hazard Layer FIRMette

FEMA

119°54'54"W 34°26'2"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/22/2021 at 7:09 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

National Flood Hazard Layer FIRMette

FEMA



Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
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- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
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- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
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- Hydrographic Feature

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- Digital Data Available
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- Unmapped

N

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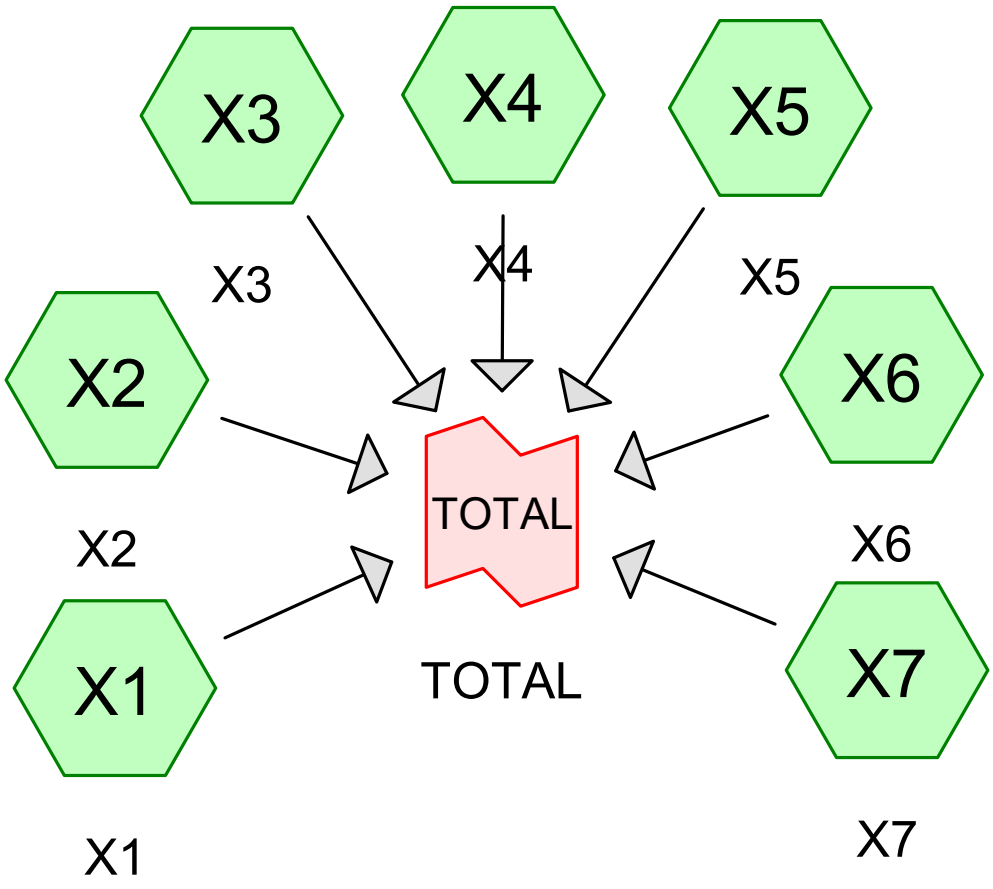
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APPENDIX B

HYDROCAD RESULTS

PRE-PROJECT



Subcat Reach Pond Link

Routing Diagram for 5882pre
Prepared by Stantec Consulting Ltd., Printed 10/17/2022
HydroCAD® 10.00-22 s/n 04468 © 2018 HydroCAD Software Solutions LLC

Time span=0.00-36.00 hrs, dt=0.10 hrs, 361 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment X1: X1 Runoff Area=660,644 sf 0.00% Impervious Runoff Depth=0.52"
Flow Length=200' Slope=0.0800 '/' Tc=21.5 min CN=63/0 Runoff=1.21 cfs 0.656 af

Subcatchment X2: X2 Runoff Area=1,113,856 sf 0.85% Impervious Runoff Depth=1.35"
Flow Length=1,836' Tc=24.1 min CN=79/98 Runoff=11.75 cfs 2.878 af

Subcatchment X3: X3 Runoff Area=1,701,744 sf 0.00% Impervious Runoff Depth=1.34"
Flow Length=2,265' Tc=32.7 min CN=79/0 Runoff=14.97 cfs 4.352 af

Subcatchment X4: X4 Runoff Area=4,212,736 sf 1.37% Impervious Runoff Depth=1.36"
Flow Length=2,625' Tc=23.3 min CN=79/98 Runoff=45.54 cfs 10.952 af

Subcatchment X5: X5 Runoff Area=243,990 sf 0.00% Impervious Runoff Depth=1.09"
Flow Length=734' Tc=14.3 min CN=75/0 Runoff=2.45 cfs 0.511 af

Subcatchment X6: X6 Runoff Area=378,114 sf 0.00% Impervious Runoff Depth=0.88"
Flow Length=200' Tc=12.0 min CN=71/0 Runoff=2.88 cfs 0.635 af

Subcatchment X7: X7 Runoff Area=118,660 sf 62.28% Impervious Runoff Depth=2.38"
Flow Length=735' Tc=12.0 min CN=80/98 Runoff=3.28 cfs 0.540 af

Link TOTAL: TOTAL Inflow=81.61 cfs 20.524 af
Primary=81.61 cfs 20.524 af

Total Runoff Area = 193.520 ac Runoff Volume = 20.524 af Average Runoff Depth = 1.27"
98.33% Pervious = 190.285 ac 1.67% Impervious = 3.235 ac

Summary for Subcatchment X1: X1

Runoff = 1.21 cfs @ 10.25 hrs, Volume= 0.656 af, Depth= 0.52"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 2-YEAR Rainfall=3.20"

	Area (sf)	CN	Description
	117,676	77	Woods, Good, HSG D
	169,983	55	Woods, Good, HSG B
	146,549	58	Meadow, non-grazed, HSG B
	48,964	61	>75% Grass cover, Good, HSG B
	90,226	80	>75% Grass cover, Good, HSG D
*	87,246	50	Beach
	660,644	63	Weighted Average
	660,644	63	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	200	0.0800	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"

Summary for Subcatchment X2: X2

Runoff = 11.75 cfs @ 10.09 hrs, Volume= 2.878 af, Depth= 1.35"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 2-YEAR Rainfall=3.20"

	Area (sf)	CN	Description
	9,485	98	Paved parking, HSG D
	925,957	80	>75% Grass cover, Good, HSG D
	53,790	98	Water Surface, 0% imp, HSG D
	62,490	84	Desert shrub range, Good, HSG D
*	62,134	50	Beach
	1,113,856	80	Weighted Average
	1,104,371	79	99.15% Pervious Area
	9,485	98	0.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	170	0.0970	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.6	620	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	710	0.0540	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.2	336	0.0650	2.55		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
24.1	1,836	Total			

Summary for Subcatchment X3: X3

Runoff = 14.97 cfs @ 10.11 hrs, Volume= 4.352 af, Depth= 1.34"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 2-YEAR Rainfall=3.20"

	Area (sf)	CN	Description
	1,506,298	80	>75% Grass cover, Good, HSG D
	141,266	84	Desert shrub range, Good, HSG D
*	54,180	50	Beach
	1,701,744	79	Weighted Average
	1,701,744	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	225	0.0350	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.1	800	0.0210	2.17		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
10.1	925	0.0480	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	190	0.1200	3.46		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
0.6	125	0.1400	3.74		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
32.7	2,265	Total			

Summary for Subcatchment X4: X4

Runoff = 45.54 cfs @ 10.09 hrs, Volume= 10.952 af, Depth= 1.36"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 2-YEAR Rainfall=3.20"

Area (sf)	CN	Description
57,540	98	Unconnected pavement, HSG D
3,616,846	80	>75% Grass cover, Good, HSG D
450,830	74	>75% Grass cover, Good, HSG C
87,520	77	Woods, Good, HSG D
4,212,736	80	Weighted Average
4,155,196	79	98.63% Pervious Area
57,540	98	1.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	165	0.0480	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
11.0	1,560	0.0250	2.37		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
2.0	900	0.0110	7.47	373.49	**Channel Flow,** Area= 50.0 sf Perim= 29.0' r= 1.72' n= 0.030 Stream, clean & straight
23.3	2,625	Total			

Summary for Subcatchment X5: X5

Runoff = 2.45 cfs @ 10.05 hrs, Volume= 0.511 af, Depth= 1.09"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 2-YEAR Rainfall=3.20"

	Area (sf)	CN	Description
	83,550	80	>75% Grass cover, Good, HSG D
	104,475	84	Desert shrub range, Good, HSG D
*	55,965	50	Beach
	243,990	75	Weighted Average
	243,990	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	122	0.0330	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.9	218	0.0320	1.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.4	302	0.2600	3.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	92	0.0760	2.76		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
14.3	734	Total			

Summary for Subcatchment X6: X6

Runoff = 2.88 cfs @ 10.05 hrs, Volume= 0.635 af, Depth= 0.88"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 2-YEAR Rainfall=3.20"

	Area (sf)	CN	Description
	18,225	80	>75% Grass cover, Good, HSG D
	21,085	74	>75% Grass cover, Good, HSG C
	134,751	84	Desert shrub range, Good, HSG D
	76,971	79	Desert shrub range, Good, HSG C
*	127,082	50	Beach
	378,114	71	Weighted Average
	378,114	71	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	60	0.1000	0.29		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.1	70	0.8700	15.02		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	70	0.0850	2.92		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
3.9	200	Total, Increased to minimum Tc = 12.0 min			

Summary for Subcatchment X7: X7

Runoff = 3.28 cfs @ 10.02 hrs, Volume= 0.540 af, Depth= 2.38"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 2-YEAR Rainfall=3.20"

Area (sf)	CN	Description
73,900	98	Paved parking, HSG D
44,760	80	>75% Grass cover, Good, HSG D
118,660	91	Weighted Average
44,760	80	37.72% Pervious Area
73,900	98	62.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	70	0.0360	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
3.1	470	0.0160	2.57		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	195	0.0950	2.16		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.4	735	Total, Increased to minimum Tc = 12.0 min			

Summary for Link TOTAL: TOTAL

Inflow Area = 193.520 ac, 1.67% Impervious, Inflow Depth = 1.27" for 2-YEAR event
Inflow = 81.61 cfs @ 10.09 hrs, Volume= 20.524 af
Primary = 81.61 cfs @ 10.09 hrs, Volume= 20.524 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.10 hrs

Time span=0.00-36.00 hrs, dt=0.10 hrs, 361 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment X1: X1 Runoff Area=660,644 sf 0.00% Impervious Runoff Depth=1.27"
Flow Length=200' Slope=0.0800 '/' Tc=21.5 min CN=63/0 Runoff=5.51 cfs 1.602 af

Subcatchment X2: X2 Runoff Area=1,113,856 sf 0.85% Impervious Runoff Depth=2.49"
Flow Length=1,836' Tc=24.1 min CN=79/98 Runoff=23.42 cfs 5.296 af

Subcatchment X3: X3 Runoff Area=1,701,744 sf 0.00% Impervious Runoff Depth=2.47"
Flow Length=2,265' Tc=32.7 min CN=79/0 Runoff=30.22 cfs 8.038 af

Subcatchment X4: X4 Runoff Area=4,212,736 sf 1.37% Impervious Runoff Depth=2.50"
Flow Length=2,625' Tc=23.3 min CN=79/98 Runoff=90.46 cfs 20.108 af

Subcatchment X5: X5 Runoff Area=243,990 sf 0.00% Impervious Runoff Depth=2.14"
Flow Length=734' Tc=14.3 min CN=75/0 Runoff=5.51 cfs 0.997 af

Subcatchment X6: X6 Runoff Area=378,114 sf 0.00% Impervious Runoff Depth=1.83"
Flow Length=200' Tc=12.0 min CN=71/0 Runoff=7.44 cfs 1.321 af

Subcatchment X7: X7 Runoff Area=118,660 sf 62.28% Impervious Runoff Depth=3.69"
Flow Length=735' Tc=12.0 min CN=80/98 Runoff=5.11 cfs 0.837 af

Link TOTAL: TOTAL Inflow=166.62 cfs 38.201 af
Primary=166.62 cfs 38.201 af

Total Runoff Area = 193.520 ac Runoff Volume = 38.201 af Average Runoff Depth = 2.37"
98.33% Pervious = 190.285 ac 1.67% Impervious = 3.235 ac

Summary for Subcatchment X1: X1

Runoff = 5.51 cfs @ 10.11 hrs, Volume= 1.602 af, Depth= 1.27"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 5-YEAR Rainfall=4.61"

	Area (sf)	CN	Description
	117,676	77	Woods, Good, HSG D
	169,983	55	Woods, Good, HSG B
	146,549	58	Meadow, non-grazed, HSG B
	48,964	61	>75% Grass cover, Good, HSG B
	90,226	80	>75% Grass cover, Good, HSG D
*	87,246	50	Beach
	660,644	63	Weighted Average
	660,644	63	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	200	0.0800	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"

Summary for Subcatchment X2: X2

Runoff = 23.42 cfs @ 10.08 hrs, Volume= 5.296 af, Depth= 2.49"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 5-YEAR Rainfall=4.61"

	Area (sf)	CN	Description
	9,485	98	Paved parking, HSG D
	925,957	80	>75% Grass cover, Good, HSG D
	53,790	98	Water Surface, 0% imp, HSG D
	62,490	84	Desert shrub range, Good, HSG D
*	62,134	50	Beach
	1,113,856	80	Weighted Average
	1,104,371	79	99.15% Pervious Area
	9,485	98	0.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	170	0.0970	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.6	620	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	710	0.0540	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.2	336	0.0650	2.55		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
24.1	1,836	Total			

Summary for Subcatchment X3: X3

Runoff = 30.22 cfs @ 10.10 hrs, Volume= 8.038 af, Depth= 2.47"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 5-YEAR Rainfall=4.61"

	Area (sf)	CN	Description
	1,506,298	80	>75% Grass cover, Good, HSG D
	141,266	84	Desert shrub range, Good, HSG D
*	54,180	50	Beach
	1,701,744	79	Weighted Average
	1,701,744	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	225	0.0350	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.1	800	0.0210	2.17		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
10.1	925	0.0480	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	190	0.1200	3.46		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
0.6	125	0.1400	3.74		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
32.7	2,265	Total			

Summary for Subcatchment X4: X4

Runoff = 90.46 cfs @ 10.07 hrs, Volume= 20.108 af, Depth= 2.50"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 5-YEAR Rainfall=4.61"

Area (sf)	CN	Description
57,540	98	Unconnected pavement, HSG D
3,616,846	80	>75% Grass cover, Good, HSG D
450,830	74	>75% Grass cover, Good, HSG C
87,520	77	Woods, Good, HSG D
4,212,736	80	Weighted Average
4,155,196	79	98.63% Pervious Area
57,540	98	1.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	165	0.0480	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
11.0	1,560	0.0250	2.37		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
2.0	900	0.0110	7.47	373.49	**Channel Flow,** Area= 50.0 sf Perim= 29.0' r= 1.72' n= 0.030 Stream, clean & straight
23.3	2,625	Total			

Summary for Subcatchment X5: X5

Runoff = 5.51 cfs @ 10.04 hrs, Volume= 0.997 af, Depth= 2.14"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 5-YEAR Rainfall=4.61"

	Area (sf)	CN	Description
	83,550	80	>75% Grass cover, Good, HSG D
	104,475	84	Desert shrub range, Good, HSG D
*	55,965	50	Beach
	243,990	75	Weighted Average
	243,990	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	122	0.0330	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.9	218	0.0320	1.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.4	302	0.2600	3.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	92	0.0760	2.76		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
14.3	734	Total			

Summary for Subcatchment X6: X6

Runoff = 7.44 cfs @ 10.04 hrs, Volume= 1.321 af, Depth= 1.83"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 5-YEAR Rainfall=4.61"

	Area (sf)	CN	Description
	18,225	80	>75% Grass cover, Good, HSG D
	21,085	74	>75% Grass cover, Good, HSG C
	134,751	84	Desert shrub range, Good, HSG D
	76,971	79	Desert shrub range, Good, HSG C
*	127,082	50	Beach
	378,114	71	Weighted Average
	378,114	71	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	60	0.1000	0.29		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.1	70	0.8700	15.02		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	70	0.0850	2.92		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
3.9	200	Total, Increased to minimum Tc = 12.0 min			

Summary for Subcatchment X7: X7

Runoff = 5.11 cfs @ 10.02 hrs, Volume= 0.837 af, Depth= 3.69"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 5-YEAR Rainfall=4.61"

Area (sf)	CN	Description
73,900	98	Paved parking, HSG D
44,760	80	>75% Grass cover, Good, HSG D
118,660	91	Weighted Average
44,760	80	37.72% Pervious Area
73,900	98	62.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	70	0.0360	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
3.1	470	0.0160	2.57		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	195	0.0950	2.16		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.4	735	Total, Increased to minimum Tc = 12.0 min			

Summary for Link TOTAL: TOTAL

Inflow Area = 193.520 ac, 1.67% Impervious, Inflow Depth = 2.37" for 5-YEAR event
Inflow = 166.62 cfs @ 10.07 hrs, Volume= 38.201 af
Primary = 166.62 cfs @ 10.07 hrs, Volume= 38.201 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.10 hrs

Time span=0.00-36.00 hrs, dt=0.10 hrs, 361 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment X1: X1 Runoff Area=660,644 sf 0.00% Impervious Runoff Depth=1.87"
Flow Length=200' Slope=0.0800 '/' Tc=21.5 min CN=63/0 Runoff=9.23 cfs 2.361 af

Subcatchment X2: X2 Runoff Area=1,113,856 sf 0.85% Impervious Runoff Depth=3.30"
Flow Length=1,836' Tc=24.1 min CN=79/98 Runoff=31.82 cfs 7.027 af

Subcatchment X3: X3 Runoff Area=1,701,744 sf 0.00% Impervious Runoff Depth=3.28"
Flow Length=2,265' Tc=32.7 min CN=79/0 Runoff=41.21 cfs 10.680 af

Subcatchment X4: X4 Runoff Area=4,212,736 sf 1.37% Impervious Runoff Depth=3.31"
Flow Length=2,625' Tc=23.3 min CN=79/98 Runoff=122.72 cfs 26.663 af

Subcatchment X5: X5 Runoff Area=243,990 sf 0.00% Impervious Runoff Depth=2.90"
Flow Length=734' Tc=14.3 min CN=75/0 Runoff=7.74 cfs 1.355 af

Subcatchment X6: X6 Runoff Area=378,114 sf 0.00% Impervious Runoff Depth=2.54"
Flow Length=200' Tc=12.0 min CN=71/0 Runoff=10.89 cfs 1.838 af

Subcatchment X7: X7 Runoff Area=118,660 sf 62.28% Impervious Runoff Depth=4.58"
Flow Length=735' Tc=12.0 min CN=80/98 Runoff=6.36 cfs 1.040 af

Link TOTAL: TOTAL Inflow=228.57 cfs 50.964 af
Primary=228.57 cfs 50.964 af

Total Runoff Area = 193.520 ac Runoff Volume = 50.964 af Average Runoff Depth = 3.16"
98.33% Pervious = 190.285 ac 1.67% Impervious = 3.235 ac

Summary for Subcatchment X1: X1

Runoff = 9.23 cfs @ 10.09 hrs, Volume= 2.361 af, Depth= 1.87"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 10-YEAR Rainfall=5.55"

	Area (sf)	CN	Description
	117,676	77	Woods, Good, HSG D
	169,983	55	Woods, Good, HSG B
	146,549	58	Meadow, non-grazed, HSG B
	48,964	61	>75% Grass cover, Good, HSG B
	90,226	80	>75% Grass cover, Good, HSG D
*	87,246	50	Beach
	660,644	63	Weighted Average
	660,644	63	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	200	0.0800	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"

Summary for Subcatchment X2: X2

Runoff = 31.82 cfs @ 10.07 hrs, Volume= 7.027 af, Depth= 3.30"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 10-YEAR Rainfall=5.55"

	Area (sf)	CN	Description
	9,485	98	Paved parking, HSG D
	925,957	80	>75% Grass cover, Good, HSG D
	53,790	98	Water Surface, 0% imp, HSG D
	62,490	84	Desert shrub range, Good, HSG D
*	62,134	50	Beach
	1,113,856	80	Weighted Average
	1,104,371	79	99.15% Pervious Area
	9,485	98	0.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	170	0.0970	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.6	620	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	710	0.0540	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.2	336	0.0650	2.55		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
24.1	1,836	Total			

