CITY OF PASCO

CITY OF PASCO
URBAN GROWTH AREA EXPANSION
CAPITAL FACILITIES ANALYSIS

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INTRODUCTION

The City of Pasco is currently in the process of updating its Comprehensive Plan as required by the Washington State Department of Commerce. The Plan is a revision and update of the 1995 and 2007 plan that was initially created in response to the Growth Management Act (GMA), which was adopted at that time. The purpose of the Comprehensive Plan is to outline the community vision for the future and provide guidance for the development and implementation of specific ordinances and regulations affecting the physical environment of the community. The plan also identifies an anticipated future population and employment growth and how public facilities and services will be provided to accommodate that growth.

As a result, under the provisions of the GMA, urban growth is to be principally contained within designated boundaries (Urban Growth Boundaries) around urban centers in all counties planning under the Act. The Urban Growth Boundary defines the location of the city's urban growth area (UGA). The UGA is where urban development is expected and where growth can be supported by urban services. The UGB is the demarcation line between where the community encourages urban growth and where rural activities are to be preserved. By directing growth to UGAs natural resource lands such as commercially significant farms lands can be conserved and the character of rural areas can be maintained for future needs. Each urban growth area, including Pasco's, is to contain sufficient land area to accommodate expected growth for a 20-year planning horizon. The expected growth is determined by population projections prepared by the State Office of Financial Management which are used by Franklin County and the cities therein to allocate urban and rural growth for each jurisdiction.

The UGA defines the area in which the City must plan under GMA. The UGA establishes the boundaries for land use planning, transportation planning, and public service planning and utility planning. Under the GMA, cities are identified as the units of government most appropriate to provide urban governmental services. In general, urban governmental services are to be confined within the UGA. Only in limited circumstances where it is necessary to protect public health and safety or the environment can these services extend beyond the UGA.

As a result, based on recent population estimates provided by the Washington State Office of Financial Management (OFM), the City of Pasco is projected to increase by over 50,000 people by the year 2038. The current population of the City is 71,680. In order to accommodate this growth, the City has evaluated their current land vacancy and capacity analysis as well as identified areas for the City to accommodate this growth in population as well as the resulting growth in commercial, industrial, schools, parks and other services needed. Based on this analysis, the City will need to add another 4,804 acres in to the UGA Boundary to accommodate the projected growth by 2038.

This report evaluates the capacity of the City of Pasco to provide the necessary capital facilities to service the expanded proposed UGA, an area of approximately 4,804 acres, shown in Figure 1. Capital facility requirements and service capacities for this area are projected for both the 6-year and 20-year time periods. In addition, capital facility costs are projected for the 6-year time period. It is anticipated that growth will continue to occur in undeveloped areas within the existing City Limits and UGA within the next 6-years as well as expand into the proposed UGA. The proposed 6-year development areas within the proposed UGA analyzed for concurrency are identified in Figure 1, as well as the anticipated infill development areas within the existing City Limits.

The Washington State Growth Management Act (GMA) of 1990 requires that cities conduct a Capital Facilities Analysis (CFA), that shows they have the capacity to serve the Urban Growth Area (UGA) within their jurisdiction and that they adopt a Capital Facilities Plan (CFP) as part of their comprehensive plans, in order to ensure that utilities, transportation, and other public facilities will be reasonably available to

accommodate planned growth over the next twenty years. Capital facilities provide the basic infrastructure of the community and are critical if growth is to be accommodated.

This CFP complies with the Growth Management Act (RCW 36.70A.070 (3) and WAC 365-195-315) in order to assure that the City of Pasco Urban Growth Area (UGA) can meet the concurrency requirements of RCW 36.70A.020 (12), and WAC 365-195-210. RCW 36.70A.020 (12) of the Growth Management Act includes a goal to:

> *"..ensure that those public facilities and services necessary to support development shall be adequate to service the development at the time the development is available for occupancy and use without decreasing current service levels below locally established minimum standards".*

WAC 365-196-415(1) and RCW 36.70A.070 (3) requires that CFPs must address at least the following:

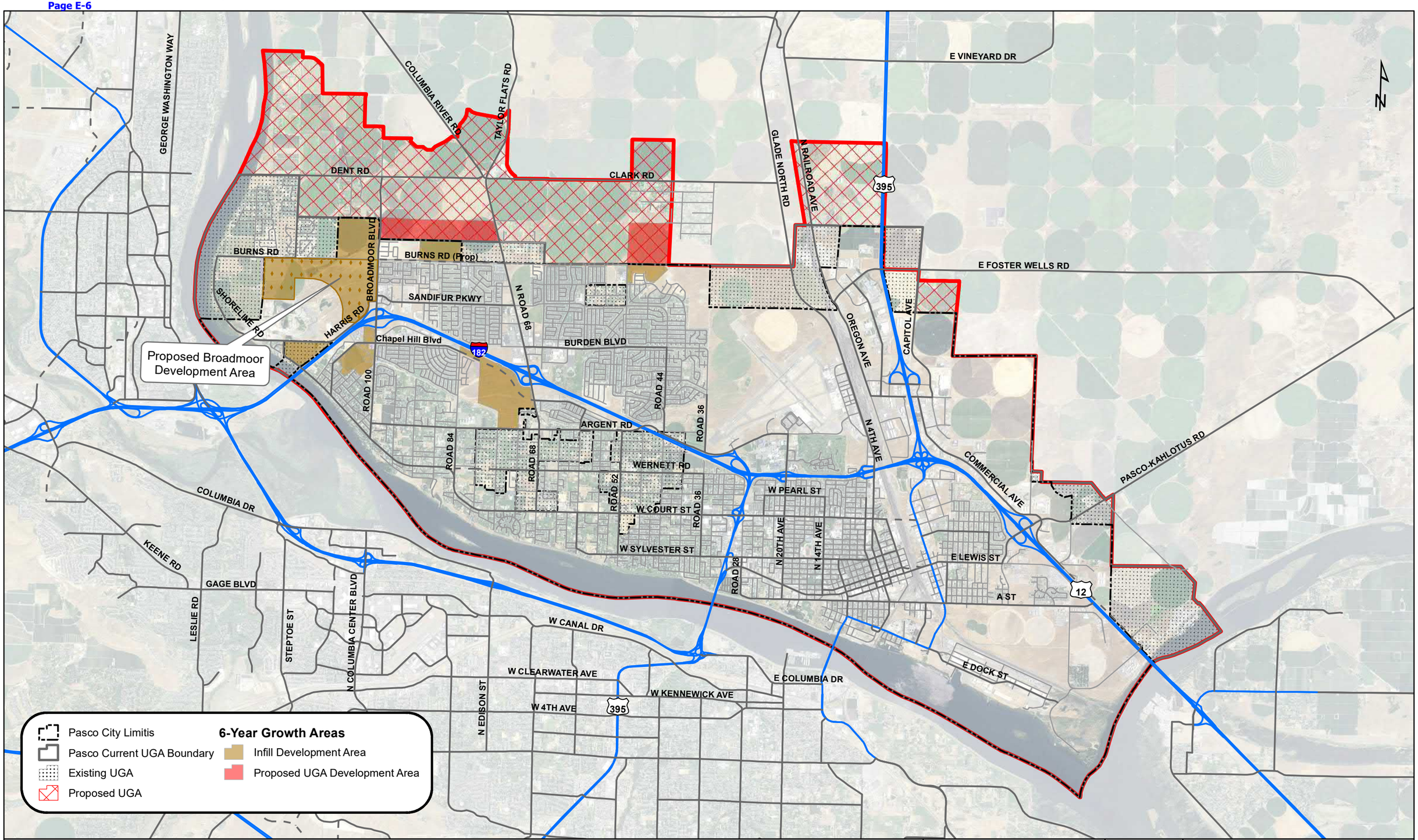
(a) An inventory of existing capital facilities owned by public entities, also referred to as "public facilities," showing the locations and capacities of the capital facilities;

(b) A forecast of the future needs for such capital facilities based on the land use element;

(c) The proposed locations and capacities of expanded or new capital facilities;

(d) At least a six-year plan that will finance such capital facilities within projected funding capacities and clearly identifies sources of public money for such purposes; and

(e) A requirement to reassess the land use element if probable funding falls short of meeting existing needs and to ensure that the land use element, capital facilities plan element, and financing plan within the capital facilities plan element are coordinated and consistent. Park and recreation facilities shall be included in the capital facilities plan element.



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PROPOSED UGA EXPANSION AREA

FIGURE 1

CITY OF PASCO
UGA Capital Facilities Analysis

PROPOSED LAND USE DESIGNATION

Currently the City of Pasco has designated a majority of the proposed UGA Expansion as single and multi-family Residential with areas of Commercial use. Within the residential land use other public uses such as schools, parks, fire stations, and churches are anticipated to be included. In addition, the City is proposing to transfer some of the Industrial designated land in east Pasco to an area along US-395 north of the existing UGA Boundary. Within the current Industrial designated land several hundred acres of the property is owned by the Washington State Department of Natural Resources and the Pasco Airport. It has been identified that this land is not available for future industrial development at this time and has requested that the land use be reclassified to DNR and Airport Reserve. As a result, 609 acres has been identified for future industrial land. However, for the purposes of this study it is not anticipated that development will occur within the proposed industrial area within the next 6-years, therefore this area was not evaluated for concurrency and future analysis and modeling of the industrial land use changes in east Pasco is Recommended.

See Figure 2 for the proposed future land use.

FIGURE 2 - PROPOSED LAND USE AND UGA EXPANSION AREA

FUTURE UGA EXPASION AREA

FANNING

DENT

BURNS

CLARK

RD 100

RD 68

RD 52

CITY OF PASCO

N

Legend

- PROPOSED 2018 UGA
- UGA PASCO 2018
- CITY LIMITS
- OPEN SPACE PARKS
- DNR RESERVE
- AIRPORT RESERVE 1
- AIRPORT RESERVE 2
- GOVERNMENT PUBLIC
- LOW DENSITY RESIDENTIAL
- MIXED RESIDENTIAL
- HIGH DENSITY RESIDENTIAL
- MIXED RESIDENTIAL COMMERCIAL
- COMMERCIAL
- INDUSTRIAL

ALTERNATE 1
DRAFT LAND USE & UGA MAP
(2018)

DEFINITIONS

While the GMA requires jurisdictions to prepare a Capital Facilities Plan it does not specifically define what a Capital Facility is. The GMA defines public facilities as including "streets, roads, highways, sidewalks, street and road lighting systems, traffic signals, domestic water systems, storm and sanitary sewer systems, parks and recreational facilities, and schools." It defines public services as including "fire protection and suppression, law enforcement, public health, education, recreation, environmental protection, and other governmental services." The GMA also defines "urban governmental service" or "urban service" in WAC 365-196-200 (19) to include:

> *"…those public services and public facilities at intensity historically and typically provided in cities, specifically including storm and sanitary sewer systems, domestic water systems, street cleaning services, fire and police protection services, public transit services, and other public utilities associated with urban areas and normally not associated with rural areas.*

While the Growth Management Act does not specifically define a Capital Facility, over the years the Growth Management Hearings Board (GMHB) has provided the following guidance:

> For purposes of conducting the inventory required by RCW 36.70A.070(3)(a), "public facilities" as defined in RCW 36.70A.030(13) are synonymous with "capital facilities owned by public entities." *West Seattle Defense Fund v. City of Seattle, CPSGMHB Case 94-3-0016, FDO April 4, 1995*, as cited in *EWGMHB Case 06-1-0009c, FDO March 12, 2007*.

