CONCEPT DRAINAGE REPORT
FOR
FAIRMONT SCOTTSDALE PRINCESS
SUNSET VILLAS AND BUNGALOWS & ROOMS TOWER

August 7, 2023
WP# 215319.10

5-ZN-2015#2

EXPIRES 06-30-25

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EXPIRES 06-30-25

1.0 INTRODUCTION

1.1 General Background

The Fairmont Scottsdale Princess Sunset Villas and Bungalows & Rooms Tower (Site) includes ten (10) proposed resort/hotel buildings on approximately 3.8 acres of the approximate 38-acre parcel of the Fairmont Scottsdale Princess in the City of Scottsdale (APN#215-08-695). The project will include hardscape, landscape, underground parking, and utility improvements to support the development. The Site is located approximately 1,330-feet to the east of Scottsdale Road and directly south of Hacienda Way within Section 35, Township 4 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, Arizona. Refer to Exhibit 1 – *Vicinity Map* for the project location. The existing property, currently zoned C-2, is primarily developed with buildings, parking lot, pool, sidewalks, and a variety of landscaping (desert and grass).

This Drainage Report has been prepared in accordance with Wood, Patel & Associates, Inc.'s (WOODPATEL's) understanding of the City of Scottsdale technical drainage requirements (Ref. 2) and the *Drainage Design Manuals for Maricopa County Hydrology and Hydraulics (2018)* (Ref. 7 and 8), as applicable to the Site.

1.2 FEMA Regulated Flood Zones

The Federal Emergency Management Agency (FEMA) publishes Flood Insurance Rate Map (FIRM) information for communities that adhere to FEMA regulations. The FEMA FIRM panel for this Site is 04013C1320L, effective date October 16, 2013, and indicates the Site falls within "Zone AO" shaded (Refer to Exhibit 2 – *FEMA FIRM*).

"Zone AO" shaded is defined by FEMA as follows:

> *"Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined".*

It is WOODPATEL's understanding, based on experience and interpretations of the City of Scottsdale floodplain ordinance, that development of land within FEMA Zone "AO" is acceptable if the lowest finish floor elevation is above or properly protected from the anticipated 100-year water surface elevation. This Site will be designed in accordance with the City's floodplain ordinance to comply with Federal and State regulations.

2.0 HYDROLOGY ANALYSIS

2.1 Offsite Hydrology

The proposed Site does not receive any offsite flows, only modifications to pre-existing flows from the Fairmont Scottsdale community. *Drainage Report for Privado Welcome Building and Parking Modifications by Wood, Patel & Associates, Inc., dated February 21, 2023* (Ref. 1) provides a history of the current offsite drainage and retention. Offsite flows that will be considered due to modifications of existing drainage areas are the stormwater flows on Cottage Terrace and Hacienda Way. These flows will be collected by existing catch basins within Cottage Terrace. Offsite flows from the north of the

Fairmont Scottsdale community are diverted around the community by the proposed improvements in Appendix A - *Storm Storage Waiver / Proposed Drainage Improvements Exhibit*. These improvements allow any development within the community to only consider the flows within the Fairmont Scottsdale community. The Fairmont Scottsdale Princess Community slopes from north to south which ultimately outfalls into the retention basin on the TPC Golf Course. All existing flows to the north of the proposed Site are collected into strategically placed catch basins that outfall into the TPC Golf Course.

2.2 Onsite Hydrology

Per the existing stormwater waiver approved for the Site, no stormwater retention is existing or required. Refer to Appendix A - *Storm Water Storage Waiver / Proposed Drainage Improvements Exhibit.* Although retention is not required, the City of Scottsdale requires the First Flush Volume to be captured and treated to comply with Federal and State regulations. The First Flush Volume will be treated by the Contech Debris Separating Baffle Box treatment system (DSBB). Refer to Appendix F - *Contech Debris Separating Baffle Box Treatment System* for the manufacturer's detail. The DSBB was sized based on the treatment rate of the system compared to the flow rate of the First Flush Volume as calculated from Section 6.4.1 of the *Drainage Policies and Standards for Maricopa County* (Ref. 8). Refer to Appendix D - *Hydrologic and Hydraulic Calculations*, for the First Flush Flow rate calculation. The First Flush Flow required to be treated is 0.34 cfs for the proposed stormwater system.

Onsite flow rates for the proposed development were calculated using the Rational Method, as outlined in the *Drainage Design Manual for Maricopa County, Arizona: Volume I – Hydrology* (Ref 7). NOAA Atlas 14 precipitation data was obtained and utilized to develop Intensity-Duration-Frequency (I-D-F) curves for the Site. Rational Method flows were computed at concentration points within the Site at key design locations. Runoff coefficients were estimated to reflect post-development land use conditions for the 2-year, 10-year, and 100-year events. (Refer to Appendix D – *Hydrologic and Hydraulic Calculations*).

The proposed drainage system will include eight (8) 12-inch ADS catch basins, ten (10) 8-inch ADS catch basins, twenty-six (26) air-breaks used for roof drain connections, and nine (9) 48-inch storm drain manholes, H.D.P.E pipe, and the DSBB. Refer to Exhibit 3 - *Storm Drain Layout* for the proposed layout.

Ref. 1 provides a history of the current onsite drainage and retention. Based on the information above, the proposed site improvements mimic current drainage patterns and areas of retention for onsite with very minimal alteration.

2.3 Establishing Lowest Floor (LF88 Elevations)

The Grading and Drainage Plan has been designed to comply with the City of Scottsdale floodplain ordinance for a Zone "AO" floodplain. It is our understanding, unless other flood-proof measures are presented and approved, the proposed Lowest habitable Finished Floor (LFF) elevation must be designed a minimum of 1-foot above the anticipated 100-year flood elevation plus the City of Scottsdale requires an additional 1-foot above the flood depth, which results in a minimum finished floor elevation of 2 feet above the Highest Adjacent natural Grade (HAG) which is the regulatory flood elevation. Since

the Site was disturbed after the Zone “AO” Special Flood Hazard Zone was established, the current condition of the Site could not determine the HAG. The HAG uses topographical information showing the pre-disturbed condition of the Site. (Refer to Appendix B - *Regional Contour Map / Opinion of Existing Highest Natural Grade Elevation*)

Utilizing Curry’s Corner 7.5-minute Topographic Survey Map by USGS from 1964 for the pre-disturbed condition (Refer to Appendix C - *Curry’s Corner Quadrangle Map*) with a contour interval of 10 feet, the approximate highest natural grade of this Site would require the conversion of NAVD29 datum to NAVD88 datum by adding 1.749 feet to the NAVD29 datum.

Using AutoCAD Civil 3D, the quad map was aligned to the Site using common monument lines and previously surveyed monuments by WOODPATEL. The 10-foot interval contours were digitized, adjusted to NAVD88 and applied to a surface model. The surface model was supplemented with break lines at estimated ridge and flowline locations and used to display interpolated 1-foot contours for the pre-disturbed condition. The proposed Site was overlaid on the contour map to determine the HAG elevation of the highest building to be 1551.08. The regulatory flood elevation of the lowest building was calculated to be 1550.07. The proposed lowest finish floor elevation on Site is 1552.80 which is 2.73 feet above the regulatory flood elevation. For HAG, LAG, and Regulatory Flood Elevation values of all the proposed buildings Refer to Appendix B - *Regional Contour Map / Opinion of Highest Natural Grade Elevation* and Appendix C - *Curry’s Corner Quadrangle Map.*

In addition, using the same Curry’s Corner 7.5-minute Topographic Survey Map, the Lowest Adjacent Grade (LAG) at the lowest building was determined to be 1547.03, 6.97-feet below its lowest finished floor. The underground parking proposed under the building to the west of the Site will be dry flood proofed to prevent flooding due to it being completely underground.

As outlined during a recent meeting with the City of Scottsdale, WOODPATEL compared the city-provided Princess Eagle 1-foot existing ground contours to the 1-foot existing ground contours calculated by our office utilizing published USGS 10-foot contour data (which has been accepted by the city on multiple approved projects over the past 8 years). Refer to the Curry’s Corner USGS vs. Princes Eagle As-Built Exhibit within APPENDIX B – *Regional Contour Map / Opinion of Highest Natural Grade Elevation.*

WOODPATEL could not verify if the city-provided existing ground contour data is more accurate, or just more detailed. And, it should be noted the horizontal manipulation required to best-fit the Princess Eagle contours onto the Site, by default, will make them less accurate since the horizontal placement of a proposed building is directly related to the resulting HAG determination.

In our professional opinion, the difference between the two methods of determining HAG is negligible, especially since the accuracy of the 1986 contours is unknown. Therefore, the Princess Eagle 1-foot contours were not utilized for determining the HAG for this proposed Site.

3.0 HYDRAULIC ANALYSIS

The Site was designed to collect the runoff from onsite and transfer it through the proposed stormwater system to the outfall of the Site, an existing 36-inch H.D.P.E. pipe. Refer to Exhibit 3-*Storm Drain Layout* for layout and sizes of proposed pipes. The total flow exiting the site is 13.22 cfs connecting into the existing storm system. The stormwater will then flow to the south through the proposed treatment structure (DSBB).

4.0 TREATMENT

The DSBB treatment structure will be installed within the existing 36-inch stormwater line within Cottage Terrace to treat the stormwater upstream of its location. The flows passing through this structure will be from the proposed Site as well as existing flows stated in Ref. 4 and the overall calculations in Table 3 – *Existing Rational Method* within Appendix D. Refer to Exhibit 5 – *Existing Drainage Map*. In total, the proposed and existing flows expected to pass through this structure are 66.8 cfs and 110.2 cfs for the 10- and 100-year events respectively. The DSBB system will treat the first flush flow based on the 10-year event calculated to be 1.7 cfs.

5.0 MAINTENANCE

Ongoing maintenance of the designed or recommended drainage systems is required to preserve the design integrity and purpose of the drainage system. Failure to provide maintenance can prevent the drainage system from performing to its intended design purpose and can result in reduced performance. Maintenance within the public right-of-way is the responsibility of the governing municipality. However, it is the responsibility of landowners (such as private developers or property owners' associations) for facilities on private property. Prior to ultimate condition build-out upstream of drainage structures, additional maintenance may be required due to an increase in sedimentation build-up. A regular maintenance program is required to have drainage systems perform to the level of protection or service, as presented in this Report and the projects' plans and specifications.

6.0 CONCLUSIONS

Based on our analysis of the Site, the following conclusions can be made:

1. This Drainage Report has been prepared in accordance with WOODPATEL's understanding of the City of Scottsdale technical drainage requirements and the *Drainage Design Manuals for Maricopa County Hydrology and Hydraulics (2018)*, as applicable to the Site.

2. The Site is within a FEMA designated "Zone AO" shaded.

3. The Site is protected from offsite flows from the north by improvements previously designed and constructed specifically to protect this property, as outlined in the approved stormwater storage waiver.

4. No stormwater retention has been provided for this project according to the approved stormwater storage waiver.

5. The onsite 100-year storm event will be conveyed south by an existing storm drain system and overland flow, to the existing TPC Golf Course.

6. The 100-year high water elevation is 1537.80 in the adjacent TPC golf course, which is 15 feet below the proposed lowest finish floor elevation of 1552.80.

7. All finished floors for the proposed ten (10) buildings are above their relative highest adjacent natural grade, with the lowest difference in finished floor and natural grade being 2.84 feet. It is our understanding this is in compliance with the City's floodplain ordinance, which requires the lowest finished floor to be a minimum of 2-feet above (1-foot for AO and 1-foot of freeboard) the highest natural grade.

8. The estimated low natural ground elevations are lower than all ten (10) proposed building finished floor elevations.

9. Ongoing maintenance is required for the existing drainage systems to maintain design performance. Maintenance is the responsibility of the private parties involved.

7.0 REFERENCES

1. *Drainage Report for Fairmont Scottsdale Privado Welcome Building and Parking Modifications* by Wood, Patel & Associates, Inc., date February 21, 2023

2. *Design Standards & Policies Manual*, City of Scottsdale, 2018.

3. *Drainage Report for Fairmont Scottsdale Hotel Expansion* by Wood, Patel & Associates, Inc., dated May 1, 2015.

4. *Drainage Report for Fairmont Scottsdale Western Theme Town* by Wood, Patel & Associates, Inc., dated May 15, 2015.

5. *Drainage Memo for Fairmont Scottsdale Sunset Beach Pool* by Wood, Patel & Associated, Inc., dated September 11, 2015.

6. *Curry's Corner Quadrangle,* 7.5 Minute Series Topographic Map, USGS, 1964.

7. *Drainage Design Manual for Maricopa County, Volume I Hydrology, Arizona, 2018.*

8. *Drainage Design Manual for Maricopa County, Volume II Hydraulics, Arizona, 2018.*

9. *Drainage Policies and Standards for Maricopa County*, Arizona, 2016.

APPENDIX A – STORM STORAGE WAIVER / PROPOSED DRAINAGE IMPROVMENTS EXHIBIT

~~PRINCESS~~

10/22

Request for Stormwater Storage Waiver

292-SA-2007

City of Scottsdale Case Numbers:

___ - PA - ___ ___ - ZN - ___ ___ - UP - ___ ___ - DR - ___ ___ - PP - ___ PC# 6332-07-7

The applicant/developer must complete and submit this form to the city for processing and obtain approval of waiver request ***before submitting Improvement plans.*** Denial of the waiver may require the developer to submit a revised site plan to the Development Review Board.

Date 7/14/08 **Project Name** Fairmont Scottsdale Princess Resort

Project Location 7575 East Princess Drive Scottsdale, AZ 85255

Applicant Contact John Bulka **Company Name** Wood Patel & Associates

Phone 480-834-3300 Fax 480-834-3320 E-mail jbulka@woodpatel.com

Address 1855 N. Stapley Mesa, AZ 85203

Waiver Criteria

A waiver is an intentional relinquishment of a claim or right. A project must meet at least one of six criteria listed below for the city to consider waiving some or all required stormwater storage. Check the applicable box and provide a signed engineering report and supporting engineering analyses that demonstrate the project meets the criteria *and* that the effect of a waiver will not increase the potential for flooding on any property.

☐ 1. The runoff for the project has been included in a storage facility at another location. The applicant must demonstrate that the stormwater storage facility was specifically designed to accommodate runoff from the subject property and that the runoff will be conveyed to this location through an adequately designed conveyance facility.

☒ 2. The development is adjacent to a watercourse or channel that an engineering analysis shows is designed and constructed to handle the additional runoff without increasing the potential for flood damage to the subject property or to any other property.

☐ 3. The development is on a parcel less than one-half acre in size in an area where the engineering analysis demonstrates there is no significant increase in potential for flood damage due to its development.

☐ 4. Stormwater storage requirements conflict with requirements of the Environmentally Sensitive Lands Ordinance (ESLO). The applicant must demonstrate there is no increased potential for flood damage to the subject property or to any other property. Such conflicts with ESLO may include:

- Total land requirements for storage basin, easements, setbacks, and NAOS prevent building allowable footprint per zoning.
- Topography prevents building storage basin.
- Creating a storage facility requires wash modification.
- Instances where the Zoning Administrator cannot allow a modification to ESL requirements.

☐ 5. The project is located within the Downtown Fee Reduction Area as described and approved by City Council Resolution #6238 (see map). The applicant must demonstrate there is no increased potential for flood damage to any property. Even if the project is located in the Downtown area, if the project creates additional potential for increased flood damage, the developer must provide alternative mitigation methods to prevent the damage.

☐ 6. The project is located within a watershed that drains directly to the Salt River Pima-Maricopa Indian Community (SRPMIC) (see map). The project must provide the pre-development peak discharge flow to the SRPMIC, and attenuate flows over and above pre-development.

By signing below, I certify that the stated project meets the waiver criteria selected above as demonstrated by the attached documentation.