Summary for Subcatchment X3: X3

Runoff = 41.21 cfs @ 10.10 hrs, Volume= 10.680 af, Depth= 3.28"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 10-YEAR Rainfall=5.55"

	Area (sf)	CN	Description
	1,506,298	80	>75% Grass cover, Good, HSG D
	141,266	84	Desert shrub range, Good, HSG D
*	54,180	50	Beach
	1,701,744	79	Weighted Average
	1,701,744	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	225	0.0350	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.1	800	0.0210	2.17		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
10.1	925	0.0480	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	190	0.1200	3.46		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
0.6	125	0.1400	3.74		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
32.7	2,265	Total			

Summary for Subcatchment X4: X4

Runoff = 122.72 cfs @ 10.07 hrs, Volume= 26.663 af, Depth= 3.31"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 10-YEAR Rainfall=5.55"

Area (sf)	CN	Description
57,540	98	Unconnected pavement, HSG D
3,616,846	80	>75% Grass cover, Good, HSG D
450,830	74	>75% Grass cover, Good, HSG C
87,520	77	Woods, Good, HSG D
4,212,736	80	Weighted Average
4,155,196	79	98.63% Pervious Area
57,540	98	1.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	165	0.0480	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
11.0	1,560	0.0250	2.37		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
2.0	900	0.0110	7.47	373.49	**Channel Flow,** Area= 50.0 sf Perim= 29.0' r= 1.72' n= 0.030 Stream, clean & straight
23.3	2,625	Total			

Summary for Subcatchment X5: X5

Runoff = 7.74 cfs @ 10.04 hrs, Volume= 1.355 af, Depth= 2.90"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 10-YEAR Rainfall=5.55"

	Area (sf)	CN	Description
	83,550	80	>75% Grass cover, Good, HSG D
	104,475	84	Desert shrub range, Good, HSG D
*	55,965	50	Beach
	243,990	75	Weighted Average
	243,990	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	122	0.0330	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.9	218	0.0320	1.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.4	302	0.2600	3.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	92	0.0760	2.76		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
14.3	734	Total			

Summary for Subcatchment X6: X6

Runoff = 10.89 cfs @ 10.03 hrs, Volume= 1.838 af, Depth= 2.54"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 10-YEAR Rainfall=5.55"

	Area (sf)	CN	Description
	18,225	80	>75% Grass cover, Good, HSG D
	21,085	74	>75% Grass cover, Good, HSG C
	134,751	84	Desert shrub range, Good, HSG D
	76,971	79	Desert shrub range, Good, HSG C
*	127,082	50	Beach
	378,114	71	Weighted Average
	378,114	71	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	60	0.1000	0.29		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.1	70	0.8700	15.02		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	70	0.0850	2.92		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
3.9	200	Total, Increased to minimum Tc = 12.0 min			

Summary for Subcatchment X7: X7

Runoff = 6.36 cfs @ 10.02 hrs, Volume= 1.040 af, Depth= 4.58"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 10-YEAR Rainfall=5.55"

Area (sf)	CN	Description
73,900	98	Paved parking, HSG D
44,760	80	>75% Grass cover, Good, HSG D
118,660	91	Weighted Average
44,760	80	37.72% Pervious Area
73,900	98	62.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	70	0.0360	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
3.1	470	0.0160	2.57		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	195	0.0950	2.16		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.4	735	Total, Increased to minimum Tc = 12.0 min			

Summary for Link TOTAL: TOTAL

Inflow Area = 193.520 ac, 1.67% Impervious, Inflow Depth = 3.16" for 10-YEAR event
Inflow = 228.57 cfs @ 10.07 hrs, Volume= 50.964 af
Primary = 228.57 cfs @ 10.07 hrs, Volume= 50.964 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.10 hrs

Time span=0.00-36.00 hrs, dt=0.10 hrs, 361 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment X1: X1 Runoff Area=660,644 sf 0.00% Impervious Runoff Depth=2.69"
Flow Length=200' Slope=0.0800 '/' Tc=21.5 min CN=63/0 Runoff=14.41 cfs 3.394 af

Subcatchment X2: X2 Runoff Area=1,113,856 sf 0.85% Impervious Runoff Depth=4.34"
Flow Length=1,836' Tc=24.1 min CN=79/98 Runoff=42.52 cfs 9.244 af

Subcatchment X3: X3 Runoff Area=1,701,744 sf 0.00% Impervious Runoff Depth=4.32"
Flow Length=2,265' Tc=32.7 min CN=79/0 Runoff=55.25 cfs 14.063 af

Subcatchment X4: X4 Runoff Area=4,212,736 sf 1.37% Impervious Runoff Depth=4.35"
Flow Length=2,625' Tc=23.3 min CN=79/98 Runoff=163.85 cfs 35.051 af

Subcatchment X5: X5 Runoff Area=243,990 sf 0.00% Impervious Runoff Depth=3.89"
Flow Length=734' Tc=14.3 min CN=75/0 Runoff=10.64 cfs 1.818 af

Subcatchment X6: X6 Runoff Area=378,114 sf 0.00% Impervious Runoff Depth=3.48"
Flow Length=200' Tc=12.0 min CN=71/0 Runoff=15.45 cfs 2.518 af

Subcatchment X7: X7 Runoff Area=118,660 sf 62.28% Impervious Runoff Depth=5.70"
Flow Length=735' Tc=12.0 min CN=80/98 Runoff=7.91 cfs 1.294 af

Link TOTAL: TOTAL Inflow=308.20 cfs 67.383 af
Primary=308.20 cfs 67.383 af

Total Runoff Area = 193.520 ac Runoff Volume = 67.383 af Average Runoff Depth = 4.18"
98.33% Pervious = 190.285 ac 1.67% Impervious = 3.235 ac

Summary for Subcatchment X1: X1

Runoff = 14.41 cfs @ 10.08 hrs, Volume= 3.394 af, Depth= 2.69"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 25-YEAR Rainfall=6.71"

	Area (sf)	CN	Description
	117,676	77	Woods, Good, HSG D
	169,983	55	Woods, Good, HSG B
	146,549	58	Meadow, non-grazed, HSG B
	48,964	61	>75% Grass cover, Good, HSG B
	90,226	80	>75% Grass cover, Good, HSG D
*	87,246	50	Beach
	660,644	63	Weighted Average
	660,644	63	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	200	0.0800	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"

Summary for Subcatchment X2: X2

Runoff = 42.52 cfs @ 10.07 hrs, Volume= 9.244 af, Depth= 4.34"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 25-YEAR Rainfall=6.71"

	Area (sf)	CN	Description
	9,485	98	Paved parking, HSG D
	925,957	80	>75% Grass cover, Good, HSG D
	53,790	98	Water Surface, 0% imp, HSG D
	62,490	84	Desert shrub range, Good, HSG D
*	62,134	50	Beach
	1,113,856	80	Weighted Average
	1,104,371	79	99.15% Pervious Area
	9,485	98	0.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	170	0.0970	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.6	620	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	710	0.0540	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.2	336	0.0650	2.55		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
24.1	1,836	Total			

Summary for Subcatchment X3: X3

Runoff = 55.25 cfs @ 10.09 hrs, Volume= 14.063 af, Depth= 4.32"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 25-YEAR Rainfall=6.71"

	Area (sf)	CN	Description
	1,506,298	80	>75% Grass cover, Good, HSG D
	141,266	84	Desert shrub range, Good, HSG D
*	54,180	50	Beach
	1,701,744	79	Weighted Average
	1,701,744	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	225	0.0350	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.1	800	0.0210	2.17		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
10.1	925	0.0480	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	190	0.1200	3.46		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
0.6	125	0.1400	3.74		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
32.7	2,265	Total			

Summary for Subcatchment X4: X4

Runoff = 163.85 cfs @ 10.06 hrs, Volume= 35.051 af, Depth= 4.35"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 25-YEAR Rainfall=6.71"

Area (sf)	CN	Description
57,540	98	Unconnected pavement, HSG D
3,616,846	80	>75% Grass cover, Good, HSG D
450,830	74	>75% Grass cover, Good, HSG C
87,520	77	Woods, Good, HSG D
4,212,736	80	Weighted Average
4,155,196	79	98.63% Pervious Area
57,540	98	1.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	165	0.0480	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
11.0	1,560	0.0250	2.37		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
2.0	900	0.0110	7.47	373.49	**Channel Flow,** Area= 50.0 sf Perim= 29.0' r= 1.72' n= 0.030 Stream, clean & straight
23.3	2,625	Total			

Summary for Subcatchment X5: X5

Runoff = 10.64 cfs @ 10.04 hrs, Volume= 1.818 af, Depth= 3.89"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 25-YEAR Rainfall=6.71"

	Area (sf)	CN	Description
	83,550	80	>75% Grass cover, Good, HSG D
	104,475	84	Desert shrub range, Good, HSG D
*	55,965	50	Beach
	243,990	75	Weighted Average
	243,990	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	122	0.0330	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.9	218	0.0320	1.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.4	302	0.2600	3.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	92	0.0760	2.76		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
14.3	734	Total			

Summary for Subcatchment X6: X6

Runoff = 15.45 cfs @ 10.03 hrs, Volume= 2.518 af, Depth= 3.48"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 25-YEAR Rainfall=6.71"

	Area (sf)	CN	Description
	18,225	80	>75% Grass cover, Good, HSG D
	21,085	74	>75% Grass cover, Good, HSG C
	134,751	84	Desert shrub range, Good, HSG D
	76,971	79	Desert shrub range, Good, HSG C
*	127,082	50	Beach
	378,114	71	Weighted Average
	378,114	71	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	60	0.1000	0.29		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.1	70	0.8700	15.02		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	70	0.0850	2.92		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
3.9	200	Total, Increased to minimum Tc = 12.0 min			

Summary for Subcatchment X7: X7

Runoff = 7.91 cfs @ 10.02 hrs, Volume= 1.294 af, Depth= 5.70"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 25-YEAR Rainfall=6.71"

Area (sf)	CN	Description
73,900	98	Paved parking, HSG D
44,760	80	>75% Grass cover, Good, HSG D
118,660	91	Weighted Average
44,760	80	37.72% Pervious Area
73,900	98	62.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	70	0.0360	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
3.1	470	0.0160	2.57		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	195	0.0950	2.16		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.4	735	Total, Increased to minimum Tc = 12.0 min			

Summary for Link TOTAL: TOTAL

Inflow Area = 193.520 ac, 1.67% Impervious, Inflow Depth = 4.18" for 25-YEAR event
Inflow = 308.20 cfs @ 10.06 hrs, Volume= 67.383 af
Primary = 308.20 cfs @ 10.06 hrs, Volume= 67.383 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.10 hrs

Time span=0.00-36.00 hrs, dt=0.10 hrs, 361 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment X1: X1 Runoff Area=660,644 sf 0.00% Impervious Runoff Depth=3.33"
Flow Length=200' Slope=0.0800 '/' Tc=21.5 min CN=63/0 Runoff=18.51 cfs 4.204 af

Subcatchment X2: X2 Runoff Area=1,113,856 sf 0.85% Impervious Runoff Depth=5.12"
Flow Length=1,836' Tc=24.1 min CN=79/98 Runoff=50.50 cfs 10.907 af

Subcatchment X3: X3 Runoff Area=1,701,744 sf 0.00% Impervious Runoff Depth=5.10"
Flow Length=2,265' Tc=32.7 min CN=79/0 Runoff=65.73 cfs 16.602 af

Subcatchment X4: X4 Runoff Area=4,212,736 sf 1.37% Impervious Runoff Depth=5.13"
Flow Length=2,625' Tc=23.3 min CN=79/98 Runoff=194.53 cfs 41.344 af

Subcatchment X5: X5 Runoff Area=243,990 sf 0.00% Impervious Runoff Depth=4.65"
Flow Length=734' Tc=14.3 min CN=75/0 Runoff=12.83 cfs 2.169 af

Subcatchment X6: X6 Runoff Area=378,114 sf 0.00% Impervious Runoff Depth=4.20"
Flow Length=200' Tc=12.0 min CN=71/0 Runoff=18.93 cfs 3.038 af

Subcatchment X7: X7 Runoff Area=118,660 sf 62.28% Impervious Runoff Depth=6.53"
Flow Length=735' Tc=12.0 min CN=80/98 Runoff=9.06 cfs 1.481 af

Link TOTAL: TOTAL Inflow=367.92 cfs 79.744 af
Primary=367.92 cfs 79.744 af

Total Runoff Area = 193.520 ac Runoff Volume = 79.744 af Average Runoff Depth = 4.94"
98.33% Pervious = 190.285 ac 1.67% Impervious = 3.235 ac

Summary for Subcatchment X1: X1

Runoff = 18.51 cfs @ 10.08 hrs, Volume= 4.204 af, Depth= 3.33"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 50-YEAR Rainfall=7.56"

	Area (sf)	CN	Description
	117,676	77	Woods, Good, HSG D
	169,983	55	Woods, Good, HSG B
	146,549	58	Meadow, non-grazed, HSG B
	48,964	61	>75% Grass cover, Good, HSG B
	90,226	80	>75% Grass cover, Good, HSG D
*	87,246	50	Beach
	660,644	63	Weighted Average
	660,644	63	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	200	0.0800	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"

Summary for Subcatchment X2: X2

Runoff = 50.50 cfs @ 10.07 hrs, Volume= 10.907 af, Depth= 5.12"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 50-YEAR Rainfall=7.56"

	Area (sf)	CN	Description
	9,485	98	Paved parking, HSG D
	925,957	80	>75% Grass cover, Good, HSG D
	53,790	98	Water Surface, 0% imp, HSG D
	62,490	84	Desert shrub range, Good, HSG D
*	62,134	50	Beach
	1,113,856	80	Weighted Average
	1,104,371	79	99.15% Pervious Area
	9,485	98	0.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	170	0.0970	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.6	620	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	710	0.0540	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.2	336	0.0650	2.55		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
24.1	1,836	Total			

Summary for Subcatchment X3: X3

Runoff = 65.73 cfs @ 10.09 hrs, Volume= 16.602 af, Depth= 5.10"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 50-YEAR Rainfall=7.56"

	Area (sf)	CN	Description
	1,506,298	80	>75% Grass cover, Good, HSG D
	141,266	84	Desert shrub range, Good, HSG D
*	54,180	50	Beach
	1,701,744	79	Weighted Average
	1,701,744	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	225	0.0350	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.1	800	0.0210	2.17		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
10.1	925	0.0480	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	190	0.1200	3.46		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
0.6	125	0.1400	3.74		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
32.7	2,265	Total			

Summary for Subcatchment X4: X4

Runoff = 194.53 cfs @ 10.06 hrs, Volume= 41.344 af, Depth= 5.13"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 50-YEAR Rainfall=7.56"

Area (sf)	CN	Description
57,540	98	Unconnected pavement, HSG D
3,616,846	80	>75% Grass cover, Good, HSG D
450,830	74	>75% Grass cover, Good, HSG C
87,520	77	Woods, Good, HSG D
4,212,736	80	Weighted Average
4,155,196	79	98.63% Pervious Area
57,540	98	1.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	165	0.0480	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
11.0	1,560	0.0250	2.37		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
2.0	900	0.0110	7.47	373.49	**Channel Flow,** Area= 50.0 sf Perim= 29.0' r= 1.72' n= 0.030 Stream, clean & straight
23.3	2,625	Total			

Summary for Subcatchment X5: X5

Runoff = 12.83 cfs @ 10.03 hrs, Volume= 2.169 af, Depth= 4.65"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 50-YEAR Rainfall=7.56"

	Area (sf)	CN	Description
	83,550	80	>75% Grass cover, Good, HSG D
	104,475	84	Desert shrub range, Good, HSG D
*	55,965	50	Beach
	243,990	75	Weighted Average
	243,990	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	122	0.0330	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.9	218	0.0320	1.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.4	302	0.2600	3.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	92	0.0760	2.76		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
14.3	734	Total			

Summary for Subcatchment X6: X6

Runoff = 18.93 cfs @ 10.03 hrs, Volume= 3.038 af, Depth= 4.20"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 50-YEAR Rainfall=7.56"

	Area (sf)	CN	Description
	18,225	80	>75% Grass cover, Good, HSG D
	21,085	74	>75% Grass cover, Good, HSG C
	134,751	84	Desert shrub range, Good, HSG D
	76,971	79	Desert shrub range, Good, HSG C
*	127,082	50	Beach
	378,114	71	Weighted Average
	378,114	71	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	60	0.1000	0.29		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.1	70	0.8700	15.02		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	70	0.0850	2.92		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
3.9	200	Total, Increased to minimum Tc = 12.0 min			

Summary for Subcatchment X7: X7

Runoff = 9.06 cfs @ 10.02 hrs, Volume= 1.481 af, Depth= 6.53"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 50-YEAR Rainfall=7.56"

Area (sf)	CN	Description
73,900	98	Paved parking, HSG D
44,760	80	>75% Grass cover, Good, HSG D
118,660	91	Weighted Average
44,760	80	37.72% Pervious Area
73,900	98	62.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	70	0.0360	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
3.1	470	0.0160	2.57		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	195	0.0950	2.16		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.4	735	Total, Increased to minimum Tc = 12.0 min			

Summary for Link TOTAL: TOTAL

Inflow Area = 193.520 ac, 1.67% Impervious, Inflow Depth = 4.94" for 50-YEAR event
Inflow = 367.92 cfs @ 10.06 hrs, Volume= 79.744 af
Primary = 367.92 cfs @ 10.06 hrs, Volume= 79.744 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.10 hrs

Time span=0.00-36.00 hrs, dt=0.10 hrs, 361 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment X1: X1 Runoff Area=660,644 sf 0.00% Impervious Runoff Depth=3.97"
Flow Length=200' Slope=0.0800 '/' Tc=21.5 min CN=63/0 Runoff=22.66 cfs 5.017 af

Subcatchment X2: X2 Runoff Area=1,113,856 sf 0.85% Impervious Runoff Depth=5.88"
Flow Length=1,836' Tc=24.1 min CN=79/98 Runoff=58.27 cfs 12.534 af

Subcatchment X3: X3 Runoff Area=1,701,744 sf 0.00% Impervious Runoff Depth=5.86"
Flow Length=2,265' Tc=32.7 min CN=79/0 Runoff=75.94 cfs 19.086 af

Subcatchment X4: X4 Runoff Area=4,212,736 sf 1.37% Impervious Runoff Depth=5.89"
Flow Length=2,625' Tc=23.3 min CN=79/98 Runoff=224.37 cfs 47.499 af

Subcatchment X5: X5 Runoff Area=243,990 sf 0.00% Impervious Runoff Depth=5.39"
Flow Length=734' Tc=14.3 min CN=75/0 Runoff=14.97 cfs 2.514 af

Subcatchment X6: X6 Runoff Area=378,114 sf 0.00% Impervious Runoff Depth=4.91"
Flow Length=200' Tc=12.0 min CN=71/0 Runoff=22.38 cfs 3.552 af

Subcatchment X7: X7 Runoff Area=118,660 sf 62.28% Impervious Runoff Depth=7.33"
Flow Length=735' Tc=12.0 min CN=80/98 Runoff=10.16 cfs 1.663 af

Link TOTAL: TOTAL Inflow=426.25 cfs 91.866 af
Primary=426.25 cfs 91.866 af

Total Runoff Area = 193.520 ac Runoff Volume = 91.866 af Average Runoff Depth = 5.70"
98.33% Pervious = 190.285 ac 1.67% Impervious = 3.235 ac

Summary for Subcatchment X1: X1

Runoff = 22.66 cfs @ 10.07 hrs, Volume= 5.017 af, Depth= 3.97"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 100-YEAR Rainfall=8.38"

	Area (sf)	CN	Description
	117,676	77	Woods, Good, HSG D
	169,983	55	Woods, Good, HSG B
	146,549	58	Meadow, non-grazed, HSG B
	48,964	61	>75% Grass cover, Good, HSG B
	90,226	80	>75% Grass cover, Good, HSG D
*	87,246	50	Beach
	660,644	63	Weighted Average
	660,644	63	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	200	0.0800	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"

Summary for Subcatchment X2: X2

Runoff = 58.27 cfs @ 10.06 hrs, Volume= 12.534 af, Depth= 5.88"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 100-YEAR Rainfall=8.38"

	Area (sf)	CN	Description
	9,485	98	Paved parking, HSG D
	925,957	80	>75% Grass cover, Good, HSG D
	53,790	98	Water Surface, 0% imp, HSG D
	62,490	84	Desert shrub range, Good, HSG D
*	62,134	50	Beach
	1,113,856	80	Weighted Average
	1,104,371	79	99.15% Pervious Area
	9,485	98	0.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.0	170	0.0970	0.36		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.6	620	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	710	0.0540	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.2	336	0.0650	2.55		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
24.1	1,836	Total			