The board further defined capital facilities as what is required to fulfill the GMA obligation:

> *"The Board holds that a Capital Facilities Element (CFE) must include all facilities that meet the definition of public facilities set forth in RCW 36.70A.030(12). All facilities included in the CFE must have a minimum standard [level of service] (LOS) clearly labeled as such (i.e., not "guidelines" or "criteria"), must include an inventory and needs assessment and include or reference the location and capacity of needed, expanded, or new facilities. (RCW 36.70A.070(3)(a), (b) and (c). In addition, a CFE must explicitly state which of the listed public facilities are determined to be "necessary for development" and each of the facilities so designated must have either a "concurrency mechanism" or an "adequacy mechanism" to trigger appropriate reassessment if service falls below the baseline minimum standard. Transportation standards are the only facilities required to have a concurrency mechanism, although a local government may choose to adopt a concurrency mechanism for other facilities." Jody L. McVittie v. Snohomish County, CPSGMHB Case No. 01-3-0002, FDO, July 25, 2001*, as cited in *EWGMHB Case 06-1-0009c, FDO March 12, 2007*.

And in Wilma et al v. Stevens County, EWGMHB Case 06-1-0009c, FDO March 12, 2007, the Eastern Board included:

> *"streets, roads, highways, sidewalks, street and road lighting systems, traffic signals, domestic water systems, storm and sanitary sewer systems, parks and recreational facilities, and schools…fire protections and suppression, law enforcement, public health, education, recreation, environmental protection and other governmental services. (WAC 365-195-200(12) and (13)."*

The Washington Administrative Code (WAC) was updated in 2010, after the cases above were determined. WAC 365-196-415 provides guidance as to which capital facilities should be included in the inventory. At a minimum, they should include water systems, sanitary sewer systems, storm water facilities, reclaimed water facilities, schools, parks and recreational facilities, police and fire protection facilities.

"Public Facilities" are defined by WAC 365-196-200 (14) to include:

"..streets, roads, highways, sidewalks, street and road lighting systems, traffic signals, domestic water systems, storm and sanitary sewer systems, parks and recreational facilities, and schools."

"Public Services" are defined by WAC 365-196-200 (15) to include:

"...fire protection and suppression, law enforcement, public health, education, recreation, environmental protection, and other governmental services."

In addition, WAC 395-196-210 provides the following definitions:

"Concurrency" means that adequate public facilities are available when the impacts of development occur, or within a specified time thereafter. This definition includes the concept of "adequate public facilities"...".

"Adequate public facilities" means facilities which have the capacity to serve development without decreasing levels of service below locally established minimums.

"Utilities" or "public utilities" means enterprises or facilities serving the public by means of an integrated system of collection, transmission, distribution, and processing facilities through more or less permanent physical connections between the plant of the serving entity and the premises of the customer. Included are systems for the delivery of natural gas, electricity, telecommunications services, and water, and for the disposal of sewage.

The GMA further requires each jurisdiction to define capital facilities and identify which capital facilities and public services are included in their CFP. Additionally, each jurisdiction should clearly identify which capital facilities and public services are necessary to support development.

For the purposes of preparing this CFP, a "Capital Facility", as identified in the City of Pasco Capital Improvement Plan, is an existing City facility/infrastructure or new construction projects that add to the City's infrastructure assets. The minimum threshold for a Capital Facility project is $25,000 and may span over several years with multiple funding sources.

In order to limit capital facilities to major components which can be analyzed at a level of detail which is both manageable and reasonably accurate for this initial CFP, this report does not include capital outlay for such items as equipment, or the city's rolling stock. In addition, capital facilities that are normally provided by a private developer to service individual lots or businesses, such as minor streets and side sewers as a normal part of the subdivision or land development permit process, are not included.

Based on this, the City of Pasco has determined that capital facilities must be in place or funding available, within six years to meet this concurrency requirement as required by RCW 36.70A.070(6). Using the above requirements and definitions, the City has identified the following is a list of the types of capital facilities that are required to meet the concurrency requirement:

- Parks and Recreation Facilities
- Schools
- Municipal Facilities
- Fire and Emergency Service Facilities
- Police Service Facilities
- Library Facilities
- Emergency Dispatch Communications Facilities
- Irrigation District Facilities.
- Transportation
- Sewers
- Surface and Stormwater Management
- Domestic Water
- Other Governmental Services
- Solid Waste
- Electrical

The capital facilities listed above are further divided into three main categories that classify the level of concurrency required. These categories are identified as follows:

Category 1 - Locally Provided Regulatory Concurrency

A public facility or service, owned and operated by the City of Pasco, that is either in place, or for which there is a financial commitment in place, to provide the service within six (6) years. All Category 1 capital facilities will be subject to City of Pasco GMA concurrency requirements.

Based on the wording of WAC 360.196.840(2) the City of Pasco may determine which public facilities and services will be required to "support development" and therefore meet the concurrency requirements of the GMA. Consequently, after reviewing all of the capital facilities that will be required for growth when the expanded urban growth area comes under city control, the City of Pasco has determined that **streets** and **roads, domestic water**, and **sanitary sewers** are Category 1 capital facilities and will be subject to the concurrency requirements of the Growth Management Act.

Streets and roads are included under this category as a result of both the requirements of RCW 36.70A.070(6)(a) of the Growth Management Act and because of concerns relating to traffic congestion and safety. Sewer, water, and power are included because of both the requirements and recommendations of WAC 365.196.840(2) and because of their critical relationship to public health and safety, and environmental quality.