John Bulka

Developer or Engineer (circle one)

7-16-08

Date

Planning & Development Services Department

7447 E Indian School Road, Suite 105, Scottsdale, AZ 85251 • Phone: 480-312-7000 • Fax: 480-312-7088

SWW

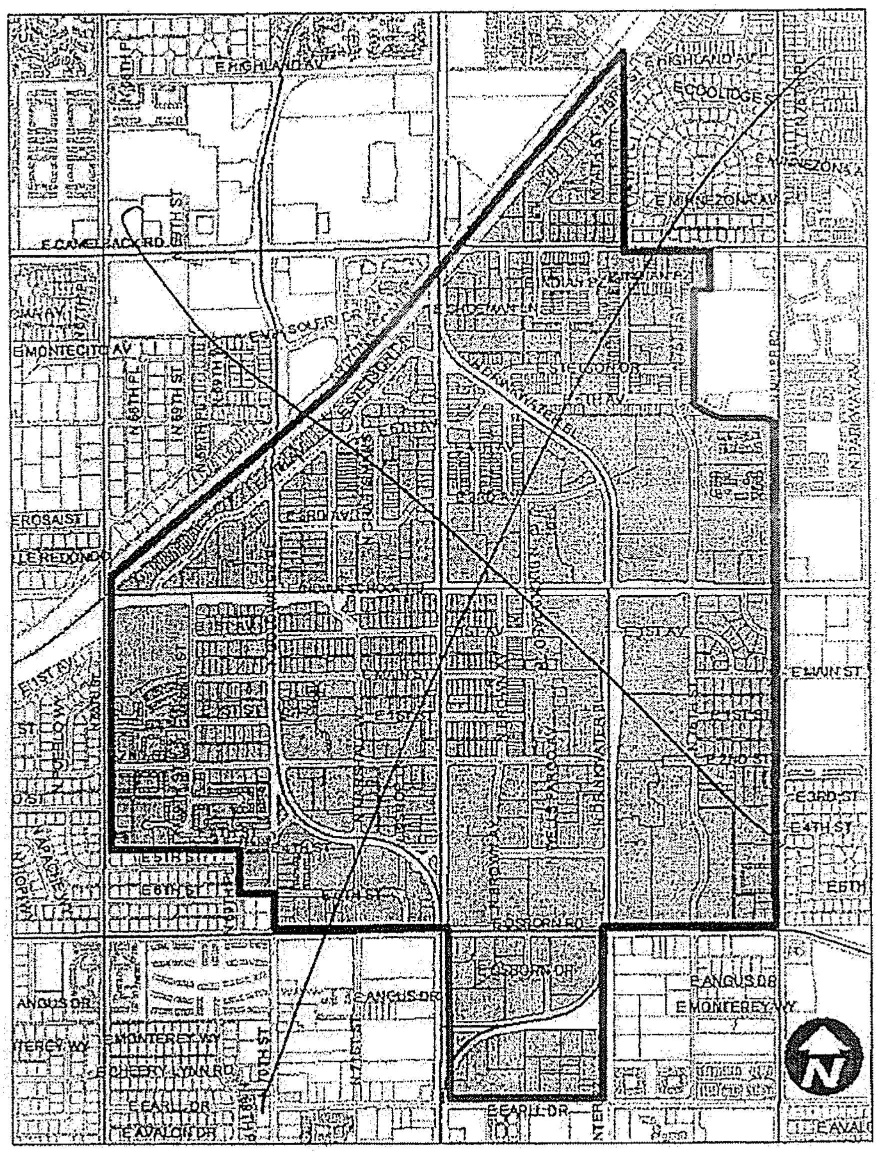
6332-07-7

Request for Stormwater Storage Waiver

292-SA-2007

City of Scottsdale Case Numbers:

___ - PA - ____ ____ - ZN - ____ ____ - UP - ____ ____ - DR - ____ ____ - PP - ____ PC#________



NOT APPLICABLE

Figure 1. Designated Area for Downtown Stormwater Storage Waivers

Planning & Development Services Department

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Request for Stormwater Storage Waiver

City of Scottsdale Case Numbers:

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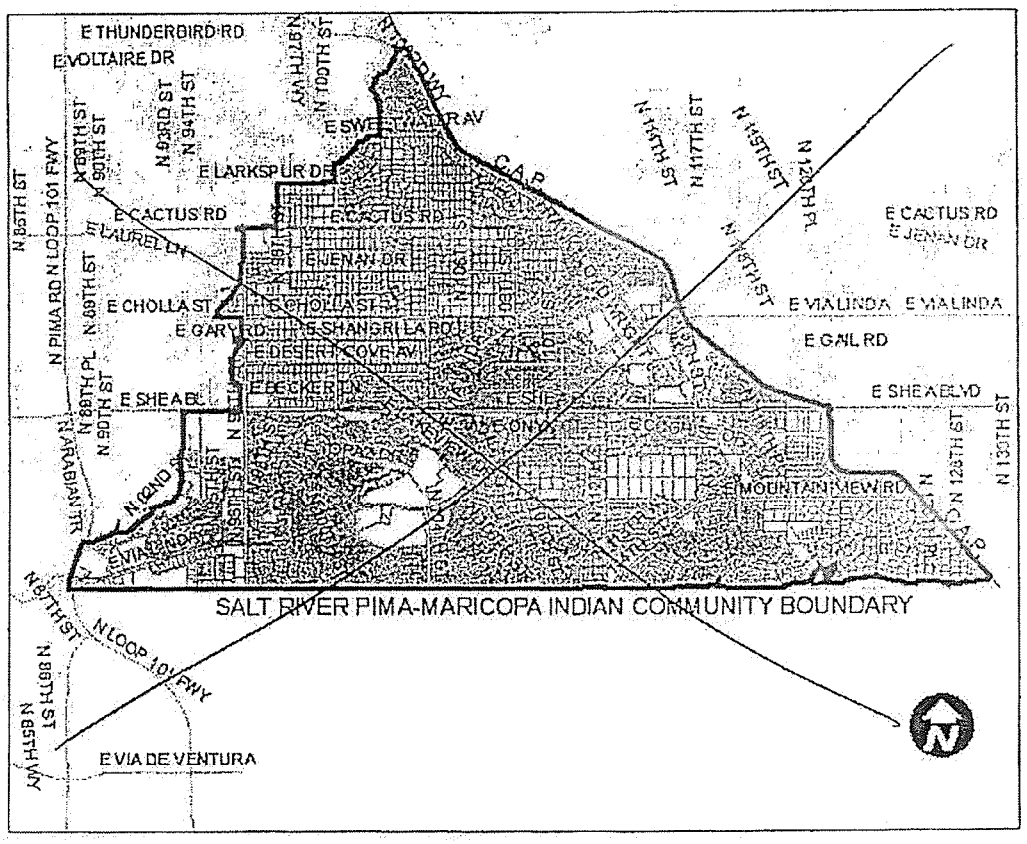

Figure 2. Watersheds Draining to Salt River Pima-Maricopa Indian Community

NOT APPLICABLE

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Request for Stormwater Storage Waiver

292-SA-2007

City of Scottsdale Case Numbers:

___-PA-___ ___-ZN-___ ___-UP-___ ___-DR-___ ___-PP-___ PC#_____

CITY STAFF TO COMPLETE THIS PAGE

Project Name FAIRMONT SCOTTSDALE PRINCESS RESORT

Check Appropriate Boxes:

☐ Meets waiver criteria (specify): ☐ 1 ☑ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6

☑ Recommend approve waiver.

☐ Recommend deny waiver:
- ☐ None of waiver criteria met.
- ☐ Downstream conditions prohibit waiver of any storage.
- ☐ Other:

Explain: _____

☐ Return waiver request:
- ☐ Insufficient data provided.
- ☐ Other: _____

Explain: _____

Recommended Conditions of Waiver:
- ☒ All storage requirements waived.
- ☐ Pre development conditions must be maintained.
- ☑ Other:

Explain: In land improvements exceed cost of in-lieu fee.

☒ **Waiver approved per above conditions.**

☐ **Waiver denied.**

C. Ashley Couch — 10/23/08

Floodplain Administrator or Designee — Date

Planning & Development Services Department
7447 E Indian School Road, Suite 105, Scottsdale, AZ 85251 • Phone: 480-312-7000 • Fax: 480-312-7088

Request for Stormwater Storage Waiver

292-SA-2007 City of Scottsdale Case Numbers:

___ - PA - ___ ___ - ZN - ___ ___ - UP - ___ ___ - DR - ___ ___ - PP - ___ PC#_____

In-Lieu Fee and In-Kind Contributions

If the city grants a waiver, the developer is required to calculate and contribute an In-Lieu Fee based on what it would cost the city to provide the waived storage volume, including costs such as land acquisition, construction, landscaping, design, construction management, and maintenance over a 75-year design life. For FY 2007/2008, this cost is $3.22 per cubic foot of stormwater stored. This unit cost will be updated annually, but the city reserves the right to revise the unit cost at any time at its sole discretion.

The Floodplain Administrator considers in-kind contributions on a case-by-case basis. An in-kind contribution can serve as part of or instead of the calculated in-lieu fee. The Floodplain Administrator or designee must approve in-lieu fees and in-kind contributions.

Project Name Fairmont Scottsdale Princess Resort

The waived stormwater storage volume is calculated as follows:

V = CRA; where
V = stormwater storage volume required, in cubic feet,
C = weighted average runoff coefficient over disturbed area,
R = 100-year/2-hour precipitation depth, in feet (2.82 inches, or 0.235 feet, for all regions of Scottsdale), and
A = area of disturbed ground, in square feet

Furthermore,

$V_w = V - V_p$; where
V_w = volume waived,
V = volume required, and
V_p = volume provided

C = 0.9
A = 424,753
V = 89,826
V_p = 0
V_w = 89,826

☐ An In-Lieu Fee will be paid, based on the following calculations and supporting documentation:
In-lieu fee ($) = V_w (cu. ft.) x $3.22 per cubic foot = 289,240

☒ An In-Kind Contribution will be made, as follows:
See attachment. Princess Drive Bridge Reconstruction, in accordance with approved plans.

☐ No In-Lieu Fee is required. Reason:

Approved by: C. Ashley Conklin 10/23/08

Floodplain Administrator or Designee — Date

Planning & Development Services Department
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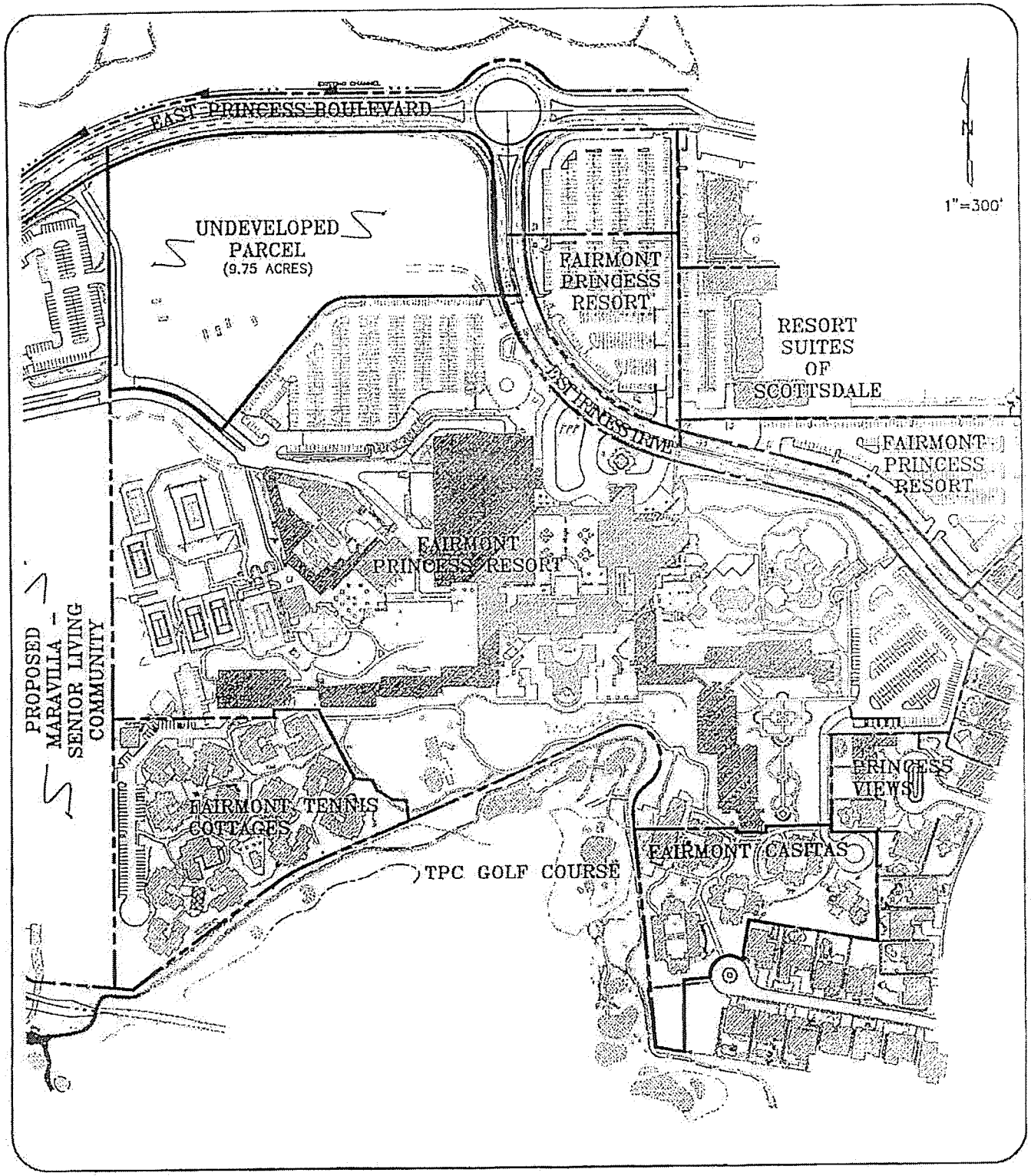


EXHIBIT 1

FAIRMONT SCOTTSDALE PRINCESS RESORT

ENGINEER	J. Bulka
DESIGNER	J. Haywood
CAD TECHNICIAN	J. Sanchez
SCALE	1"=300'
DATE	07/14/08
JOB NUMBER	07910
REF. SHEET	1 OF 1

WOOD/PATEL & ASSOCIATES INC.
Civil Engineers, Hydrologists and Land Surveyors
1855 North Stapley Drive
Mesa, Arizona 85203
(480) 834-3300
(480) 834-3320 FAX

Attachment to Stormwater Storage Waiver Request
for Fairmont Scottsdale Princess Resort & Regional Flood Control

The Fairmont Scottsdale Princess Resort (Site) is a 60 acre resort located near the southwest corner of Princess Boulevard and Princess Drive. The Site is bounded by the Princess Blvd. to the north, the Maravilla Scottsdale Senior Living Community to the east, the TPC Golf Course to the south and existing residential developments to the west (see Exhibit 1, attached). The existing Fairmont Scottsdale Princess Resort consists of multiple hotel buildings, a ballroom, spa, tennis cottages, tennis courts, and parking. A majority of the site is developed and portions are being updated and renovated. At the north end of the site there is a 9.75 acre portion of the property that has yet to be developed, and other portions are scheduled for upgrades.

It is Wood/Patel's understanding that the ownership of the Fairmont Scottsdale Princess Resort, Strategic Hotels and Resorts, has agreed to fund regional flood control improvements to the public road/channel crossing at Princess Blvd and Scottsdale Road, in return for the City approving this waiver and it being applicable to the entire site. The improvements consist of removing the existing concrete box culvert crossing and replacing it with a bridge structure. The cost of a new bridge structure is estimated at $1,053,000.

City of Scottsdale In-Lieu Fees:

V(req) Volume required = CRA = (0.90) x (0.235 feet) x (9.75 acres) = 89,826 cu-ft.

C (Runoff Coefficient) = 0.90

R (100-year/2-hour precipitation depth) = 0.235 feet

Site area = 9.75 acres

City of Scottsdale In-Lieu Fees = V(req) x $3.22 = (89,826 cu-ft) x $3.22 = $289,240

Summary:

Public Drainage Improvements = $1,053,000 (*)

City of Scottsdale in Lieu Fee = $289,240

(*) See Sheet 2 of 2 Engineering Preliminary Opinion of Probable Cost

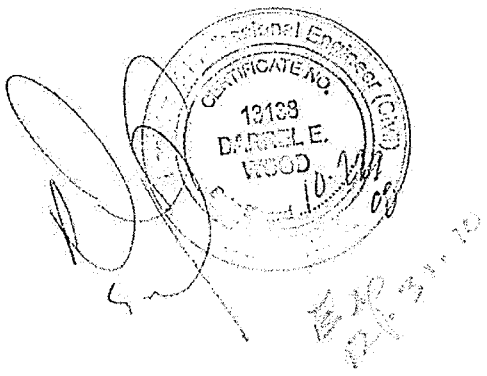
Attachment to Stormwater Storage Waiver Request
for Fairmont Scottsdale Princess Resort & Regional Flood Control

Engineering Preliminary Opinion of Probable Cost (*)

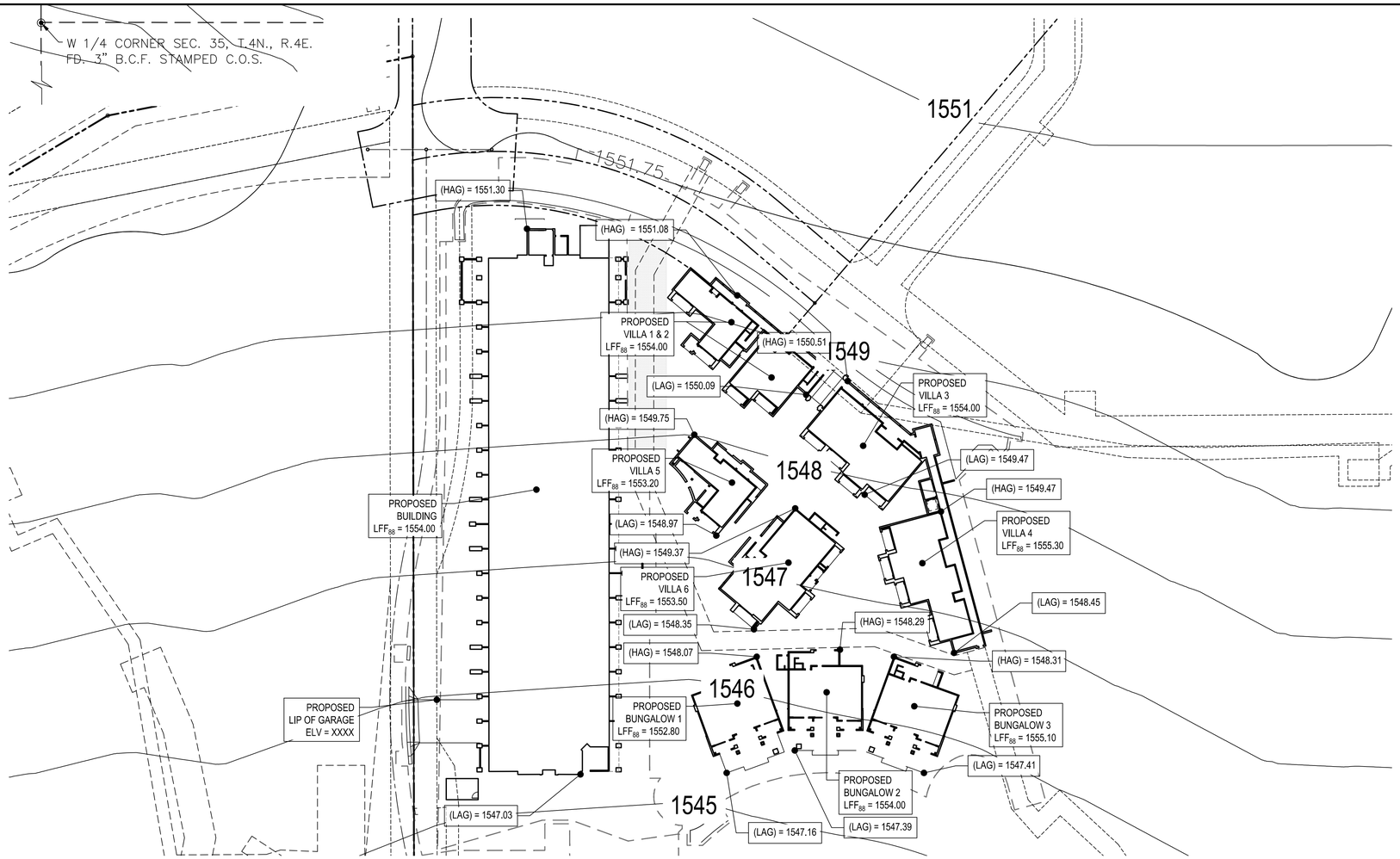
Prepared Bridge Structure at Princess Drive, just east of Scottsdale Road serving unnamed wash.

