E. Biological Resources

1. Expected Impacts

a. Conservation Lands System

The project site is not located within any areas designated by the Conservation Lands System (CLS). There will be no impacts on the CLS.

b. Saguaros

A site visit was conducted on September 24, 2015 and identified a total of 118 saguaro cacti located within the site boundaries. Saguaros are located in many locations across the site and cannot be completely avoided by development on the site. A preliminary analysis has indicated there are 85 viable saguaros and 33 non-viable saguaros. Saguaros located outside of developed areas will be preserved in place. Any remaining saguaros that meet the native plant preservation transplanting criteria will be salvaged and transplanted on the project site The saguaros will be relocated within required bufferyards and/or common areas. Mitigation will be in accordance with Chapter 18.72 of the Pima County Code.

c. Ironwood Trees

A site visit was conducted on September 24, 2015 did not locate any Ironwood Trees on site. There will be no impacts to Ironwood Trees.

d. Pima Pineapple Cactus

A site visit was conducted on September 24, 2015 did not locate any Pima Pineaplle Cacti on site. There will be no impacts to Pima Pineapple Cacti.

e. Needle-Spined Pineapple Cactus

A site visit was conducted on September 24, 2015 did not locate any Needle Spined Pineapple Cacti on site. There will be no impacts to Needle Spined Pineapple Cacti.

2. Landscape Connectivity

Since the site is not located within the CLS or Critical Landscape Connection, landscape connectivity is not required. However, the bufferyards around the perimeter of the site and the wash channel through the site will maintain some landscape connectivity across the site.

F. Landscape and Buffer Plan

1. Landscape Buffer Yard Plan

Table III.F.1 displays the proposed bufferyard requirements identified in the Pima County Code of Ordinances Chapter 18.73.040 as it pertains to this project (See *Exhibit III.F.1: Buffer Plan*.) The first table shows buffers and screening for the CR-5 residential portion of the project. The second table shows the buffers and screening for the TR commercial portion of the project.

Table III.F.1: CR-5 Buffer and Screening Plan

Adjacent Land Use	Required Buffer Yard	Provided Buffer Yard	Provided Screening
SR Residential (north)	Bufferyard C	20' Natural Bufferyard C	None
Public Street (Oracle Jaynes Station)	Bufferyard C	10' Bufferyard C	60" masonry wall
Public Street (La Cholla & Oracle Jaynes Station adjacent to Lot 1)	Hillside Bufferyard	20' Hillside Bufferyard	72" masonry wall
TR Non-residential (east & north, existing)	None	None	None
TR Non-residential (east, proposed)	None	None	None
CR-3 Vacant (west)	Bufferyard C	10' Bufferyard C	60" masonry wall

Table III.F.2: TR Buffer and Screening Plan

Adjacent Land Use	Required Buffer Yard	Provided Buffer Yard	Provided Screening
SR Residential (north)	Bufferyard D	10' Bufferyard D	72" decorative masonry wall
Public Street (La Cholla)	Bufferyard B	10' Bufferyard B	40" decorative masonry wall
TR Non-residential (south, existing)	None	None	None
CR-5 Residential (west, proposed)	Bufferyard D (None if platted together)	None	None

2. Buffer Yard/Open Space Conflicts

There are no known conflicts with the proposed bufferyards and open space with any easements, setbacks, or rights-of-way.

3. Vegetation Transplanted On-Site

Transplanted trees and shrubs will be located within the buffer yards and basins which are compatible with the plants size and water use. Saguaro cacti will not be transplanted to basin areas. Transplanted saguaros will be located in buffer yards and well drained common areas.

G. Viewsheds

4. Visual Impacts from Development

a. Views and Vistas from Off-Site Locations

The majority of views in the area are in the distant background to the east, south and west, with the closest views of the Santa Catalina Mountains to the east. The proposed development will not impact views or vistas from off-site locations due to the large setbacks to adjacent land uses, amount of dedicated open space and the proposed landscape buffers and proposed screening along La Cholla Boulevard and Oracle Jaynes Station Road.

b. Areas of High and Medium Visibility

The site is not being developed under the Cluster Development Option, therefore this section is not applicable.

5. Measures to Minimize Visual Impacts from Development

The homes and proposed medical care facility will be finished using natural, non-reflective colors that blend with the natural environment of the surrounding desert. The site will consist of downward-facing external lighting in compliance with the Outdoor Lighting Code, Chapter 15.12 of the Pima County Code of Ordinances.

H. Transportation

1. Access Points

There will be three total access points to the subject property. The primary access point from Oracle Jaynes Station Road on the ± 7 acre CR-5 parcel will serve lots 6-37, with a separate access point to serve lots 1-5. One access point from La Cholla Boulevard will be provided to serve the ± 3 acre TR parcel.

2. Future Road Improvements

The PDP does not depend on future off-site road improvements for access.

3. Changes to Average Daily Trips

The proposed development will generate approximately 489 trips per day in accordance with the Trip Generation Manual, 7th Edition, Institute of Transportation Engineers. The average rate for single family detached homes is 10 trips per day multiplied by the number of units (37). The average rate for skilled nursing facilities is 2.37 trips per day multiplied by the number of beds (50).

4. Traffic Impacts Minimized by PDP

The project will have three access points, two located on Oracle Jaynes Station Road and the other located on La Cholla Boulevard. The concrete median located between the north and south traffic lanes on La Cholla Boulevard will mitigate impacts caused by the proposed project. Additionally, the northbound deceleration/left turn lane at the intersection of La Cholla Boulevard and Oracle Jaynes Station Road mitigates the traffic impacts from the project site on Oracle Jaynes Station Road.

5. Bicycle and Pedestrian Pathways

Sidewalks are proposed on both sides of the internal roadways to accommodate pedestrian traffic through the site.

6. Typical Roadway Sections

The interior roadway will be public with a 45-foot right-of-way. This road consists of a 24-foot paved driving surface with two-foot wedge curbing, three-foot open buffer, and four-foot sidewalk on each side of the roadway.

7. Transportation Concurrency

The site meets transportation concurrency for all major roads in the area.

I. On-Site Wastewater Treatment and Disposal

1. On-Site Wastewater Treatment/Disposal Facilities

The site will be served by Pima County Regional Wastewater Reclamation Department.

J. Sewer

1. Method of Sewer Service

The site will connect to an existing sewer network served by Pima County Regional Wastewater Reclamation Department. An 8-inch public sewer (S-519) exists perpendicular to Oracle Jaynes Station Road south of the property at manhole 9539-05. (See *Exhibit II.G.1: Wastewater Letter*)

2. Collection Sewers

Sewers within this development will follow the right-of-way through the development, and will require a 20' easement for a right-of-way to enable connection to the existing sewer service.

3. Sewers within public right-of-way

Sewer service connects to as built pipe S-519 located perpendicular to Oracle Jayne Station Road and the subject property.

4. Site Constraints to Gravity Sewer

There are no site constraints to gravity sewer.

K. Water

Refer to Appendix A: Preliminary Integrated Water Management Plan.

L. Schools

1. Routes to Adjacent Schools

One charter school, Faith Community Academy, is located within a 1-mile vicinity proposed development site, which is accessed via Orange Grove Road. Additionally, three private schools are located within a one-mile radius: Carden of Tucson and Sonoran Science Academy-Tucson accessed via River Road, and Alternative High School accessed via La Cholla Boulevard. Walker Elementary school is the only public school within a one-mile radius and is accessed primarily via River Road. However, Laguna Elementary, La Cima Middle School and Donaldson Elementary are located just outside of the one-radius.

As shown on *Exhibit III.B.1*, a trail connection will be provided from the northern cul-de-sac within the CR-5 property along the northern property boundary to La Cholla Boulevard. The ultimate location of the trail will be determined by final block plat.

2. School Capacity

As shown in *Exhibit III.L.2: Existing Schools*, the site is located within the Amphitheater School District. There is one public school located within one mile of the project site. See *Table III.L.2* for all public schools that could potentially serve the site.