Summary for Subcatchment X3: X3

Runoff = 75.94 cfs @ 10.09 hrs, Volume= 19.086 af, Depth= 5.86"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 100-YEAR Rainfall=8.38"

	Area (sf)	CN	Description
	1,506,298	80	>75% Grass cover, Good, HSG D
	141,266	84	Desert shrub range, Good, HSG D
*	54,180	50	Beach
	1,701,744	79	Weighted Average
	1,701,744	79	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	225	0.0350	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.1	800	0.0210	2.17		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
10.1	925	0.0480	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	190	0.1200	3.46		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
0.6	125	0.1400	3.74		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
32.7	2,265	Total			

Summary for Subcatchment X4: X4

Runoff = 224.37 cfs @ 10.06 hrs, Volume= 47.499 af, Depth= 5.89"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 100-YEAR Rainfall=8.38"

Area (sf)	CN	Description
57,540	98	Unconnected pavement, HSG D
3,616,846	80	>75% Grass cover, Good, HSG D
450,830	74	>75% Grass cover, Good, HSG C
87,520	77	Woods, Good, HSG D
4,212,736	80	Weighted Average
4,155,196	79	98.63% Pervious Area
57,540	98	1.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	165	0.0480	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
11.0	1,560	0.0250	2.37		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
2.0	900	0.0110	7.47	373.49	**Channel Flow,** Area= 50.0 sf Perim= 29.0' r= 1.72' n= 0.030 Stream, clean & straight
23.3	2,625	Total			

Summary for Subcatchment X5: X5

Runoff = 14.97 cfs @ 10.03 hrs, Volume= 2.514 af, Depth= 5.39"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 100-YEAR Rainfall=8.38"

	Area (sf)	CN	Description
	83,550	80	>75% Grass cover, Good, HSG D
	104,475	84	Desert shrub range, Good, HSG D
*	55,965	50	Beach
	243,990	75	Weighted Average
	243,990	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	122	0.0330	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.9	218	0.0320	1.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.4	302	0.2600	3.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	92	0.0760	2.76		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
14.3	734	Total			

Summary for Subcatchment X6: X6

Runoff = 22.38 cfs @ 10.03 hrs, Volume= 3.552 af, Depth= 4.91"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 100-YEAR Rainfall=8.38"

	Area (sf)	CN	Description
	18,225	80	>75% Grass cover, Good, HSG D
	21,085	74	>75% Grass cover, Good, HSG C
	134,751	84	Desert shrub range, Good, HSG D
	76,971	79	Desert shrub range, Good, HSG C
*	127,082	50	Beach
	378,114	71	Weighted Average
	378,114	71	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	60	0.1000	0.29		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.1	70	0.8700	15.02		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	70	0.0850	2.92		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
3.9	200	Total, Increased to minimum Tc = 12.0 min			

Summary for Subcatchment X7: X7

Runoff = 10.16 cfs @ 10.02 hrs, Volume= 1.663 af, Depth= 7.33"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 100-YEAR Rainfall=8.38"

Area (sf)	CN	Description
73,900	98	Paved parking, HSG D
44,760	80	>75% Grass cover, Good, HSG D
118,660	91	Weighted Average
44,760	80	37.72% Pervious Area
73,900	98	62.28% Impervious Area

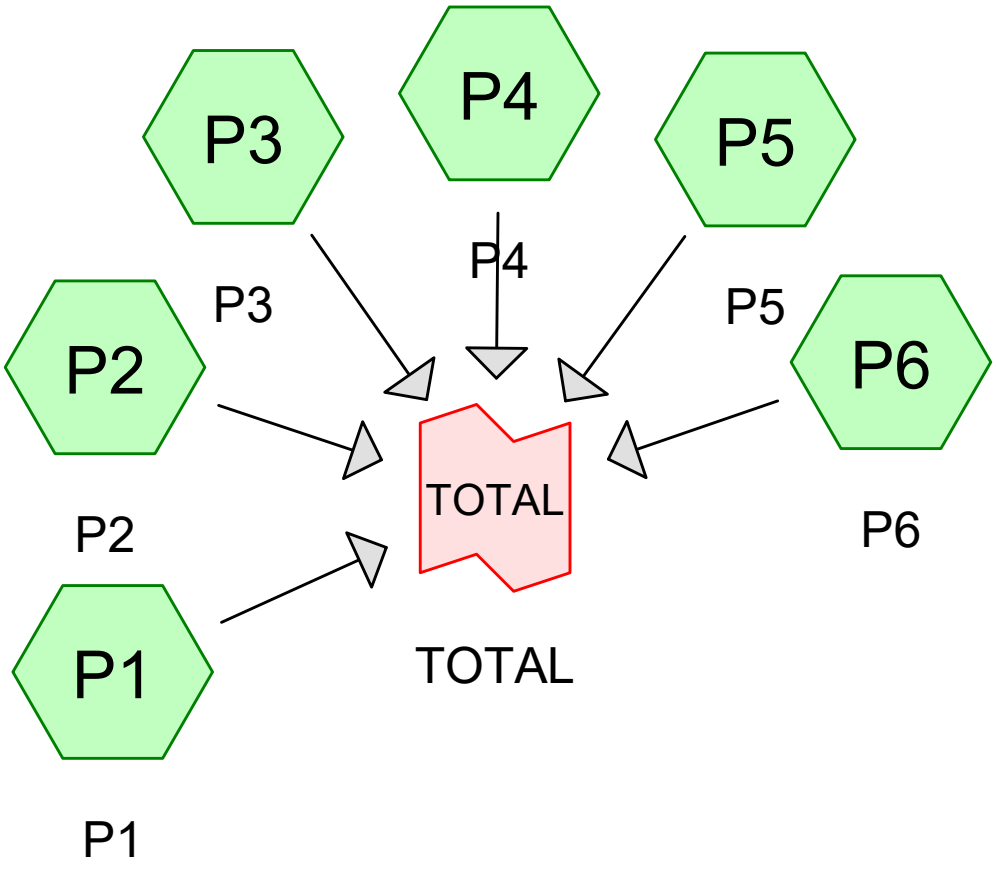
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.8	70	0.0360	0.20		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
3.1	470	0.0160	2.57		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.5	195	0.0950	2.16		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.4	735	Total, Increased to minimum Tc = 12.0 min			

Summary for Link TOTAL: TOTAL

Inflow Area = 193.520 ac, 1.67% Impervious, Inflow Depth = 5.70" for 100-YEAR event
Inflow = 426.25 cfs @ 10.06 hrs, Volume= 91.866 af
Primary = 426.25 cfs @ 10.06 hrs, Volume= 91.866 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.10 hrs

POST-PROJECT



Subcat Reach Pond Link

Routing Diagram for 5882post
Prepared by Stantec Consulting Ltd., Printed 7/11/2023
HydroCAD® 10.00-22 s/n 04468 © 2018 HydroCAD Software Solutions LLC

Time span=0.00-36.00 hrs, dt=0.10 hrs, 361 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1: P1 Runoff Area=660,644 sf 0.00% Impervious Runoff Depth=0.52"
Flow Length=200' Slope=0.0800 '/' Tc=21.5 min CN=63/0 Runoff=1.21 cfs 0.656 af

Subcatchment P2: P2 Runoff Area=1,078,751 sf 2.23% Impervious Runoff Depth=1.37"
Flow Length=1,821' Tc=23.1 min CN=79/98 Runoff=11.85 cfs 2.834 af

Subcatchment P3: P3 Runoff Area=1,855,516 sf 3.91% Impervious Runoff Depth=1.40"
Flow Length=2,265' Tc=32.7 min CN=79/98 Runoff=17.27 cfs 4.971 af

Subcatchment P4: P4 Runoff Area=4,212,736 sf 1.26% Impervious Runoff Depth=1.36"
Flow Length=2,625' Tc=23.3 min CN=79/98 Runoff=45.47 cfs 10.938 af

Subcatchment P5: P5 Runoff Area=243,990 sf 0.00% Impervious Runoff Depth=1.09"
Flow Length=734' Tc=14.3 min CN=75/0 Runoff=2.45 cfs 0.511 af

Subcatchment P6: P6 Runoff Area=378,114 sf 0.00% Impervious Runoff Depth=0.88"
Flow Length=200' Tc=12.0 min CN=71/0 Runoff=2.88 cfs 0.635 af

Link TOTAL: TOTAL Inflow=80.96 cfs 20.545 af
Primary=80.96 cfs 20.545 af

Total Runoff Area = 193.520 ac Runoff Volume = 20.545 af Average Runoff Depth = 1.27"
98.23% Pervious = 190.088 ac 1.77% Impervious = 3.432 ac

Summary for Subcatchment P1: P1

Runoff = 1.21 cfs @ 10.25 hrs, Volume= 0.656 af, Depth= 0.52"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 2-YEAR Rainfall=3.20"

	Area (sf)	CN	Description
	117,676	77	Woods, Good, HSG D
	169,983	55	Woods, Good, HSG B
	146,549	58	Meadow, non-grazed, HSG B
	48,964	61	>75% Grass cover, Good, HSG B
	90,226	80	>75% Grass cover, Good, HSG D
*	87,246	50	Beach
	660,644	63	Weighted Average
	660,644	63	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	200	0.0800	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"

Summary for Subcatchment P2: P2

Runoff = 11.85 cfs @ 10.08 hrs, Volume= 2.834 af, Depth= 1.37"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 2-YEAR Rainfall=3.20"

	Area (sf)	CN	Description
	24,063	98	Paved parking, HSG D
	876,274	80	>75% Grass cover, Good, HSG D
	53,790	98	Water Surface, 0% imp, HSG D
	62,490	84	Desert shrub range, Good, HSG D
*	62,134	50	Beach
	1,078,751	80	Weighted Average
	1,054,688	79	97.77% Pervious Area
	24,063	98	2.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	155	0.1100	0.37		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.6	620	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	710	0.0540	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.2	336	0.0650	2.55		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
23.1	1,821	Total			

Summary for Subcatchment P3: P3

Runoff = 17.27 cfs @ 10.11 hrs, Volume= 4.971 af, Depth= 1.40"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 2-YEAR Rainfall=3.20"

	Area (sf)	CN	Description
	1,587,537	80	>75% Grass cover, Good, HSG D
	141,266	84	Desert shrub range, Good, HSG D
*	54,179	50	Beach
	72,534	98	Paved parking, HSG D
	1,855,516	80	Weighted Average
	1,782,982	79	96.09% Pervious Area
	72,534	98	3.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	225	0.0350	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.1	800	0.0210	2.17		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
10.1	925	0.0480	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	190	0.1200	3.46		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
0.6	125	0.1400	3.74		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
32.7	2,265	Total			

Summary for Subcatchment P4: P4

Runoff = 45.47 cfs @ 10.09 hrs, Volume= 10.938 af, Depth= 1.36"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 2-YEAR Rainfall=3.20"

Area (sf)	CN	Description
52,917	98	Unconnected pavement, HSG D
3,621,469	80	>75% Grass cover, Good, HSG D
450,830	74	>75% Grass cover, Good, HSG C
87,520	77	Woods, Good, HSG D
4,212,736	80	Weighted Average
4,159,819	79	98.74% Pervious Area
52,917	98	1.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	165	0.0480	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
11.0	1,560	0.0250	2.37		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
2.0	900	0.0110	7.47	373.49	**Channel Flow,** Area= 50.0 sf Perim= 29.0' r= 1.72' n= 0.030 Stream, clean & straight
23.3	2,625	Total			

Summary for Subcatchment P5: P5

Runoff = 2.45 cfs @ 10.05 hrs, Volume= 0.511 af, Depth= 1.09"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 2-YEAR Rainfall=3.20"

	Area (sf)	CN	Description
	83,550	80	>75% Grass cover, Good, HSG D
	104,475	84	Desert shrub range, Good, HSG D
*	55,965	50	Beach
	243,990	75	Weighted Average
	243,990	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	122	0.0330	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.9	218	0.0320	1.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.4	302	0.2600	3.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	92	0.0760	2.76		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
14.3	734	Total			

Summary for Subcatchment P6: P6

Runoff = 2.88 cfs @ 10.05 hrs, Volume= 0.635 af, Depth= 0.88"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 2-YEAR Rainfall=3.20"

	Area (sf)	CN	Description
	18,225	80	>75% Grass cover, Good, HSG D
	21,085	74	>75% Grass cover, Good, HSG C
	134,751	84	Desert shrub range, Good, HSG D
	76,971	79	Desert shrub range, Good, HSG C
*	127,082	50	Beach
	378,114	71	Weighted Average
	378,114	71	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	60	0.1000	0.29		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.1	70	0.8700	15.02		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	70	0.0850	2.92		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
3.9	200	Total, Increased to minimum Tc = 12.0 min			

Summary for Link TOTAL: TOTAL

Inflow Area = 193.520 ac, 1.77% Impervious, Inflow Depth = 1.27" for 2-YEAR event
Inflow = 80.96 cfs @ 10.09 hrs, Volume= 20.545 af
Primary = 80.96 cfs @ 10.09 hrs, Volume= 20.545 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.10 hrs

Time span=0.00-36.00 hrs, dt=0.10 hrs, 361 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1: P1 Runoff Area=660,644 sf 0.00% Impervious Runoff Depth=1.27"
Flow Length=200' Slope=0.0800 '/' Tc=21.5 min CN=63/0 Runoff=5.51 cfs 1.602 af

Subcatchment P2: P2 Runoff Area=1,078,751 sf 2.23% Impervious Runoff Depth=2.51"
Flow Length=1,821' Tc=23.1 min CN=79/98 Runoff=23.42 cfs 5.183 af

Subcatchment P3: P3 Runoff Area=1,855,516 sf 3.91% Impervious Runoff Depth=2.54"
Flow Length=2,265' Tc=32.7 min CN=79/98 Runoff=33.98 cfs 9.029 af

Subcatchment P4: P4 Runoff Area=4,212,736 sf 1.26% Impervious Runoff Depth=2.49"
Flow Length=2,625' Tc=23.3 min CN=79/98 Runoff=90.38 cfs 20.092 af

Subcatchment P5: P5 Runoff Area=243,990 sf 0.00% Impervious Runoff Depth=2.14"
Flow Length=734' Tc=14.3 min CN=75/0 Runoff=5.51 cfs 0.997 af

Subcatchment P6: P6 Runoff Area=378,114 sf 0.00% Impervious Runoff Depth=1.83"
Flow Length=200' Tc=12.0 min CN=71/0 Runoff=7.44 cfs 1.321 af

Link TOTAL: TOTAL Inflow=165.54 cfs 38.225 af
Primary=165.54 cfs 38.225 af

Total Runoff Area = 193.520 ac Runoff Volume = 38.225 af Average Runoff Depth = 2.37"
98.23% Pervious = 190.088 ac 1.77% Impervious = 3.432 ac

Summary for Subcatchment P1: P1

Runoff = 5.51 cfs @ 10.11 hrs, Volume= 1.602 af, Depth= 1.27"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 5-YEAR Rainfall=4.61"

	Area (sf)	CN	Description
	117,676	77	Woods, Good, HSG D
	169,983	55	Woods, Good, HSG B
	146,549	58	Meadow, non-grazed, HSG B
	48,964	61	>75% Grass cover, Good, HSG B
	90,226	80	>75% Grass cover, Good, HSG D
*	87,246	50	Beach
	660,644	63	Weighted Average
	660,644	63	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	200	0.0800	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"

Summary for Subcatchment P2: P2

Runoff = 23.42 cfs @ 10.07 hrs, Volume= 5.183 af, Depth= 2.51"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 5-YEAR Rainfall=4.61"

	Area (sf)	CN	Description
	24,063	98	Paved parking, HSG D
	876,274	80	>75% Grass cover, Good, HSG D
	53,790	98	Water Surface, 0% imp, HSG D
	62,490	84	Desert shrub range, Good, HSG D
*	62,134	50	Beach
	1,078,751	80	Weighted Average
	1,054,688	79	97.77% Pervious Area
	24,063	98	2.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	155	0.1100	0.37		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.6	620	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	710	0.0540	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.2	336	0.0650	2.55		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
23.1	1,821	Total			

Summary for Subcatchment P3: P3

Runoff = 33.98 cfs @ 10.10 hrs, Volume= 9.029 af, Depth= 2.54"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 5-YEAR Rainfall=4.61"

	Area (sf)	CN	Description
	1,587,537	80	>75% Grass cover, Good, HSG D
	141,266	84	Desert shrub range, Good, HSG D
*	54,179	50	Beach
	72,534	98	Paved parking, HSG D
	1,855,516	80	Weighted Average
	1,782,982	79	96.09% Pervious Area
	72,534	98	3.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	225	0.0350	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.1	800	0.0210	2.17		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
10.1	925	0.0480	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	190	0.1200	3.46		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
0.6	125	0.1400	3.74		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
32.7	2,265	Total			

Summary for Subcatchment P4: P4

Runoff = 90.38 cfs @ 10.07 hrs, Volume= 20.092 af, Depth= 2.49"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 5-YEAR Rainfall=4.61"

Area (sf)	CN	Description
52,917	98	Unconnected pavement, HSG D
3,621,469	80	>75% Grass cover, Good, HSG D
450,830	74	>75% Grass cover, Good, HSG C
87,520	77	Woods, Good, HSG D
4,212,736	80	Weighted Average
4,159,819	79	98.74% Pervious Area
52,917	98	1.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	165	0.0480	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
11.0	1,560	0.0250	2.37		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
2.0	900	0.0110	7.47	373.49	**Channel Flow,** Area= 50.0 sf Perim= 29.0' r= 1.72' n= 0.030 Stream, clean & straight
23.3	2,625	Total			

Summary for Subcatchment P5: P5

Runoff = 5.51 cfs @ 10.04 hrs, Volume= 0.997 af, Depth= 2.14"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 5-YEAR Rainfall=4.61"

	Area (sf)	CN	Description
	83,550	80	>75% Grass cover, Good, HSG D
	104,475	84	Desert shrub range, Good, HSG D
*	55,965	50	Beach
	243,990	75	Weighted Average
	243,990	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	122	0.0330	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.9	218	0.0320	1.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.4	302	0.2600	3.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	92	0.0760	2.76		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
14.3	734	Total			

Summary for Subcatchment P6: P6

Runoff = 7.44 cfs @ 10.04 hrs, Volume= 1.321 af, Depth= 1.83"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 5-YEAR Rainfall=4.61"

	Area (sf)	CN	Description
	18,225	80	>75% Grass cover, Good, HSG D
	21,085	74	>75% Grass cover, Good, HSG C
	134,751	84	Desert shrub range, Good, HSG D
	76,971	79	Desert shrub range, Good, HSG C
*	127,082	50	Beach
	378,114	71	Weighted Average
	378,114	71	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	60	0.1000	0.29		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.1	70	0.8700	15.02		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	70	0.0850	2.92		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
3.9	200	Total, Increased to minimum Tc = 12.0 min			

Summary for Link TOTAL: TOTAL

Inflow Area = 193.520 ac, 1.77% Impervious, Inflow Depth = 2.37" for 5-YEAR event
Inflow = 165.54 cfs @ 10.08 hrs, Volume= 38.225 af
Primary = 165.54 cfs @ 10.08 hrs, Volume= 38.225 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.10 hrs

Time span=0.00-36.00 hrs, dt=0.10 hrs, 361 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1: P1 Runoff Area=660,644 sf 0.00% Impervious Runoff Depth=1.87"
Flow Length=200' Slope=0.0800 '/' Tc=21.5 min CN=63/0 Runoff=9.23 cfs 2.361 af

Subcatchment P2: P2 Runoff Area=1,078,751 sf 2.23% Impervious Runoff Depth=3.33"
Flow Length=1,821' Tc=23.1 min CN=79/98 Runoff=31.71 cfs 6.864 af

Subcatchment P3: P3 Runoff Area=1,855,516 sf 3.91% Impervious Runoff Depth=3.36"
Flow Length=2,265' Tc=32.7 min CN=79/98 Runoff=45.98 cfs 11.927 af

Subcatchment P4: P4 Runoff Area=4,212,736 sf 1.26% Impervious Runoff Depth=3.31"
Flow Length=2,625' Tc=23.3 min CN=79/98 Runoff=122.64 cfs 26.645 af

Subcatchment P5: P5 Runoff Area=243,990 sf 0.00% Impervious Runoff Depth=2.90"
Flow Length=734' Tc=14.3 min CN=75/0 Runoff=7.74 cfs 1.355 af