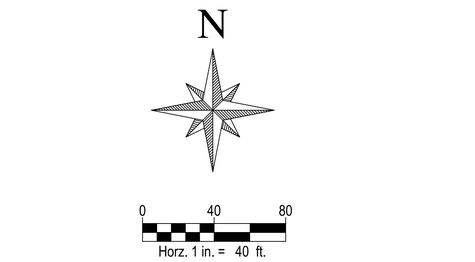
Estimated Bridge Surface = 8,100 square feet x $130/s.f. $1,053,000

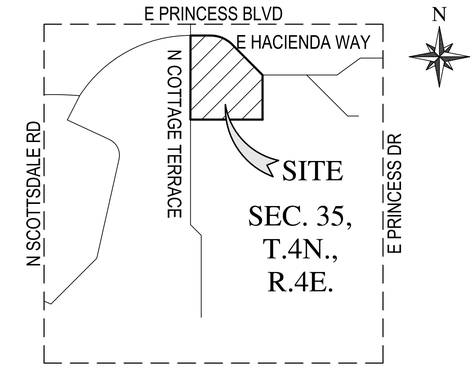
(*) Offered without the benefit of construction documents and specifications.



APPENDIX B – REGIONAL CONTOUR MAP / OPINION OF EXISTING HIGHEST NATURAL GRADE ELEVATION







VICINITY MAP
N.T.S.

FEMA SUMMARY TABLE									
NAME	ADDRESS	LOWEST FINISHED FLOOR ELEVATION (LF88)	GARAGE DOOR LIP ELEVATION	HIGHEST ADJACENT NATURAL GRADE	LOWEST ADJACENT NATURAL GRADE	REGULATORY FLOOD ELEVATION	FEMA REQUIREMENTS		
BUILDINGS							FLOOD VENTING	WET FLOODPROOFING	OTHER
VILLA 1	7575	1,554	N/A	1,551.08	1,550.06	1,553.08	NO VENT	NOT REQUIRED	N/A
VILLA 2	7575	1,554	N/A	1,551.08	1,550.06	1,553.08	NO EVENT	NOT REQUIRED	N/A
VILLA 3	7575	1,554	N/A	1,550.51	1,549.47	1,552.51	NO VENT	NOT REQUIRED	N/A
VILLA 4	7575	1,555.3	N/A	1,549.6	1,548.45	1,551.6	NO VENT	NOT REQUIRED	N/A
VILLA 5	7575	1,553.2	N/A	1,549.75	1,548.97	1,551.75	NO VENT	NOT REQUIRED	N/A
VILLA 6	7575	1,553.3	N/A	1,549.37	1,548.35	1,551.37	NO VENT	NOT REQUIRED	N/A
BUNGALOW 1	7575	1,552.8	N/A	1,548.07	1,547.16	1,550.07	NO VENT	NOT REQUIRED	N/A
BUNGALOW 2	7575	1,554	N/A	1,548.29	1,547.39	1,550.29	NO VENT	NOT REQUIRED	N/A
BUNGALOW 3	7575	1,555.1	N/A	1,548.31	1,547.41	1,550.31	NO VENT	NOT REQUIRED	N/A
BUILDING	7575	1,554	1,548	1,551.3	1,547.03	1,553.3	NO VENT	NOT REQUIRED	N/A

1) WHEN REQUIRED AS INDICATED ABOVE, FLOOD VENTS SHALL BE PROVIDED ON AT LEAST 2 SEPARATE WALLS. THE FLOOD VENTS SHALL HAVE ONE SQUARE INCH OF OPENING SPACE FOR EVERY SQUARE FOOT OF ENCLOSED SPACE BELOW THE REGULATORY FLOOD ELEVATION, OR AS NOTED ABOVE. SEE ARCHITECTURAL PLANS FOR VENTS OPENINGS. PROPOSED GRADE ADJACENT TO BUILDING MAY EFFECT VENT LOCATIONS, CONSULT ENGINEER PRIOR TO CONSTRUCTION WITH ANY QUESTIONS.
2) WHEN REQUIRED AS INDICATED ABOVE, WET FLOODPROOFING SHALL BE PROVIDED UP TO THE REGULATORY FLOOD DEPTH. WET FLOODPROOFING CONSIST OF CONSTRUCTION WITH FLOOD RESISTANT MATERIALS.
3) WHEN REQUIRED AS NOTED ABOVE, ELECTRICAL AND MECHANICAL EQUIPMENT SHALL BE ELEVATED ABOVE THE REGULATORY FLOOD DEPTH.
4) PROPOSED BUILDING M1 WILL BE A STRUCTURALLY INDEPENDENT NON-RESIDENTIAL STRUCTURE.
5) FEMA DEFINES DRY FLOODPROOFING AS A COMBINATION OF MEASURES THAT RESULT IN A STRUCTURE, INCLUDING THE ATTENDANT UTILITIES AND EQUIPMENT, BEING WATERTIGHT WITH ALL ELEMENTS SUBSTANTIALLY IMPERMEABLE TO THE ENTRANCE OF FLOODWATER AND WITH STRUCTURAL COMPONENTS HAVING THE CAPACITY TO RESIST FLOOD LOADS.

LEGEND

	PROPOSED BUILDING OUTLINE
	BOUNDARY LINE
	SECTION LINE
1550	ESTIMATED 5' CONTOUR NAVD88 DATUM
1541	ESTIMATED 1' CONTOUR NAVD88 DATUM
1551.75	ORIGINAL 1964 CURRYS CORNER CONTOURS ON NAVD88 DATUM
HAG	HIGHEST ADJACENT NATURAL GRADE
LAG	LOWEST ADJACENT NATURAL GRADE
RFD	REGULATORY FLOOD DEPTH = HAG +2' (ZONE AO DEPTH (1') = 1' FREEBOARD)
LGF	LOWEST GARAGE FLOOR

ELEVATION STATEMENT

THE WORK PRODUCT PRESENTED IS THE RESULT OF OBTAINING BEST AVAILABLE HISTORICAL ELEVATION INFORMATION, AND EMPLOYING PROFESSIONAL JUDGMENT TO BEST PRESENT IN SITE GROUND ELEVATIONS. ELEVATIONS ARE BASED ON 1964 CURRYS CORNER NGVD29 DATUM CONVERTED TO NAVD88 USING MARICOPA LAND SURVEY CONVERSION OF 1.749 FT.

BENCHMARK

THE VERTICAL DATUM FOR THIS EXHIBIT IS BASED ON GDACS POINT 43017-1, 3 INCH CITY OF SCOTTSDALE BRASS CAP FLUSH LOCATED ON SCOTTSDALE ROAD SOUTH OF PRINCESS DRIVE HAVING AN ELEVATION OF 1552.985, CITY OF SCOTTSDALE NAVD88 DATUM.

NOT FOR CONSTRUCTION OR RECORDING

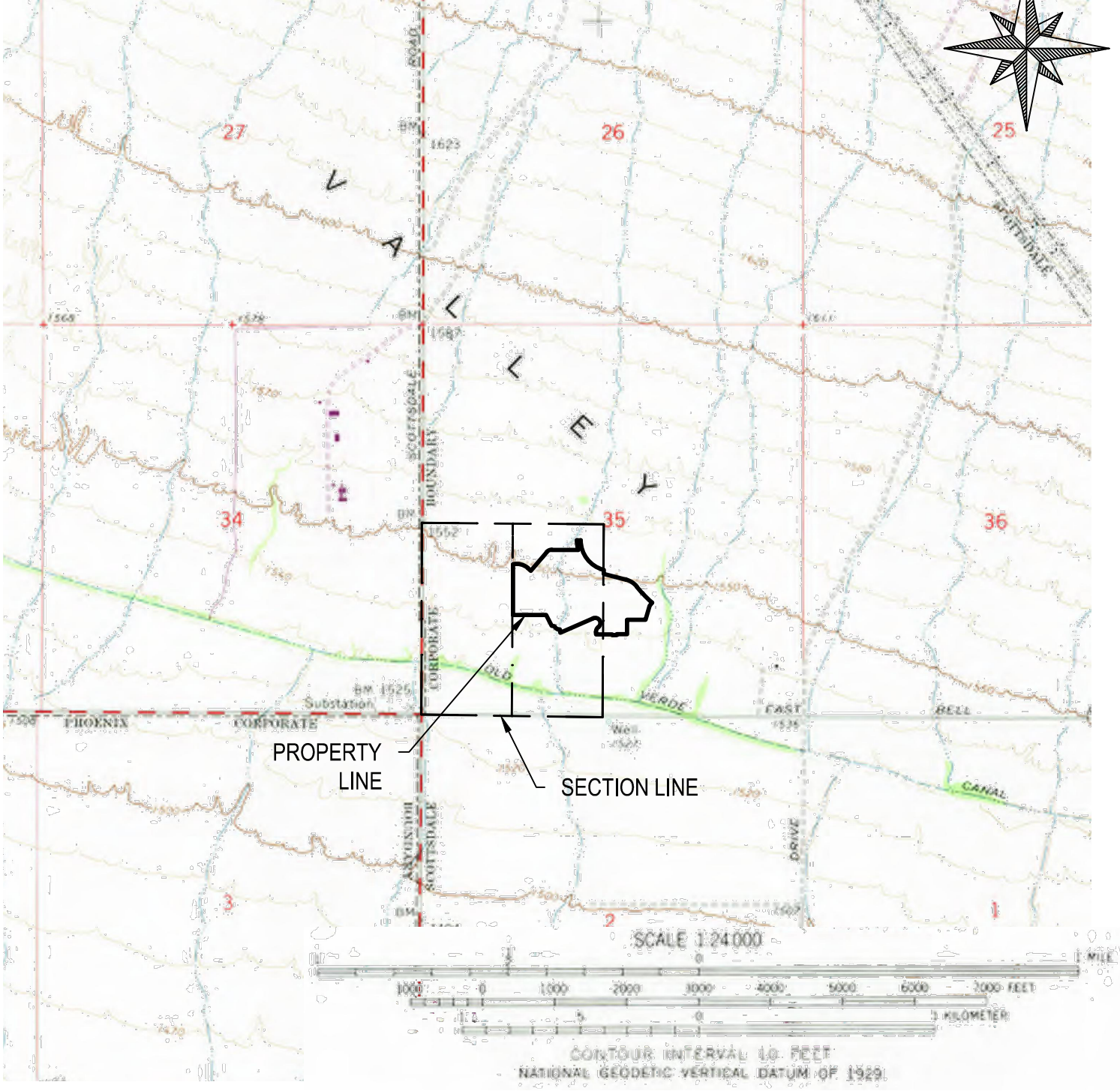
WOOD PATEL

FAIRMONT SCOTTSDALE PRINCESS

SUNSET VILLAS AND BUNGALOWS & ROOMS TOWER
LOWEST FINISHED FLOOR

DATE	08/04/2023	SCALE	1" = 40'	SHEET	01 OF 02
JOB NO	215319.10	DESIGN	AJS	DRAWN	AJS

Z:\2021\215319\Project Support\Reports\5319.10 - Sunset Bungalows\Drainage\Exhibits\5319.10-APPX-C1-Lowest Floor Elevation Exhibit.dwg



NOT
FOR CONSTRUCTION OR RECORDING

WOOD PATEL

PRINCESS SUNSET VILLAS & BUNGALOWS & ROOMS TOWER

REGIONAL CONTOUR MAP/OPINION OF EXISTING HIGHEST NATURAL GRADE ELEVATION

DATE	08/04/2023	SCALE	1" = 1'	SHEET	2 OF 2
JOB NO.	215319	DESIGN	RS	CHECK	RS
		DRAWN	AJS	RFI #	N/A

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Registered Professional Engineer (Civil)
CERTIFICATE NO.
36382

HAG USGS 1551.30
HAG PRINCESS EAGLE 1552.00

APPROXIMATE
LOCATION OF ROOMS
TOWER BUILDING

HACIENDA WAY

COTTAGE TERRACE

1550

1555

1545

N

0 50 100
Horz. 1 in. = 50 ft.

LEGEND

PRINCESS EAGLE AS-BUILT

CURRY'S CORNER USGS

PROPERTY LINE DISCREPANCY

NOT
FOR
CONSTRUCTION
OR RECORDING

WOOD PATEL

CURRY'S CORNER USGS VS. PRINCESS EAGLE AS-BUILT

NGVD29 MAP COMPARISON EXHIBIT

DATE	07/27/2023	SCALE	1" = 50'	SHEET	01 OF 01
JOB NO	215319	DESIGN	AJS	DRAWN	AJS

Z:\2021\215319\Dwg\Exhibits\5319 - LFF Princess Eagle As-Built.dwg

APPENDIX C – CURRY'S CORNER QUADRANGLE MAP

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

CURRYS CORNER QUADRANGLE
ARIZONA—MARICOPA CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

(NEW RIVER SE) 3351 I SE

(WILDCAT HILL) 3651 IV SE

112°00' — 33°45' — 111°52'30" — 33°42'30" — 33°37'30"

R. 3 E. R. 4 E. R. 5 E.

CAVE CREEK 8.1 MI. — CAVE CREEK 6 MI. — 3651 IV SW (CAVE CREEK)

480 000 FEET — 510 000 FEET — 960 000 FEET — 990 000 FEET

T. 5 N. — T. 4 N. — T. 3 N.

CAVE CREEK ROAD — JEEP TR — PINNACLE PEAK ROAD — SCOTTSDALE ROAD — PIMA ROAD — JOMAX ROAD — FORT MC DOWELL 11 MI. — 66 MI. TO INTERSTATE 17

Ironwood Golf Course — PINNACLE PEAK SUBSTATION — Currys Corner — Thunder BM 1838 — BMX1891 — BM 1787 — Well — BM 1630 — Water Tank — Park — Paradise Valley Hi — Trailer Park — Water Tanks — Substation — BM 1525

P A R A D I S E V A L L E Y

SCOTTSDALE CORPORATE BOUNDARY — PHOENIX CORPORATE BOUNDARY — EAST BELL ROAD — OLD VERDE CANAL — UNION HILLS DRIVE — GREENWAY ROAD — 40TH STREET — 32ND STREET — TATUM BLVD — ARIZONA CANAL — WALDORF — SCOTTSDALE ROAD

(SUNNYSLOPE) 3351 II SE — (SAWIK MTN.) 3651 III SE — (MC DOWELL PEAK) 3651 III NE — (UNION HILLS) 3351 I NE

(PARADISE VALLEY) SCOTTSDALE P.O. 9.5 MI.
3651 III SW PHOENIX (CIVIC CENTER) 21 MI.

SCALE 1:24 000

1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 KILOMETER

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

ROAD CLASSIFICATION
Medium-duty — Light-duty
Unimproved dirt

Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography by photogrammetric methods from aerial photographs taken 1962. Field checked 1964

Polyconic projection. 1927 North American datum
10,000-foot grid based on Arizona coordinate system, central zone
1000-meter Universal Transverse Mercator grid ticks, zone 12, shown in blue

Revisions shown in purple compiled from aerial photographs taken 1973. This information not field checked

GN MN 0°31' 9 MILS 13½° 240 MILS
UTM GRID AND 1973 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

ARIZONA
QUADRANGLE LOCATION

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

CURRYS CORNER, ARIZ.
N3337.5—W11152.5/7.5

1964
PHOTOREVISED 1973
AMS 3651 III NW—SERIES V898

2560

APPENDIX D – HYDROLOGIC AND HYDRAULIC CALCULATIONS

IDF DATA FROM FCDMC NOAA – ATLAS 14 PRECIPITATION DATA

WOOD PATEL

SITE I-D-F CURVE

Project Fairmont Scottsdale Princess - Sunset Villas & Bungalows
Location Scottsdale AZ
Project Number 215319.1
Project Engineer Darin Moore, PE

RAINFALL DEPTHS, INCHES

Duration	Average Reccurence Interval (years)					
	2	5	10	25	50	100
5-min	0.257	0.346	0.415	0.507	0.578	0.651
10-min	0.391	0.526	0.631	0.772	0.880	0.990
15-min	0.484	0.652	0.782	0.957	1.090	1.230
30-min	0.651	0.879	1.050	1.290	1.470	1.650
60-min	0.806	1.090	1.300	1.600	1.820	2.050
2-hr	0.931	1.240	1.480	1.800	2.040	2.290
3-hr	1.020	1.330	1.580	1.920	2.200	2.480
6-hr	1.210	1.540	1.810	2.170	2.450	2.750
12-hr	1.360	1.720	2.000	2.380	2.670	2.970
24-hr	1.610	2.070	2.450	2.970	3.380	3.810

RAINFALL INTENSITY, INCHES/HOUR

Duration minutes	Frequency, years					
	2	5	10	25	50	100
5	3.08	4.15	4.98	6.08	6.94	7.81
10	2.35	3.16	3.79	4.63	5.28	5.94
15	1.94	2.61	3.13	3.83	4.36	4.92
30	1.30	1.76	2.10	2.58	2.94	3.30
60	0.81	1.09	1.30	1.60	1.82	2.05
120	0.47	0.62	0.74	0.90	1.02	1.15
180	0.34	0.44	0.53	0.64	0.73	0.83
360	0.20	0.26	0.30	0.36	0.41	0.46
720	0.11	0.14	0.17	0.20	0.22	0.25
1440	0.07	0.09	0.10	0.12	0.14	0.16