Table III.L.2: Public School Serving the Site

School Name	Location
Walker Elementary School	1750 W. Roller Coaster Road
La Cima Middle School	5600 N. La Cañada Drive
Amphitheater High School	125 W. Yavapai Road

Source: Amphitheater School District Website, 2015

a. Present and Projected Enrollments

Ms. Connie McFarland, Legal Assistant Todd A. Jaegar, J.D., was consulted for the current enrollment and capacity numbers for the public schools that will serve the site (*Exhibit III.L.3: Amphitheater School District Capacity)*. Walker Elementary School currently has 482 students enrolled, and has the capacity to serve 630 students Continental School currently has 579 students enrolled, and has the current capacity to serve 800 students in grades K-5. La Cima Middle School currently has 446 students enrolled, and has the current capacity to serve 1,370 students in grades 6-8. Amphitheater High School currently has 1,261 students enrolled, and has the current capacity to serve 2,130 students in grades 9-12.

b. Projected Increase to Enrollment

The Amphitheater School District uses multipliers developed by the U.S. Department of Census, Bureau of Census, and adjusted for the district's school organization patterns to projected increases in enrollment from the proposed development. Using the multiplier of 0.2075 for elementary students per household, Amphitheater School District anticipates that the proposed development will increase enrollment by 9 elementary students. Using a multiplier of 0.2197 middle school students per household, Amphitheater School District anticipates that the proposed development will increase middle school enrollment by 9 students. Using a multiplier of 0.1282 high school students per household, Amphitheater School District anticipates that the proposed development will increase high school enrollment by 5 students.

The Amphitheater School District has the capacity for projected increases in student enrollment as a result of the addition of 37 single family homes.

c. School Facilities Improvements

In November 2014, Amphitheater School District shared plans for a new STEM (Science, Technology, Engineering and Math) elementary school located northeast of La Cañada Boulevard and Moore Road. The school was funded through the sale of bonds that voters approved for capital need improvements in 2007. In April 2015, the Amphitheater Governing Board approved a one-year delay on the construction schedule that was set to open in the 2016-2017 school year.

Exhibit III.L.2: Existing Schools

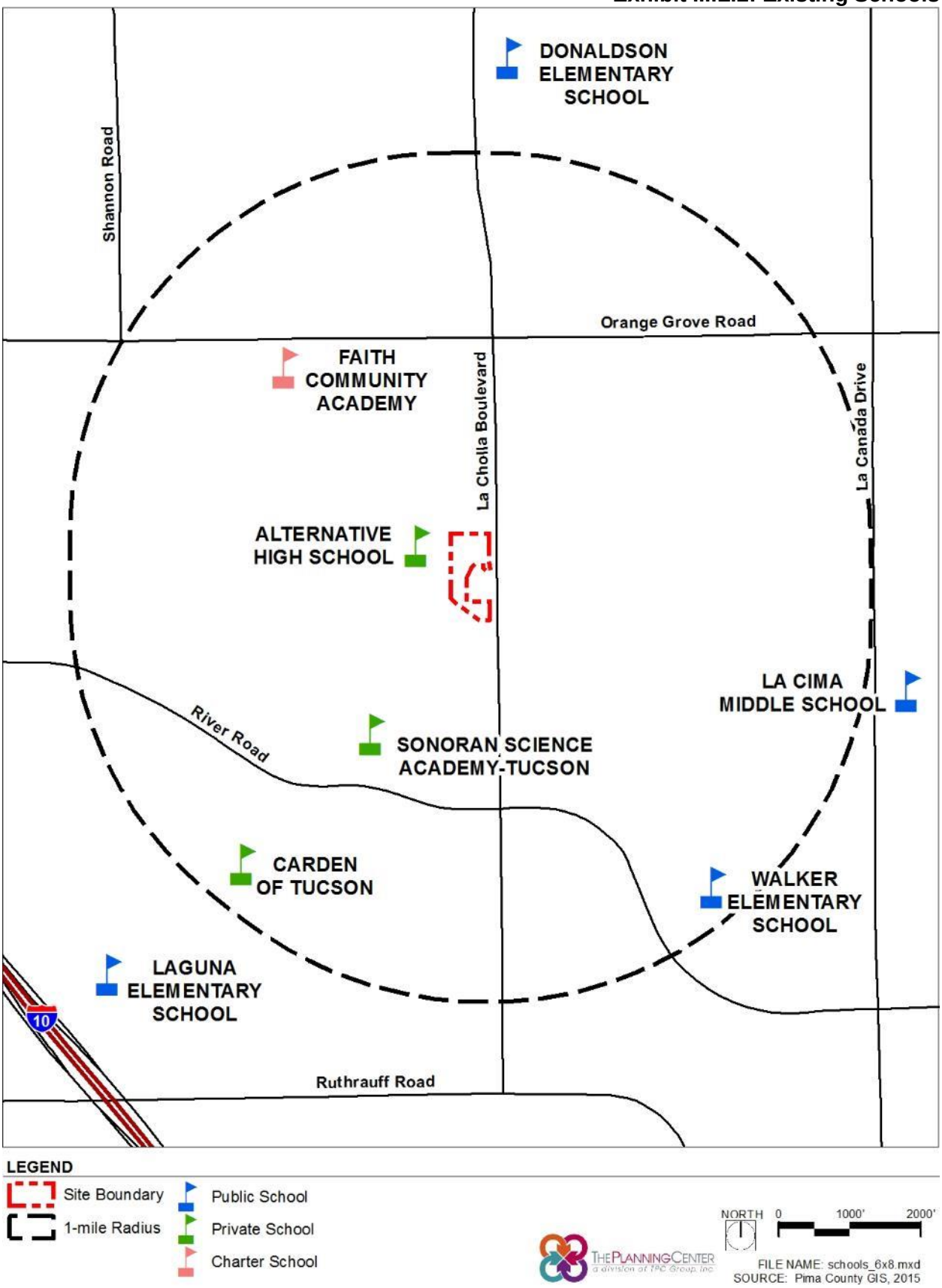


Exhibit III.L.3: Amphitheater School District Capacity

OFFICE OF LEGAL COUNSEL
Todd A. Jaeger, J.D.
Associate to the Superintendent
(520) 696-5156
FAX (520) 696-5074

701 W. Wetmore Road • Tucson, AZ 85705 • (520) 696-5000 • TDD (520) 696-5055

November 2, 2015

Brian Underwood
Project Manager
The Planning Center
110 S Churce Ste 6320
Tucson AZ 85701

RE: Proposed Development of 41 single family homes on approximately 10 acres within the Amphitheater District Northwest of N La Cholla Blvd and W Oracle Jaynes Station Rd

Dear Mr. Underwood:

I am responding to your request for information regarding the capacity of Amphitheater schools impacted by your proposed development.

Using 2000 demographic multipliers developed by the U.S. Department of Census, Bureau of Census, and adjusted for Amphitheater District's school organizational patterns, we project the following student populations to result from this project when built:

Academic Level	41 Single Family Homes
Elementary	9
Middle	9
High School	5

The census multipliers we use to obtain these projections are 0.2075 elementary students per household, 0.2197 middle school students per household and 0.1282 high school students per household.

The capacity of our schools noted below is based on our last confirmed enrollment calculations. The schools which would be impacted by this population are listed below, along with the physical capacity available at each school *presently*. Please note that these schools will also be impacted by other developments in this area which may have already been approved by the County but which are not yet built.

Exhibit III.L.3: Amphitheater School District Capacity (Continued)

School Name	School Capacity	Spaces Currently Available
Walker Elementary	630	148
La Cima Middle	1370	924
Amphitheater High	2130	869

If I can provide any additional information, please feel free to contact me.

Sincerely,

Connie R. McFarland
Legal Assistant to Todd A. Jaeger, J.D.

M. Recreation and Trails

1. Recreation Areas to be Provided

The property owner has elected to pay the in-lieu fee, which will be determined at the time of the subdivision plat in accordance with the Pima County Zoning Code Section 18.69.090 for subdivisions of sixty-five lots or fewer.

2. Proposed Ownership of Open Space

A homeowners association will own and maintain the open space, as well as other common areas, proposed for this project.

3. Proposed Trails in Compliance with Eastern Pima County Trails System Master Plan

According to the Pima County Bicycle and Pedestrian Program, the property is located within one-mile of the Rillito River Park, an existing Shared-use path. Additionally, La Cholla has north- and southbound bike lanes with striped shoulders which is directly adjacent to the subject site. According to the Pima Regional Trail System Master Plan, the site is located just west of several singletrack trails. A trail connection will be provided from the northern cul-de-sac within the CR-5 property along the northern property boundary to La Cholla Boulevard. The ultimate location of the trail will be determined by final block plat.

N. Cultural Resources: Archaeological and Historic Sites

1. Mitigation Measures for Protection of Resources

Based on an Arizona State Museum check of the records, no archaeological or historic resources are known to exist on the property. However, no cultural resources surveys have been conducted on the property.