Subcatchment P6: P6 Runoff Area=378,114 sf 0.00% Impervious Runoff Depth=2.54"
Flow Length=200' Tc=12.0 min CN=71/0 Runoff=10.89 cfs 1.838 af

Link TOTAL: TOTAL Inflow=227.20 cfs 50.989 af
Primary=227.20 cfs 50.989 af

Total Runoff Area = 193.520 ac Runoff Volume = 50.989 af Average Runoff Depth = 3.16"
98.23% Pervious = 190.088 ac 1.77% Impervious = 3.432 ac

Summary for Subcatchment P1: P1

Runoff = 9.23 cfs @ 10.09 hrs, Volume= 2.361 af, Depth= 1.87"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 10-YEAR Rainfall=5.55"

	Area (sf)	CN	Description
	117,676	77	Woods, Good, HSG D
	169,983	55	Woods, Good, HSG B
	146,549	58	Meadow, non-grazed, HSG B
	48,964	61	>75% Grass cover, Good, HSG B
	90,226	80	>75% Grass cover, Good, HSG D
*	87,246	50	Beach
	660,644	63	Weighted Average
	660,644	63	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	200	0.0800	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"

Summary for Subcatchment P2: P2

Runoff = 31.71 cfs @ 10.07 hrs, Volume= 6.864 af, Depth= 3.33"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 10-YEAR Rainfall=5.55"

	Area (sf)	CN	Description
	24,063	98	Paved parking, HSG D
	876,274	80	>75% Grass cover, Good, HSG D
	53,790	98	Water Surface, 0% imp, HSG D
	62,490	84	Desert shrub range, Good, HSG D
*	62,134	50	Beach
	1,078,751	80	Weighted Average
	1,054,688	79	97.77% Pervious Area
	24,063	98	2.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	155	0.1100	0.37		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.6	620	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	710	0.0540	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.2	336	0.0650	2.55		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
23.1	1,821	Total			

Summary for Subcatchment P3: P3

Runoff = 45.98 cfs @ 10.10 hrs, Volume= 11.927 af, Depth= 3.36"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 10-YEAR Rainfall=5.55"

	Area (sf)	CN	Description
	1,587,537	80	>75% Grass cover, Good, HSG D
	141,266	84	Desert shrub range, Good, HSG D
*	54,179	50	Beach
	72,534	98	Paved parking, HSG D
	1,855,516	80	Weighted Average
	1,782,982	79	96.09% Pervious Area
	72,534	98	3.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	225	0.0350	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.1	800	0.0210	2.17		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
10.1	925	0.0480	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	190	0.1200	3.46		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
0.6	125	0.1400	3.74		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
32.7	2,265	Total			

Summary for Subcatchment P4: P4

Runoff = 122.64 cfs @ 10.07 hrs, Volume= 26.645 af, Depth= 3.31"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 10-YEAR Rainfall=5.55"

Area (sf)	CN	Description
52,917	98	Unconnected pavement, HSG D
3,621,469	80	>75% Grass cover, Good, HSG D
450,830	74	>75% Grass cover, Good, HSG C
87,520	77	Woods, Good, HSG D
4,212,736	80	Weighted Average
4,159,819	79	98.74% Pervious Area
52,917	98	1.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	165	0.0480	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
11.0	1,560	0.0250	2.37		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
2.0	900	0.0110	7.47	373.49	**Channel Flow,** Area= 50.0 sf Perim= 29.0' r= 1.72' n= 0.030 Stream, clean & straight
23.3	2,625	Total			

Summary for Subcatchment P5: P5

Runoff = 7.74 cfs @ 10.04 hrs, Volume= 1.355 af, Depth= 2.90"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 10-YEAR Rainfall=5.55"

	Area (sf)	CN	Description
	83,550	80	>75% Grass cover, Good, HSG D
	104,475	84	Desert shrub range, Good, HSG D
*	55,965	50	Beach
	243,990	75	Weighted Average
	243,990	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	122	0.0330	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.9	218	0.0320	1.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.4	302	0.2600	3.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	92	0.0760	2.76		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
14.3	734	Total			

Summary for Subcatchment P6: P6

Runoff = 10.89 cfs @ 10.03 hrs, Volume= 1.838 af, Depth= 2.54"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 10-YEAR Rainfall=5.55"

	Area (sf)	CN	Description
	18,225	80	>75% Grass cover, Good, HSG D
	21,085	74	>75% Grass cover, Good, HSG C
	134,751	84	Desert shrub range, Good, HSG D
	76,971	79	Desert shrub range, Good, HSG C
*	127,082	50	Beach
	378,114	71	Weighted Average
	378,114	71	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	60	0.1000	0.29		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.1	70	0.8700	15.02		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	70	0.0850	2.92		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
3.9	200	Total, Increased to minimum Tc = 12.0 min			

Summary for Link TOTAL: TOTAL

Inflow Area = 193.520 ac, 1.77% Impervious, Inflow Depth = 3.16" for 10-YEAR event
Inflow = 227.20 cfs @ 10.07 hrs, Volume= 50.989 af
Primary = 227.20 cfs @ 10.07 hrs, Volume= 50.989 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.10 hrs

Time span=0.00-36.00 hrs, dt=0.10 hrs, 361 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1: P1 Runoff Area=660,644 sf 0.00% Impervious Runoff Depth=2.69"
Flow Length=200' Slope=0.0800 '/' Tc=21.5 min CN=63/0 Runoff=14.41 cfs 3.394 af

Subcatchment P2: P2 Runoff Area=1,078,751 sf 2.23% Impervious Runoff Depth=4.37"
Flow Length=1,821' Tc=23.1 min CN=79/98 Runoff=42.29 cfs 9.014 af

Subcatchment P3: P3 Runoff Area=1,855,516 sf 3.91% Impervious Runoff Depth=4.40"
Flow Length=2,265' Tc=32.7 min CN=79/98 Runoff=61.28 cfs 15.633 af

Subcatchment P4: P4 Runoff Area=4,212,736 sf 1.26% Impervious Runoff Depth=4.35"
Flow Length=2,625' Tc=23.3 min CN=79/98 Runoff=163.78 cfs 35.032 af

Subcatchment P5: P5 Runoff Area=243,990 sf 0.00% Impervious Runoff Depth=3.89"
Flow Length=734' Tc=14.3 min CN=75/0 Runoff=10.64 cfs 1.818 af

Subcatchment P6: P6 Runoff Area=378,114 sf 0.00% Impervious Runoff Depth=3.48"
Flow Length=200' Tc=12.0 min CN=71/0 Runoff=15.45 cfs 2.518 af

Link TOTAL: TOTAL Inflow=306.47 cfs 67.409 af
Primary=306.47 cfs 67.409 af

Total Runoff Area = 193.520 ac Runoff Volume = 67.409 af Average Runoff Depth = 4.18"
98.23% Pervious = 190.088 ac 1.77% Impervious = 3.432 ac

Summary for Subcatchment P1: P1

Runoff = 14.41 cfs @ 10.08 hrs, Volume= 3.394 af, Depth= 2.69"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 25-YEAR Rainfall=6.71"

	Area (sf)	CN	Description
	117,676	77	Woods, Good, HSG D
	169,983	55	Woods, Good, HSG B
	146,549	58	Meadow, non-grazed, HSG B
	48,964	61	>75% Grass cover, Good, HSG B
	90,226	80	>75% Grass cover, Good, HSG D
*	87,246	50	Beach
	660,644	63	Weighted Average
	660,644	63	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	200	0.0800	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"

Summary for Subcatchment P2: P2

Runoff = 42.29 cfs @ 10.06 hrs, Volume= 9.014 af, Depth= 4.37"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 25-YEAR Rainfall=6.71"

	Area (sf)	CN	Description
	24,063	98	Paved parking, HSG D
	876,274	80	>75% Grass cover, Good, HSG D
	53,790	98	Water Surface, 0% imp, HSG D
	62,490	84	Desert shrub range, Good, HSG D
*	62,134	50	Beach
	1,078,751	80	Weighted Average
	1,054,688	79	97.77% Pervious Area
	24,063	98	2.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	155	0.1100	0.37		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.6	620	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	710	0.0540	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.2	336	0.0650	2.55		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
23.1	1,821	Total			

Summary for Subcatchment P3: P3

Runoff = 61.28 cfs @ 10.09 hrs, Volume= 15.633 af, Depth= 4.40"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 25-YEAR Rainfall=6.71"

	Area (sf)	CN	Description
	1,587,537	80	>75% Grass cover, Good, HSG D
	141,266	84	Desert shrub range, Good, HSG D
*	54,179	50	Beach
	72,534	98	Paved parking, HSG D
	1,855,516	80	Weighted Average
	1,782,982	79	96.09% Pervious Area
	72,534	98	3.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	225	0.0350	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.1	800	0.0210	2.17		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
10.1	925	0.0480	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	190	0.1200	3.46		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
0.6	125	0.1400	3.74		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
32.7	2,265	Total			

Summary for Subcatchment P4: P4

Runoff = 163.78 cfs @ 10.06 hrs, Volume= 35.032 af, Depth= 4.35"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 25-YEAR Rainfall=6.71"

Area (sf)	CN	Description
52,917	98	Unconnected pavement, HSG D
3,621,469	80	>75% Grass cover, Good, HSG D
450,830	74	>75% Grass cover, Good, HSG C
87,520	77	Woods, Good, HSG D
4,212,736	80	Weighted Average
4,159,819	79	98.74% Pervious Area
52,917	98	1.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	165	0.0480	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
11.0	1,560	0.0250	2.37		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
2.0	900	0.0110	7.47	373.49	**Channel Flow,** Area= 50.0 sf Perim= 29.0' r= 1.72' n= 0.030 Stream, clean & straight
23.3	2,625	Total			

Summary for Subcatchment P5: P5

Runoff = 10.64 cfs @ 10.04 hrs, Volume= 1.818 af, Depth= 3.89"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 25-YEAR Rainfall=6.71"

	Area (sf)	CN	Description
	83,550	80	>75% Grass cover, Good, HSG D
	104,475	84	Desert shrub range, Good, HSG D
*	55,965	50	Beach
	243,990	75	Weighted Average
	243,990	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	122	0.0330	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.9	218	0.0320	1.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.4	302	0.2600	3.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	92	0.0760	2.76		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
14.3	734	Total			

Summary for Subcatchment P6: P6

Runoff = 15.45 cfs @ 10.03 hrs, Volume= 2.518 af, Depth= 3.48"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 25-YEAR Rainfall=6.71"

	Area (sf)	CN	Description
	18,225	80	>75% Grass cover, Good, HSG D
	21,085	74	>75% Grass cover, Good, HSG C
	134,751	84	Desert shrub range, Good, HSG D
	76,971	79	Desert shrub range, Good, HSG C
*	127,082	50	Beach
	378,114	71	Weighted Average
	378,114	71	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	60	0.1000	0.29		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.1	70	0.8700	15.02		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	70	0.0850	2.92		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
3.9	200	Total, Increased to minimum Tc = 12.0 min			

Summary for Link TOTAL: TOTAL

Inflow Area = 193.520 ac, 1.77% Impervious, Inflow Depth = 4.18" for 25-YEAR event
Inflow = 306.47 cfs @ 10.07 hrs, Volume= 67.409 af
Primary = 306.47 cfs @ 10.07 hrs, Volume= 67.409 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.10 hrs

Time span=0.00-36.00 hrs, dt=0.10 hrs, 361 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1: P1 Runoff Area=660,644 sf 0.00% Impervious Runoff Depth=3.33"
Flow Length=200' Slope=0.0800 '/' Tc=21.5 min CN=63/0 Runoff=18.51 cfs 4.204 af

Subcatchment P2: P2 Runoff Area=1,078,751 sf 2.23% Impervious Runoff Depth=5.15"
Flow Length=1,821' Tc=23.1 min CN=79/98 Runoff=50.17 cfs 10.626 af

Subcatchment P3: P3 Runoff Area=1,855,516 sf 3.91% Impervious Runoff Depth=5.19"
Flow Length=2,265' Tc=32.7 min CN=79/98 Runoff=72.69 cfs 18.410 af

Subcatchment P4: P4 Runoff Area=4,212,736 sf 1.26% Impervious Runoff Depth=5.13"
Flow Length=2,625' Tc=23.3 min CN=79/98 Runoff=194.45 cfs 41.324 af

Subcatchment P5: P5 Runoff Area=243,990 sf 0.00% Impervious Runoff Depth=4.65"
Flow Length=734' Tc=14.3 min CN=75/0 Runoff=12.83 cfs 2.169 af

Subcatchment P6: P6 Runoff Area=378,114 sf 0.00% Impervious Runoff Depth=4.20"
Flow Length=200' Tc=12.0 min CN=71/0 Runoff=18.93 cfs 3.038 af

Link TOTAL: TOTAL Inflow=365.93 cfs 79.771 af
Primary=365.93 cfs 79.771 af

Total Runoff Area = 193.520 ac Runoff Volume = 79.771 af Average Runoff Depth = 4.95"
98.23% Pervious = 190.088 ac 1.77% Impervious = 3.432 ac

Summary for Subcatchment P1: P1

Runoff = 18.51 cfs @ 10.08 hrs, Volume= 4.204 af, Depth= 3.33"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 50-YEAR Rainfall=7.56"

	Area (sf)	CN	Description
	117,676	77	Woods, Good, HSG D
	169,983	55	Woods, Good, HSG B
	146,549	58	Meadow, non-grazed, HSG B
	48,964	61	>75% Grass cover, Good, HSG B
	90,226	80	>75% Grass cover, Good, HSG D
*	87,246	50	Beach
	660,644	63	Weighted Average
	660,644	63	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	200	0.0800	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"

Summary for Subcatchment P2: P2

Runoff = 50.17 cfs @ 10.06 hrs, Volume= 10.626 af, Depth= 5.15"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 50-YEAR Rainfall=7.56"

	Area (sf)	CN	Description
	24,063	98	Paved parking, HSG D
	876,274	80	>75% Grass cover, Good, HSG D
	53,790	98	Water Surface, 0% imp, HSG D
	62,490	84	Desert shrub range, Good, HSG D
*	62,134	50	Beach
	1,078,751	80	Weighted Average
	1,054,688	79	97.77% Pervious Area
	24,063	98	2.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	155	0.1100	0.37		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.6	620	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	710	0.0540	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.2	336	0.0650	2.55		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
23.1	1,821	Total			

Summary for Subcatchment P3: P3

Runoff = 72.69 cfs @ 10.09 hrs, Volume= 18.410 af, Depth= 5.19"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 50-YEAR Rainfall=7.56"

	Area (sf)	CN	Description
	1,587,537	80	>75% Grass cover, Good, HSG D
	141,266	84	Desert shrub range, Good, HSG D
*	54,179	50	Beach
	72,534	98	Paved parking, HSG D
	1,855,516	80	Weighted Average
	1,782,982	79	96.09% Pervious Area
	72,534	98	3.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	225	0.0350	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.1	800	0.0210	2.17		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
10.1	925	0.0480	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	190	0.1200	3.46		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
0.6	125	0.1400	3.74		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
32.7	2,265	Total			

Summary for Subcatchment P4: P4

Runoff = 194.45 cfs @ 10.06 hrs, Volume= 41.324 af, Depth= 5.13"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 50-YEAR Rainfall=7.56"

Area (sf)	CN	Description
52,917	98	Unconnected pavement, HSG D
3,621,469	80	>75% Grass cover, Good, HSG D
450,830	74	>75% Grass cover, Good, HSG C
87,520	77	Woods, Good, HSG D
4,212,736	80	Weighted Average
4,159,819	79	98.74% Pervious Area
52,917	98	1.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	165	0.0480	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
11.0	1,560	0.0250	2.37		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
2.0	900	0.0110	7.47	373.49	**Channel Flow,** Area= 50.0 sf Perim= 29.0' r= 1.72' n= 0.030 Stream, clean & straight
23.3	2,625	Total			

Summary for Subcatchment P5: P5

Runoff = 12.83 cfs @ 10.03 hrs, Volume= 2.169 af, Depth= 4.65"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 50-YEAR Rainfall=7.56"

	Area (sf)	CN	Description
	83,550	80	>75% Grass cover, Good, HSG D
	104,475	84	Desert shrub range, Good, HSG D
*	55,965	50	Beach
	243,990	75	Weighted Average
	243,990	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	122	0.0330	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.9	218	0.0320	1.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.4	302	0.2600	3.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	92	0.0760	2.76		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
14.3	734	Total			

Summary for Subcatchment P6: P6

Runoff = 18.93 cfs @ 10.03 hrs, Volume= 3.038 af, Depth= 4.20"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 50-YEAR Rainfall=7.56"

	Area (sf)	CN	Description
	18,225	80	>75% Grass cover, Good, HSG D
	21,085	74	>75% Grass cover, Good, HSG C
	134,751	84	Desert shrub range, Good, HSG D
	76,971	79	Desert shrub range, Good, HSG C
*	127,082	50	Beach
	378,114	71	Weighted Average
	378,114	71	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	60	0.1000	0.29		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.1	70	0.8700	15.02		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	70	0.0850	2.92		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
3.9	200	Total, Increased to minimum Tc = 12.0 min			

Summary for Link TOTAL: TOTAL

Inflow Area = 193.520 ac, 1.77% Impervious, Inflow Depth = 4.95" for 50-YEAR event
Inflow = 365.93 cfs @ 10.06 hrs, Volume= 79.771 af
Primary = 365.93 cfs @ 10.06 hrs, Volume= 79.771 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.10 hrs

Time span=0.00-36.00 hrs, dt=0.10 hrs, 361 points
Runoff by SBUH method, Split Pervious/Imperv.
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment P1: P1 Runoff Area=660,644 sf 0.00% Impervious Runoff Depth=3.97"
Flow Length=200' Slope=0.0800 '/' Tc=21.5 min CN=63/0 Runoff=22.66 cfs 5.017 af

Subcatchment P2: P2 Runoff Area=1,078,751 sf 2.23% Impervious Runoff Depth=5.91"
Flow Length=1,821' Tc=23.1 min CN=79/98 Runoff=57.84 cfs 12.204 af

Subcatchment P3: P3 Runoff Area=1,855,516 sf 3.91% Impervious Runoff Depth=5.95"
Flow Length=2,265' Tc=32.7 min CN=79/98 Runoff=83.80 cfs 21.127 af

Subcatchment P4: P4 Runoff Area=4,212,736 sf 1.26% Impervious Runoff Depth=5.89"
Flow Length=2,625' Tc=23.3 min CN=79/98 Runoff=224.29 cfs 47.479 af

Subcatchment P5: P5 Runoff Area=243,990 sf 0.00% Impervious Runoff Depth=5.39"
Flow Length=734' Tc=14.3 min CN=75/0 Runoff=14.97 cfs 2.514 af

Subcatchment P6: P6 Runoff Area=378,114 sf 0.00% Impervious Runoff Depth=4.91"
Flow Length=200' Tc=12.0 min CN=71/0 Runoff=22.38 cfs 3.552 af

Link TOTAL: TOTAL Inflow=424.00 cfs 91.894 af
Primary=424.00 cfs 91.894 af

Total Runoff Area = 193.520 ac Runoff Volume = 91.894 af Average Runoff Depth = 5.70"
98.23% Pervious = 190.088 ac 1.77% Impervious = 3.432 ac

Summary for Subcatchment P1: P1

Runoff = 22.66 cfs @ 10.07 hrs, Volume= 5.017 af, Depth= 3.97"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 100-YEAR Rainfall=8.38"

	Area (sf)	CN	Description
	117,676	77	Woods, Good, HSG D
	169,983	55	Woods, Good, HSG B
	146,549	58	Meadow, non-grazed, HSG B
	48,964	61	>75% Grass cover, Good, HSG B
	90,226	80	>75% Grass cover, Good, HSG D
*	87,246	50	Beach
	660,644	63	Weighted Average
	660,644	63	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.5	200	0.0800	0.16		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"

Summary for Subcatchment P2: P2

Runoff = 57.84 cfs @ 10.06 hrs, Volume= 12.204 af, Depth= 5.91"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 100-YEAR Rainfall=8.38"

	Area (sf)	CN	Description
	24,063	98	Paved parking, HSG D
	876,274	80	>75% Grass cover, Good, HSG D
	53,790	98	Water Surface, 0% imp, HSG D
	62,490	84	Desert shrub range, Good, HSG D
*	62,134	50	Beach
	1,078,751	80	Weighted Average
	1,054,688	79	97.77% Pervious Area
	24,063	98	2.23% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.0	155	0.1100	0.37		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.6	620	0.0500	1.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.3	710	0.0540	1.63		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.2	336	0.0650	2.55		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
23.1	1,821	Total			