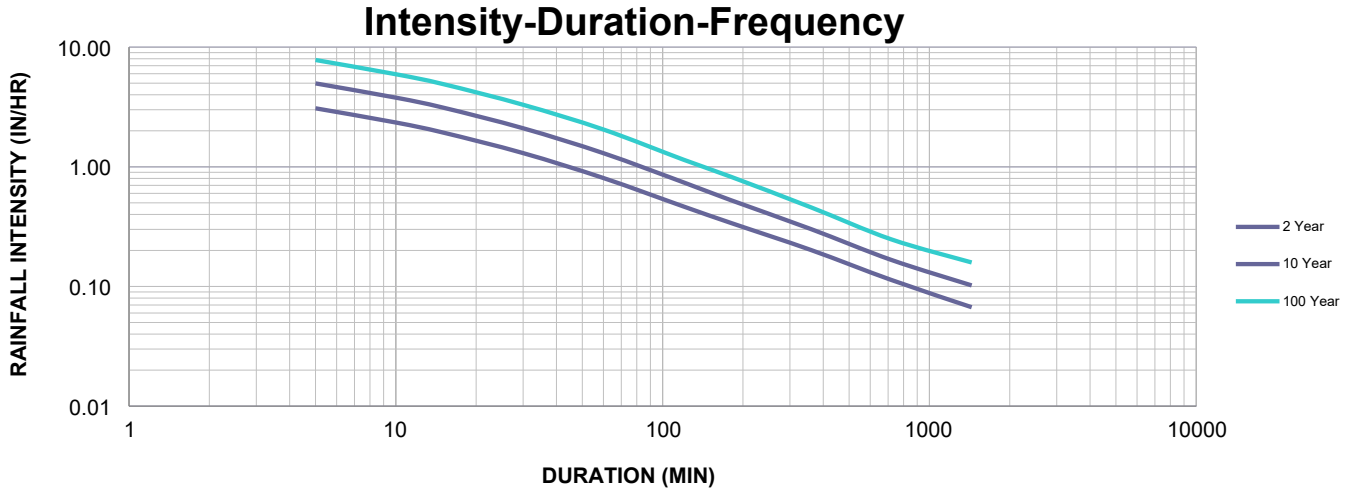


TABLE 1 – PROPOSED WEIGHTED C VALUES 100-YEAR

WOOD PATEL

COMPOSITE WEIGHTED "C" VALUE CALCULATIONS

100-YEAR

Project Fairmont Scottsdale Princess - Sunset Villas & Bungalows
Location Scottsdale AZ
Project Number 215319
Project Engineer Darin Moore, PE

Proposed C Value

Drainage Subbasin ID	Area	Paved & Roof		Grassed		Natural Desert		100 YR Runoff Coefficient
(Description/ID)	(Acres)	%	"C"	%	"C"	%	"C"	"C"
A1	1.02	39.4	0.95	60.6	0.30		0.45	**0.56**
A2	0.09	100	0.95		0.30		0.45	**0.95**
A3	0.11	78.0	0.95	22.0	0.30		0.45	**0.81**
A4	0.12	81.7	0.95	18.3	0.30		0.45	**0.83**
A5	0.14	76.7	0.95	23.3	0.30		0.45	**0.80**
A6	0.16	66.2	0.95	33.8	0.30		0.45	**0.73**
A7	0.02	67.1	0.95	32.9	0.30		0.45	**0.74**
A8	0.02	63.7	0.95	36.3	0.30		0.45	**0.71**
A9	0.11	39.7	0.95	60.3	0.30		0.45	**0.56**
A10	0.08	79.6	0.95	20.4	0.30		0.45	**0.82**
A11	0.29	31.5	0.95	68.5	0.30		0.45	**0.50**
A12	0.28	19.6	0.95	80.5	0.30		0.45	**0.43**
R1	0.28		0.95		0.30	100	0.45	**0.45**
R2	0.05		0.95		0.30	100	0.45	**0.45**
R3	0.05		0.95		0.30	100	0.45	**0.45**
R4	0.09		0.95		0.30	100	0.45	**0.45**
R5	0.05		0.95		0.30	100	0.45	**0.45**
R6	0.08		0.95		0.30	100	0.45	**0.45**
R7	0.10		0.95		0.30	100	0.45	**0.45**
R8	0.05		0.95		0.30	100	0.45	**0.45**
R9	0.05		0.95		0.30	100	0.45	**0.45**
R-F1	0.05		0.95		0.30	100	0.45	**0.45**
R-F2	0.14		0.95		0.30	100	0.45	**0.45**
R-F3	0.10		0.95		0.30	100	0.45	**0.45**
R-F4	0.10		0.95		0.30	100	0.45	**0.45**
R-F5	0.11		0.95		0.30	100	0.45	**0.45**
R-F6	0.11		0.95		0.30	100	0.45	**0.45**
R-F7	0.10		0.95		0.30	100	0.45	**0.45**

TABLE 2 – PROPOSED WEIGHTED C VALUES 10-YEAR

WOOD PATEL

COMPOSITE WEIGHTED "C" VALUE CALCULATIONS

2-year & 10-year

Project Fairmont Scottsdale Princess - Sunset Villas & Bungalows
Location Scottsdale AZ
Project Number 215319
Project Engineer Darin Moore, PE

Proposed C Value

Drainage Subbasin ID	Area	Paved & Roof		Grassed		Natural Desert		100 YR Runoff Coefficient
(Description/ID)	(Acres)	%	"C"	%	"C"	%	"C"	"C"
A1	1.02	39.4	0.90	60.6	0.20		0.37	**0.48**
A2	0.09	100	0.90		0.20		0.37	**0.90**
A3	0.11	78.0	0.90	22.0	0.20		0.37	**0.75**
A4	0.12	81.7	0.90	18.3	0.20		0.37	**0.77**
A5	0.14	76.7	0.90	23.3	0.20		0.37	**0.74**
A6	0.16	66.2	0.90	33.8	0.20		0.37	**0.66**
A7	0.02	67.1	0.90	32.9	0.20		0.37	**0.67**
A8	0.02	63.7	0.90	36.3	0.20		0.37	**0.65**
A9	0.11	39.7	0.90	60.3	0.20		0.37	**0.48**
A10	0.08	79.6	0.90	20.4	0.20		0.37	**0.76**
A11	0.29	31.5	0.90	68.5	0.20		0.37	**0.42**
A12	0.28	19.6	0.90	80.5	0.20		0.37	**0.34**
R1	0.28		0.90		0.20	100	0.37	**0.37**
R2	0.05		0.90		0.20	100	0.37	**0.37**
R3	0.05		0.90		0.20	100	0.37	**0.37**
R4	0.09		0.90		0.20	100	0.37	**0.37**
R5	0.05		0.90		0.20	100	0.37	**0.37**
R6	0.08		0.90		0.20	100	0.37	**0.37**
R7	0.10		0.90		0.20	100	0.37	**0.37**
R8	0.05		0.90		0.20	100	0.37	**0.37**
R9	0.05		0.90		0.20	100	0.37	**0.37**
R-F1	0.05		0.90		0.20	100	0.37	**0.37**
R-F2	0.14		0.90		0.20	100	0.37	**0.37**
R-F3	0.10		0.90		0.20	100	0.37	**0.37**
R-F4	0.10		0.90		0.20	100	0.37	**0.37**
R-F5	0.11		0.90		0.20	100	0.37	**0.37**
R-F6	0.11		0.90		0.20	100	0.37	**0.37**
R-F7	0.10		0.90		0.20	100	0.37	**0.37**

TABLE 3 – EXISTING RATIONAL METHOD

WOOD PATEL

RATIONAL METHOD SUMMARY

100 YEAR, 10 YEAR

Project Fairmont Scottsdale Princess - Sunset Villas & Bungalows
Location Scottsdale AZ
Project Number 215319.1
Project Engineer Darin Moore, PE

EXISTING ON-SITE WATERSHEDS

										100 YEAR				10 YEAR			
Drainage Subbasin ID	**Longest Watercourse 'L' (ft)**	**Longest Watercourse 'L' (mi)**	**Drainage Area 'A' (sf)**	**Drainage Area 'A' (Acres)**	**'K_b' Type[1]**	**Watershed Resistance Coefficient 'K_b'**	**Top Elevation**	**Bottom Elevation**	**Basin Slope 'S' (ft/mi)**	**Calculated Q100 'Tc' (See Note 2) (min)**	**100 YEAR Intensity 'i' (in/hr)**	**100 YR Runoff Coefficient 'C'**	**Q100 Flow (cfs)**	**Calculated Q10 'Tc' (See Note 2) (min)**	**10 YEAR Intensity 'i' (in/hr)**	**10 YR Runoff Coefficient 'C'**	**Q10 Flow (cfs)**
E3	186	0.035	6,320	0.15	A	0.0452	60.2	53.5	189.8	3.2	8.48	0.45	**0.6**	3.9	5.24	0.37	**0.3**
E4	573	0.108	115,992	2.66	A	0.0373	53.0	47.1	54.4	5.5	7.62	0.74	**15.0**	6.6	4.60	0.68	**8.3**
E5A	277	0.053	12,884	0.30	A	0.0433	52.3	51.5	15.2	6.4	6.80	0.60	**1.2**	7.9	3.91	0.53	**0.6**
S1	323	0.061	14,586	0.33	A	0.0430	57.0	46.0	179.7	2.9	8.63	0.50	**1.4**	3.5	5.36	0.42	**0.8**
S3	92	0.017	6,522	0.15	A	0.0452	52.5	50.6	108.8	1.8	8.89	0.50	**0.7**	2.2	5.58	0.42	**0.4**
S18	83	0.016	5,982	0.14	A	0.0454	52.5	51.3	76.1	2.0	8.89	0.95	**1.2**	2.4	5.58	0.90	**0.7**

Notes

1. Per Drainage Design Manual for Maricopa County, Vol. I, Hydrology (2013), Table 3.1: Equation for Estimating Kb in the Tc Equation
2. Minimum Tc is 5 minutes.

TABLE 4 – PROPOSED RATIONAL METHOD

WOOD PATEL

STORMCEPTOR RATIONAL METHOD SUMMARY

100 YEAR, 10 YEAR

Project	Fairmont Scottsdale Princess - Sunset Villas & Bungalows
Location	Scottsdale AZ
Project Number	215319.1
Project Engineer	Darin Moore, PE

PROPOSED ON-SITE WATERSHEDS										100 YEAR				10 YEAR				2 YEAR			
Drainage Subbasin ID	**Longest Watercourse 'L' (ft)**	**Longest Watercourse 'L' (mi)**	**Drainage Area 'A' (sf)**	**Drainage Area 'A' (Acres)**	**'K_b' Type[1]**	**Watershed Resistance Coefficient 'K_b'**	**Top Elevation**	**Bottom Elevation**	**Basin Slope 'S' (ft/mi)**	**Calculated Q100 'Tc' (See Note 2) (min)**	**100 YEAR Intensity 'i' (in/hr)**	**100 YR Runoff Coefficient 'C'**	**Q100 Flow (cfs)**	**Calculated Q10 'Tc' (See Note 2) (min)**	**10 YEAR Intensity 'i' (in/hr)**	**10 YR Runoff Coefficient 'C'**	**Q10 Flow (cfs)**	**Calculated Q2 'Tc' (See Note 2) (min)**	**2 YEAR Intensity 'i' (in/hr)**	**2 YR Runoff Coefficient 'C'**	**Q2 Flow (cfs)**
A1	632	0.120	44,590	1.02	A	0.0399	1554.0	1547.7	52.6	6.1	7.40	0.56	**4.2**	7.4	4.41	0.48	**2.1**	9.2	2.46	0.48	**1.2**
A2	84	0.016	3,752	0.09	A	0.0467	1554.0	1552.7	81.7	5.0	7.81	0.95	**0.6**	5.0	4.98	0.90	**0.4**	5.0	3.08	0.90	**0.2**
A3	95	0.018	4,718	0.11	A	0.0460	1554.0	1552.2	100.0	5.0	7.81	0.81	**0.7**	5.0	4.98	0.75	**0.4**	5.0	3.08	0.75	**0.2**
A4	110	0.021	5,362	0.12	A	0.0457	1554.0	1552.2	86.4	5.0	7.81	0.83	**0.8**	5.0	4.98	0.77	**0.5**	5.0	3.08	0.77	**0.3**
A5	75	0.014	6,305	0.14	A	0.0452	1554.0	1552.3	119.7	5.0	7.81	0.80	**0.9**	5.0	4.98	0.74	**0.5**	5.0	3.08	0.74	**0.3**
A6	94	0.018	6,934	0.16	A	0.0450	1555.3	1552.5	157.3	5.0	7.81	0.73	**0.9**	5.0	4.98	0.66	**0.5**	5.0	3.08	0.66	**0.3**
A7	50	0.009	763	0.02	A	0.0510	1554.0	1552.3	179.5	5.0	7.81	0.74	**0.1**	5.0	4.98	0.67	**0.1**	5.0	3.08	0.67	**0.0**
A8	55	0.010	1,014	0.02	A	0.0502	1555.1	1553.5	153.6	5.0	7.81	0.71	**0.1**	5.0	4.98	0.65	**0.1**	5.0	3.08	0.65	**0.0**
A9	100	0.019	4,793	0.11	A	0.0460	1560.2	1554.6	295.7	5.0	7.81	0.56	**0.5**	5.0	4.98	0.48	**0.3**	5.0	3.08	0.48	**0.2**
A10	150	0.028	3,404	0.08	A	0.0469	1555.3	1551.7	125.3	5.0	7.81	0.82	**0.5**	5.0	4.98	0.76	**0.3**	5.0	3.08	0.76	**0.2**
A11	170	0.032	12,680	0.29	A	0.0433	1555.1	1552.8	71.4	5.0	7.81	0.50	**1.1**	5.0	4.98	0.42	**0.6**	5.0	3.08	0.42	**0.4**
A12	220	0.042	12,242	0.28	A	0.0434	1554.0	1546.0	193.2	5.0	7.81	0.43	**0.9**	5.0	4.98	0.34	**0.5**	5.0	3.08	0.34	**0.3**
R1			2,161	0.05	A	0.0482			26.4	5.0	7.81	0.45	**0.2**	5.0	4.98	0.37	**0.1**	5.0	3.08	0.37	**0.1**
R2			2,157	0.05	A	0.0482			26.4	5.0	7.81	0.45	**0.2**	5.0	4.98	0.37	**0.1**	5.0	3.08	0.37	**0.1**
R3			3,936	0.09	A	0.0465			26.4	5.0	7.81	0.45	**0.3**	5.0	4.98	0.37	**0.2**	5.0	3.08	0.37	**0.1**
R4			2,162	0.05	A	0.0482			26.4	5.0	7.81	0.45	**0.2**	5.0	4.98	0.37	**0.1**	5.0	3.08	0.37	**0.1**
R5			3,522	0.08	A	0.0468			26.4	5.0	7.81	0.45	**0.3**	5.0	4.98	0.37	**0.1**	5.0	3.08	0.37	**0.1**
R6			4,147	0.10	A	0.0464			26.4	5.0	7.81	0.45	**0.3**	5.0	4.98	0.37	**0.2**	5.0	3.08	0.37	**0.1**
R7			2,254	0.05	A	0.0480			26.4	5.0	7.81	0.45	**0.2**	5.0	4.98	0.37	**0.1**	5.0	3.08	0.37	**0.1**
R8			2,327	0.05	A	0.0480			26.4	5.0	7.81	0.45	**0.2**	5.0	4.98	0.37	**0.1**	5.0	3.08	0.37	**0.1**
R9			2,255	0.05	A	0.0480			26.4	5.0	7.81	0.45	**0.2**	5.0	4.98	0.37	**0.1**	5.0	3.08	0.37	**0.1**
R-F1			6,241	0.14	A	0.0453			26.4	5.0	7.81	0.45	**0.5**	5.0	4.98	0.37	**0.3**	5.0	3.08	0.37	**0.2**
R-F2			4,545	0.10	A	0.0461			26.4	5.0	7.81	0.45	**0.4**	5.0	4.98	0.37	**0.2**	5.0	3.08	0.37	**0.1**
R-F3			4,334	0.10	A	0.0463			26.4	5.0	7.81	0.45	**0.3**	5.0	4.98	0.37	**0.2**	5.0	3.08	0.37	**0.1**
R-F4			4,767	0.11	A	0.0460			26.4	5.0	7.81	0.45	**0.4**	5.0	4.98	0.37	**0.2**	5.0	3.08	0.37	**0.1**
R-F5			4,654	0.11	A	0.0461			26.4	5.0	7.81	0.45	**0.4**	5.0	4.98	0.37	**0.2**	5.0	3.08	0.37	**0.1**
R-F6			4,445	0.10	A	0.0462			26.4	5.0	7.81	0.45	**0.4**	5.0	4.98	0.37	**0.2**	5.0	3.08	0.37	**0.1**
R-F7			3,243	0.07	A	0.0471			26.4	5.0	7.81	0.45	**0.3**	5.0	4.98	0.37	**0.1**	5.0	3.08	0.37	**0.1**
Total			163,706	3.76									16.05				8.65				5.2

Notes

1. Per Drainage Design Manual for Maricopa County, Vol. I, Hydrology (2013), Table 3.1: Equation for Estimating Kb in the Tc Equation
2. Minimum Tc is 5 minutes.

TABLE 5 – FIRST FLUSH FLOW

WOOD PATEL

First Flush Flow

Project Fairmont Scottsdale Princess - Sunset Villas & Bungalows
Location Scottsdale AZ
Project Number 215319.1
Project Engineer Darin Moore, PE

PROPOSED ON-SITE WATERSHEDS

Drainage Subbasin ID	Runoff Coefficient 'C'	Time of Concentration 'T_C' (hr)	First Flush Intensity 'I_{FF}' (in/hr)	Drainage Area 'A' (Acres)	First Flush Flow 'Q_{FF}' (cfs)
A1	1	7.39	0.068	1.02	0.07
A2	1	5.00	0.100	0.09	0.01
A3	1	5.00	0.100	0.11	0.01
A4	1	5.00	0.100	0.12	0.01
A5	1	5.00	0.100	0.14	0.01
A6	1	5.00	0.100	0.16	0.02
A7	1	5.00	0.100	0.02	0.00
A8	1	5.00	0.100	0.02	0.00
A9	1	5.00	0.100	0.11	0.01
A10	1	5.00	0.100	0.08	0.01
A11	1	5.00	0.100	0.29	0.03
A12	1	5.00	0.100	0.28	0.03
R1	1	5.00	0.100	0.05	0.00
R2	1	5.00	0.100	0.05	0.00
R3	1	5.00	0.100	0.09	0.01
R4	1	5.00	0.100	0.05	0.00
R5	1	5.00	0.100	0.08	0.01
R6	1	5.00	0.100	0.10	0.01
R7	1	5.00	0.100	0.05	0.01
R8	1	5.00	0.100	0.05	0.01
R9	1	5.00	0.100	0.05	0.01
R-F1	1	5.00	0.100	0.14	0.01
R-F2	1	5.00	0.100	0.10	0.01
R-F3	1	5.00	0.100	0.10	0.01
R-F4	1	5.00	0.100	0.11	0.01
R-F5	1	5.00	0.100	0.11	0.01
R-F6	1	5.00	0.100	0.10	0.01
R-F7	1	5.00	0.100	0.07	0.01
Total					0.34

Notes

1. Per Drainage Policies and Standards for Maricopa County, AZ, June 2016, Standard 6.4.1: First Flush

QFF=C*IFF*A

IFF=PFF/TC

PFF=0.5 inches

TABLE 6 – CATCH BASIN INLET SUMMARY

Nyloplast Inlet Capacity Table

DISCLAIMER: SAFETY FACTORS ARE NOT INCLUDED IN THESE CALCULATIONS. ACTUAL CALCULATIONS SHOULD BE CARRIED OUT AND VERIFIED BY THE DESIGN ENGINEER TAKING INTO ACCOUNT ALL LOCAL CONDITIONS. NYLOPLAST RECOMMENDS USING A MINIMUM SAFETY FACTOR OF 1.25 FOR PAVED AREAS AND 2.0 FOR TURF AREAS. ADS/NYLOPLAST IS NOT RESPONSIBLE FOR MISUSE OF THIS TOOL.