Category 2 - Locally Provided Planning Concurrency

A public facility or service, owned and operated by the City of Pasco for which goals and policies have been adopted, capital facilities planned, and funding needs projected, which is not required to either be in place or have a financial commitment at time of development.

The City of Pasco has determined that **fire protection**, **law enforcement, parks** and **recreation**, **solid waste**, and **storm water management** are all Category 2 capital facilities. For fire protection this decision is based on the ability of current laws to assure that new growth will meet minimum fire protection standards. For the remaining facilities and services, it is based on the range of acceptability in service levels for these facilities, and the less quantifiable impacts these facilities have directly on public health and safety. Upon the annexation of this urban growth area by the City of Pasco, these capital facilities will be funded as part of the City's ongoing adopted capital facilities budget. This budget process, upon approval of the Pasco City Council, will then become the funding level for these facilities.

Category 3 - Provided by others Planning Concurrency

A public facility or service, which is either owned or operated by the state or federal government, or an independent district or utility, and that: 1) is in place or has a financial commitment in place to provide the service within six (6) years; or 2) for which goals and policies have been adopted, capital facilities planned, and funding needs projected, which is not required to be in place or have a financial commitment at the time of development.

The City of Pasco has determined that **schools** (Pasco School Districts), **libraries** (Mid-Columbia Library), **transit** (Ben Franklin Transit), **natural gas** (Cascade Natural Gas and Williams-Northwest Pipeline), **communications** (Frontier and other local providers) **power** (Bonneville Power Administration, Franklin PUD) and **irrigation** (City of Pasco and South Columbia Basin Irrigation District) are all Category 3 capital facilities and are not subject to concurrency requirements. The City will work with these service providers to reach an agreement on ways to ensure that these services are reasonably available when needed to serve projected growth. This decision was based on: 1) The inability of the City of Pasco to allocate the

required funding for these facilities; 2) The broader range of acceptability in service levels for some of these facilities as determined through public involvement; and, 3) The less quantifiable impacts some of these facilities have on public health and safety.

As identified in Categories 2 and 3 these public facilities and services only require planning concurrency by the City of Pasco. The City of Pasco has established goals and policies regarding the siting of these capital facilities, and has determined whether these capital facilities have sufficient capacity to serve the projected growth. The City is not required to commit financing for the development of these facilities, for Category 2 facilities, only a general financial commitment needs to be in place, and a general commitment is all that is required for a Category 3. Coordination with the purveyors of these facilities and services to assure that adequate facilities are available to accommodate growth is required. Where the City of Pasco does not have the authority to commit financing for the maintenance of Category 2 and 3 public facilities and services, there is not a requirement for concurrency.

The purpose of this analysis is to identify whether the City of Pasco has the capacity to provide Category 1 services to the proposed UGA expansion area and to identify the financial commitment required by the City to provide these services within six (6) years.

LEVELS OF SERVICE

As established above, the levels of service standards, for regulatory concurrency purposes, apply only to Category 1 capital facilities (streets and roads, water, and sewer). The following paragraphs and tables define and establish levels of service for the Category 1 capital facilities.

"Level of service" (LOS) means an established minimum capacity for public facilities or services that must be provided per unit of demand or other appropriate measure of need, and is used as a gauge for measuring the quality of service. Levels of service need to be consistent with the growth projections of the Land Use Element of the City of Pasco Comprehensive Plan. Under the concurrency requirements of GMA, if levels of service are set too high, it may result in the community not achieving its growth objectives. On the other hand, if levels of service are set too low, it may adversely impact the quality of life in the community. Even if concurrency is not required, LOS standards are valuable planning and budgetary tools.

LOS standards were initially established under the City of Pasco Comprehensive Plan. These standards were reviewed, evaluated, and approved by the Pasco City Council as a balance between economic feasibility and community benefit. For the purposes of this analysis, the City of Pasco Level-of-Service criteria contained in their 2007 Comprehensive Plan were used. This was based on the assumption that Pasco will have the ultimate responsibility for providing the necessary capital facilities for this area.

Table 1 defines LOS standards for Category 1 public facilities including; roads, water, and sewer. These LOS standards have been adopted as the standards that the City of Pasco will use to evaluate future development approvals and will establish the basis for the future submission of capital budgets for approval within the UGA area.

Table 1. LOS Standards

Facility	Adopted LOS
Streets and Roads	
Local Roads	LOS D
Arterials	LOS D
Signalized Intersections	LOS D
Unsignalized Intersections	LOS D
Domestic Water	
Average Residential ERU	424 gallons/residential connection/day
Average Non-Residential ERU	1,982 gallons/non-residential connection/day
Residential Fire Flow	Per 2012 International Fire Code
Commercial Fire Flow	Per 2012 International Fire Code
Industrial Fire Flow	Per 2012 International Fire Code
Sewer	
Residential & Commercial Unit Flows	80 gallons/capita/day
Industrial Unit Flows	1,500 gallons/acre/day
Manning Pipe Roughness Coefficient	0.013
Minimum Sewer Velocity	2 feet/second

CAPITAL FACILITY INVENTORY

This section discusses existing facilities, owned by public entities, and provides information about the service provider, along with the location and capacity of the existing facilities.

Transportation

Streets

The existing functionally classified roadway network, as formally shown on the Washington State Department of Transportation (WSDOT) system, in the vicinity of the proposed Urban Growth Area (UGA) that will provide access to the expanded UGA is described below. It should be noted that the 2008 Pasco Comprehensive Plan identified additional roadways that will form a more complete grid network of roadways as the area north of I-182 matures. These roadways, intersection geometry and traffic control for these major roadways are shown in Figure 3.