Summary for Subcatchment P3: P3

Runoff = 83.80 cfs @ 10.09 hrs, Volume= 21.127 af, Depth= 5.95"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 100-YEAR Rainfall=8.38"

	Area (sf)	CN	Description
	1,587,537	80	>75% Grass cover, Good, HSG D
	141,266	84	Desert shrub range, Good, HSG D
*	54,179	50	Beach
	72,534	98	Paved parking, HSG D
	1,855,516	80	Weighted Average
	1,782,982	79	96.09% Pervious Area
	72,534	98	3.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0	225	0.0350	0.25		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
6.1	800	0.0210	2.17		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
10.1	925	0.0480	1.53		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.9	190	0.1200	3.46		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
0.6	125	0.1400	3.74		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
32.7	2,265	Total			

Summary for Subcatchment P4: P4

Runoff = 224.29 cfs @ 10.06 hrs, Volume= 47.479 af, Depth= 5.89"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 100-YEAR Rainfall=8.38"

Area (sf)	CN	Description
52,917	98	Unconnected pavement, HSG D
3,621,469	80	>75% Grass cover, Good, HSG D
450,830	74	>75% Grass cover, Good, HSG C
87,520	77	Woods, Good, HSG D
4,212,736	80	Weighted Average
4,159,819	79	98.74% Pervious Area
52,917	98	1.26% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.3	165	0.0480	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
11.0	1,560	0.0250	2.37		**Shallow Concentrated Flow,** Grassed Waterway Kv= 15.0 fps
2.0	900	0.0110	7.47	373.49	**Channel Flow,** Area= 50.0 sf Perim= 29.0' r= 1.72' n= 0.030 Stream, clean & straight
23.3	2,625	Total			

Summary for Subcatchment P5: P5

Runoff = 14.97 cfs @ 10.03 hrs, Volume= 2.514 af, Depth= 5.39"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 100-YEAR Rainfall=8.38"

	Area (sf)	CN	Description
	83,550	80	>75% Grass cover, Good, HSG D
	104,475	84	Desert shrub range, Good, HSG D
*	55,965	50	Beach
	243,990	75	Weighted Average
	243,990	75	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	122	0.0330	0.22		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
2.9	218	0.0320	1.25		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.4	302	0.2600	3.57		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.6	92	0.0760	2.76		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
14.3	734	Total			

Summary for Subcatchment P6: P6

Runoff = 22.38 cfs @ 10.03 hrs, Volume= 3.552 af, Depth= 4.91"

Runoff by SBUH method, Split Pervious/Imperv., Time Span= 0.00-36.00 hrs, dt= 0.10 hrs
Type I 24-hr 100-YEAR Rainfall=8.38"

	Area (sf)	CN	Description
	18,225	80	>75% Grass cover, Good, HSG D
	21,085	74	>75% Grass cover, Good, HSG C
	134,751	84	Desert shrub range, Good, HSG D
	76,971	79	Desert shrub range, Good, HSG C
*	127,082	50	Beach
	378,114	71	Weighted Average
	378,114	71	100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	60	0.1000	0.29		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.1	70	0.8700	15.02		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	70	0.0850	2.92		**Shallow Concentrated Flow,** Nearly Bare & Untilled Kv= 10.0 fps
3.9	200	Total, Increased to minimum Tc = 12.0 min			

Summary for Link TOTAL: TOTAL

Inflow Area = 193.520 ac, 1.77% Impervious, Inflow Depth = 5.70" for 100-YEAR event
Inflow = 424.00 cfs @ 10.06 hrs, Volume= 91.894 af
Primary = 424.00 cfs @ 10.06 hrs, Volume= 91.894 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.10 hrs

Appendix G-2

Preliminary Stormwater Control Plan

Preliminary Stormwater Control Plan
for
Sandpiper Golf Club

2/11/2025

Prepared for:

Sandpiper Golf Trust, LLC
280 Chestnut Avenue
Westmont, IL 60559

Prepared by:

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Attachments

Exhibit A: Overall Site Plan

Exhibit B: Pre-Project Impervious Area

Exhibit C: Post-Project Drainage Management

Stormwater Control Measures Sizing Calculator Print Out and Excel File (submitted electronically)

This Stormwater Control Plan was prepared using the template dated January 2017.

I. Project Data

Table 1. Project Data

Project Name/Project Case Number	Sandpiper Golf Club
Project Location	7925 Hollister Ave, Goleta, CA, APN 079-210-059
Project Phase No.	N/A
Project Type and Description	Replacement of existing clubhouse and maintenance facilities, restoration and improvements to historic Barnsdall Complex, frontage improvements along Hollister Avenue, partial re-grading and re-routing of existing golf course.
Total Project Site Area (acres)	195.0 acres
New Impervious Surface Area (sf)	12,250 SF
Replaced Impervious Surface Area (sf)	144,490 SF
Pre-Project Impervious Surface Area (sf)	144,490 SF
Post-Project Impervious Surface Area (sf)	150,060 SF
"Net Impervious" Area, if applicable	Not Applicable
Watershed Management Zone(s)	WMZ 1 & 4
Tier	Tier 4 (A project that creates or replaces 22,500 sf or more of impervious surfaces)
Design Storm Frequency Used (85th or 95th percentile) and Design Storm Depth (in)	2.14" (95th Percentile)
Urban Sustainability Area, if applicable	This project is not in an Urban Sustainability Area

II. Setting

II.A. Project Location and Description

The Sandpiper Golf Club is located at 7925 Hollister Avenue, Goleta, CA. The existing parcel (APN 079-210-59) is approximately 193.5 acres and is designated open space active recreation zoning (OSAR) within the City of Goleta. The site is bordered by residential development and open space areas to the east and north, US 101, the UPRR, and Hollister Avenue to the north, open space and the Ellwood Oil facility to the west, and the Pacific Ocean to the south. The proposed project will include: replacement of the existing clubhouse, maintenance facilities, and comfort station; restoration of the historic Barnsdall building; replacement of existing parking areas and walkways; curb, sidewalk, and driveway entrance improvements along Hollister Avenue (in public right-of-way); and, partial regrading and reconfiguration of the existing golf course. See Exhibits A & C for site plan and post-project surface and drainage conditions.

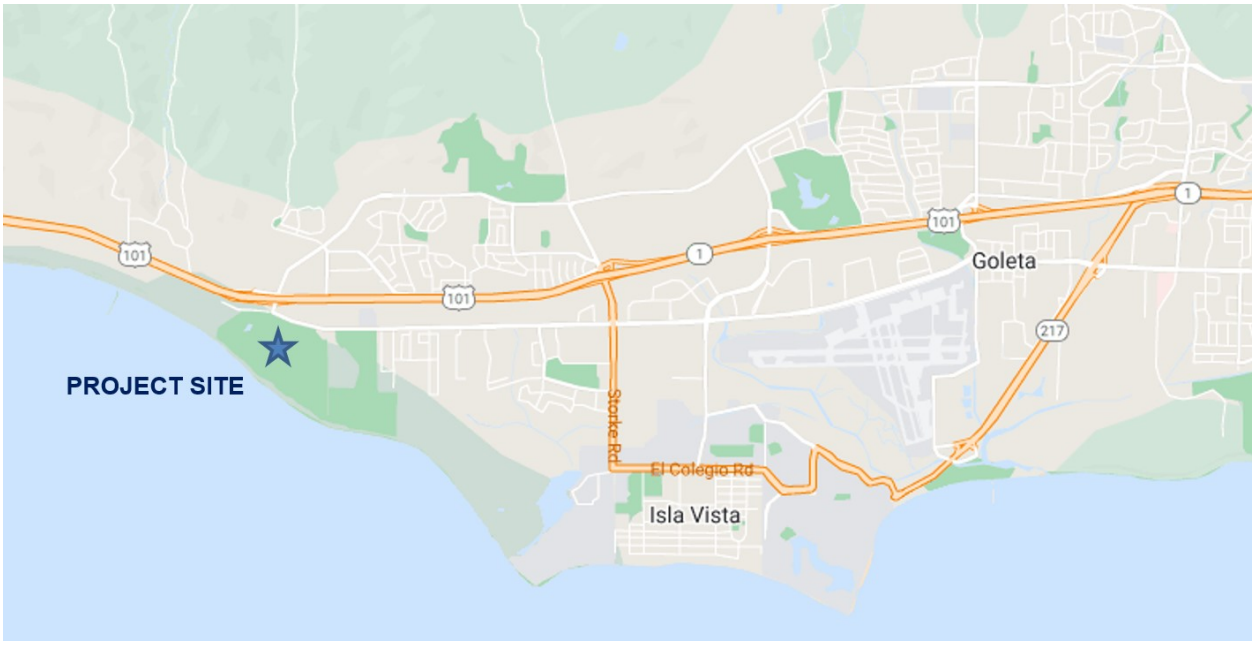


Figure 1. Vicinity Map

II.B. Existing Site Features and Conditions

The property is currently developed with a golf course, clubhouse, and related facilities. The proposed project is to reconstruct the same general facilities and will not be change the overall use and improvement areas of the site. The site slopes moderately towards watercourses throughout the property. Two named creeks flow through the site. Bell Canyon at the western edge of the site which connects to the Pacific Ocean to the south, and Devereaux Creek which flows through the eastern portion of the property enters via a culvert under Hollister Avenue and exiting along the eastern property boundary to the Santa Barbara Shores open space. There are also several open drainages which form on the site and outlet to either the Pacific Ocean or Devereaux Creek. At the southern boundary of the site there are coastal bluffs along the beach. There are few existing storm drain facilities on the property. Along Devereaux Creek there is a city-owned storm drain passing beneath Hollister Avenue at the north east corner of the site as well as a private culvert within the property.

The site is mostly underlain by soils classified as Hydrologic Soil Group D, with the exception of a portion of HSG B along Bell Canyon and HSG C at the south east corner. The soils along the coast line at the southern boundary are undefined and will be assumed to be HSG D for calculation purposes. The majority of the golf course area is well maintained grass. Outside of the fairways there are portions of natural coastal shrubbery and vegetation, and sandy beaches at the southerly property edge. The existing clubhouse and maintenance facilities have paved parking areas and walkways. Golf cart paths run throughout site as well.



Figure 2. Existing Site Conditions

II.C. Opportunities and Constraints for Stormwater Control

There are opportunities for stormwater control measures to be located in landscaped areas near the proposed improvements. However, the basin will need to be situated outside of the golf course fairways. The site has sufficient slopes throughout for storm drainage needs.

Some stormwater control constraints include the poor infiltration rates of the site soils, steep slopes at the bluffs and gullies, and ensuring the facilities will not be disturbed by golf activities.

II.D. Summary of Design Approach for Meeting the Post-Construction Requirements

In general, bioretention basins will be used to meet the post-construction requirements following the Santa Barbara County Project Clean Water's Stormwater Technical Guide. Several basins are proposed: Four to treat the clubhouse area (two basins are connected with equalizer pipes and will be treated as basin for calculation purposes), one to treat the Barnsdall building, and one for the Maintenance facilities. Stormwater discharge from the bioretention basins will be piped and dispersed into the golf course, away from fairways and greens. The

remainder of the site outside of the main building and parking improvement areas will be considered self-treating. Any addition improvements such as revised cart paths and the replaced comfort station comprises less than 2% of the site and are well dispersed throughout the landscape. Any runoff from these minor impervious areas will be treated by the surrounding landscape.

III. Low Impact Development Design Strategies

III.A. Site Design and Runoff Reduction (Performance Requirement No. 1)

III.A.1. Limit disturbance to creeks and natural drainage features, if applicable

No development or grading is proposed in the Bell Canyon area. Work will be minimized in other riparian zones except as needed for cart path crossings.

III.A.2. Minimize compaction of highly permeable soils, if applicable

Soils will be compacted as required for geotechnical purposes where specified per geotechnical recommendations.

III.A.3. Limitation of clearing and grading of native vegetation to minimum area needed, if applicable

No development or grading is proposed in the Bell Canyon area or along the coastal bluffs. Work will be minimized in other riparian zones except as needed for cart path crossings.

III.A.4. Apply setbacks from creeks, wetlands, and riparian habitats, if applicable

No development or grading is proposed in the Bell Canyon area or along the coastal bluffs. Work will be minimized in other riparian zones except as needed for cart path crossings.

III.A.5. Minimization stormwater runoff

Impervious areas are limited to the building footprints, hardscape, and private parking areas. The proposed clubhouse and comfort station replacement structures are designed with a turf roof to minimize impervious area.

III.A.6. Use of drainage as a design element

The bioretention basins will be incorporated into the landscape design and site aesthetic.

III.B. Site Constraints

The site is constrained by poor soils, coastal bluffs, riparian zones, and the golf course routing.

III.C. Dispersal of Runoff to Pervious Areas

All areas outside of the clubhouse, Barnsdall building, and maintenance facilities will be either landscaped with less than 5% impervious (e.g. cart paths and comfort station) or will remain untouched. These areas will be considered self-treating.

IV. Documentation of Drainage Design

IV.A. Descriptions of each Drainage Management Area

For preliminary calculations, DMAs were categorized as either impervious, landscaped, gravel, or self-treating. During final design, the impervious areas will be further divided into buildings, hardscape, and pavement.

Table 2. Drainage Management Areas

DMA Name	DMA Type	Area (sf)	Surface type	Drains to
MAINT-IMPR-R	Drains to SCM	46,420	Concrete or asphalt	SCM-MAINT
MAINT-GRAVEL	Drains to SCM	12,280	Crushed Aggregate	SCM-MAINT
MAINT-LAND	Drains to SCM	9,580	Landscaped	SCM-MAINT
BARN-IMPR-R	Drains to SCM	11,520	Concrete or asphalt	SCM-BARN
BARN-GRAVEL	Drains to SCM	13,470	Crushed Aggregate	SCM-BARN
BARN-LAND	Drains to SCM	4,240	Landscaped	SCM-BARN
CLUB1-IMPR	Drains to SCM	12,250	Concrete or asphalt	SCM-CLUB1
CLUB1-IMPR-R	Drains to SCM	5,820	Concrete or asphalt	SCM-CLUB1
CLUB1-LAND	Drains to SCM	17,740	Landscaped	SCM-CLUB1
CLUB2-IMPR-R	Drains to SCM	56,790	Concrete or asphalt	SCM-CLUB2
CLUB2-LAND	Drains to SCM	40,950	Landscaped	SCM-CLUB2
CLUB3-IMPR-R	Drains to SCM	23,940	Concrete or asphalt	SCM- CLUB3
CLUB3 -LAND	Drains to SCM	16,400	Landscaped	SCM- CLUB3
SELF-TREATING	Self-Treating	8,212,100	N/A	N/A

Please note that DMAs with "-R" in the name have the impervious square-footage applied to replaced impervious area credit. Replaced impervious areas are shown on Exhibit B.

Drainage Management Area Narrative Descriptions

DMA MAINT-IMPR-R, totaling 46,420 square feet, drains the impervious areas of the maintenance facilities including the buildings, hardscape, and parking lots. DMA MAINT-IMPR-R drains to SCM-MAINT, a bioretention basin. This area is designated as replaced impervious square-footage in the SCM sizing calculator.

DMA MAINT-GRAVEL, totaling 12,280 square feet, drains the gravel parking areas of the maintenance facilities. DMA MAINT-GRAVEL drains to SCM-MAINT, a bioretention basin.

DMA MAINT-LAND, totaling 9,580 square feet, drains landscaped areas of the maintenance facilities. DMA MAINT-LAND drains to SCM-MAINT, a bioretention basin.

DMA BARN-IMPR-R, totaling 11,520 square feet, drains the impervious areas of the Barnsdall complex including the buildings, hardscape, and parking lots. DMA BARN-IMPR-R drains to SCM-BARN, a bioretention basin. This area is designated as replaced impervious square-footage in the SCM sizing calculator.

DMA BARN-GRAVEL, totaling 4,240 square feet, drains the DG pathways of the Barnsdall complex. DMA BARN-GRAVEL drains to SCM-BARN, a bioretention basin.

DMA BARN-LAND, totaling 13,470 square feet, drains landscaped areas of the Barnsdall complex. DMA BARN-LAND drains to DMA SCM-BARN, a bioretention basin.

DMA CLUB1-IMPR, totaling 12,250 square feet, drains the impervious areas of the clubhouse area including the hardscape, and parking lot. DMA CLUB1-IMPR drains to SCM-CLUB1, a bioretention basin.

DMA CLUB1-IMPR-R, totaling 5,820 square feet, drains the impervious areas of the clubhouse area including the hardscape, and parking lot. DMA CLUB1-IMPR-R drains to SCM-CLUB1, a bioretention basin. This area is designated as replaced impervious square-footage in the SCM sizing calculator.

DMA CLUB1-LAND, totaling 17,740 square feet, drains landscaped areas of the clubhouse. DMA CLUB1-LAND drains to SCM-CLUB1, a bioretention basin.

DMA CLUB2-IMPR-R, totaling 56,790 square feet, drains the impervious areas of the clubhouse area including the buildings, hardscape, and parking lot. DMA CLUB2-IMPR-R drains to SCM-CLUB2, a bioretention basin. This area is designated as replaced impervious square-footage in the SCM sizing calculator.

DMA CLUB2-LAND, totaling 40,950 square feet, drains landscaped areas of the clubhouse. DMA CLUB2-LAND drains to SCM-CLUB2, a bioretention basin.

DMA CLUB3-IMPR-R, totaling 23,940 square feet, drains the impervious areas of the clubhouse area and parking including the buildings, hardscape, and parking lots. DMA CLUB3-IMPR-R drains to SCM- CLUB3, a bioretention basin. This area is designated as replaced impervious square-footage in the SCM sizing calculator.

DMA CLUB3-LAND, totaling 16,400 square feet, drains landscaped areas of the clubhouse area. DMA CLUB3 -LAND drains to SCM- CLUB3, a bioretention basin.

DMA SELF-TREATING, totaling 8,212,100 square feet, is self-treating and is comprised of an existing and re-developed golf course areas, undeveloped areas including the riparian zones and Bell Canyon, and any other landscaped areas which do not drain to the bioretention basins. DMA SELF-TREATING drains off-site.

IV.B. Description of each Stormwater Structural Control Measure

Three Stormwater Structural Control Measures are proposed for this development.

SCM-MAINT, totaling 2,250 square feet, is a bioretention basin and is located along the eastern property boundary, south of the maintenance facilities. SCM-MAINT treats runoff from DMAs MAINT-IMPR-R, MAINT-GRAVEL, and MAINT-LAND. Treated water and high-flow bypass discharge onto the golf course.

SCM-BARN, totaling 900 square feet, is a bioretention basin and is located south of the Barnsdall Complex near the northeast corner of the site. SCM-BARN treats runoff from DMAs BARN-IMPR-R, BARN-GRAVEL, and BARN-LAND. Treated water and high-flow bypass discharge onto the golf course.

SCM-CLUB1, totaling 2,290 square feet, is a bioretention basin that is located in the landscape island of the clubhouse parking area. SCM-CLUB1 treats runoff from DMAs CLUB1-IMPR-R, CLUB1-IMPR, and CLUB1-LAND. Treated water and high-flow bypass discharge onto the golf course.

SCM-CLUB2, totaling 3,680 square feet, is a combination of (2) bioretention basins that are located in the landscape islands of the clubhouse parking area and are connected by equalizing pipes between the basins. SCM-CLUB2 treats runoff from DMAs CLUB2-IMPR-R, and CLUB2-LAND. Treated water and high-flow bypass discharge onto the golf course.

SCM-CLUB3, totaling 1,500 square feet, is a bioretention basin that is located south of the western parking area. SCM-CLUB3 treats runoff from DMAs CLUB3-IMPR-R, and CLUB3-LAND. Treated water and high-flow bypass discharge onto the golf course.

IV.C. Sizing Calculations for Structural Control Measures

Please see attached entries and outputs from the Central Coast Region Stormwater Control Measure Sizing Calculator.

The following note will be included on the final engineering plans:

Bioretention Basins shall be protected during construction from sediment and erosion. Heavy machinery will not compact soils in areas of infiltration. If any sediment discharges into LID facility, contractor shall restore to performance design specifications as verified by civil engineer. Contractor shall notify grading or building inspector 24-hours prior to installation of gravel and bioretention soil to verify material quality.