Input	
Type of Grate	8" Standard
Head (ft)	0.5

Properties	
Orifice Flow Area (in)	**18.77**
Orifice Flow Area (ft)	**0.13**
Weir Flow Perimeter (in)	**21.30**
Weir Flow Perimeter (ft)	**1.78**

Solution	
Capacity (cfs)	**0.44**
Capacity (gpm)	**197.82**

$$Q_{weir} = CLH^{3/2}$$

$C = 3.33\ Weir\ Discharge\ Coefficient$

$L = Perimeter\ of\ Grate\ Opening\ (ft)$

$H = Flow\ Height\ of\ Water\ Surface\ Above\ Weir\ (ft)$

$$Q_{orifice} = CA\sqrt{2gh}$$

$C = 0.60\ Orifice\ Discharge\ Coefficient$

$A = Area\ of\ the\ Orifice\ (ft^2)$

$g = Gravitational\ Constant\ \left(32.2\frac{ft}{s^2}\right)$

$H = Depth\ of\ Water\ Above\ Center\ of\ Orifice\ (ft)$

REV 2.1.21

Nyloplast Inlet Capacity Table

DISCLAIMER: SAFETY FACTORS ARE NOT INCLUDED IN THESE CALCULATIONS. ACTUAL CALCULATIONS SHOULD BE CARRIED OUT AND VERIFIED BY THE DESIGN ENGINEER TAKING INTO ACCOUNT ALL LOCAL CONDITIONS. NYLOPLAST RECOMMENDS USING A MINIMUM SAFETY FACTOR OF 1.25 FOR PAVED AREAS AND 2.0 FOR TURF AREAS. ADS/NYLOPLAST IS NOT RESPONSIBLE FOR MISUSE OF THIS TOOL.

Input	
Type of Grate	12" Standard
Head (ft)	0.5

Properties	
Orifice Flow Area (in)	**60.62**
Orifice Flow Area (ft)	**0.42**
Weir Flow Perimeter (in)	**43.75**
Weir Flow Perimeter (ft)	**3.65**

Solution	
Capacity (cfs)	**1.42**
Capacity (gpm)	**638.88**

$$Q_{weir} = CLH^{3/2}$$

$C = 3.33\ Weir\ Discharge\ Coefficient$

$L = Perimeter\ of\ Grate\ Opening\ (ft)$

$H = Flow\ Height\ of\ Water\ Surface\ Above\ Weir\ (ft)$

$$Q_{orifice} = CA\sqrt{2gh}$$

$C = 0.60\ Orifice\ Discharge\ Coefficient$

$A = Area\ of\ the\ Orifice\ (ft^2)$

$g = Gravitational\ Constant\ \left(32.2\frac{ft}{s^2}\right)$

$H = Depth\ of\ Water\ Above\ Center\ of\ Orifice\ (ft)$

REV 2.1.21

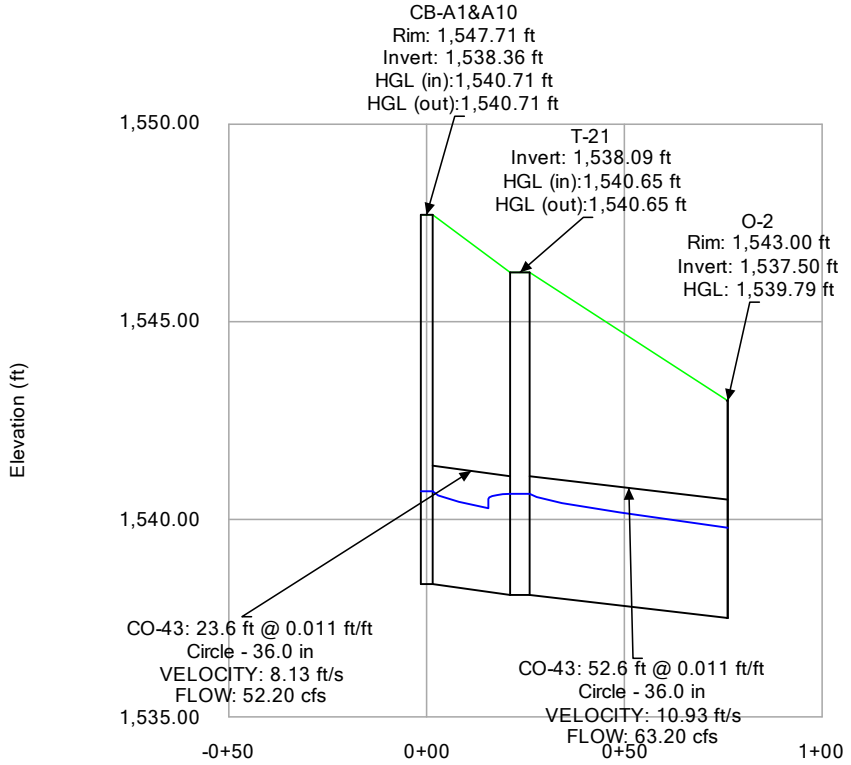
APPENDIX E – STORMCAD MODELING RESULTS

FAIRMONT SCOTTSDALE PRINCESS - SUNSET VILLAS AND BUNGALOWS

Profile Report

Engineering Profile - A-1 TO O-1 (5319.10-StormCAD.stsw)

Active Scenario: 10YR

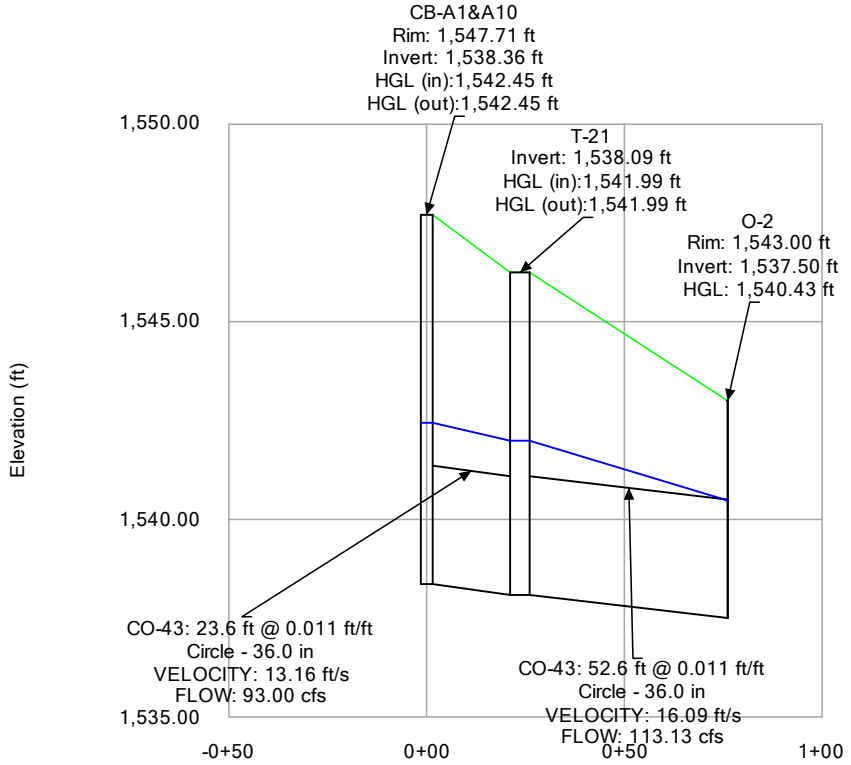


FAIRMONT SCOTTSDALE PRINCESS - SUNSET VILLAS AND BUNGALOWS

Profile Report

Engineering Profile - A-1 TO O-1 (5319.10-StormCAD.stsw)

Active Scenario: 100YR

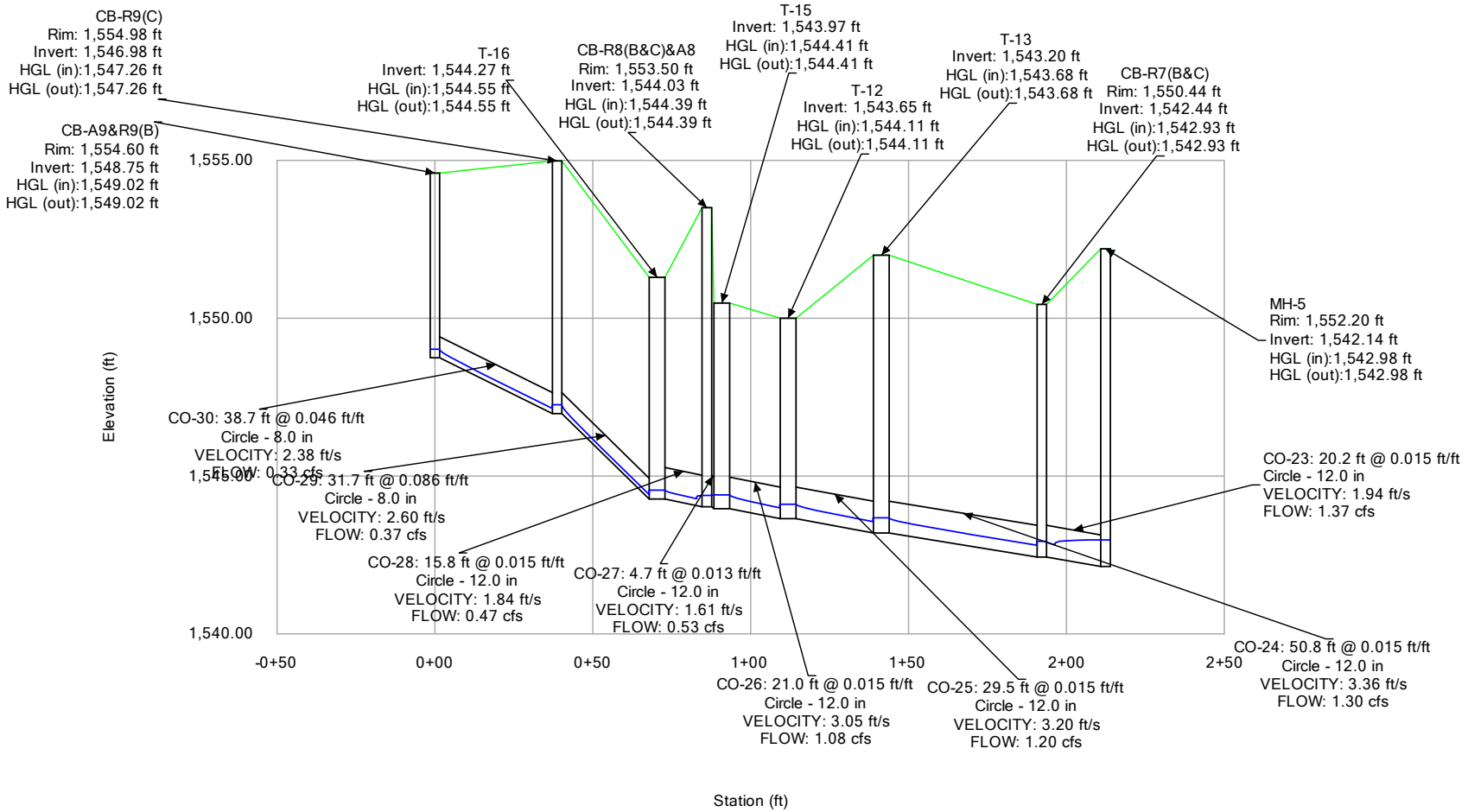


FAIRMONT SCOTTSDALE PRINCESS - SUNSET VILLAS AND BUNGALOWS

Profile Report

Engineering Profile - CB-A9 TO M-5 (5319.10-StormCAD.stsw)

Active Scenario: 10YR

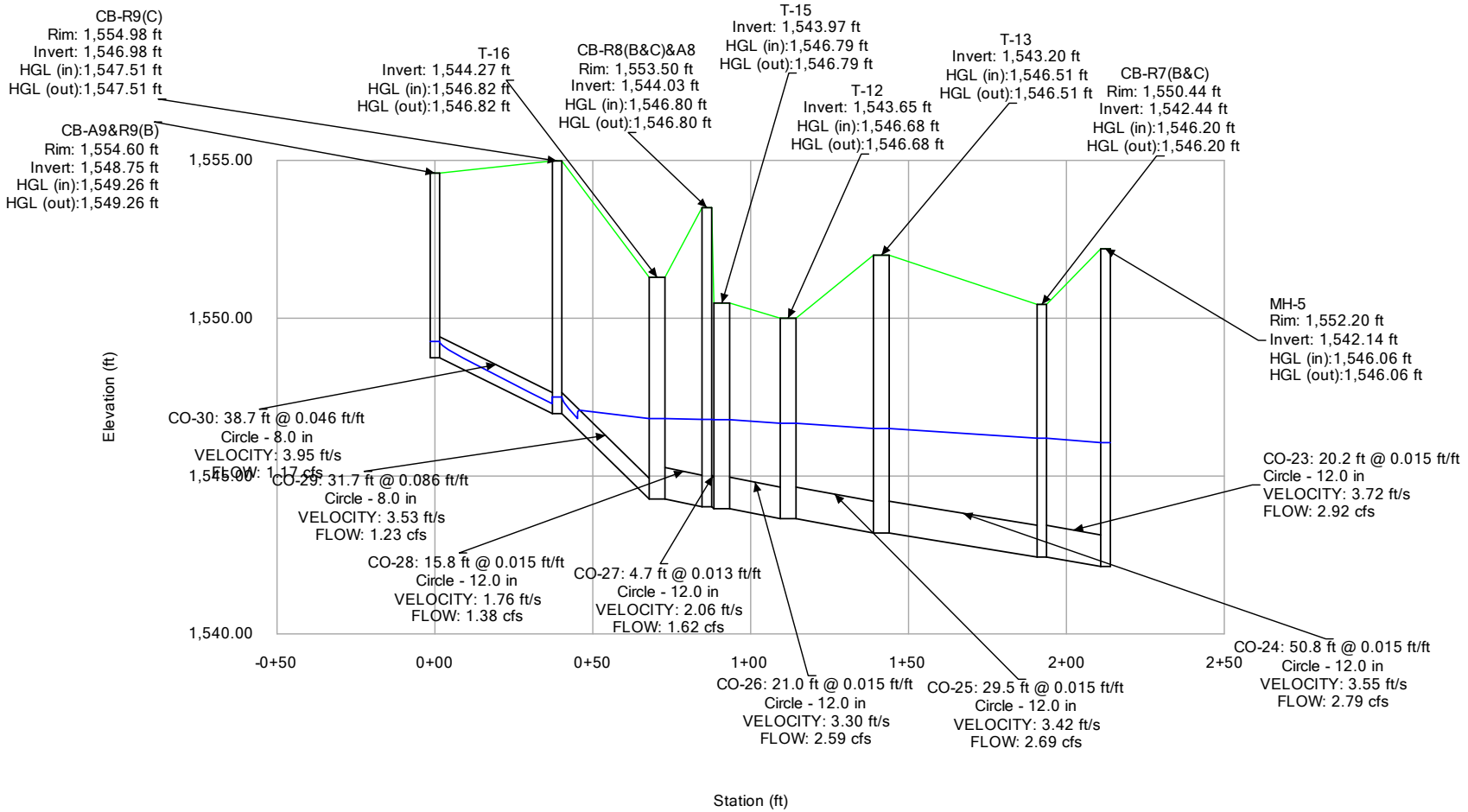


FAIRMONT SCOTTSDALE PRINCESS - SUNSET VILLAS AND BUNGALOWS

Profile Report

Engineering Profile - CB-A9 TO M-5 (5319.10-StormCAD.stsw)

Active Scenario: 100YR

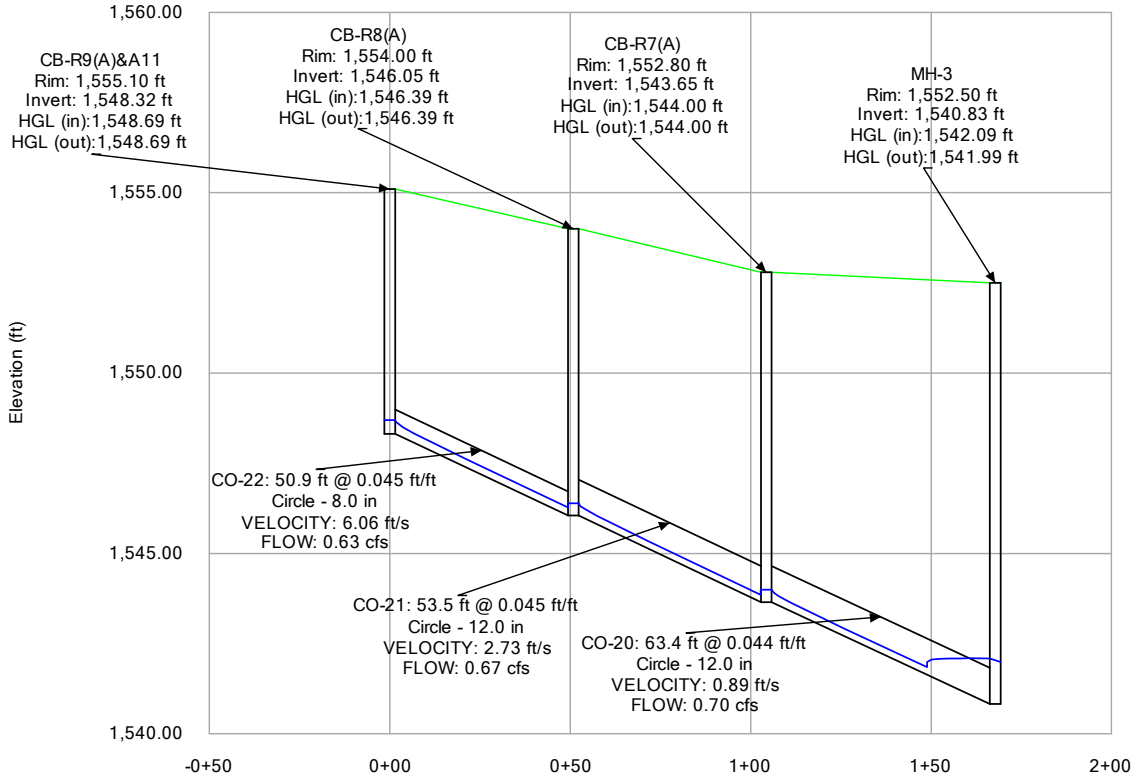


FAIRMONT SCOTTSDALE PRINCESS - SUNSET VILLAS AND BUNGALOWS

Profile Report

Engineering Profile - CB-A11 TO MH-3 (5319.10-StormCAD.stsw)