Interstate 182 (I-182) – is an east-west limited access freeway providing 6 travel lanes with a 70 MPH speed limit. It connects to I-82 west of Pasco, providing connections to the City of Richland over the Columbia River. To the east it connects to US 395 and US 12 with access to the City of Pasco, the Tri-Cities Airport, and further to the east and north the cities of Walla Walla and Spokane.

The only access to I-182 between the Columbia River and US 395 that provides continuity to the north towards the majority of the UGA Expansion Area is provided at the Road 68 and Road 100 Interchanges. The Road 68 interchange is a partial clover leaf interchange that includes a collector-distributor system through the interchange to facilitate weaving because of two loop ramps for the northbound to westbound and southbound to eastbound on-ramp movements; these movements merge with the other on-ramps prior to merging with the mainline. These loop ramps eliminate left turns from Road 68 onto the freeway on ramps. Left turns from the off-ramps to Road 68 at signalized intersections are still required. The Road 100 Interchange had the northbound to westbound loop ramp constructed in recent years which has reduced congestion at the interchange. Traffic signals are present at each of the ramp terminals of both interchanges.

Road 68 is a minor arterial roadway generally in a north-south direction but angling slightly to the west north of I-182. Road 68 has two through lanes in each direction with channelized left turn lanes and sidewalks from I-182 to just north of Sandifur Parkway. The speed limit is 35 MPH. North of Sandifur Parkway it transitions to a rural 2 lane section with a speed limit of 45 MPH. North of Burns Road it is designated a major collector.

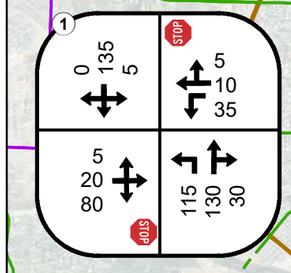
Taylor Flats Road is the continuation of Road 68 north of the intersection with Columbia River Road. It is a two-lane rural roadway with a speed limit of 55 MPH and is classified a major collector.

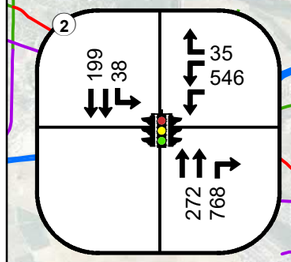
Columbia River Road is a minor collector roadway that connects to Road 68 and angles to the northwest. It is a two-lane rural roadway with a speed limit of 50 MPH and is classified a minor collector.

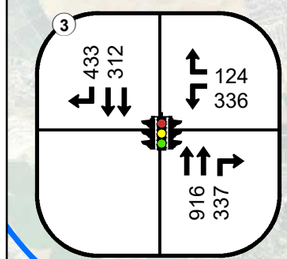
Road 100 also known as Broadmoor Boulevard north of I-182. From south of I-182 to Harris Road just north of the I-182 westbound ramps it is a minor arterial, then a major collector from Harris Road to Burns Road and a minor collector from there to Dent Road. It has two lanes in each direction with a center turn lane from I-182 to north of Sandifur Parkway where it transitions to a three-lane section including a two-way left turn lane from Vicenzo Drive to Burns Road. North of Burns Road it transitions to a two-lane rural roadway. The speed limit is 35 MPH and there is sidewalk on the east side where development has occurred.

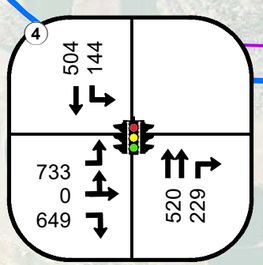
Federal Functional Class
- Interstate
- Other Fwy Expwy
- Other Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector

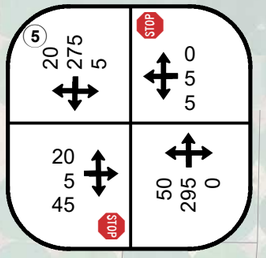
- Pasco City Limitis
- Existing UGA
- Proposed UGA