2. Archaeological Survey Measures

Based on the results of the ASM site records check, Pima County will determine whether survey is necessary for the currently proposed development. If a survey is recommended, it will be conducted prior to ground modifying activities. An on-the-ground archaeological and historic site survey shall be conducted on the subject property, and submitted to Pima County for review. A cultural resources mitigation plan for any identified archaeological or historic sites on the subject property shall be submitted to Pima County at the time of, or prior to, the submittal of any tentative plan or development plan. All work shall be conducted by an archaeologist permitted by the Arizona State Museum or a registered architect, as appropriate. Following rezoning approval, any subsequent development requiring a Type II grading permit will be reviewed for compliance with Pima County's cultural resources requirements under Chapter 18.81 of the Pima County Zoning code.

3. Cultural Resources Mitigation Plan

In the event that cultural resources are revealed during ground-disturbing activities, all construction shall cease, and consultation shall be initiated with ASM to assess potential significance of any unearthed materials (ARS 41-841.) If human skeletal remains or funerary objects are discovered, ASM will be contacted immediately (ARS 41-865 & 41-844.)

O. Environmental Quality

1. Control of Dust Pollution

Watering trucks will be on hand during construction to control dust pollution. In addition, all Parking Area Access Lanes will be paved.

2. Control of Emissions Greater than 100 tons per Year

a. Air Quality Code

The site is planned for residential development. The standards do not apply.

P. Agreements

1. Agreements with Neighboring Properties

No agreements with adjacent properties owners have been made at this time.

Bibliography:

Bicycle and Pedestrian Program, Pima County, Arizona, 2014

Critical and Sensitive Biological Communities of the Tucson, Arizona Area. Pima County Department of Transportation and Flood Control District, Tucson, Arizona. August, 1986.

Desert Plants. David E. Brown (ed.). University of Arizona, Tucson, Arizona. 1982.

Flood Insurance Rate Maps. Federal Emergency Management Agency, Baltimore, Maryland.

Floodplain Management Ordinance No. 1988-FCI for Pima County Arizona, adopted by the Board of Directors, Pima County Flood Control District, April 26, 1988. Pima County Department of Transportation and Flood Control District, Pima County, Arizona.

Hydrology Manual for Engineering Design and Floodplain Management within Pima County, Arizona. Pima County Department of Transportation and Flood Control District, Pima County, Arizona. September, 1979.

Major Streets and Routes Plan (Co14-79-2). Pima County, Arizona. Amended May 6, 1986.

Mapguide. Pima County Department of Transportation. 2013.

Mapguide. Sonoran Desert Conservation Plan. 2013.

Regional Transportation Plan, 2040. Pima Association of Governments, Pima County, Arizona. 2013.

Regional Trail System Master Plan, Pima County, Arizona, 2010

Stormwater Detention/Retention Manual. Pima County Department of Transportation and Flood Control District, City of Tucson, Arizona. 1987.

Zoning Code Pima County, Arizona. Pima County Development Services. Pima County, Arizona. October, 1986

LA CHOLLA AND ORACLE JAYNES STATION
REZONING DOCUMENT | PIMA COUNTY
APPENDICES

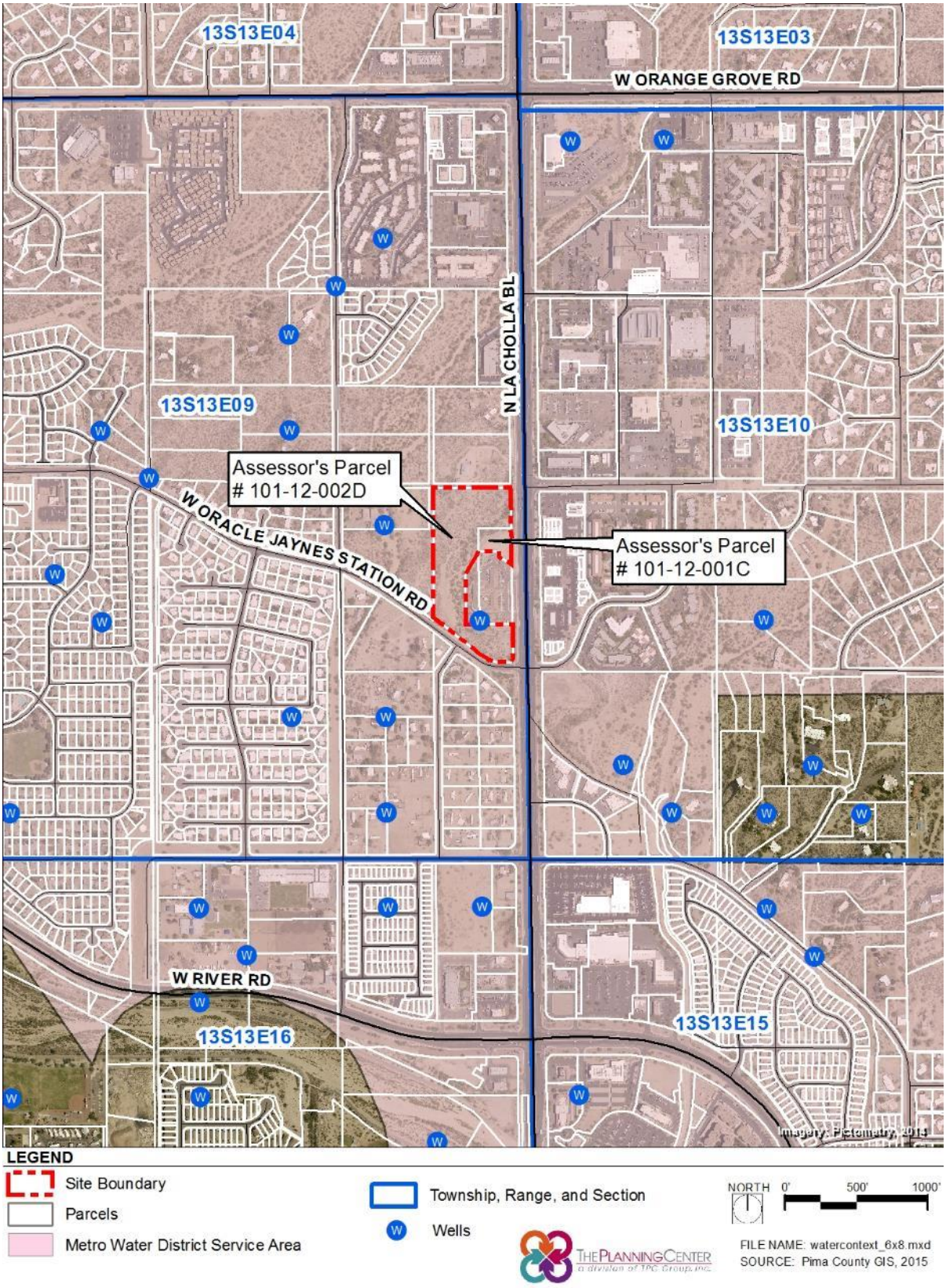
THE PLANNING CENTER
a division of TPC Group, Inc.

Appendix A: Preliminary Integrated Water Management Plan

1. Water Context

The subject property is comprised of parcels #101-02-002C and #101-02-002D. The area of the combined parcels is approximately 10.3 acres. The site is located in northwestern Pima County at the northwest corner of La Cholla Boulevard and Oracle Jaynes Station Road within Township 13S, Range 13E and Section 09.
The property will be served by Metropolitan Domestic Water Improvement District, and is certified to provide water to the subject site and is designated as having a 100-year assured water supply. (See *Exhibit A.1: Water Context Map, Exhibit A.4: Water Supply Letter)*

Exhibit A.1: Water Context Map



2. Onsite Existing and Historic Water Use

The site is vacant and undeveloped. There are no wells located on-site.

3. Onsite Proposed Water Use

The subject property is planned for approximately 37 single family residential homes. Additionally, the subject property is planned to have a medical care facility or other medical services such as medical clinics, assisted living and skilled nursing centers, and outpatient services. The development will feature native, drought tolerant landscaping, and water harvesting.

4. Water Supply and Delivery

Metropolitan Domestic Water Improvement District has indicated that capacity exists to serve the development. (See *Exhibit A.4: Water Supply Letter*)

Exhibit A.4: Water Supply Letter:

METRO WATER DISTRICT

October 8, 2015

Brian Underwood
The Planning Center
110 S. Church, Suite 6320
Tucson, AZ 85701

Re: ±10.2 Acres at the NWC of La Cholla Blvd. and Oracle Jaynes Station Rd.
(PN 101-12-002D & PN 101-12-001C)
CAP15-08

Dear Mr. Underwood,

The Metropolitan Domestic Water Improvement District (MDWID) is certified to provide water to the above referenced development and is designated as having a 100-year assured water supply.