Active Scenario: 10YR

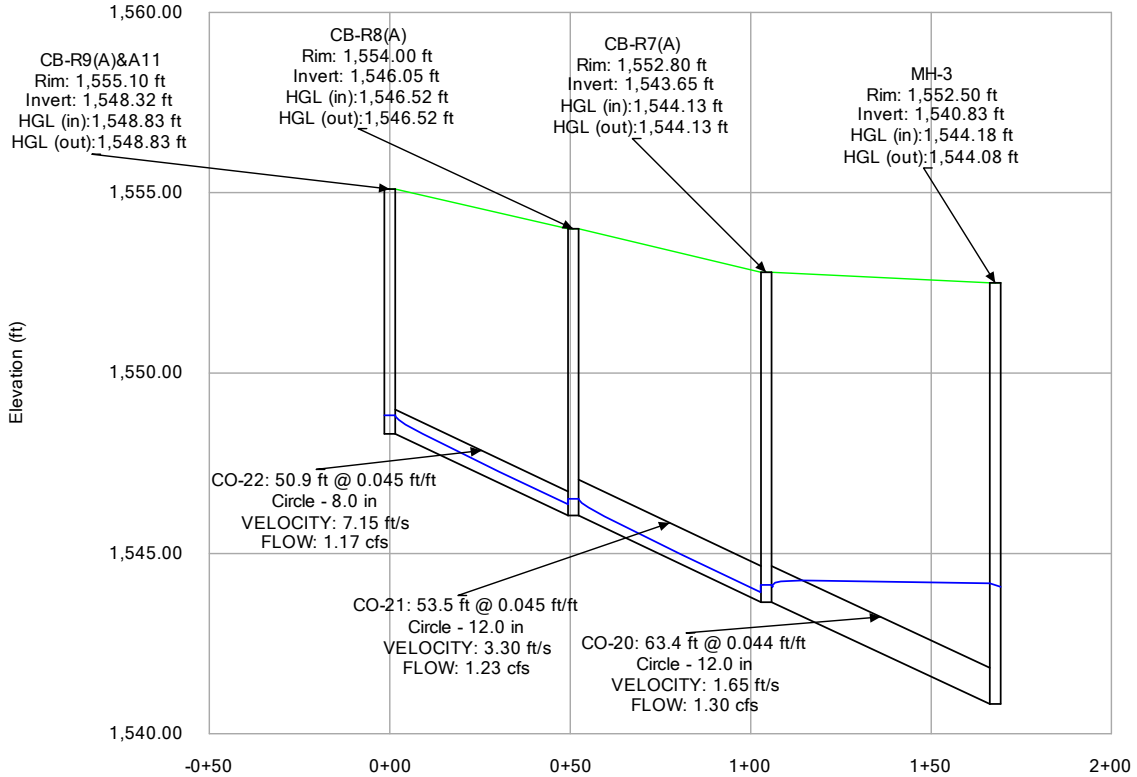


FAIRMONT SCOTTSDALE PRINCESS - SUNSET VILLAS AND BUNGALOWS

Profile Report

Engineering Profile - CB-A11 TO MH-3 (5319.10-StormCAD.stsw)

Active Scenario: 100YR

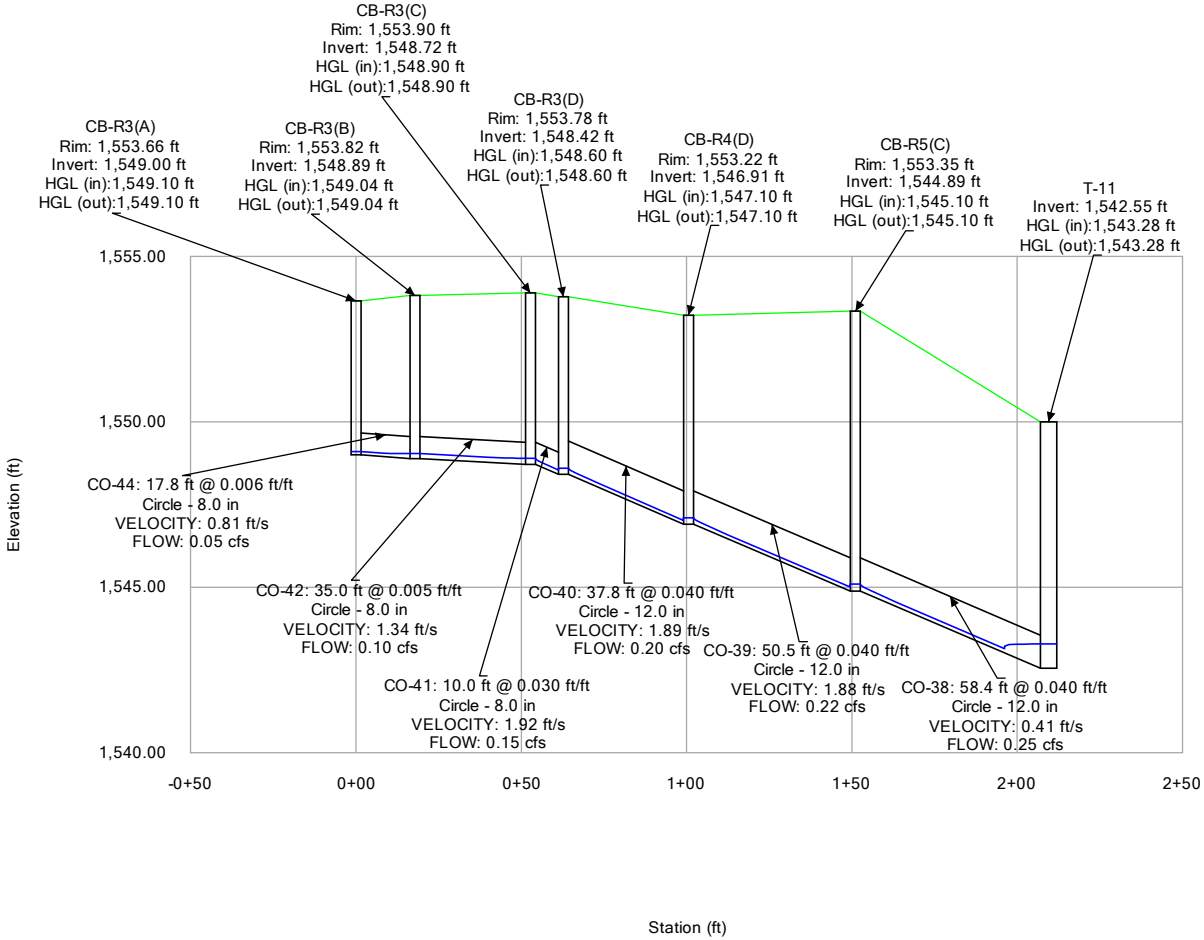


FAIRMONT SCOTTSDALE PRINCESS - SUNSET VILLAS AND BUNGALOWS

Profile Report

Engineering Profile - CB-R3(A) TO T-11 (5319.10-StormCAD.stsw)

Active Scenario: 10YR

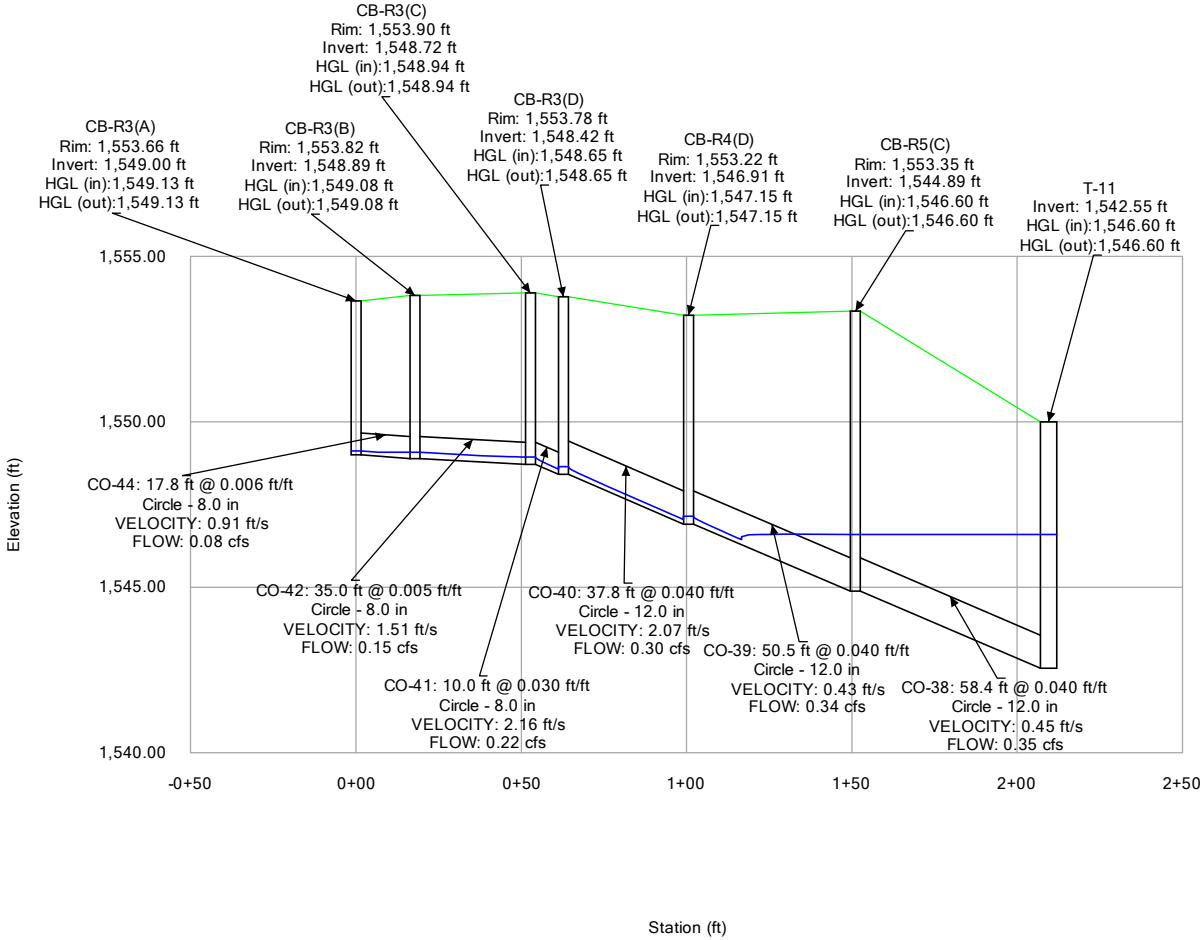


FAIRMONT SCOTTSDALE PRINCESS - SUNSET VILLAS AND BUNGALOWS

Profile Report

Engineering Profile - CB-R3(A) TO T-11 (5319.10-StormCAD.stsw)

Active Scenario: 100YR

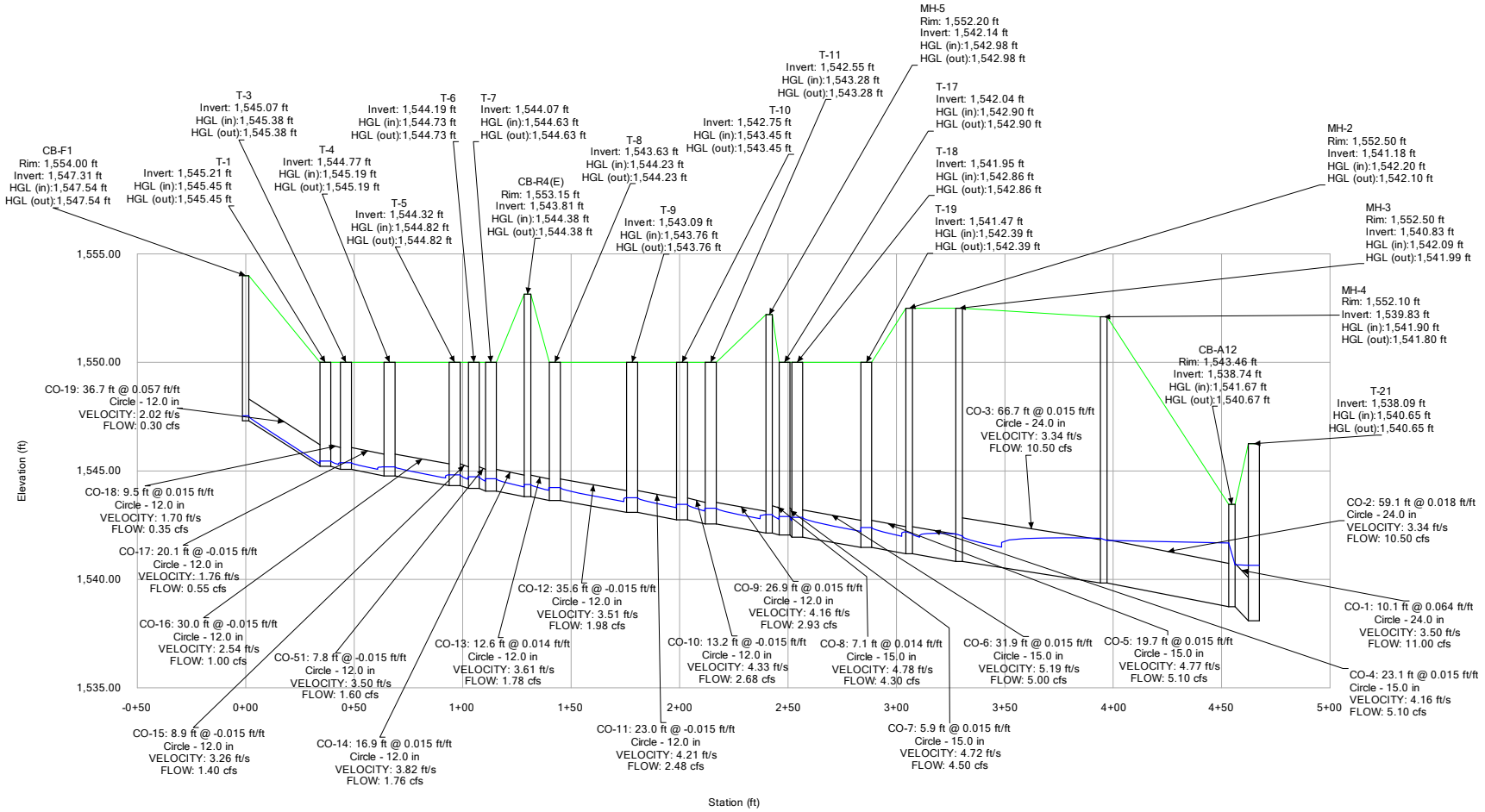


FAIRMONT SCOTTSDALE PRINCESS - SUNSET VILLAS AND BUNGALOWS

Profile Report

Engineering Profile - F1 TO T-21 (5319.10-StormCAD.stsw)

Active Scenario: 10YR

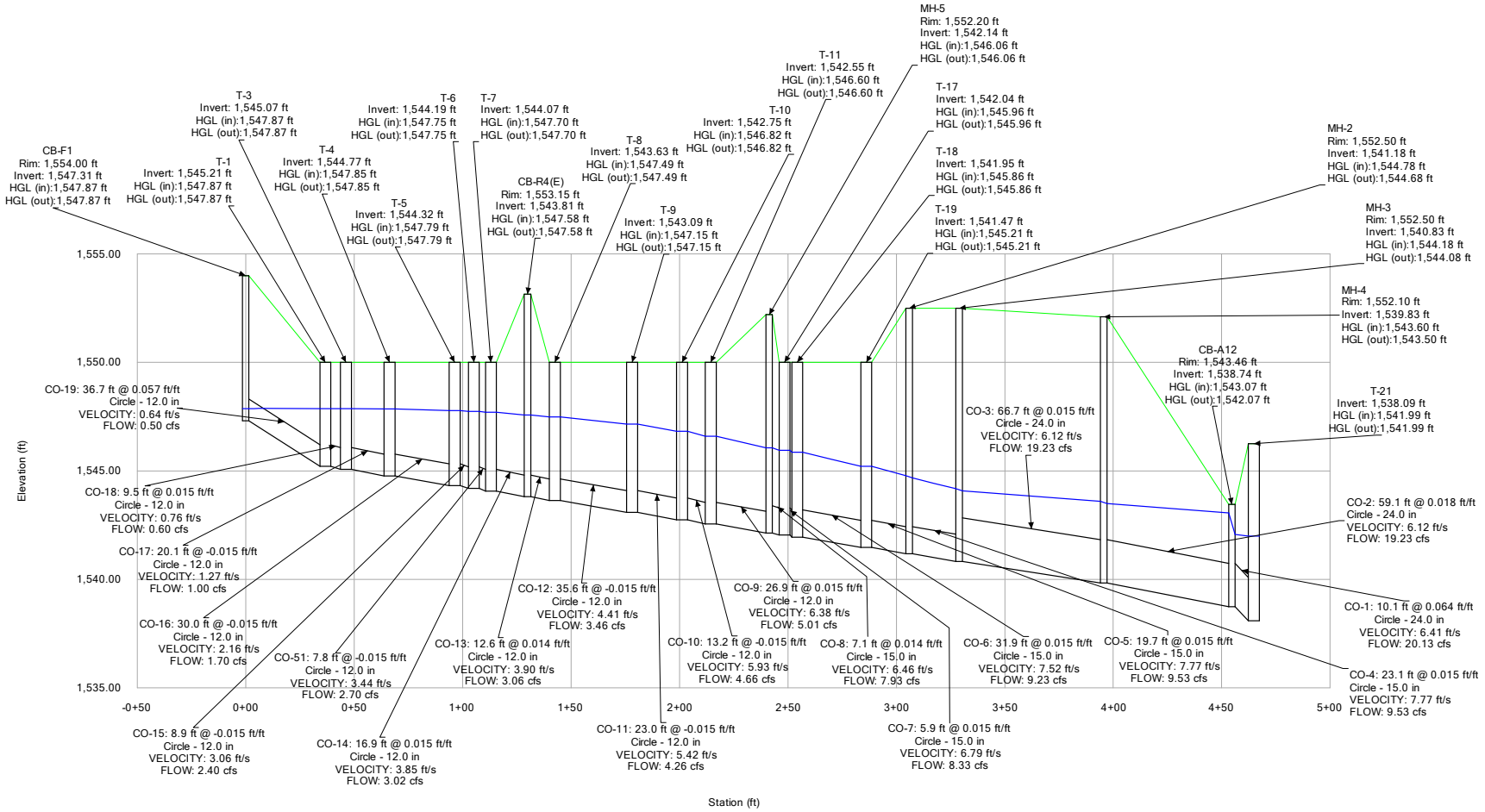


FAIRMONT SCOTTSDALE PRINCESS - SUNSET VILLAS AND BUNGALOWS

Profile Report

Engineering Profile - F1 TO T-21 (5319.10-StormCAD.stsw)