V. Source Control Measures

V.A. Site activities and potential sources of pollutants

Onsite activities that could potentially produce stormwater pollutants include:

- Landscape maintenance
- Street and parking areas
- Trash management

V.B. Source Control BMPs Table

Table 3. Source Control BMPs

Potential source of runoff pollutants	**Permanent source control BMPs**	**Operational source control BMPs**
Landscape Maintenance	Landscaping designed to minimize irrigation and runoff, and to minimize the use of fertilizers and pesticides. Specify plants that are tolerant of saturated soil conditions in landscaped self-retaining areas. Select plants appropriate to site soils, slopes, climate, land use, ecological consistency, and plant interactions.	Minimize use of pesticides in landscaped areas to the extent feasible
Trash Management	Trash and recycled materials will be collected in refuse area shown on site plan.	All dumpsters will be posted with signs stating "Do not dump hazardous materials here" or similar
On-Site Storm Drain Inlets		All inlets will be posted with signs stating "No Dumping! Flows to Ocean" or similar
Street and Parking Areas		Parking lot and roadway will be swept regularly.

Additional BMPs outside of the scope of this report are proposed for the project and are described in the Water Quality Analysis report prepared by Water Quality Consulting Group, Inc.

VI. Stormwater Facility Maintenance

The bioretention basins will be owned and maintained by Sandpiper Golf Trust. A separate maintenance manual has been prepared. Maintenance of the bioretention facilities will involve: periodic removal of debris and vegetative overgrowth; inspection and maintenance of overflow outlets and storm drain inlets; and, replenishment of mulch layer as needed.

VII. Stormwater Control Plan/Construction Documents Cross-Checklist

VII. Stormwater Control Plan/Construction Documents Cross-Checklist

Table 4. Stormwater Control Plan/Construction Documents Cross-Checklist

Stormwater Control Plan Page #	Source Control or LID Facility	See Plan Sheet #s
6	SCM-MAINT, Bioretention Basin	C9, C16
6	SCM-BARN, Bioretention Basin	C6, C16
6	SCM-CLUB1, Bioretention Basins	C5, C16
6	SCM-CLUB2, Bioretention Basins	C5, C16
6	SCM-CLUB3, Bioretention Basins	C5, C16

VIII. Certifications

The preliminary design of stormwater treatment facilities and other stormwater pollution control measures in this plan are in accordance with the current edition of the Santa Barbara County Project Clean Water's Stormwater Technical Guide.

Central Coast Region Stormwater Control Measure Sizing Calculator

Versio

1. Project Information

Project name:	Sandpiper Golf Club
Project location:	City of Goleta, CA
Tier 2/Tier 3:	Tier 3 - Retention
Design rainfall depth (in):	2.1
Total project area (ft2):	
Total DMA area (ft2):	8483500
Total new impervious area (ft2):	12250
Total replaced impervious within a USA (ft2):	
Total replaced impervious not in a USA (ft2):	144490
Total pervious/landscape area (ft2):	8326760
Total SCM area (ft2):	10620

2. DMA Characterization

Name	DMA Type	Area (ft2)	Surface Type	New, Replaced?	Connection
MAINT-IMPR-R	Drains to SCM	46420	Concrete or asphalt	Replaced	SCM-MAINT
MAINT-GRAVEL	Drains to SCM	12280	Crushed aggregate	New	SCM-MAINT
MAINT-LAND	Drains to SCM	9580	Landscape	New	SCM-MAINT
BARN-IMPR-R	Drains to SCM	11520	Concrete or asphalt	Replaced	SCM-BARN
BARN-LAND	Drains to SCM	13470	Landscape	New	SCM-BARN
BARN-GRAVEL	Drains to SCM	4240	Crushed aggregate	New	SCM-BARN
CLUB1-IMPRV	Drains to SCM	12250	Concrete or asphalt	New	SCM-CLUB1
CLUB1-IMPRV-R	Drains to SCM	5820	Concrete or asphalt	Replaced	SCM-CLUB1
CLUB1-LAND	Drains to SCM	17740	Landscape	New	SCM-CLUB1
CLUB2-IMPRV-R	Drains to SCM	56790	Concrete or asphalt	Replaced	SCM-CLUB2
CLUB2-LAND	Drains to SCM	40950	Landscape	New	SCM-CLUB2
CLUB3-IMPRV-R	Drains to SCM	23940	Concrete or asphalt	Replaced	SCM-CLUB3
CLUB3-LAND	Drains to SCM	16400	Landscape	New	SCM-CLUB3
SELF-TREATING	Self-Treating	8212100			

DMA Summary Area	
Total assigned DMA area (ft2):	8483500
New impervious area (ft2):	12250
Replaced impervious within a USA (ft2):	0
Replaced impervious not in a USA (ft2):	144490
Total pervious/landscape area (ft2):	8326760

3. SCM Characterization

						Flow Control
Name	SCM Type	Safety Factor	SCM Soil Type	Infilt. Rate (in/hr)	Area (ft2)	Orifice?
SCM-MAINT	Bioretention	1	HSG C/D	0.25	2250	No
SCM-BARN	Bioretention	1	HSG C/D	0.25	**900**	No
SCM-CLUB1	Bioretention	1	HSG C/D	0.25	2290	No
SCM-CLUB2	Bioretention	1	HSG C/D	0.25	**3680**	No
SCM-CLUB3	Bioretention	1	HSG C/D	0.25	**1500**	No

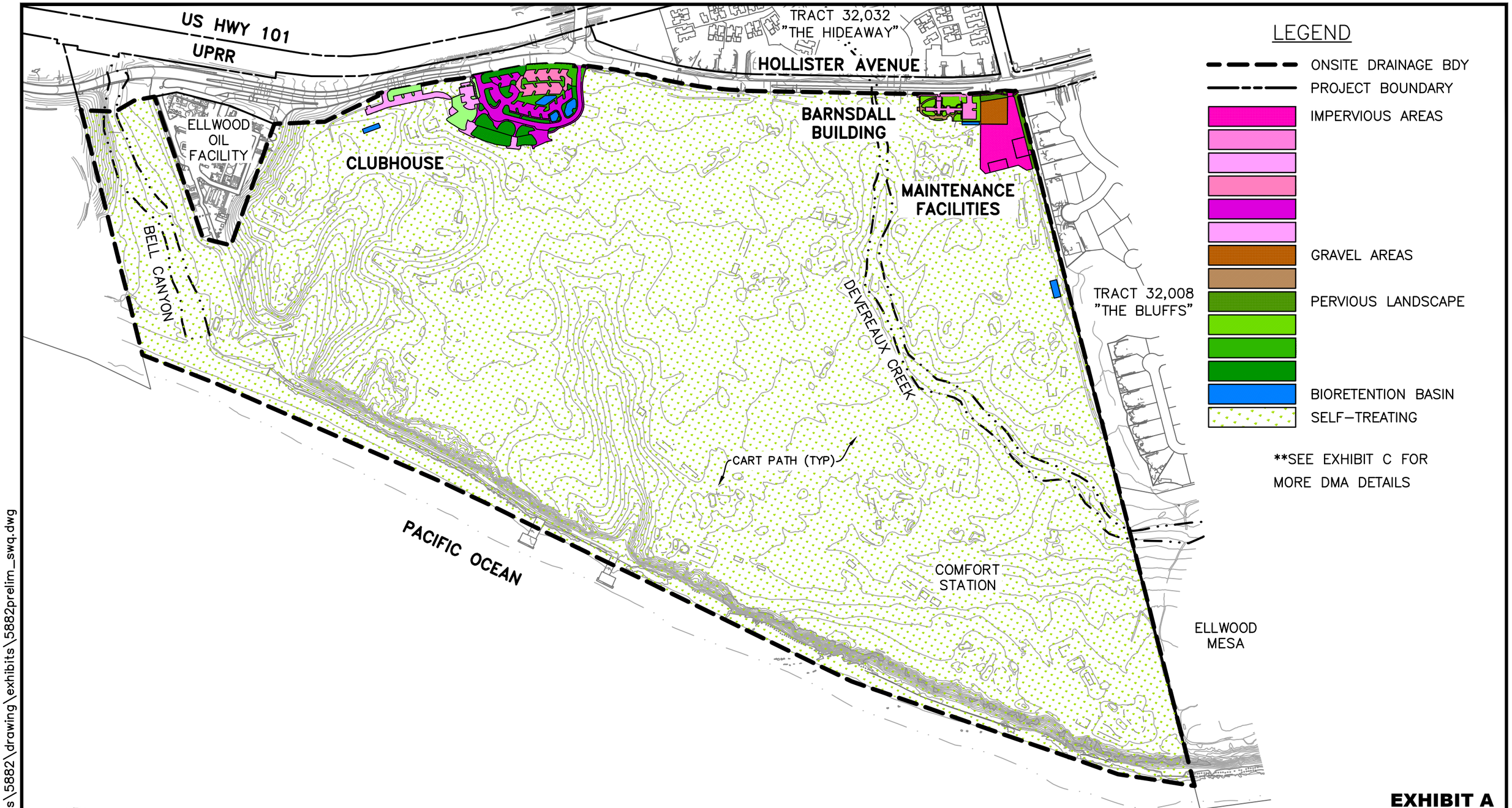
4. Run SBUH Model

5. SCM Minimum Sizing Requirements

SCM Name	Min. Required Storage Vol. (ft3)	Depth Below Underdrain (ft)	Drain Time (hours)	Orifice Diameter (in)
SCM-MAINT	3897	4.33	69.3	
SCM-BARN	1130	3.14	50.2	
SCM-CLUB1	2140	2.34	44.9	
SCM-CLUB2	5182	3.52	56.3	
SCM-CLUB3	2180	3.63	58.1	

6. Self-Retaining Area Sizing Checks

Self-Retaining DMA Name	Self-Retaining DMA Area (ft2)	Tributary DMA Name(s)	Eff. Tributary DMA Area (ft2)	Effective Tributary / SRA Area Ratio



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Stantec
200 E Carrillo St, Ste 101, Santa Barbara, CA 93101
Phone: (805) 963–9532

N

1" = 400'

EXHIBIT A
OVERALL SITE PLAN
SANDPIPER GOLF CLUB
APN 079-210-059

GOLETA, CA

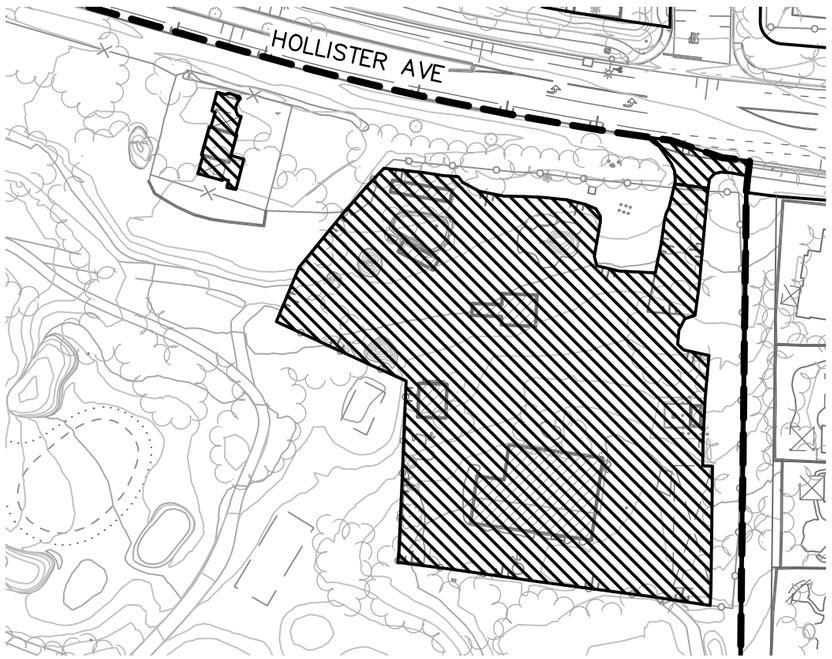
2/11/2025



LEGEND

- ONSITE DRAINAGE BOUNDARY
- PROJECT BOUNDARY
- IMPERVIOUS AREA

CLUBHOUSE



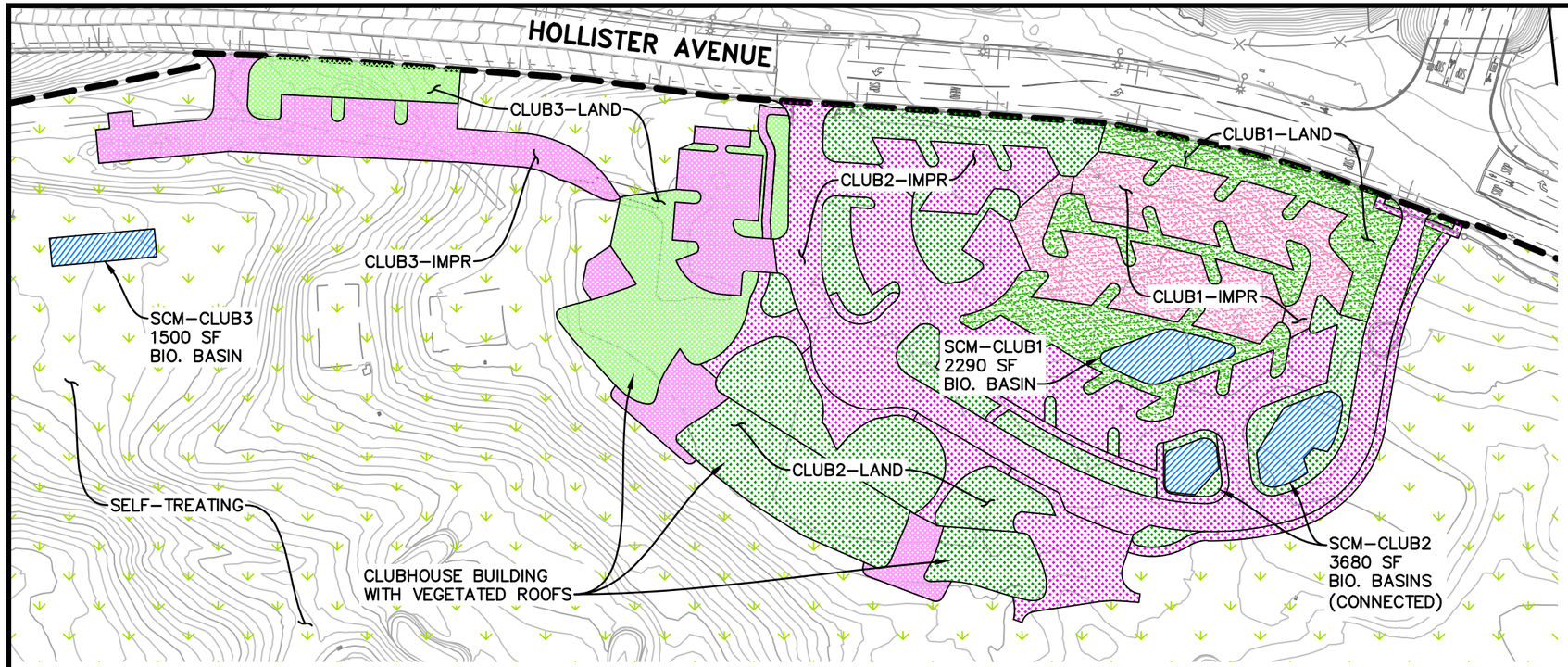
BARNSDALL BUILDING & MAINTENANCE FACILTIES

Stantec
200 E Carrillo St, Ste 101, Santa Barbara, CA 93101
Phone: (805) 963-9532

EXHIBIT B
PRE-PROJECT CONDITIONS
SANDPIPER GOLF CLUB
APN 079-210-059
GOLETA, CA
2/11/2025

N
1" = 100'

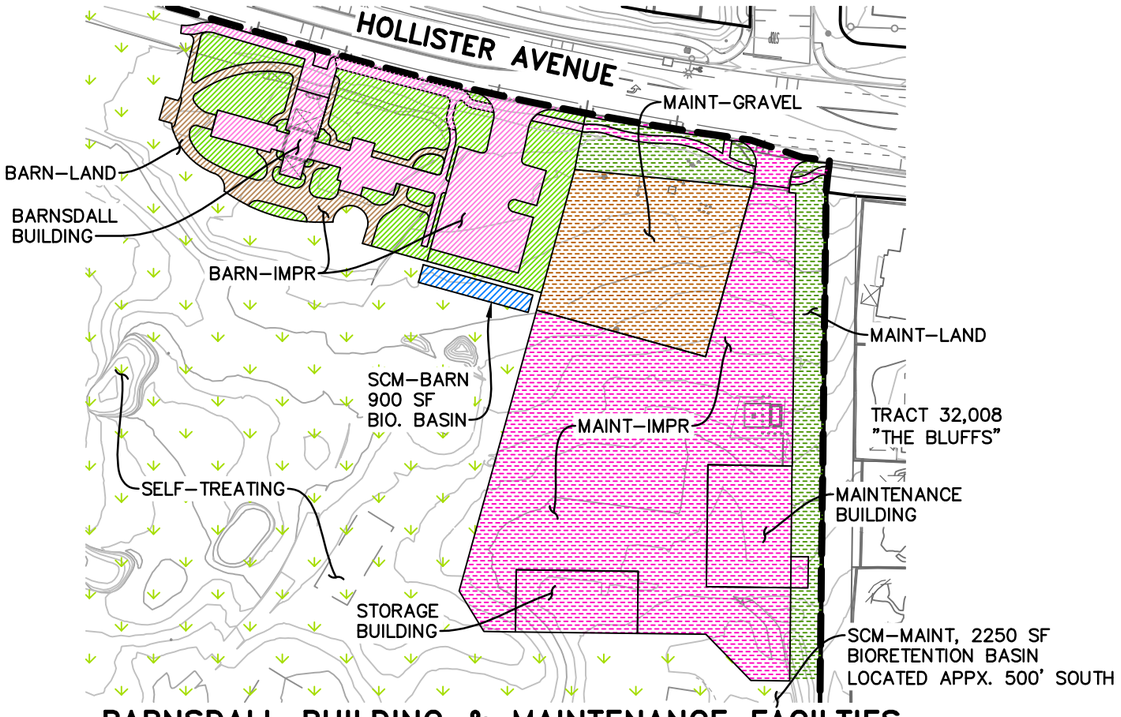
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CLUBHOUSE

LEGEND

- ONSITE DRAINAGE BOUNDARY
- PROJECT BOUNDARY
- MAINT–IMPR, IMPERVIOUS AREAS
- MAINT–GRAVEL, GRAVEL AREAS
- MAINT–LAND, PERVIOUS LANDSCAPE
- BARN–IMPR, IMPERVIOUS AREAS
- BARN–GRAVEL, GRAVEL AREAS
- BARN–LAND, PERVIOUS LANDSCAPE
- CLUB1–IMPR, IMPERVIOUS AREAS
- CLUB1–LAND, PERVIOUS LANDSCAPE
- CLUB2–IMPR, IMPERVIOUS AREAS
- CLUB2–LAND, PERVIOUS LANDSCAPE
- CLUB3–IMPR, IMPERVIOUS AREAS
- CLUB3–LAND, PERVIOUS LANDSCAPE
- BIORETENTION BASIN
- SELF–TREATING



BARNSDALL BUILDING & MAINTENANCE FACILTIES

Stantec
200 E Carrillo St, Ste 101, Santa Barbara, CA 93101
Phone: (805) 963–9532

N

1" = 100'

EXHIBIT C
POST-PROJECT CONDITIONS
SANDPIPER GOLF CLUB
APN 079-210-059
GOLETA, CA

2/11/2025

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Appendix G-3

Updated Water Quality Analysis

Updated Water Quality Analysis

Sandpiper Redevelopment Project

Introduction

Water Quality Consulting Group (WQCG) evaluated the proposed redevelopment plans for the Sandpiper Golf Course including the clubhouse, maintenance facility, Barnesdall gas station, and golf course. Based on the preliminary design plans, WQCG performed a qualitative evaluation of the proposed development from a construction and operational standpoint. This water quality analysis provides an overview of permitting requirements and best management practices required for construction and golf course operations that will protect and enhance water quality.

New Clubhouse

Construction of the new clubhouse will require the oversight of the State Water Resources Control Board (SWRCB) and compliance with the Construction General National Pollution Discharge Elimination System (NPDES) General Permit for Storm Water Discharges associated with construction and land disturbance activities that disturb over an acre of land (Order No. 2022-DWQ-0057). A Storm Water Pollution Prevention Plan (SWPPP) will be developed and implemented for the entire project. The SWPPP will designate Best Management Practices (BMPs) to reduce erosion and control discharge of sediment to local waterways. The SWPPP will require oversight of a Qualified SWPPP Practitioner (QSP) to inspect BMPs, conduct training of contractors on BMPs, conduct storm water sampling during storm events, and post rain event inspections of BMPs to ensure adequate design of BMPs to control erosion and sediment and to inform contractors of corrective actions to be completed before the next storm event. The SWPPP will also prohibit any non-storm water discharges. The Stormwater Control Plan developed by Stantec specifies the post-construction BMPs to protect water quality.