Any onsite or offsite requirements deemed necessary to provide the domestic and fire flow water supply will be determined at the time of improvement plan submittal or whenever application for water service is received, and will be the financial responsibility of the owner or those developing the property. Pipe sizing and system augmentation, if necessary, will be based on calculated demand for both domestic and fire flows as needed to adequately supply this area.

This property lies within the La Cholla Fire Flow Impact Corridor, and is subject to fees per MDWID Resolution 1994-8.

If an improvement plan has not been submitted within 2 years after the date of this letter, a reevaluation and reissuance of this will-serve letter will be necessary.

Please let me know if you have any questions or concerns at 575-8100.

Sincerely,

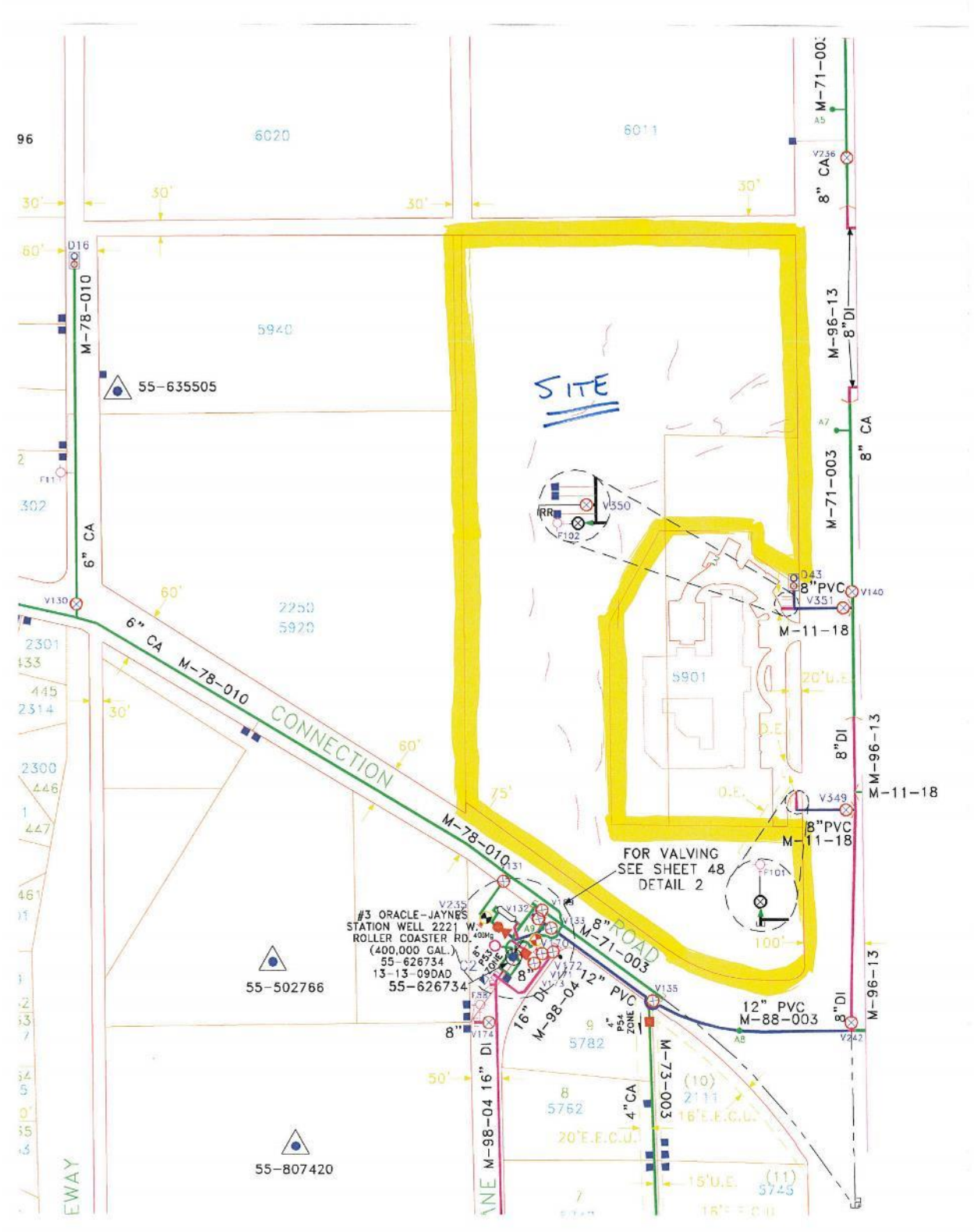
Timothy Dinkel
Development Supervisor

Enclosure

c: Project File / Charlie A. Maish, District Engineer
Signature File

Metropolitan Domestic Water Improvement District
P.O. Box 36870 Tucson, Arizona 85740 (520) 575-8100 (520) 575-8454 FAX www.metrowater.com

Exhibit A.4: Water Supply Letter (Continued):



5. Water Demand Projections

a. Table 'A' of the PIWMP guidelines indicates that the residential development such as the one proposed in CR-5 zoning is likely to require approximately 0.34 acre-feet annually per household. The project is proposed to have 37 individual dwelling units, which equates to a demand of approximately 13.6 acre-feet annually. Additionally, Table 'A' of the PIWMP guidelines indicate that a development such as a skilled nursing facility in TR zoning is likely to require approximately 0.34 acre-feet annually per one thousand square-feet. The proposed approximately 50,000 square-foot medically related facility will demand approximately 17 acre-feet annually.

b. Water conservation measures listed in Table B – Water Conservation Measures in the Pima County Site Analysis requirements to be included as part of the proposed project are as follows:

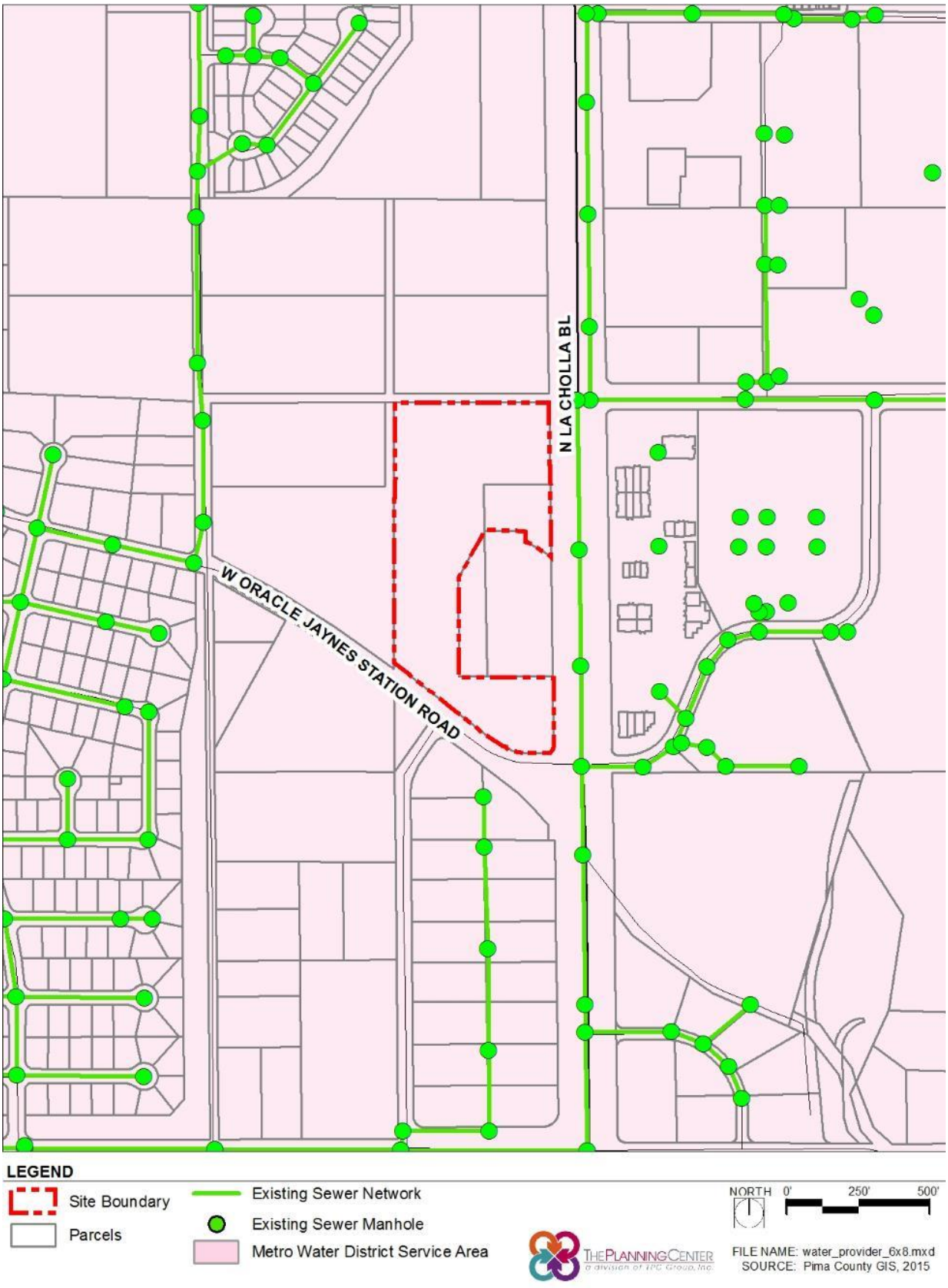
- O-1, Rainwater Harvesting (50% capture) – 6 points
- I-6, Low-flow faucets – 3 points
- I-7, Low-flow shower heads – 3 points
- I-8, Low-flow toilets – 3 points