Active Scenario: 100YR



APPENDIX F – CONTECH DEBRIS SEPARATING BAFFLE BOX TREATMENT SYSTEM

SITE SPECIFIC DATA*

PROJECT NUMBER	742047
PROJECT NAME	FAIRMONT SCOTTSDALE PRINCESS
PROJECT LOCATION	SCOTTSDALE, AZ
STRUCTURE ID	025
WATER QUALITY FLOW RATE (CFS)	1.70
PROVIDED TREATMENT FLOW RATE (CFS)	25.79
PEAK FLOW RATE (CFS)	66.80
PEAK STORM DURATION (YEARS)	10.00

PIPE DATA	I.E.	MATERIAL	DIAMETER
INFLOW PIPE 1	1546.5	HDPE	36
OUTFLOW PIPE 1	1546.5	HDPE	36
RIM ELEVATION	1537.9		
SURFACE LOADING REQUIREMENT			HS20
FRAME AND COVER		(2) 36"x72" (1) 36"ø	
CORROSIVE SOIL CONDITIONS			NA
KNOWN GROUNDWATER ELEVATION			NA

NOTES:

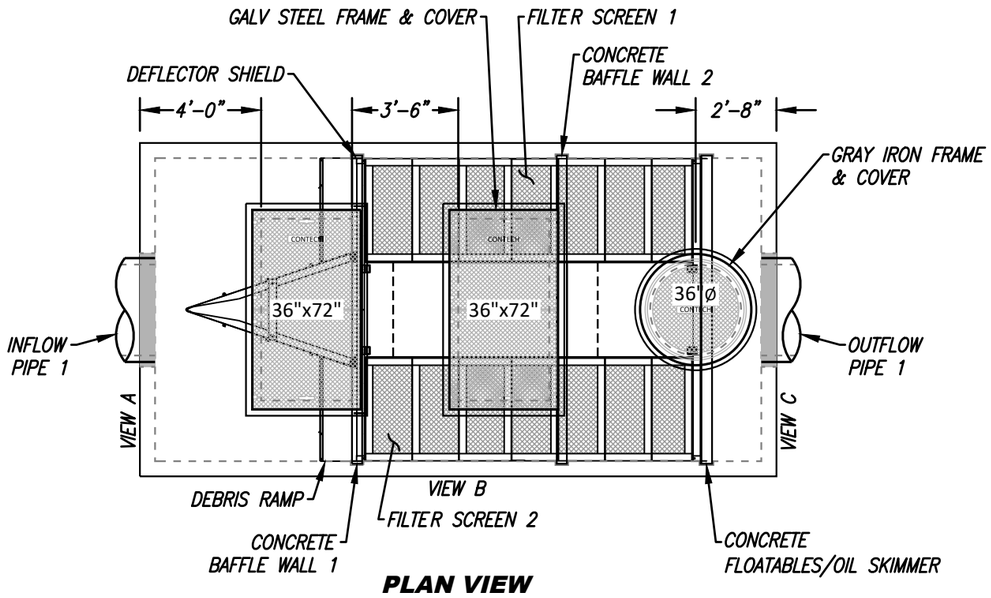
*PER ENGINEER OF RECORD

DSBB PERFORMANCE DATA

TREATMENT FLOW RATE (CFS)	1.70
FULL CAPTURE TRASH FLOW RATE (CFS)	0.00
SETTLING AREA (SF)	200.00
LOADING RATE (GPM/SF)	3.81
SCREEN SYSTEM STORAGE CAPACITY (CF)	163.88
SEDIMENT STORAGE CAPACITY (CF)	580.00
80% TSS REMOVAL @ 231 MICRON	

DSBB STORAGE CAPACITIES

CAGE SCREEN CAPACITY				
	LENGTH (FT)	WIDTH (FT)	HEIGHT (FT)	TOTAL (CF)
SCREEN 1	11.50	3.17	2.25	81.94
SCREEN 2	11.50	3.17	2.25	81.94
SEDIMENT CHAMBER CAPACITY				
CHAMBER 1	6.50	10.00	3.00	195.00
CHAMBER 2	6.42	10.00	3.00	192.50
CHAMBER 3	6.42	10.00	3.00	192.50



PLAN VIEW

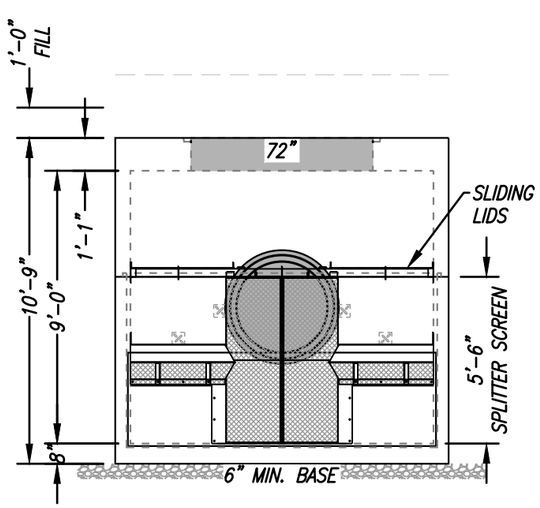
GENERAL NOTES

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS, AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS, AND ACCESSORIES PLEASE CONTACT CONTECH.

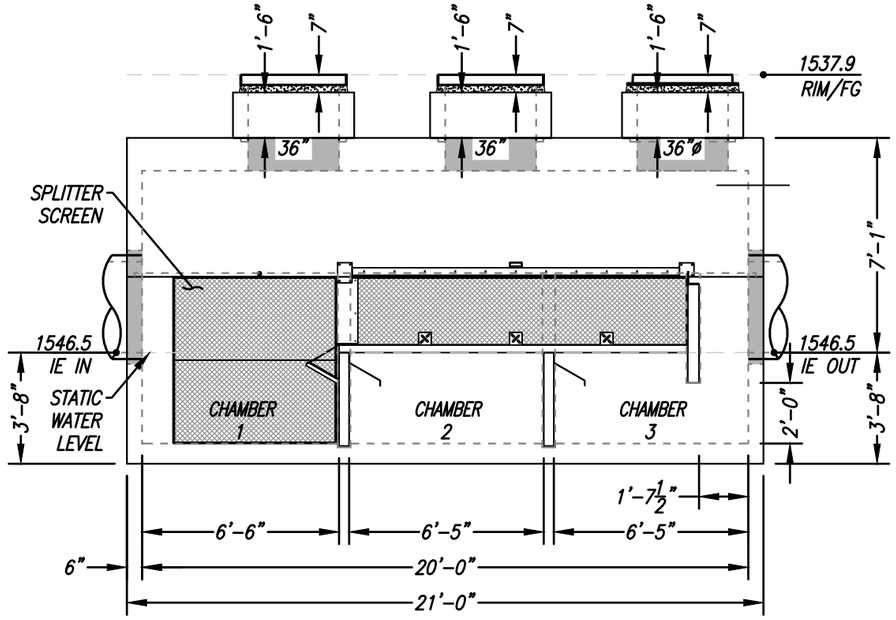
INSTALLATION NOTES

1. CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE DEBRIS SEPARATING BAFFLE BOX AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURER'S SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURER'S CONTRACT.
2. MANUFACTURER RECOMMENDS A 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE FOR VERIFYING PROJECT ENGINEER'S RECOMMENDED BASE SPECIFICATIONS.
3. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE (PIPES CANNOT INTRUDE BEYOND FLUSH).
4. ALL GAPS AROUND PIPES SHALL BE SEALED WATERTIGHT WITH A NON-SHRINK GROUT PER MANUFACTURER'S STANDARD CONNECTION DETAIL AND SHALL MEET OR EXCEED REGIONAL PIPE CONNECTION STANDARDS.
5. CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL PIPES, RISERS AND COVERS. ALL COVERS SHALL BE SHIPPED LOOSE. CONTRACTOR TO USE GROUT AND/OR BRICKS TO MATCH COVERS WITH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.

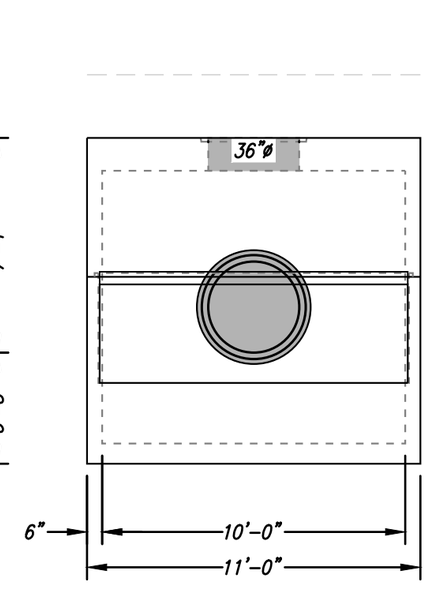
1:60 SCALE



INLET ELEVATION VIEW A



ELEVATION VIEW B



OUTLET ELEVATION VIEW C

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com

DSBB-10-20-108
DUAL STAGE HYDRODYNAMIC SEPARATOR
STANDARD DETAIL

6/12/23DAVID.HOPKINS

Calculation of Head Loss in DSBB Unit

In bypass, if screens are completely clogged.

Project Name	Fairmont Scottsdale Princess – Sunset Villas & Bung
Project #	742047
Location	Scottsdale, AZ
Completed By	DAH

Inputs:

DSBB Size	DSBB-10-20	(Dropdown)

Inlet

Flow (cfs)	66.8

Outlet

Pipe Material	HDPE	(Dropdown)
Pipe Shape	Round	(Dropdown)
Pipe Diameter (in)	36	
Box Width (in)	24	
Box Height (in)	42	

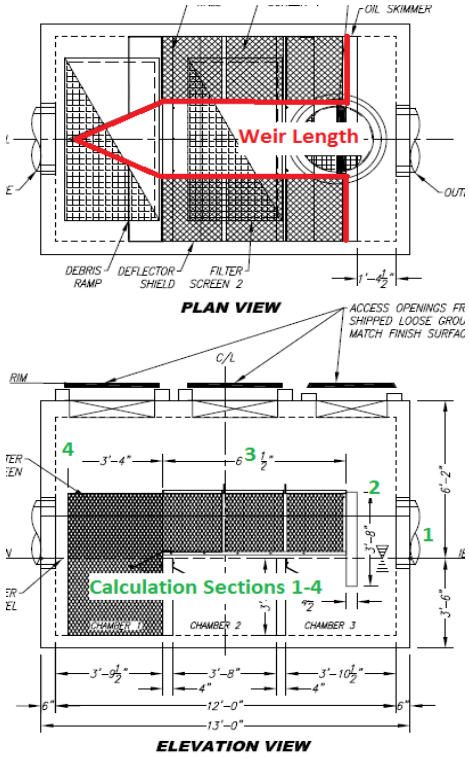
Step 1:
Input design information on left in blue
Step 2:
Change light green cell in Sections 1, 2 and 3 until "OK"

Section 1: Outlet Pipe		Within 5%?	% Error
Depth in Pipe (ft)	2.18	OK	2.98%
Velocity in Pipe (fps)	12.14		
EGL in Pipe (ft)	4.47		

Section 2: Exit Chamber		Within 5%?	% Error
HGL in Exit Chamber (ft)	5.52	OK	1.12%
Velocity in Exit Chmbr (fps)	1.21		
Entrance Loss	1.13		
EGL in Exit Chamber (ft)	5.60		

Section 3: Head Over Weir		Within 5%?	% Error
Length of Weir (ft)	41.80	*Note: Must be larger than	
Weir Submerged?	Submerged	Section 2 HGL	
HGL Before Weir (ft)*	5.523	OK	4.40%

Section 4: Inlet Chamber	
HGL at Entrance Chamber (ft)	5.52
Inside Ceiling to Invert (ft)	6.00
Velocity at Entrance (fps)	1.21
EGL Start of Box	5.55
Total Head Loss (ft) (EGL Weir-EGL Pipe)*1.3	**1.40**



Limitations and Restrictions on Use
(Assumptions required for calculations to be valid)

1. Inlet and outlet pipe sizes are the same diameter.
2. Inlet-pipe flow is subcritical.
3. Flow in outlet-pipe at the exit is critical (no further restrictions down stream).
4. Tops of sediment partitions, inlet-pipe inverts, and outlet-pipe inverts are at the same elevation.
5. Baffle-box ceiling height is always above the water level.
6. Sediment in final chamber does not significantly restrict flow under skimmer panel (if present).
7. Baffle Box is significantly wider than outlet pipe diameter.
8. Top of basket is above water height. (This requirement does not affect these head loss calcuations, but affects retention of flatable debris).

If you have any questions, please contact:
Scott Sertich
scott.sertich@conteches.com

CONTECH® ENGINEERED SOLUTIONS

v8.0
5/23/2023
STS

CONTECH ENGINEERED SOLUTIONS

DEBRIS SEPARATING BAFFLE BOX SCREEN FLOW RATE CALCULATOR

Project ID:	742047
Project Name:	Fairmont Scottsdale Princess – Sunset V
Project Location:	Scottsdale, AZ
Unit ID:	
Date:	6/12/2023

EOR/ Contractor:	Robert Saunders
Designed By:	David Hopkins
CONTECH Rep:	Zach Hubard

Pipe Diameter, D	36	**in.**
	3.00	**ft.**
Safety Factor, SF	1	**unitless**
Treatment Flow Rate	1.70	**cfs**
	763	**gpm**
Water Depth in Pipe, d	5	**in.**
	0.42	**ft.**
Radius, r	18	**in.**
	1.50	**ft.**
% full	13.89%	
Total Area, A	1017.88	**in^2**
	7.07	**ft^2**
Total Perimeter, C	113.10	**in.**
	9.42	**ft**
Wetted Area, Aw	85.62	**in^2**
	0.59	**ft^2**
Wetted Perimeter, P	27.50	**in.**
	2.29	**ft**
Hydraulic Radius, R	3.11	**in.**
	0.259	**ft**
Elevation	Below	
ϕ	1.53	**radians**
s	27.50	**in.**

Step 1:
Input Project Information above in Blue
Step 2:
Input Design Variables into the Green cells to the left. Input the Pipe Diameter and Safety Factor first followed by the required Treatment Flow Rate last. The Cell for the Treatment Flow Rate initiates a looped calculation once the cell value is changed. This variable should always be the last input.

Constants		
Gravity, g	32.174	**ft/s^2**
Discharge Coefficient, C_d	0.66	**unitless**
Screen Open Area, OA	0.37	**%**

HGL_O, HGL at Entrance of Outlet Pipe	0.42	**ft**
ϕ, Central Angle (Theta)	43.76	**deg**
T, Top Water Surface Width	2.07	**ft**
A, Area of Section Flow	0.59	**ft^2**
h_m, Mean Depth of Flow	0.29	**ft**
V_o, Velocity at Entrance of Outlet Pipe	3.04	**ft/s**
Q_o, Volumetric Flow Rate of Outlet Pipe	1.81	**ft^3/s**
Froude Number	1	**unitless**

	RESULTS											
Model	**2.5-4-66**	**2.5-4-66**	**2.5-4-66**	**2.5-4-66**	**2.5-4-66**	**4-8-84**	**5-10-84**	**6-12-84**	**8-16-96**	**10-20-108**	**11-24-132**	**11-34-136**
HGL (ft)	N/A	N/A	N/A	N/A	N/A	0.46	0.45	0.44	0.43	0.42	0.42	0.42
Rate (ft3/s)	N/A	N/A	N/A	N/A	N/A	1.81	1.81	1.81	1.81	1.81	1.81	1.81

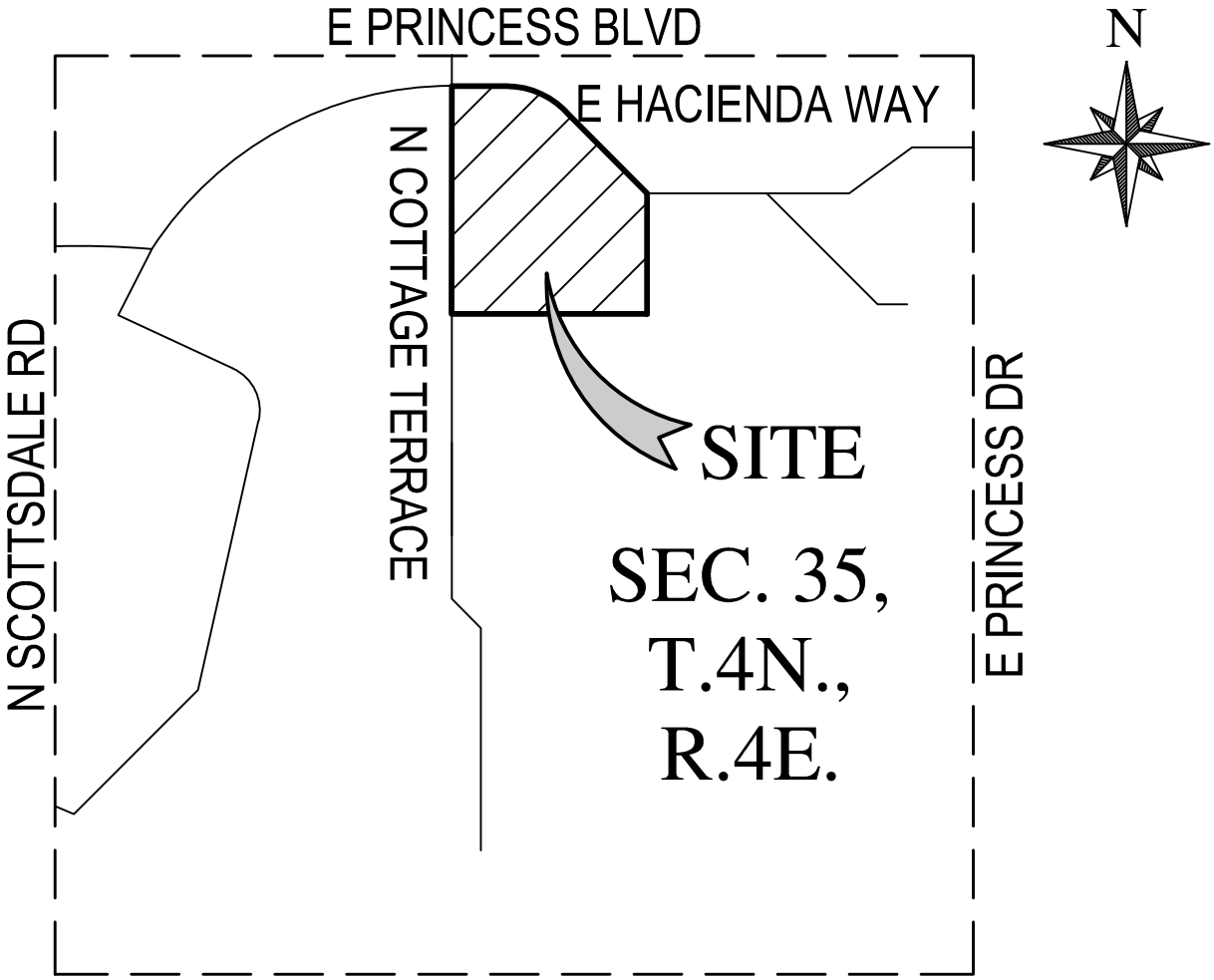
This spreadsheet performs iterative calculations to determine the screened treatment flow rate and the associated maximum HGL inside of the DSBB at this treatment flow rate. The user only needs to input the required pipe size, safety factor and desired volumetric treatment flow rate. The spreadsheet is designed to incrementally increase the water elevation of the outlet pipe until the desired treatment flow rate is achieved. A simultaneous set of calculations is performed during this incremental step to determine the headloss through the DSBB as a result of the water passing through the box and the screen. The basis for these calculations is the Bernoulli Energy Equation combined with an empirically determined equation for the losses associated with the screen. Flow rate, velocity, flow area, and constants are direct factors to the outcome of these calculations.