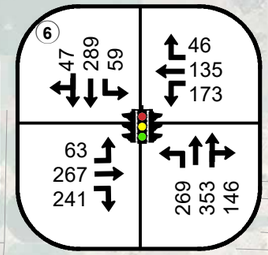


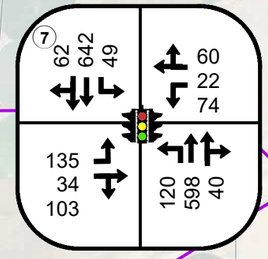


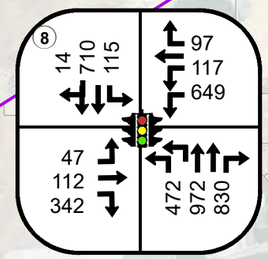


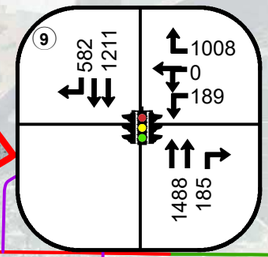


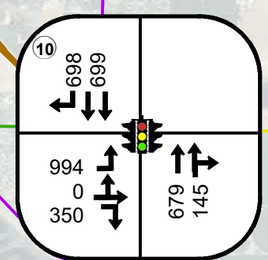


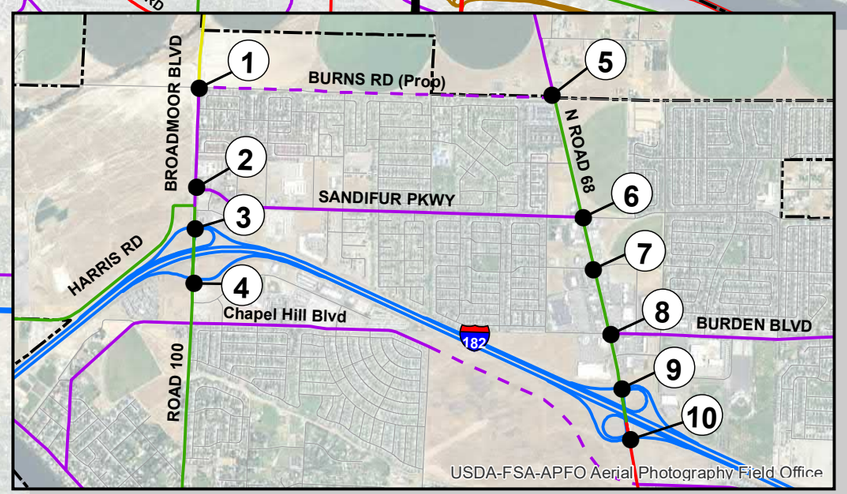












- Lane Configuration
- 345 - PM Peak Hour Volumes
- Stop Sign
- Traffic Signal

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EXISTING CONDITIONS & TRAFFIC VOLUMES

FIGURE 3

CITY OF PASCO
UGA Capital Facilities Analysis

Burden Boulevard is an east-west minor arterial between Road 68 and Road 44 with a speed limit of 35 MPH. It has 4 lanes with a raised median and left turn lanes at intersections, cub, gutter and sidewalks, streetlights and a separated pathway on the south side. East of Road 60 it transitions to a 3-lane roadway with a two-way left-turn lane. It extends as a local roadway approximately one-quarter mile west of Road 68 to provide access to commercial development and also extends east of Road 44 to access residential development.

Sandifur Parkway is an east-west major collector roadway between Road 100 and Road 68. East of Road 100 it provides 5 lanes of travel including a two-way left-turn lane and has curb, gutter and sidewalks. East of the Broadmoor Mall entrance the roadway transitions to a 3-lane section with one through lane each way with a two-way left-turn lane. The speed limit of 35 MPH. East of Road 68 Sandifur Parkway is currently designated a local roadway but it provides significant access to many residential neighborhoods.

Harris Road is a 45 MPH 2 lane minor arterial that connects from Broadmoor Blvd west to Shoreline. It is a rural roadway section with roadside ditches and no pedestrian facilities.

Shoreline is a 45 MPH 2 lane major collector with a rural roadway section that extends from Harris Road westward and then follows the Columbia River to connect to Dent Road.

Dent Road is a 2 lane rural roadway with a 50 MPH speed limit. On the west it connects to Shoreline as a major collector. One mile west of Road 100 Dent Road is designated a minor collector and the alignment turns to the north for 1 mile then turns east-west again for approximately 2 miles where it connects to Columbia River Road.

Burns Road is an east-west 2 lane rural roadway section designated as a minor collector between Road 100 and Road 68 one-half mile north of Sandifur Parkway. This roadway extends west of Road 100 to connect with Dent Road where Dent Road turns north, but is currently designated a local roadway.

Clark Road is a 2 lane rural roadway designated as a minor collector with a 50 MPH speed limit. On the west it connects to Dent Road and on the east it connects to Glade Road.

US 395 is a 4 lane north-south limited access divided highway on the National Highway System that is designated as an Expressway north of I-182. It connects the Tri-Cities to rural communities and Spokane further to the north. It has a grade separated interchange at Kartchner Street and at-grade intersections with East Foster Wells Road and Vinyard Drive. The speed limit is 60 MPH from I-182 to north of East Foster Wells Road where it increases to 70 MPH.

East Foster Wells Road is a 35 MPH rural east-west 2-lane minor arterial that connects Railroad Road to US 395 and further east of US 395 into the farming areas.

Railroad Avenue is 2 lane rural roadway that connects from Hillsboro Road to Vineyard Drive. It is a major collector south of East Foster Wells Road, a minor arterial for one mile north of East Foster Wells Road and then a major collector again north of there. The speed limit is 45 MPH.

Glade Road is a 2-lane north-south minor arterial that connects from 4th Avenue north of I-182 into the farming areas to the north. Approximately 1 miles south of Clark Road it is designated a major collector. The speed limit is 45 MPH.

Traffic Volumes

The City of Pasco recently completed study *"Feasibility Traffic Study for Interchange Project"* in 2017. Traffic volumes were collected for that study for several intersections, including multiple intersections

that are considered important to provide access to the proposed Urban Growth Area on both Roada 100 and Road 68. Traffic volumes from that study that represented then-existing conditions for several intersections are used as a baseline for this study. Those volumes as well as estimated PM Peak Hour traffic volumes for the northernmost intersections on the two primary corridors of interest are shown in Figure 3 along with intersection geometry and traffic control.

Level of Service

The analysis of Level-of-Service (LOS) is a means of quantitatively describing the quality of operational conditions of a roadway segment or intersection, and the perception by motorists and passengers. Service levels are identified by letter designation, A to F, with LOS "A" representing the best operating conditions and LOS "F" the worst. Each LOS represents a range of operating conditions, and one or more measures of effectiveness (MOE) are used to quantify the LOS of a roadway element. For intersections, the MOE used is average control delay (seconds) per vehicle. While there are several methodologies for estimating the LOS of intersections, the most commonly used is that presented in the Highway Capacity Manual and is the methodology used in this study (HCM 2010). The Highway Capacity Manual LOS criteria for signalized and unsignalized intersections are summarized in Table 2.

Table 2. Level-of-Service Criteria for Intersections

Level of Service (LOS)	Average Control Delay (seconds/vehicle)	
	Signalized Intersections	Unsignalized Intersections
A	< =10	< =10
B	>10 - < 20	>10 - < 15
C	>20 - < 35	>15 - < 25
D	>35 - < 55	>25 - < 35
E	>55 - < 80	>35 - < 50
F	>80	>50
Source: Highway Capacity Manual 6th Edition, Transportation Research Board, National Research Council, Washington, D.C., 2017.		