The development will include water conservation measures O-1, I-6, I-7, and I-8, but will retain flexibility to change options provided that the point totals of those options will meet or exceed the minimum of 15 points, and will include at least one outdoor measure.

6. Proximity to Renewable and Potable Water Supplies

Not Applicable

Exhibit A.5: Water Service Provider



Appendix B: Hydrology Data

Worksheet
Worksheet for Trapezoidal Channel

Project Description	
Worksheet	OJ DET OUTLE
Flow Element	Trapezoidal Cha
Method	Manning's Form
Solve For	Channel Depth

Input Data		
Mannings Coeffic	0.035	
Slope	005000	ft/ft
Left Side Slope	3.00	H : V
Right Side Slope	3.00	H : V
Bottom Width	5.00	ft
Discharge	36.00	cfs

Results		
Depth	1.38	ft
Flow Area	12.7	ft²
Wetted Perim	13.75	ft
Top Width	13.30	ft
Critical Depth	0.96	ft
Critical Slope	0.020852	ft/ft
Velocity	2.84	ft/s
Velocity Head	0.13	ft
Specific Energ	1.51	ft
Froude Numb	0.51	
Flow Type	Subcritical	

Project Engineer: Derek Roberts
FlowMaster v6.1 [614k]
untitled.fm2
04/21/16 11:11:33 AM © Haestad Methods, Inc. 37 Brookside Road Waterbury, CT 06708 USA (203) 755-1666 Page 1 of 1

Culvert Calculator Report
CL1

Solve For: Headwater Elevation

Culvert Summary					
Allowable HW Elevation	0.00	ft	Headwater Depth/Height	0.00	
Computed Headwater Elev	2,295.00	ft	Discharge	0.00	cfs
Inlet Control HW Elev.	2,295.00	ft	Tailwater Elevation	0.00	ft
Outlet Control HW Elev.	2,295.00	ft	Control Type	Inlet Control	

Grades					
Upstream Invert	2,295.00	ft	Downstream Invert	2,284.00	ft
Length	450.00	ft	Constructed Slope	0.024444	ft/ft

Hydraulic Profile					
Profile	Dry		Depth, Downstream	0.00	ft
Slope Type	Dry		Normal Depth	0.00	ft
Flow Regime	Subcritical		Critical Depth	0.00	ft
Velocity Downstream	0.00	ft/s	Critical Slope	0.000000	ft/ft

Section					
Section Shape	Circular		Mannings Coefficient	0.012	
Section Material	HDPE (Smooth Interior)		Span	5.00	ft
Section Size	60 inch		Rise	5.00	ft
Number Sections	1				

Outlet Control Properties					
Outlet Control HW Elev.	2,295.00	ft	Upstream Velocity Head	0.00	ft
Ke	0.20		Entrance Loss	0.00	ft

Inlet Control Properties					
Inlet Control HW Elev.	2,295.00	ft	Flow Control	N/A	
Inlet Type	Beveled ring, 33.7° bevels		Area Full	19.6	ft²
K	0.00180		HDS 5 Chart	3	
M	2.50000		HDS 5 Scale	B	
C	0.02430		Equation Form	1	
Y	0.83000				

Project Engineer: Derek Roberts
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CulvertMaster v2.0 [2.005]
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Culvert Calculator Report
CL2

Solve For: Headwater Elevation

Culvert Summary					
Allowable HW Elevation	0.00	ft	Headwater Depth/Height	0.92	
Computed Headwater Elev	2,299.68	ft	Discharge	131.00	cfs
Inlet Control HW Elev.	2,299.42	ft	Tailwater Elevation	2,271.50	ft
Outlet Control HW Elev.	2,299.68	ft	Control Type	Entrance Control	

Grades					
Upstream Invert	2,296.00	ft	Downstream Invert	2,267.50	ft
Length	413.00	ft	Constructed Slope	0.069007	ft/ft

Hydraulic Profile					
Profile	CompositeS1S2		Depth, Downstream	4.00	ft
Slope Type	Steep		Normal Depth	1.08	ft
Flow Regime	N/A		Critical Depth	2.44	ft
Velocity Downstream	5.21	ft/s	Critical Slope	0.003717	ft/ft

Section					
Section Shape	Circular		Mannings Coefficient	0.012	
Section Material	HDPE (Smooth Interior)		Span	4.00	ft
Section Size	48 inch		Rise	4.00	ft
Number Sections	2				

Outlet Control Properties					
Outlet Control HW Elev.	2,299.68	ft	Upstream Velocity Head	1.03	ft
Ke	0.20		Entrance Loss	0.21	ft

Inlet Control Properties					
Inlet Control HW Elev.	2,299.42	ft	Flow Control	N/A	
Inlet Type	Beveled ring, 33.7° bevels		Area Full	25.1	ft²
K	0.00180		HDS 5 Chart	3	
M	2.50000		HDS 5 Scale	B	
C	0.02430		Equation Form	1	
Y	0.83000				

Project Engineer: Derek Roberts
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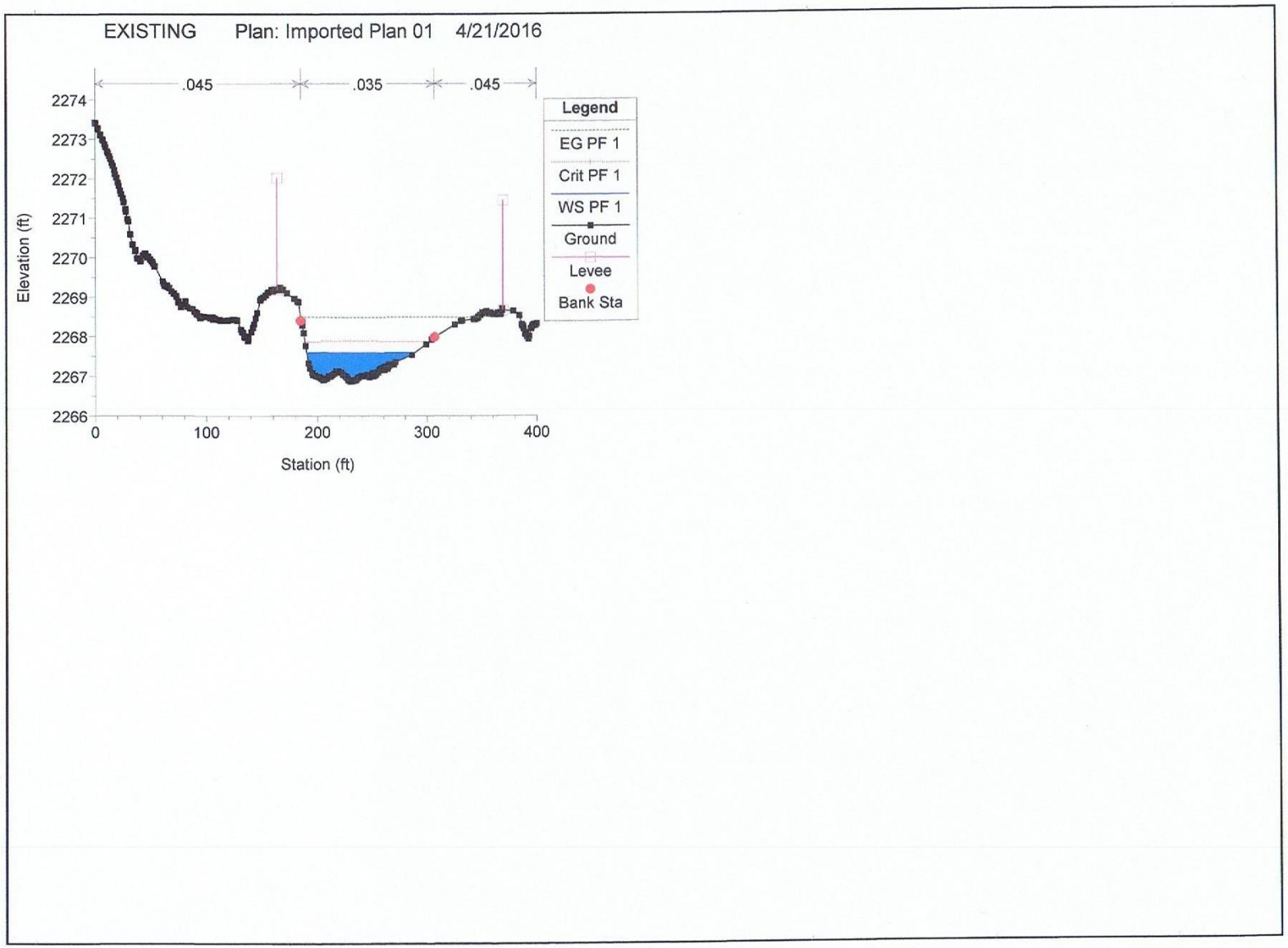
EXISTING