The redevelopment project will replace more than 2,400 square feet of impervious surface area and is regulated under the SWRCB Phase II MS4 Permit. The following applicable permits and regulations apply to the project:

- Phase II MS4 Permit (Waste Discharge Requirements for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems General Permit, Order No. 2013-0001-DWQ, NPDES No. CAS000004
- Post-Construction Stormwater Management Requirements for Development Projects in the Central Coast Region (Post Construction Requirements; Resolution R3-2013-0032)
- County of Santa Barbara Stormwater Technical Guide for Low Impact Development

The proposed development also includes many design elements that will improve storm water quality once the facility is constructed and operational, including a turf roof on the clubhouse, a golf cart wash system connected to the sanitary sewer system, runoff from impervious areas such as parking lots directed to vegetated areas, turf overflow parking, bioretention basins, and covered trash enclosures. These design elements will improve storm water quality and reduce the concentration of flows during storm events.

Maintenance Facility

The construction activities for the maintenance facility will also be covered by the Construction General NPDES Permit. The proposed design of the new maintenance facility includes design elements to protect storm water quality, including covered trash enclosures, new agri-chemical mixing and loading area, new agri-chemical storage container (112 SF, fire-rated with secondary containment), equipment wash system connected to the sanitary sewer system, additional covered areas for storage of equipment and materials, and new storage areas for sand and gravel. *Agri-chemical storage was indicated but not labeled on Sheet A_M-101 of the plans. Storage will be provided in this location with a 112 SF metal storage container placed on the concrete pad.* Stormwater from the Maintenance Facility will be directed to a bioretention basin located to the south of the maintenance facility near the golf course.

The proper storage of hazardous materials is crucial to protecting surface and groundwater quality. The proposed redevelopment of the maintenance facility will meet and exceed Local and State requirements for storage, mixing, and loading of such materials, providing inherent safeguards for protecting water quality. The maintenance facility stores the majority of the hazardous materials utilized to operate the golf course, this area has the greatest risk for impacting water quality, and therefore the improvements to the infrastructure at the maintenance facility using the most current structural BMPs will significantly improve water quality and reduce potential impacts from spills or accidents.

The storage of hazardous materials will be under the oversight of Hazardous Materials Division of the Santa Barbara Public Health Department's Consolidated Unified Program Agency (SB CUPA) and the Santa Barbara County Agriculture Commissioner. Both agencies conduct regular inspections, require ongoing reporting, annual employee training, and provide oversight regarding the proper storage of hazardous materials resulting in protection of water quality (surface water, soil, and groundwater).

One existing Structural BMP is located in the maintenance area and was installed in conjunction with the aboveground fuel system and consists of a drive slab for fueling operations with a drop inlet that is valved and connected to a bioswale that runs behind the fueling area.

Golf Course Construction

The construction of the golf course will require disturbance of the land greater than one acre and will require a Construction General NPDES Permit from the SWRCB. Due to the size and location of the project, it is anticipated to be a Risk Level 2 or 3, requiring a SWPPP to meet these requirements. To protect stormwater quality, BMPs will be implemented to protect adverse impacts to water quality during construction. Routine inspections conducted by a QSP, water quality sampling during storm events, ongoing reporting of results to SWRCB using the SMARTs database, post rain event BMP inspections, and implementation of corrective actions based on field observations to reduce potential impacts to stormwater quality during golf course construction activities. The SWPPP will include BMPs on erosion and sediment control, storage of hazardous materials and large equipment, concrete finishing, temporary bathrooms, training of contractors, sediment tracking control and many more BMPs in order to protect water quality during the construction phase of the project.

The project also proposes to properly abandon the septic system for the restrooms located on the golf course and the new restrooms will be connected to the sanitary sewer system reducing potential impacts to groundwater quality.

The Stormwater Control Plan developed by Stantec specifies the post-construction BMPs to protect water quality in compliance with the SWRCB Phase II MS4 Permit and CCRWQCB Post-Construction Requirements.

The redevelopment also significantly reduces the acreage of turf areas and creates large acreages of native plant areas. This inherent aspect of the project will greatly improve and reduce impacts to water quality, by creating significant buffers between areas where agri-chemicals are utilized and waterways.

The use of recycled water on the golf course is a proven method of safe irrigation and the SWRCB has stated that it's a beneficial use, while reducing the amount of effluent water discharged to the Pacific Ocean by the local sanitary district, along with conserving potable and groundwater resources for the local community. The use of recycled water is supervised by Goleta Water District, who requires routine field observations, BMPs, annual employee training, and quarterly reporting.

The redevelopment project includes the construction of a new irrigation system for the golf course. A new irrigation system will greatly reduce the risk of system leaks and mainline breaks and provide protective measure for water quality. The new irrigation system will allow for precise control, uniform distribution, and allow for water to be applied accurately to turf areas, improving water conservation and reducing potential water quality impacts from over watering and creating runoff. During the operation of the

new golf course, soil moisture probes will be routinely utilized to assist in application of water to turf areas, resulting in less runoff of irrigation water.

The turf areas are proposed to be sand-capped with 6- to 8-inches of sand. This will create a giant sand filter that water will permeate through before reaching subsurface drainage and will help filter water applied to the golf course. Drainage will be routed to bioretention basins for further improvements of water quality.

Upon completion of the golf course, a *Turf and Pest Management Plan* will be developed for the maintenance staff to implement. This is a comprehensive plan regarding the cultural practices to promote healthy turf with mowing methods, aerification schedules, and monitoring for pests, to promote healthy turf that is more disease and pest resistant and resulting in the use of less agri-chemicals. The plan will include an *Integrated Pest Management* approach to combat turf diseases and pest control based on weather patterns, seasonal observations, historic data trends, and scouting reports. These practices have proven to use less agri-chemicals while controlling turf diseases and pests, and reducing potential impacts to water quality.

Conclusion

The proposed project has many design aspects to protect and enhance water quality, from the clubhouse utilizing a turf roof, to a modern maintenance facility built to the latest specifications for material and equipment storage and storm water quality, construction activities will be monitored and reported to the SWRCB, and the large native plant areas will provide a significant buffer between the golf course and waterways. The redevelopment project will meet and/or exceed the current regulations in place to protect water quality and reduce impacts to the Devereaux Creek, Bell Creek, and the Pacific Ocean.

Appendix G-4

Non-Production Agriculture Monthly Pesticide Use Reports and Hazardous Materials Inventory

Water Quality
Consulting Group, Inc.
Ph. 805-698-3161

October 13, 2023

Mr. Steve Welton
Principal Planner
Suzanne Elledge Planning & Permitting Services
1625 State Street
Santa Barbara CA 93101

Subject: **Sandpiper Golf Course Renovation Project**
Non-Production Agriculture Monthly Pesticide Use Reports and Hazardous Materials Inventory
7925 Hollister Avenue, Goleta

Dear Mr. Welton:

Water Quality Consulting Group (WQCG) provides the current Pesticide Use Permit issued by the Santa Barbara County Agricultural Commissioner's Office and the *Non-Production Agricultural Monthly Pesticide Reports* for the period between October 10, 2022 to September 11, 2023. The reports were downloaded from the CalAgPermits database maintained by the California Department of Pesticide Regulations (DPR) and utilized by the Santa Barbara Agricultural Commissioner and Sandpiper Golf Club for reporting of pesticide use. The locations the pesticide applications were utilized was added to the reports, as this information is not required to be reported by the regulatory agency for non-production agriculture.

The facility will utilize and store hazardous materials at the maintenance facility. WQCG provides the *Hazardous Materials and Waste Inventory Matrix* for the facility downloaded from the California Environmental Reporting System (CERS) for the storage of hazardous materials under the oversight of the Hazardous Materials Division of the Santa Barbara Public Health Department's Consolidated Unified Program Agency (CUPA) A map showing the new maintenance facility and storage locations is included for reference. These reports and additional information is provided to address the questions raised in the City of Goleta *Notice of Application Incompleteness,* dated September 6, 2023.

Please contact our office if you have questions or require additional information.

Respectfully submitted,

Zachary Moran
President

Santa Barbara County Agricultural Commissioner's Office
263 Camino del Remedio
Santa Barbara, CA 93110

Office Phone: 805-681-5600

FAX: 805-681-5603

Website / e-Reporting (PUR & NOI): www.agcommissioner.com

Operator Identification Number 42-23-4201035

Operator: SANDPIPER GOLF COURSE
7925 HOLLISTER AVENUE
GOLETA, CA 93117

Agent: TENNESSEE M MCBROOM
7925 HOLLISTER AVENUE
GOLETA
CA 93117

Type of Use: Agricultural Use

4201035-2023-Version: 1
County District #: SB
Issued on: 1/17/2023
Valid as of: 1/1/2023
Expires on: 12/31/2023
Primary Phone: (805) 968-2378
Alternate Phone:
Mobile Phone: (805) 570-3256
Fax:

Employees Handle Pesticides

Permit Conditions: NO DRIFT, SITE MAP

See condition detail for code descriptions.

Regulatory Notes:

I understand this operator identification number does not relieve me from liability for any damage to persons or property caused by the use of pesticides. I acknowledge that duly authorized representatives from the County Department of Agriculture or the Department of Pesticide Regulation may, at reasonable times, enter and inspect fields, areas, structures, greenhouses and equipment (including protective clothing and equipment) where pesticides are handled, stored or applied (ref. 3 CCR 6140).

[Form PR-ENF-125 (Rev 11/06) Pesticide Enforcement Branch]

Applicant: Tennessee McBroom Director of Agronomy
(Name & Title)

Applicant Signature: _____ Date: 1/17/2023

Issuing Officer: _____ Date: 1/17/2023

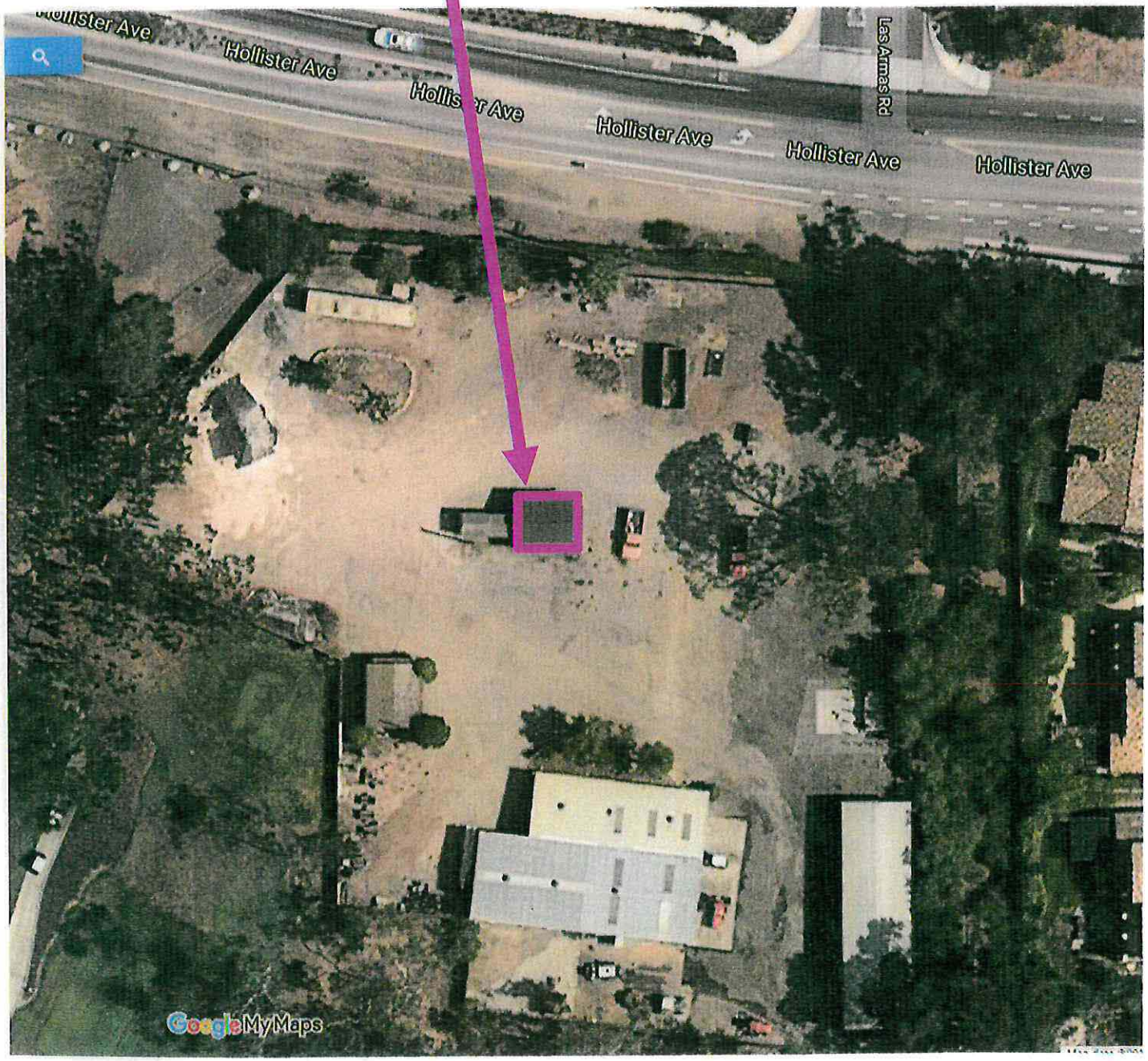
Santa Barbara County	Permit Number:	4201035
SANPIPER GOLF COURSE	Created On:	12/19/2014
7925 HOLLISTER AVE, GOLETA	Operator:	SANDPIPER GOLF COURSE



Included Sites:	01

N
W E
S

Pesticide Storage Location



DEPARTMENT OF PESTICIDE REGULATION
LICENSING/CERTIFICATION PROGRAM

QAC

QUALIFIED APPLICATOR CERTIFICATE

LICENSE #: 92748 EXPIRES: 12/31/2021
Categories: B Issued: 1/1/2020

TENNESSEE M MCBROOM

420 SEAVIEW RD
MONTECITO, CA 93108

This License must be shown to any representative of the Director or Commissioner upon request.



263 Camino del Remedio, Santa Barbara, CA 93110
Phone (805) 681-5600 Facsimile (805) 681-5605



RANCHO SAN MARCOS

Sandpiper

TENNESSEE McBROOM
Director of Agronomy

7925 Hollister Avenue
Santa Barbara, CA 93117
www.sandpipergolf.com
www.rsm1804.com

Direct: (805) 968-2378
Mobile: (805) 570-3256
Fax: (805) 985-0044
Email: tmcbroom@sandpipergolf.com

dpr Department of Pesticide Regulation

Mary-Ann Warmerdam
Director

Arnold Schwarzenegger
Governor

May 18, 2007 EXECUTIVE OFFICE #07-01

TO: County Agricultural Commissioners

SUBJECT: STATE PREEMPTION OF RESTRICTIONS ON PESTICIDE USE IN LAND USE PERMITS.

The Department of Pesticide Regulation has become aware of several instances where restrictions on pesticide use are being placed in local land use permits. Such restrictions are void and of no force or effect pursuant to Food & Agricultural Code section 11501.1. A copy of the statute is attached.

When this statute was passed, the Legislature clearly articulated its intent that "matters relating to [pesticides] are of statewide concern and are to be administered on a statewide basis, unless specific exceptions are made in state legislation for local administration." (Section 3, Chapter 1386, Statutes of 1984.) The language of the statute itself clearly reflects this intent by declaring that Divisions 6 and 7 of the Food & Agricultural Code "occupy the whole field of regulation regarding the registration, sale, transportation, or use of pesticides to the exclusion of all local regulation." The statute goes on to provide that "no action by a local governmental agency or department . . . may prohibit or in any way attempt to regulate any matter relating to . . . the use of pesticides."

Please share this memorandum with your local planning agency if appropriate.

Sincerely,

Polly Frenkel
Chief Counsel
(916) 324-2666

Attachment

cc: Ms. Mary-Ann Warmerdam
Mr. Paul H. Gosselin
Mr. Jerry Campbell
Mr. Jim Shattuck

Food & Agricultural Code

11501.1. (a) This division and Division 7 (commencing with Section 12501) are of statewide concern and occupy the whole field of regulation regarding the registration, sale, transportation, or use of pesticides to the exclusion of all local regulation. Except as otherwise specifically provided in this **code**, no ordinance or regulation of local government, including, but not limited to, an action by a local governmental agency or department, a county board of supervisors or a city council, or a local regulation adopted by the use of an initiative measure, may prohibit or in any way attempt to regulate any matter relating to the registration, sale, transportation, or use of pesticides, and any of these ordinances, laws, or regulations are void and of no force or effect.

(b) If the director determines that an ordinance or regulation, on its face or in its application, is preempted by subdivision (a), the director shall notify the promulgating entity that it is preempted by state law. If the entity does not repeal its ordinance or regulation, the director shall maintain an action for declaratory relief to have the ordinance or regulation declared void and of no force or effect, and shall also bring an action to enjoin enforcement of the ordinance or regulation.

(c) Neither this division nor Division 7 (commencing with Section 12501) is a limitation on the authority of a state agency or department to enforce or administer any law that the agency or department is authorized or required to enforce or administer.

(d) At the request of any state agency disseminating information on the pesticidal uses of any product, the director shall consult with, and provide technical assistance to, that agency to ensure that the dissemination is based on valid scientific information and consistent with state law.