The signalized method is based on the capacity available to service the various movements at a signalized intersection, based on the amount of green time provided for each movement. The impacts of any conflicting movements, etc. For unsignalized intersections delay is based on the availability of gaps in the major street to allow minor street movements to occur. Delay results in driver frustration and anxiety, loss of time, unnecessary fuel consumption, and contributes to unnecessary air pollution.

The Benton Franklin Council of Governments and the City of Pasco have adopted regional standards for intersection service standards at LOS "D". These proposed criteria will be the basis for determining appropriate mitigation actions for future traffic volumes.

Peak hour traffic volumes and intersection geometry from Figure 3 were used to determine the delay and Level of Service at the intersections. The results of the capacity analysis and intersection delay for existing conditions are shown in Table 3.

Table 3. Summary of Existing PM Peak Hour Delay (sec) and Level of Service

Intersection	PM Peak Hour	
	Overall Intersection	Worst Approach
Road 100/I-182 EB Ramps	13.6/B	NB—15.0/B
Road 100/I-182 WB Ramps	9.9/A	WB--26.9/C
Road 100/Sandifur Parkway	10.3/B	WB—12.8/B
Road 100/Burns Road	*	WB—18.2/C
Road 68/I-182 EB Ramps	11.8/B	EB—15.7/B
Road 68/I-182 WB Ramps	4.2/A	WB--5.4/A
Road 68/Burden Boulevard	44.6/D	EB—104.6/F
Road 68/Wrigley Drive	16.8/B	WB—28.8/C
Road 68/Sandifur Parkway	14.5/B	EB—15.4/B
Road 68/Burns Road	*	WB—23.4/C

LEGEND
13.6/B Delay and Level of Service using existing lane configurations

* Uncontrolled Movements (major street through) not provided for overall intersection Analysis for Two-way Stop Controlled Intersections

NB = northbound, SB = southbound, WB = westbound, EB = eastbound

As shown in Table 3, all intersections on the two primary corridors that will provide primary access to the proposed Urban Growth Area currently function with acceptable Levels of Service. Only Road 68/Burden Blvd operates with LOS “D”, all others operate at LOS “A” or “B”.

Sanitary Sewer Service

Currently, there is no sanitary sewer service in the UGA Expansion Area. Sanitary sewer service in this area will be provided by the City of Pasco. The City of Pasco updated its Comprehensive Sewer Plan in 2014, with amendments to the Northwest Service Area in 2017. The Sewer Plan discusses the total capacity, utilized capacity, and remaining capacity of both the Wastewater Treatment Plant (WWTP) and the sanitary sewer collection system. The following is a summary of the WWTP capacity and the sanitary sewer collection system based upon this planning document.

At this time, the City is developing a WWTP facility plan update with a 20-year horizon. This plan takes into consideration the projected growth identified in the 2018 Comprehensive Plan and provides a capital improvement plan to accommodate the projected demands associated with the expected increase in population for the City of Pasco and its Urban Growth Area.

Wastewater Treatment Plant

The City of Pasco operates a wastewater collection and treatment system to manage the domestic wastewater needs of the community. The City operates the system under a National Pollutant Discharge Elimination System Waste Discharge Permit issued by the Washington State Department of Ecology. The City’s collection system is a conventional collection system that mainly relies on gravity sewers to convey wastewater flow to two lift stations that discharge to the treatment facility. Additional pump stations and force mains are used to supplement the gravity system. The City operates an activated sludge WWTP to

oxidize, nitrify and disinfect the wastewater flow prior to discharge to the Lake Wallula reach of the Columbia River.

The City originally built a primary treatment facility in 1954 and in 1970 it was upgraded to meet secondary treatment requirements The treatment facility was further upgraded in the mid to late 1990s to increase the design capacity to accommodate growth of the City's service area.. In the early 2010s, additional equipment was installed in the headworks and aeration basins. The construction of two additional rectangular primary clarifiers was completed in 2016. Recently (2017/2018), minor unit process upgrades were pursued by the City to address process limitations as well as operations and maintenance issues. The plant currently experiences flows of approximately 6 million gallons per day (MDG).
The City owns, maintains and operates a separate industrial wastewater treatment plant (PWRF)that collects, stores and then land applies food processor wastewater north of the City. The PWRF is an industrial facility that receives the discharge of process water from the food processors in the region. The PWRF is a public/private partnership. The PWRF and associated farm properties are located in an area of irrigated agriculture production fields on approximately 1,800 acres north of Pasco and east of Highway 395 in Franklin County. The City of Pasco has owned and operated the PWRF since 1995. It is a separate entity from the City's municipal wastewater collection and treatment system and therefore is not included in this Plan.

The City's existing WWTP has a capacity of 6.5 million gallons per day (mgd) of sewer flow as identified in Table 4. The WWTP currently experiences average flows of 6 million gallons per day (MDG).

Table 4. Estimated WWTP Capacity Limit

Parameter	Annual Average
Average Flow	6.0 mgd
BOD	14,960 lbs/day
(Biochemical Oxygen Demand)	276 mg/L
TSS	15,775 lbs/day
(Total Suspended Solids)	291 mg/L

Collection System

The City's wastewater collection system contains over 240 miles of sewer pipeline ranging from 8-inch to 36-inch in diameter. The system also includes approximately 4,430 manholes and 10 lift stations. For the most part, the gravity pipelines convey wastewater from the residential and commercial areas and route it to interceptors and large sewer trunks, which drain to the WWTP. Due to the varied topography in the City, several localized and regional lift stations are required to convey sewage to the WWTP. The City's two (2) primary lift stations (Maitland and 9th and Washington) are located just outside the WWTP and convey sewage directly to the plant. After treatment, the plant discharges the effluent to the Lake Wallula reach of the Columbia River. Figure 4 depicts the existing sanitary sewer collection system in the vicinity of the UGA Study Area.