HEC-RAS Plan: Imported Pla River: RIVER-1 Reach: Reach-1 Profile: PF 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach-1	1300.	PF 1	343.00	2300.90	2302.72	2302.72	2303.23	0.013752	5.92	65.53	72.17	0.91
Reach-1	1200.	PF 1	343.00	2298.40	2299.70	2299.95	2300.51	0.051306	8.67	51.62	77.11	1.65
Reach-1	1100.	PF 1	343.00	2295.40	2296.56	2296.56	2297.58	0.065975	9.96	51.59	110.23	1.88
Reach-1	1000.	PF 1	343.00	2292.20	2293.20	2293.20	2293.45	0.032543	5.88	89.73	192.55	1.26
Reach-1	900.	PF 1	343.00	2289.47	2290.64	2290.77	2291.14	0.046579	6.83	62.55	107.34	1.50
Reach-1	800.	PF 1	343.00	2285.83	2287.65	2287.81	2288.15	0.022547	6.25	72.95	135.19	1.11
Reach-1	700.	PF 1	343.00	2282.41	2285.14	2285.50	2285.99	0.020012	7.91	59.66	106.77	1.12
Reach-1	600.	PF 1	343.00	2280.58	2282.02	2282.25	2282.77	0.058410	7.29	54.64	129.48	1.65
Reach-1	500.	PF 1	343.00	2277.78	2279.94	2279.94	2280.35	0.020074	5.16	66.54	82.57	1.01
Reach-1	400.	PF 1	343.00	2274.75	2277.14	2277.38	2278.07	0.024729	7.78	46.46	53.61	1.20
Reach-1	300.	PF 1	343.00	2272.64	2274.56	2274.73	2275.27	0.030686	6.74	50.88	58.43	1.27
Reach-1	200.	PF 1	343.00	2269.56	2271.83	2271.97	2272.61	0.023259	7.06	48.58	42.22	1.16
Reach-1	100.	PF 1	343.00	2266.87	2267.59	2267.87	2268.49	0.090669	7.59	45.21	98.80	1.98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.045
.035
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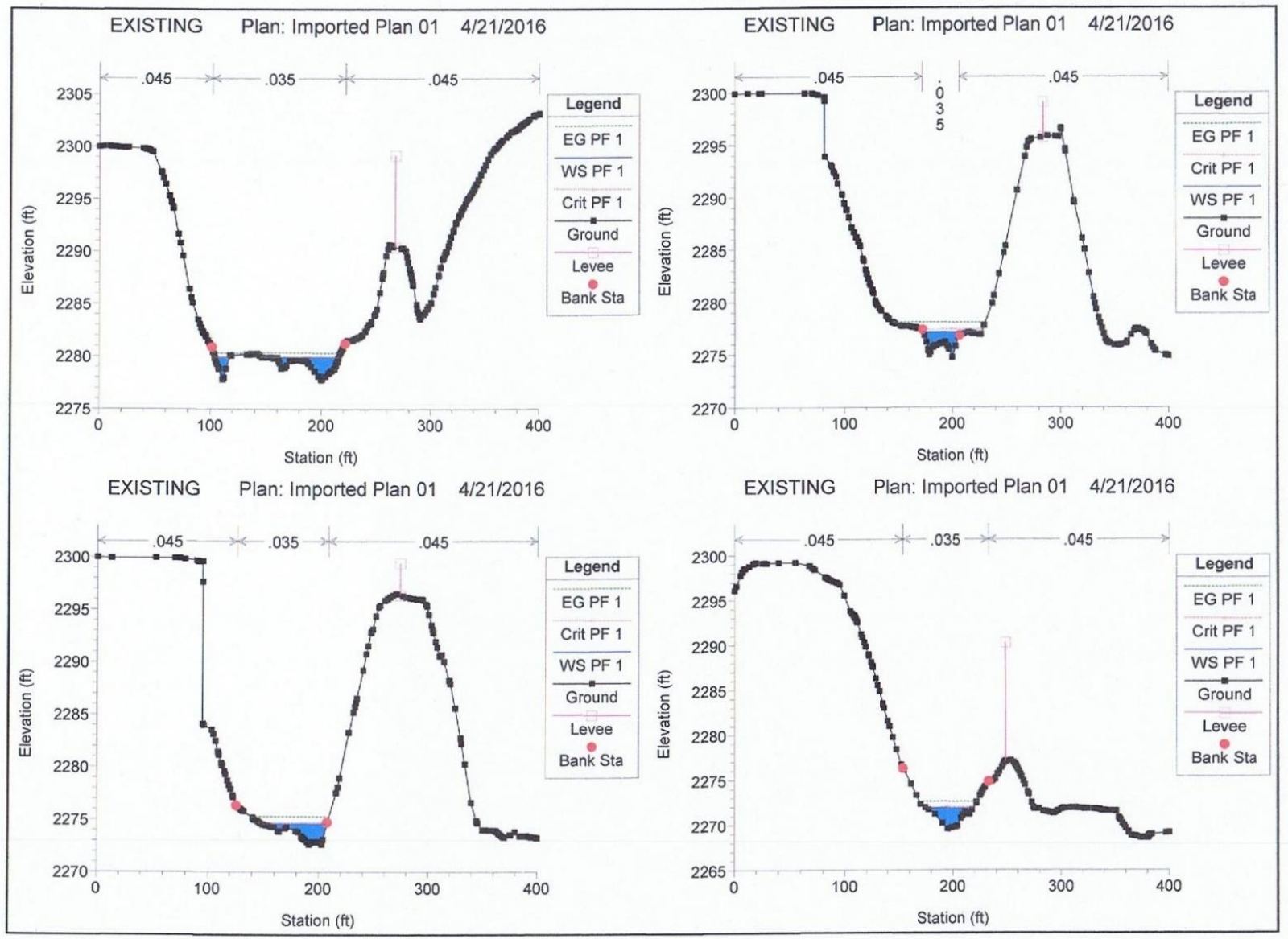
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Levee
Bank Sta
Elevation (ft)
2274
2273
2272
2271
2270
2269
2268
2267
2266
0
100
200
300
400
Station (ft)