Limitations and Restrictions on Use (Assumptions required for calculations to be valid)

1. Inlet and outlet pipe sizes are the same diameter.
2. Inlet-pipe flow is subcritical.
3. Flow in outlet-pipe at the exit is critical (no further restrictions down stream).
4. Tops of sediment partitions, inlet-pipe inverts, and outlet-pipe inverts are at the same elevation.
5. The DSBBB ceiling height is always above the water level.
6. Sediment in final chamber does not significantly restrict flow under skimmer panel (if present).
7. The DSBB screen channel is not significantly wider than outlet pipe diameter.
8. Top of basket is above water height. (This requirement does not affect these head loss calculations, but affects retention of floatable debris.)

Revision: DSBB Screen Flow Calculator Full Capture round pipe.xlsm

EXHIBIT 1 – VICINITY MAP



VICINITY MAP

N.T.S.

NOT
FOR
CONSTRUCTION
OR RECORDING

WOOD PATEL

FAIRMONT SCOTTSDALE PRINCESS - SUNSET VILLAS AND BUNGALOWS & ROOMS TOWER

VICINITY MAP EXHIBIT

DATE	08/04/2023	SCALE	N.T.S	SHEET	1 OF 1
JOB NO.	215319.10	DESIGN	AJS	CHECK	RS
		DRAWN	AJS	RFI #	

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EXHIBIT 2 – FEMA FIRM

National Flood Hazard Layer FIRMette

FEMA

111°55'40"W 33°39'4"N

111°55'2"W 33°38'34"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 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- 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

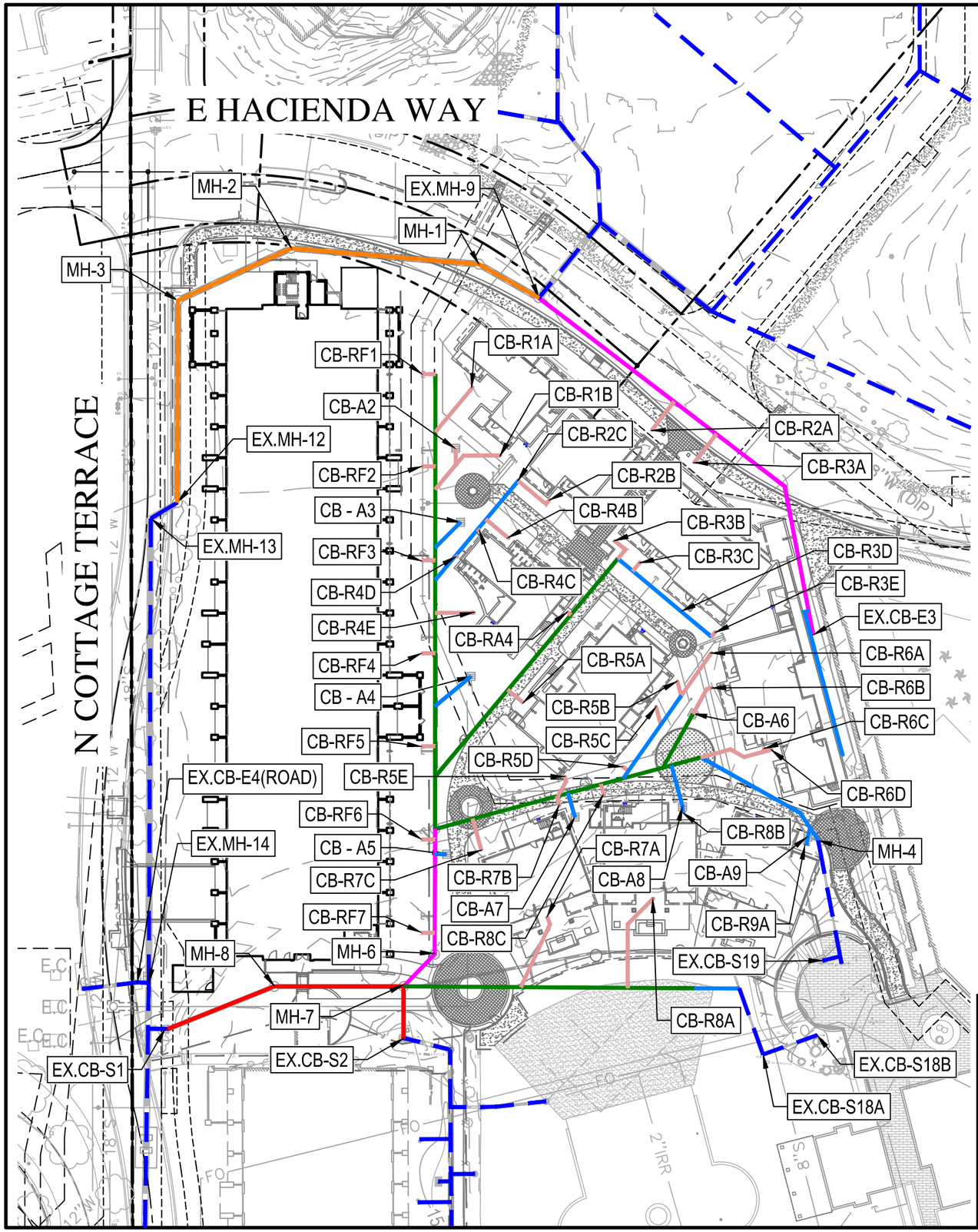
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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 3/31/2021 at 1:10 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.

EXHIBIT 3 – STORM DRAIN LAYOUT



N

0 30 60

Horz. 1 in. = 60 ft.

LEGEND

- EXISTING STORM DRAIN LINE
- PROPOSED 6" STORM DRAIN LINE
- PROPOSED 8" STORM DRAIN LINE
- PROPOSED 12" STORM DRAIN LINE
- PROPOSED 15" STORM DRAIN LINE
- PROPOSED 18" STORM DRAIN LINE
- PROPOSED 24" STORM DRAIN LINE
- PROPOSED 36" STORM DRAIN LINE

MH-10 MANHOLE NODE LABEL

CB-10 CATCH BASIN NODE LABEL

NOT FOR CONSTRUCTION OR RECORDING

WOOD PATEL

FAIRMONT SCOTTSDALE PRINCESS

SUNSET VILLAS AND BUNGALOWS & ROOMS TOWER
STORM DRAIN LAYOUT

DATE 08/04/2023	SCALE 1" = 60'	SHEET	1 OF 1
JOB NO. 215319.10	DESIGN AJS	DRAWN	AJS

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EXHIBIT 4 – AERIAL MAP

N

0 80 160

Horz. 1 in. = 80 ft.

NOT
FOR CONSTRUCTION OR RECORDING

WOOD PATEL

SUNSET VILLAS AND BUNGALOWS & ROOMS TOWER

AERIAL MAP

DATE	08/04/2023	SCALE	1" = 80'	SHEET	01 OF 01
JOB NO	215319	DESIGN	AJS	DRAWN	AJS

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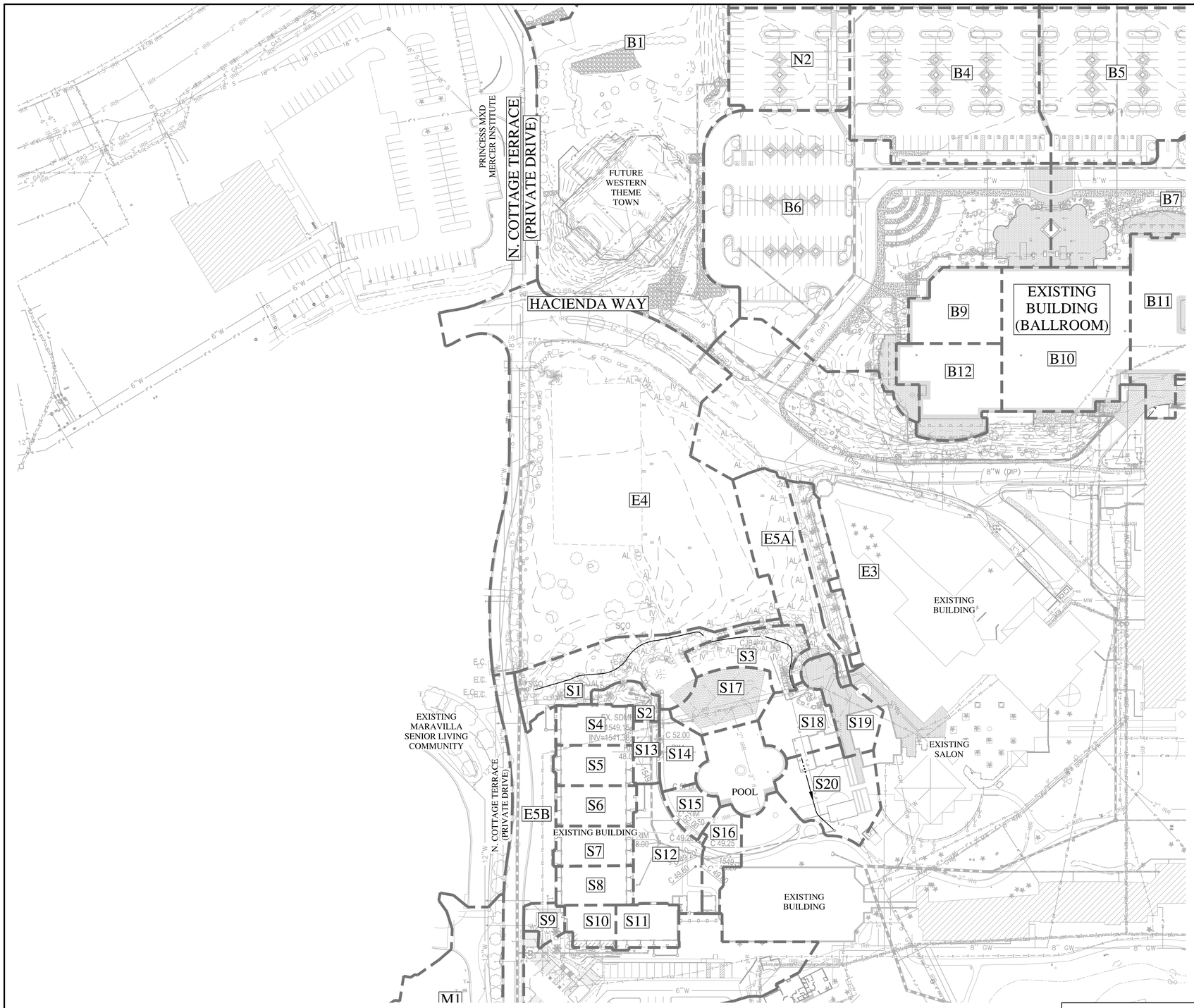
EXHIBIT 5 - EXISTING DRAINAGE MAP



LEGEND

- EXISTING DRAINAGE AREA
- 1 EXISTING DRAINAGE AREA

N

0 60 120

Horz. 1 in. = 60 ft.

NOT FOR CONSTRUCTION OR RECORDING

WOOD PATEL

FAIRMONT SCOTTSDALE PRINCESS

SUNSET VILLAS AND BUNGALOWS & ROOMS TOWER
EXISTING DRAINAGE MAP

DATE	08/04/2023	SCALE	1" = 60'	SHEET	1 OF 1
JOB NO.	215319.10	DESIGN	AJS	DRAWN	AJS

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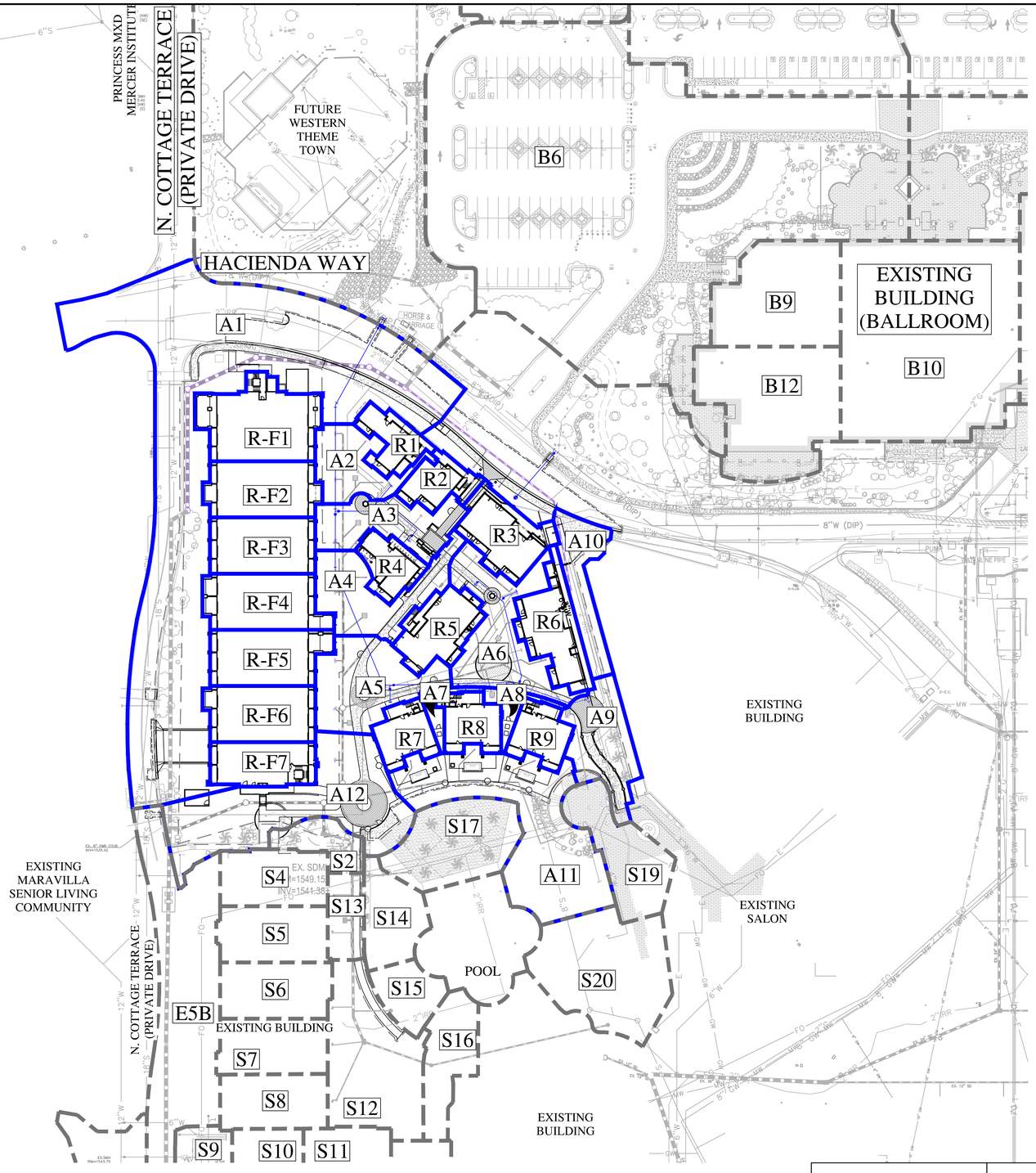
EXHIBIT 6 – PROPOSED DRAINAGE MAP



LEGEND

- EXISTING DRAINAGE AREA BOUNDARY
- 1 — EXISTING DRAINAGE AREA LABEL
- PROPOSED DRAINAGE AREA BOUNDARY
- 1 — PROPOSED DRAINAGE AREA LABEL

N

0 50 100

Horz. 1 in. = 50 ft.

NOT FOR CONSTRUCTION OR RECORDING

WOOD PATEL

FAIRMONT SCOTTSDALE PRINCESS

SUNSET VILLAS AND BUNGALOWS & ROOMS TOWER

PROPOSED DRAINAGE MAP

DATE	08/04/2023	SCALE	1" = 50'	SHEET	1 OF 1
JOB NO.	215319.10	DESIGN	AJS	DRAWN	AJS

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