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 10/10/2022 3:16 PM

Submittal Status: Submitted to DPR

Document #
WEB223615681

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	9/2022	3

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	100-1695-AA	DACONIL WEATHERSTIK FLOWABLE FUNGICIDE	1	320 OZ	30 LANDSCAPE MAIN	G
2	100-937-AA	PRIMO MAXX	1	1000 OZ	30 LANDSCAPE MAIN	T F S R
3	100-1191-AA	HERITAGE TL	1	128 OZ	30 LANDSCAPE MAIN	G

Areas Treated
G = Greens
T = Tees
F = Fairways
S = Surrounds
B = Bunkers

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 10/10/2022 3:20 PM

Submittal Status: Submitted to DPR

Document #
WEB223615709

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	10/2022	3

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	67690-51-AA	CUTLESS MEC TURF GROWTH REGULATOR	1	60 OZ	30 LANDSCAPE MAIN	G
2	432-1445-AA	BAYLETON FLO TURF AND ORNAMENTAL FUNGICIDE	1	320 OZ	30 LANDSCAPE MAIN	G
3	100-1695-AA	DACONIL WEATHERSTIK FLOWABLE FUNGICIDE	1	320 OZ	30 LANDSCAPE MAIN	G

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 11/22/2022 2:14 PM

Submittal Status: Submitted to DPR

Document #
WEB223636185

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	10/2022	1

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	100-937-AA	PRIMO MAXX	1	16 OZ	30 LANDSCAPE MAIN	G

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 12/27/2022 9:03 AM

Submittal Status: Submitted to DPR

Document #
WEB223652641

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	11/2022	1

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	100-937-AA	PRIMO MAXX	1	16.5 OZ	30 LANDSCAPE MAIN	G

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 12/27/2022 9:04 AM

Submittal Status: Submitted to DPR

Document #
WEB223652642

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	12/2022	1

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	100-937-AA	PRIMO MAXX	1	16.5 OZ	30 LANDSCAPE MAIN	G

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 2/10/2023 2:36 PM

Submittal Status: Submitted to DPR

Document #
WEB233679564

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	1/2023	1

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	100-937-AA	PRIMO MAXX	1	11 OZ	30 LANDSCAPE MAIN	G

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 4/13/2023 6:39 AM

Submittal Status: Submitted to DPR

Document #
WEB233713615

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	1/2023	6

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	67690-51-AA	CUTLESS MEC TURF GROWTH REGULATOR	1	60 OZ	30 LANDSCAPE MAIN	G
2	50534-209-ZD-100	DACONIL WEATHER STIK FLOWABLE FUNGICIDE	1	320 OZ	30 LANDSCAPE MAIN	G
3	100-1191-ZC	HERITAGE TL	1	1 GA	30 LANDSCAPE MAIN	G
4	100-1326-ZA	BANNER MAXX II	1	1 GA	30 LANDSCAPE MAIN	G
5	100-937-ZD	PRIMO MAXX	1	1196 OZ	30 LANDSCAPE MAIN	T F S R
6	100-1014-ZB	TRIMMIT 2SC	1	96 OZ	30 LANDSCAPE MAIN	I G S

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 4/12/2023 3:52 PM

Submittal Status: Submitted to DPR

Document #
WEB233713434

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	2/2023	8

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	100-937-ZD	PRIMO MAXX	1	33 OZ	30 LANDSCAPE MAIN	G
2	100-1695-AA	DACONIL WEATHERSTIK FLOWABLE FUNGICIDE	1	320 OZ	30 LANDSCAPE MAIN	T
3	62719-291-AA	CONSERVE SC TURF AND ORNAMENTAL	1	6 QT	30 LANDSCAPE MAIN	G
4	100-1014-ZB	TRIMMIT 2SC	1	48 OZ	30 LANDSCAPE MAIN	T
5	279-3265-AA	QUICKSILVER T&O HERBICIDE	1	24 OZ	30 LANDSCAPE MAIN	G
6	100-1191-ZC	HERITAGE TL	1	1 GA	30 LANDSCAPE MAIN	G
7	432-1230-ZB	PROXY GROWTH REGULATOR	1	450 OZ	30 LANDSCAPE MAIN	G
8	524-579-AA	ROUNDUP PROMAX HERBICIDE	1	40 OZ	30 LANDSCAPE MAIN	B

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 4/13/2023 6:51 AM

Submittal Status: Submitted to DPR

Document #
WEB233713617

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	2/2023	2

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	100-937-ZD	PRIMO MAXX	1	2200 OZ	30 LANDSCAPE MAIN	T F S R
2	62719-291-AA	CONSERVE SC TURF AND ORNAMENTAL	1	6 QT	30 LANDSCAPE MAIN	G

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 4/12/2023 3:54 PM

Submittal Status: Submitted to DPR

Document #
WEB233713437

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	3/2023	2

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	100-937-ZD	PRIMO MAXX	1	16.5 OZ	30 LANDSCAPE MAIN	T
2	100-1014-ZB	TRIMMIT 2SC	1	48 OZ	30 LANDSCAPE MAIN	T

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 4/13/2023 6:59 AM

Submittal Status: Submitted to DPR

Document #
WEB233713618

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	3/2023	3

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	100-937-ZD	PRIMO MAXX	1	1118 OZ	30 LANDSCAPE MAIN	T F S R
2	100-1014-ZB	TRIMMIT 2SC	1	96 OZ	30 LANDSCAPE MAIN	G S
3	100-1191-ZC	HERITAGE TL	1	1 GA	30 LANDSCAPE MAIN	G

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 4/12/2023 3:57 PM

Submittal Status: Submitted to DPR

Document #
WEB233713439

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	4/2023	4

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	100-1014-ZB	TRIMMIT 2SC	1	768 OZ	30 LANDSCAPE MAIN	T F S R
2	100-937-ZD	PRIMO MAXX	1	912 OZ	30 LANDSCAPE MAIN	T F S R
3	100-1191-ZC	HERITAGE TL	1	1 GA	30 LANDSCAPE MAIN	G
4	62719-291-AA	CONSERVE SC TURF AND ORNAMENTAL	1	6 QT	30 LANDSCAPE MAIN	T

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 4/13/2023 6:59 AM

Submittal Status: Submitted to DPR

Document #
WEB233713619

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	4/2023	1

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	100-937-ZD	PRIMO MAXX	1	1100 OZ	30 LANDSCAPE MAIN	G

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 5/29/2023 2:50 PM

Submittal Status: Submitted to DPR

Document #
WEB233733563

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	4/2023	8

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	72500-24-AA	KAPUT GROUND SQUIRREL BAIT	1	10 LB	30 LANDSCAPE MAIN	B
2	100-1014-ZB	TRIMMIT 2SC	1	1080 OZ	30 LANDSCAPE MAIN	T F S R
3	100-1191-ZC	HERITAGE TL	1	128 OZ	30 LANDSCAPE MAIN	T
4	524-579-AA	ROUNDUP PROMAX HERBICIDE	1	20 OZ	30 LANDSCAPE MAIN	B
5	100-937-ZD	PRIMO MAXX	1	1118 OZ	30 LANDSCAPE MAIN	T F S R
6	62719-291-AA	CONSERVE SC TURF AND ORNAMENTAL	1	6 QT	30 LANDSCAPE MAIN	G
7	50534-209-ZD-100	DACONIL WEATHER STIK FLOWABLE FUNGICIDE	1	264 OZ	30 LANDSCAPE MAIN	S
8	432-1445-AA	BAYLETON FLO TURF AND ORNAMENTAL FUNGICIDE	1	132 OZ	30 LANDSCAPE MAIN	T

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 5/29/2023 2:53 PM

Submittal Status: Submitted to DPR

Document #
WEB233733564

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	5/2023	3

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	67690-51-AA	CUTLESS MEC TURF GROWTH REGULATOR	1	60 OZ	30 LANDSCAPE MAIN	G
2	100-937-ZD	PRIMO MAXX	1	1100 OZ	30 LANDSCAPE MAIN	T F S R
3	524-579-AA	ROUNDUP PROMAX HERBICIDE	1	100 OZ	30 LANDSCAPE MAIN	B

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 9/3/2023 8:55 AM

Submittal Status: Submitted to DPR

Document #
WEB233784679

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	5/2023	3

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	100-937-ZD	PRIMO MAXX	1	1118 OZ	30 LANDSCAPE MAIN	T F S R
2	100-1014-ZB	TRIMMIT 2SC	1	1038 OZ	30 LANDSCAPE MAIN	T F S R
3	100-1326-ZA	BANNER MAXX II	1	128 OZ	30 LANDSCAPE MAIN	G

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 7/10/2023 3:39 PM

Submittal Status: Submitted to DPR

Document #
WEB233759147

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	6/2023	1

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	100-937-ZD	PRIMO MAXX	1	16.5 OZ	30 LANDSCAPE MAIN	G

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 9/3/2023 9:02 AM

Submittal Status: Submitted to DPR

Document #
WEB233784681

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	6/2023	5

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	67690-46-ZA	LEGACY TURF GROWTH REGULATOR	1	660 OZ	30 LANDSCAPE MAIN	T F S R
2	67690-51-AA	CUTLESS MEC TURF GROWTH REGULATOR	1	120 OZ	30 LANDSCAPE MAIN	T
3	100-1695-AA	DACONIL WEATHERSTIK FLOWABLE FUNGICIDE	1	320 OZ	30 LANDSCAPE MAIN	T
4	72500-24-AA	KAPUT GROUND SQUIRREL BAIT	1	20 LB	30 LANDSCAPE MAIN	B
5	100-1014-ZB	TRIMMIT 2SC	1	30 OZ	30 LANDSCAPE MAIN	T

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 7/10/2023 3:41 PM

Submittal Status: Submitted to DPR

Document #
WEB233759163

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	7/2023	1

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	100-937-ZD	PRIMO MAXX	1	16.5 OZ	30 LANDSCAPE MAIN	G

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 8/10/2023 3:47 PM

Submittal Status: Submitted to DPR

Document #
WEB233777654

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	7/2023	3

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	100-1014-ZB	TRIMMIT 2SC	1	30 OZ	30 LANDSCAPE MAIN	S
2	432-1445-ZA	BAYLETON FLO TURF AND ORNAMENTAL FUNGICIDE	1	320 OZ	30 LANDSCAPE MAIN	G
3	50534-209-ZD-100	DACONIL WEATHER STIK FLOWABLE FUNGICIDE	1	320 OZ	30 LANDSCAPE MAIN	G

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 9/3/2023 9:08 AM

Submittal Status: Submitted to DPR

Document #
WEB233784682

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	7/2023	2

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	100-1014-ZB	TRIMMIT 2SC	1	48 OZ	30 LANDSCAPE MAIN	G
2	100-937-ZD	PRIMO MAXX	1	18 OZ	30 LANDSCAPE MAIN	G

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 9/11/2023 2:50 PM

Submittal Status: Submitted to DPR

Document #
WEB233793832

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	7/2023	5

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	67690-51-AA	CUTLESS MEC TURF GROWTH REGULATOR	1	60 OZ	30 LANDSCAPE MAIN	T
2	100-1191-ZC	HERITAGE TL	1	128 OZ	30 LANDSCAPE MAIN	T
3	100-937-ZD	PRIMO MAXX	1	18 OZ	30 LANDSCAPE MAIN	G
4	100-1014-ZB	TRIMMIT 2SC	1	48 OZ	30 LANDSCAPE MAIN	S
5	524-579-AA	ROUNDUP PROMAX HERBICIDE	1	40 OZ	30 LANDSCAPE MAIN	B

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 9/3/2023 9:15 AM

Submittal Status: Submitted to DPR

Document #
WEB233784683

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	8/2023	2

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	100-937-ZD	PRIMO MAXX	1	66 OZ	30 LANDSCAPE MAIN	G
2	100-1014-ZB	TRIMMIT 2SC	1	156 OZ	30 LANDSCAPE MAIN	G

MSPUR Non-Ag, Non-Prod Ag Monthly Report

Report Status: 9/11/2023 3:05 PM

Submittal Status: Submitted to DPR

Document #
WEB233793861

Operator Name	Address	Phone
SANDPIPER GOLF COURSE	7925 HOLLISTER AVENUE, GOLETA, CA 93117	

License #	Permit #	County	Report Month/Year	Total Applications
N/A	4201035	42 Santa Barbara	9/2023	2

Line	EPA / Calif. Reg. No. From Label	Product Name	No. of Appl.	Total Used / Units	Commodity Treated	Area/Units Treated
1	100-937-ZD	PRIMO MAXX	1	16.5 OZ	30 LANDSCAPE MAIN	G
2	100-1014-ZB	TRIMMIT 2SC	1	48 OZ	30 LANDSCAPE MAIN	G

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **SANDPIPER GOLF COURSE**
Facility Name **SANDPIPER GOLF COURSE**
7925 HOLLISTER Ave, GOLETA 93117

Chemical Location
Agri-Chemical Storage Building

CERS ID **10211215**
Facility ID **FA0006360**
Status **Submitted** on 10/20/2022 7:14 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Yara Liva Calcinit 15.5-0-0 CAS No 15245 - 12 - 2 Map: Figure 1	**Pounds** State Solid Type Pure	**1000** Storage Container Bag Days on Site: 365	**50**	500 Pressue Ambient Temperature Ambient	0 Waste Code	- Health Acute Toxicity - Health Serious Eye Damage Eye Irritation				
	NPK Fertilizer CAS No Map: Figure 1	**Pounds** State Solid Type Mixture	**3000** Storage Container Bag Days on Site: 365	**50**	1000 Pressue Ambient Temperature Ambient	0 Waste Code	- Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation	Urea Urea, reaction products with formaldehyde biuret	98% 1% 1%		57-13-6 68611-64-3 108-19-0
	Liquid Fertilizer CAS No Map: Figure 1	**Gallons** State Liquid Type Mixture	**250** Storage Container Tote Bin Days on Site: 365	**250**	140 Pressue Ambient Temperature Ambient	0 Waste Code	- Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation	Urea Ferrous sulfate Manganese sulfate Citric acid			57-13-6 7720-78-7 7785-87-7 77-92-9

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **SANDPIPER GOLF COURSE**
Facility Name **SANDPIPER GOLF COURSE**
7925 HOLLISTER Ave, GOLETA 93117

Chemical Location **Maintenance Yard**

CERS ID **10211215**
Facility ID **FA0006360**
Status **Submitted** on 10/20/2022 7:14 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids	**GASOLINE** CAS No 8006-61-9 Map: Figure 1	**Gallons** State Liquid Type Pure	**520** Storage Container Aboveground Tank Days on Site: 365	**500**	50 Pressue Ambient Temperature Ambient	Waste Code	- Physical Flammable - Health Carcinogenicity - Health Reproductive Toxicity - Health Skin Corrosion Irritation - Health Specific Target Organ Toxicity - Health Aspiration Hazard - Health Germ Cell Mutagenicity				
DOT: 3 - Flammable and Combustible Liquids	**DIESEL FUEL** CAS No 68334-30-5 Map: Figure 1	**Gallons** State Liquid Type Pure	**520** Storage Container Aboveground Tank Days on Site: 365	**500**	250 Pressue Ambient Temperature Ambient	Waste Code	- Physical Flammable - Health Carcinogenicity - Health Acute Toxicity - Health Reproductive Toxicity - Health Skin Corrosion Irritation - Health Specific Target Organ Toxicity - Health Aspiration Hazard				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **SANDPIPER GOLF COURSE**
Facility Name **SANDPIPER GOLF COURSE**
7925 HOLLISTER Ave, GOLETA 93117

Chemical Location
Mechanic Shop

CERS ID **10211215**
Facility ID **FA0006360**
Status **Submitted** on 10/20/2022 7:14 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Hydraulic Oil	**Gallons**	**55**	**55**	30	55		Highly refined mineral oil (C15-C50)	99%		Mixture
	CAS No	State: Liquid	Storage Container: Steel Drum		Pressue: Ambient	Waste Code					
	Map: Figure 1	Type: Pure	Days on Site: 365		Temperature: Ambient						
DOT: 3 - Flammable and Combustible Liquids	**Motor Oil**	**Gallons**	**55**	**55**	30	55		VARIOUS LUBRICATING BASE OILS	85%		6474X-XX-X
	CAS No	State: Liquid	Storage Container: Steel Drum		Pressue: Ambient	Waste Code		ADDITIVE PACKAGE, INCLUDING	15%		MIXTURE
	Map: Figure 1	Type: Mixture	Days on Site: 365		Temperature: Ambient			ZINC ALKYLDITHIOPHOSPHATE	2%		68649-42-3
	WASTE OIL AND MIXED OIL	**Gallons**	**55**	**55**	30	110					
	CAS No	State: Liquid	Storage Container: Steel Drum		Pressue: Ambient	Waste Code: 221					
	Map: Figure 1	Type: Waste	Days on Site: 365		Temperature: Ambient						

KEYNOTES

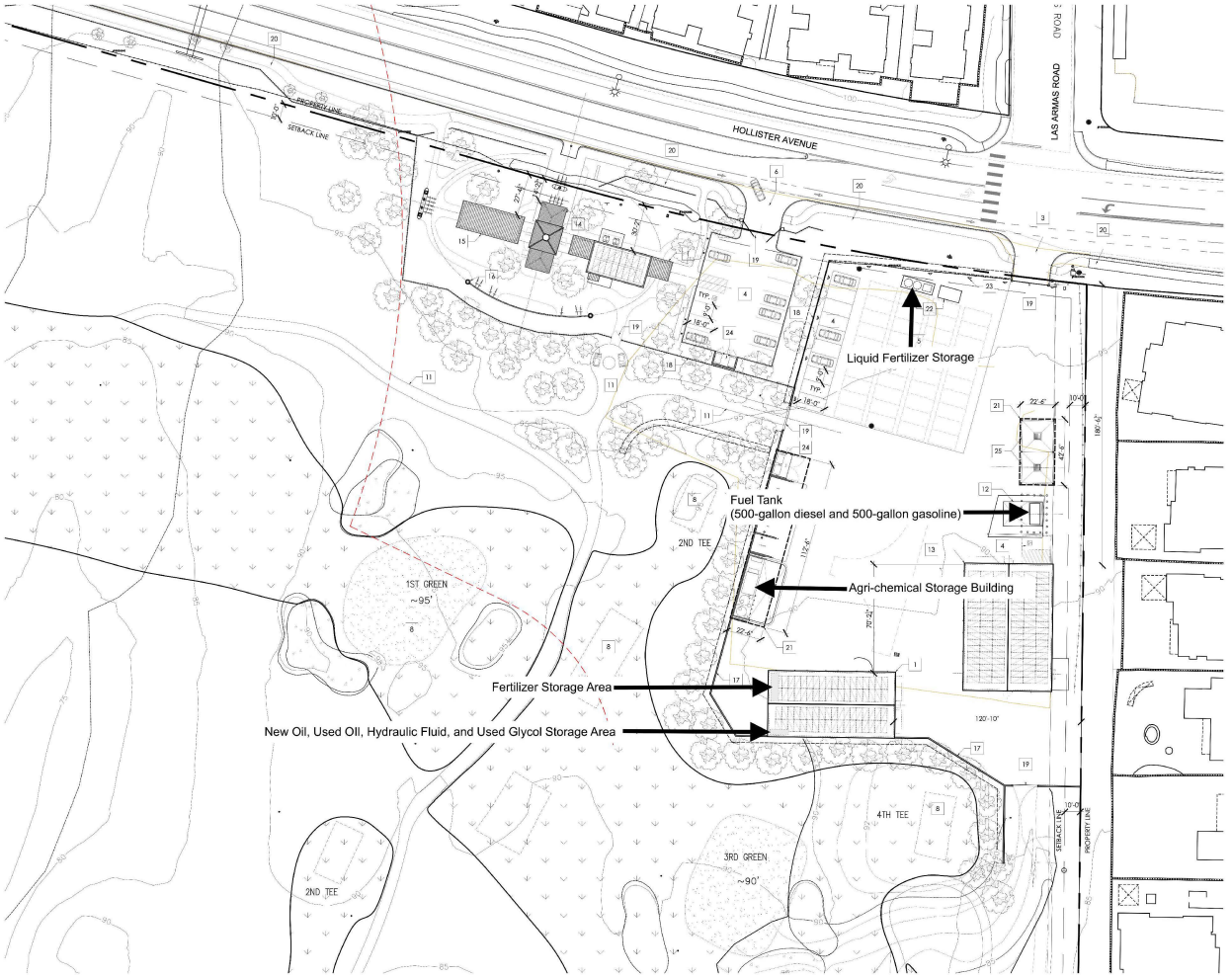
1. (N) PROPOSED BUILDING
2. (N) PROPOSED RIGHT OF WAY (R.O.W.) REFER TO CIVIL DWGS.
3. (E) ENTRANCE TO REMAIN - REFER TO CIVIL DWGS.
4. (N) PARKING LOT
5. (N) OVERFLOW PARKING
6. (N) ENTRANCE - REFER TO CIVIL
7. (N) BAG DROP/OFF AREA
8. (N) GOLF COURSE - REFER TO LANDSCAPE DWGS.
9. (N) ON-WAY DRIVEWAY - REFER TO CIVIL
10. (E) WATER FEATURE TO REMAIN AND TO BE PROTECTED
11. (N) CART PATHS - REFER TO CIVIL / LANDSCAPE DRAWINGS
12. (E) FUEL STATION TO REMAIN
13. (N) PROPOSED RE-BUILT BUILDING
14. (N) RESTORED BARNSDALL BUILDING
15. (N) TRELLIS
16. (E) RESTORED SITE WALL
17. (N) PROPOSED SITE WALL
18. (N) PROPOSED FENCE
19. (N) GATE
20. (N) PEDESTRIAN PATH / TRAIL - REFER TO LANDSCAPE
21. (N) ROOF CANOPY
22. (N) ENCLOSED PUMP STATION (EAST) AND FERTIGATION SYSTEM (WEST)
23. (N) PATH LIGHT - REFER TO SHEET A_M-200
24. (N) COVERED TRASH / RECYCLING AREA PER CITY STANDARDS
25. (N) COVERED WASH / BLOW OFF AREAS

NOTES

1. REFER TO CIVIL DRAWINGS FOR PROPOSED GRADING PLANS.
2. REFER TO LANDSCAPE DRAWINGS FOR PROPOSED TREES AND LANDSCAPE.
3. REFER TO CIVIL DRAWINGS FOR PROPOSED HOLLISTER / CATHEDRAL OAKS TRAFFIC INFORMATION AND ADJUSTMENTS.
4. REFER TO LANDSCAPE DRAWING FOR PROPOSED GOLF ROUTING PLANS.
5. REFER TO CIVIL DRAWINGS FOR PROPOSED UTILITIES.
6. REFER TO LANDSCAPE DRAWINGS FOR LIGHTING DESIGN AND SPECIFICATIONS - U.N.O..

LEGEND

AREA OF WORK



1 PROPOSED ENLARGED SITE PLAN BARNSDALL / MAINTENANCE YARD

SCALE: 1/32" = 1'-0"

PROJECT 'N'

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CONSULTANTS

NO.	ISSUE/ REVISION	DATE
1	CONCEPTUAL SUBMITTAL	7 NOV 2022

SANDPIPER GOLF CLUB

7925 HOLLISTER AVE.
GOLETA, CA. 93117

PROJECT NO. 30008

SCALE	DATE	DRAWN BY
AS NOTED	1 OCT 2022	GZ

PROPOSED ENLARGED SITE PLAN BARNSDALL MAINTENANCE YARD

DRAWING NO.

A_SP-093