4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Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
EXISTING Plan: Imported Plan 01 4/21/2016
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Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
EXISTING Plan: Imported Plan 01 4/21/2016
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Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
EXISTING Plan: Imported Plan 01 4/21/2016
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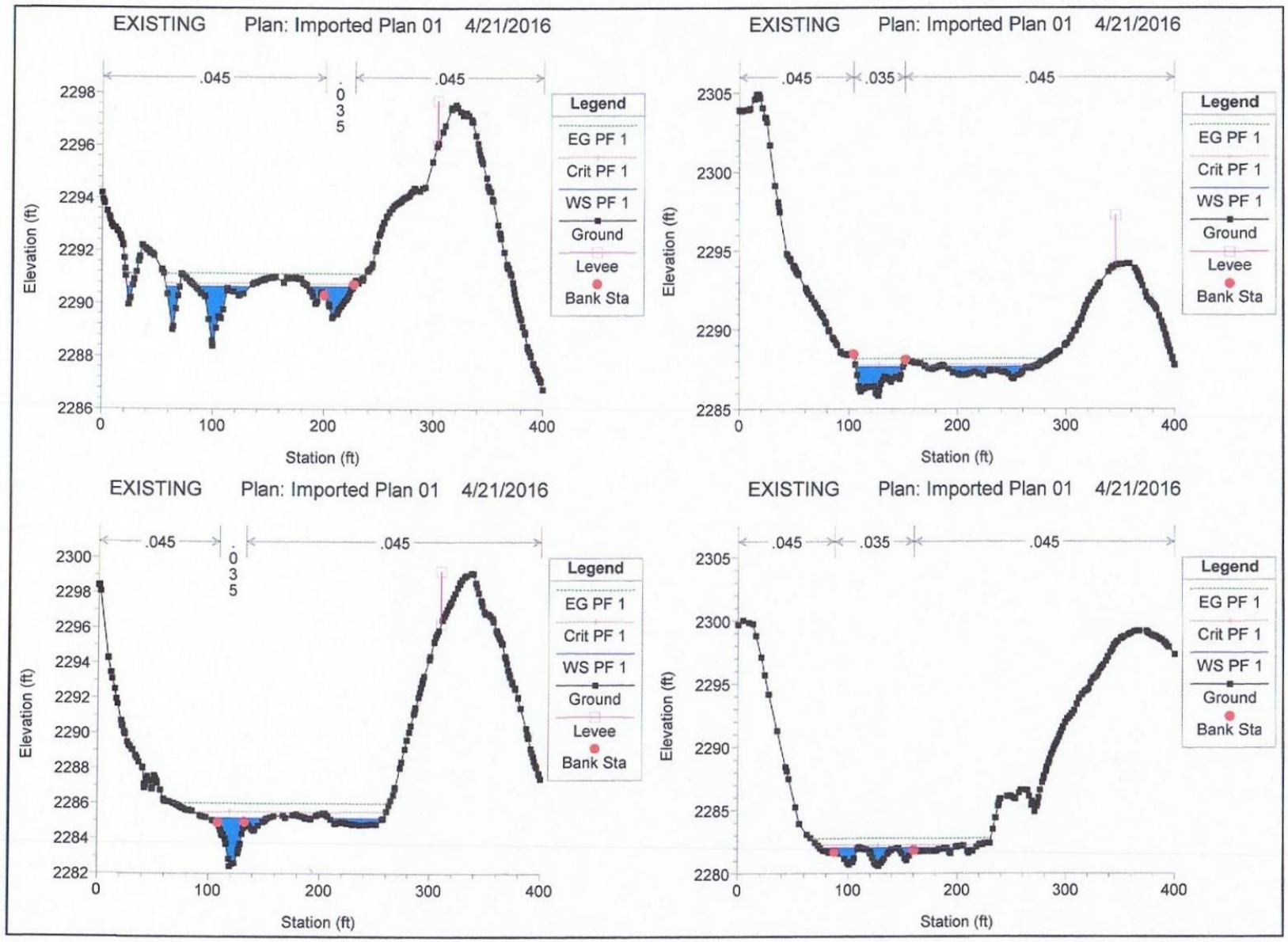
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

3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Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
EXISTING Plan: Imported Plan 01 4/21/2016
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Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
EXISTING Plan: Imported Plan 01 4/21/2016
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Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
EXISTING Plan: Imported Plan 01 4/21/2016
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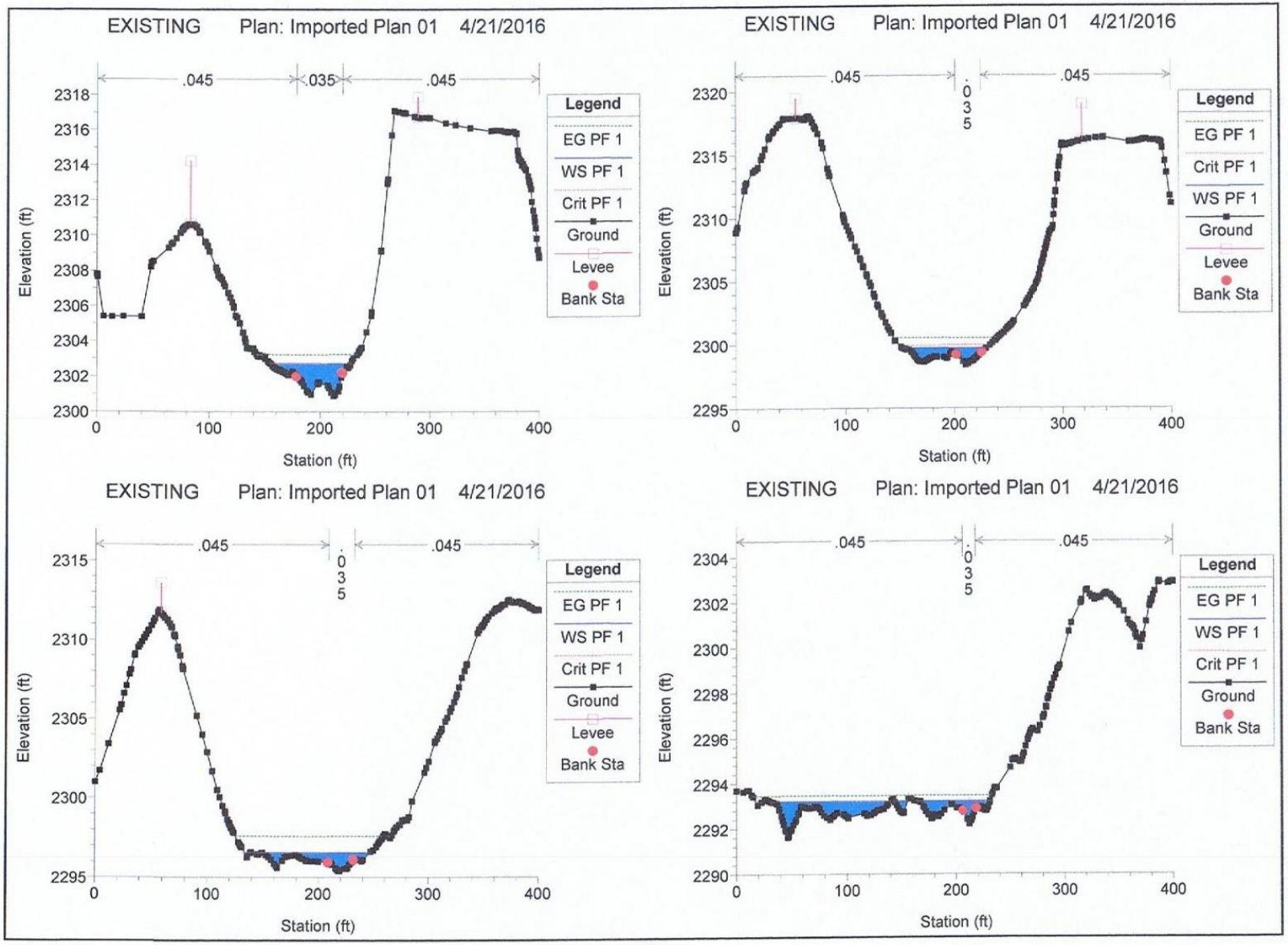
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)

2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Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
EXISTING Plan: Imported Plan 01 4/21/2016
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Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
EXISTING Plan: Imported Plan 01 4/21/2016
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Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta
Elevation (ft)
Station (ft)
EXISTING Plan: Imported Plan 01 4/21/2016
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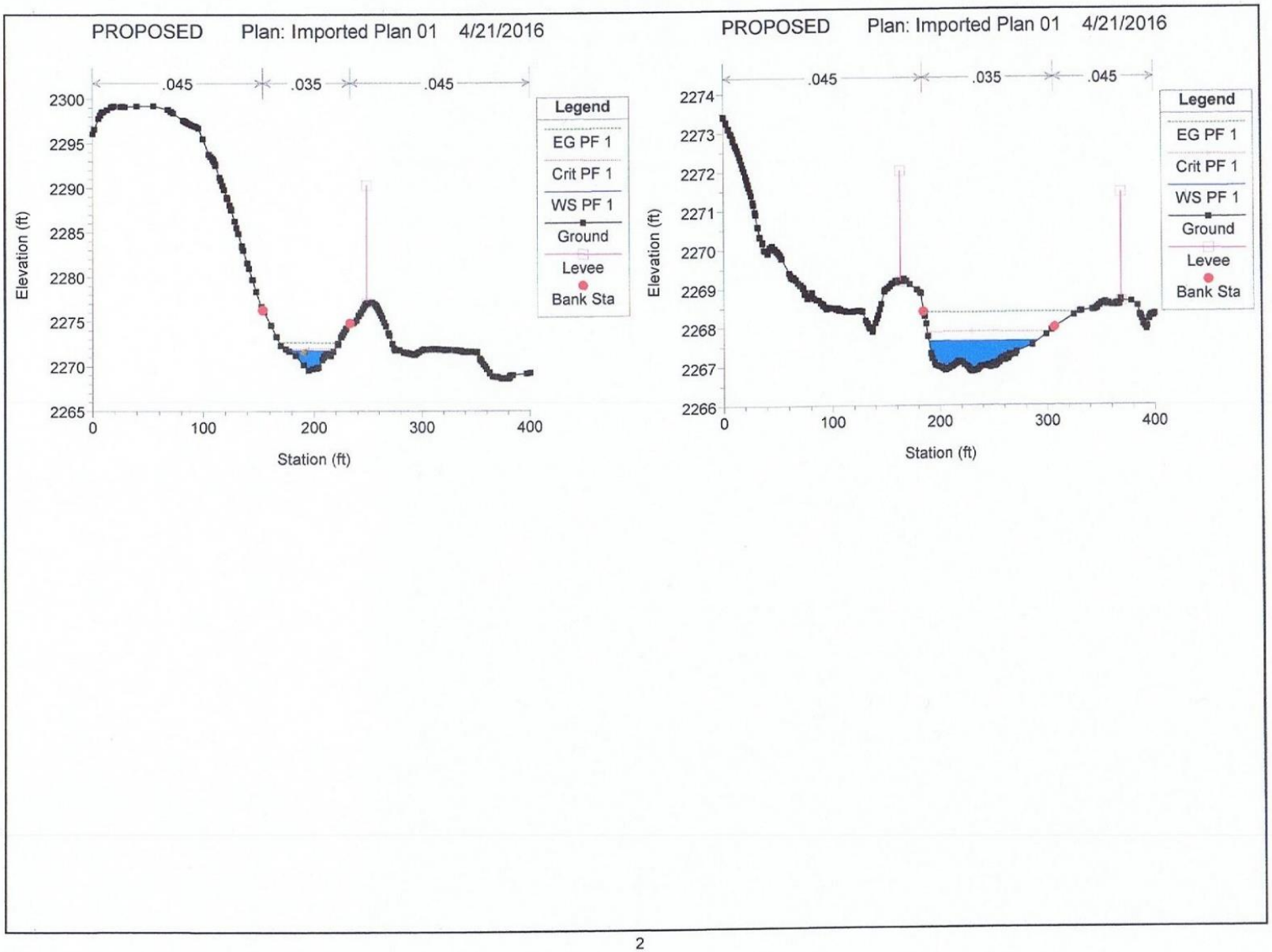
.035
.045
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)

1

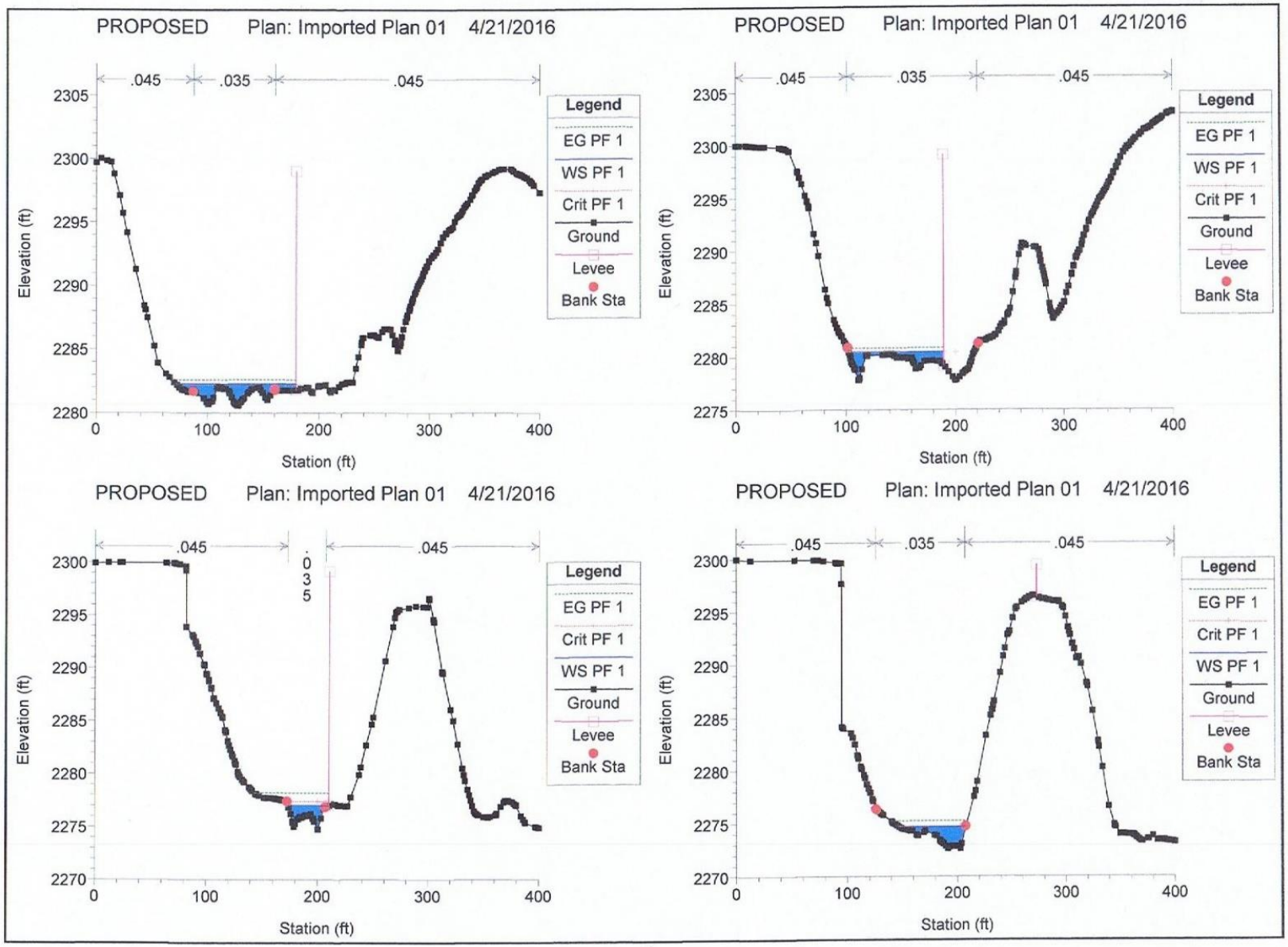
DEVELOPED

HEC-RAS Plan: Imported Pla River: RIVER-1 Reach: Reach-1 Profile: PF 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach-1	600.	PF 1	343.00	2280.58	2282.30	2282.27	2282.62	0.015586	4.77	79.91	107.98	0.91
Reach-1	500.	PF 1	343.00	2277.78	2280.46	2280.46	2280.85	0.020125	5.02	68.27	87.18	1.00
Reach-1	400.	PF 1	343.00	2274.75	2277.02	2277.35	2278.18	0.034468	8.67	39.89	36.51	1.40
Reach-1	300.	PF 1	343.00	2272.64	2274.65	2274.73	2275.23	0.022974	6.10	56.22	60.34	1.11
Reach-1	200.	PF 1	343.00	2269.56	2271.75	2271.97	2272.65	0.028507	7.61	45.07	40.78	1.28
Reach-1	100.	PF 1	343.00	2266.87	2267.64	2267.87	2268.38	0.068834	6.92	49.58	101.20	1.74


PROPOSED Plan: Imported Plan 01 4/21/2016
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Levee
Bank Sta
PROPOSED Plan: Imported Plan 01 4/21/2016
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Levee
Bank Sta

2


PROPOSED Plan: Imported Plan 01 4/21/2016
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.035
.045
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta
PROPOSED Plan: Imported Plan 01 4/21/2016
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.035
.045
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Levee
Bank Sta
PROPOSED Plan: Imported Plan 01 4/21/2016
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.035
.045
Elevation (ft)
Station (ft)
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Levee
Bank Sta
PROPOSED Plan: Imported Plan 01 4/21/2016
.045
.035
.045
Elevation (ft)
Station (ft)
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Levee
Bank Sta

1