FIGURE 4 - EXISTING SANITARY SEWER FACILITIES

Three Rivers
Road 36 & Burden
Rivershore
Road 84 & Argent
Airport
Navy Base
Capitol Ave.
Pearl St.
Commercial/Kahlotus
Pennie Ave
9th & Washington
Maitland
Columbia River
Snake River

Legend

- Wastewater Treatment Plant
- Lift Station

Gravity Pipe

- 8" or less
- 10" to 12"
- 14" to 18"
- 20" to 24"
- 26" to 36"
- Force Main
- City Limit
- Parcel
- River

0 2,000 4,000 Feet

Murray, Smith & Associates, Inc.

CITY OF PASCO

Comprehensive Sewer Plan

Figure 1-2
Wastewater Facilities

FIGURE 5 - SEWER SERVICE AREA

Northwest Service Area
North Court St Area
Broadmoor Blvd Interceptor
Road 68 Interceptor
Road 84 Interceptor
West Pasco Trunk
Road 44 Interceptor
PSC1
PSC2
PRL
PSC3
PSC4
PSC5
PSC6
Hillsboro Interceptor
NE Commercial Ave Area
Road 40 East Interceptor
East Service Area
Sacajawea Park Road Interceptor
Southeast Pasco Trunk
Port of Walla Walla
Columbia River
Snake River

Legend
- Wastewater Treatment Plant
- Urban Growth Area
- City Limit
- Parcel
- River

0 2,500 5,000 Feet

Comprehensive Sewer Plan

Figure 1-3
Sewer Service Area and Sewer Basins

Potable Water Service

The UGA Study Area is outside of the current water service area of the City of Pasco water system. The City of Pasco prepared a draft update to its Water System Plan (WSP) in 2018, which provides 20-year planning numbers for water supply, demand, and distribution. The following is a summary of the City's potable water source capacity and the distribution system based upon this planning document.

Source Capacity

According to the WSP, the City currently holds surface water rights for 14,450.65 acre-feet of annual withdrawal and 23,649 gpm (34 mgd) of instantaneous withdrawal. The source for these rights is the Columbia River which are to be used for domestic potable purposes. The City also holds individual groundwater rights sourced by various wells for separate irrigation purposes. Water rights held by the City are anticipated to increase in the future pending current water rights transactions, Ecology approval of water rights requests in 2011 & 2015, and additional distributions of water available under the regional Quad City Water Right (QCWR) permit.

The 2015 population-based MDD is 18.6 MGD per the WSP. The planning period for the WSP limited the future demand projections to year 2036 when MDD is projected as 42.2 mgd.

The City of Pasco potable water sources include the Butterfield Water Treatment Plant (WTP) and West Pasco WTP. According to the WSP update, the Butterfield WTP has a total of 26.8 MGD capacity while the West Pasco WTP has a capacity of 6.0 MGD with the ability to expand to 18 MGD.

Distribution System

In 2017, the City's water system inventory consisted of approximately 330 miles of piping, 6 booster stations, 3 reservoirs, 2 water treatment plants, and 20 pressure reducing valve (PRV) stations. Service is presently provided to customers at a minimum elevation of 340 feet to a maximum elevation of 525 feet. The water system is divided into 3 large pressure zones to serve the range in service area elevations. Figure 6 depicts the existing water distribution system near the UGA Study Area.

Surface and Storm Water Management

Currently, there are no storm water systems within the UGA Study Area. All stormwater runoff generated on the site will need to be retained on-site as required by the City. Each proposed development must safely collect, route and retain stormwater on their site. Stormwater management for the proposed access roads will need to be included in the design and construction of the roadways.

Other Governmental Services

Power

Franklin County Public Utility District (Franklin PUD) provides the majority of the electrical service to the City of Pasco. The Big Bend Electrical Cooperative also provides service to a small portion of northwestern Pasco and the UGA in the vicinity of Broadmoor Boulevard. The Franklin PUD purchases power from the regional power grid (Bonneville Power Administration) and then distributes through substations and distribution lines to the end users.

The Franklin PUD and Big Bend Electrical Cooperative operate electrical transmission and distribution systems and facilities within public right-of-way and easements all in accordance with state law. Electrical power needs in the Pasco UGA area are generally served by 10 miles of 115kV transmission lines,

FIGURE 6 - EXISTING WATER SYSTEM & PRESSURE ZONES

Zone 1-A
Broadmoor Tank
Broadmoor PS
Rd 68 Tank
Zone 3
Foster Wells/Capitol
Mariola/Artesia
Adobe-Burden
Rd 36 PS
Rd 100/Chapelhill
Chapelhill/StJohns
West Pasco WTP
Riverview Hights Tank
Riverview Hights PS
Rd 84/Moline
Rd 44/Desert
Desert/Plateau
Horizon
Rd 36
Madison/Cook
Zone 2-A
Rd 84/Argent
Aintree
Belmont/Saratoga
Saratoga
Chapelhill
Thistledown
Zone 2-C
Zone 2-B
Hillsboro
Zone 1
East Side PS
Butterfield WTP
Zone 2
YAKIMA R.
COLUMBIA R.
SNAKE R.

Legend

- PRV
- Pump Station
- Storage Tank
- Water Treatment Plant
- Urban Growth Area
- Parcel
- River

Pipe
Diameter
- 6 inch and smaller
- 8 inch
- 10 and 12 inch
- Larger than 12 inch

Pressure Zone
- Zone 1
- Zone 1-A
- Zone 2
- Zone 2-A
- Zone 2-B
- Zone 2-C
- Zone 3

0 2,000 4,000 Feet

N
W E
S

Comprehensive Water System Plan Update
City of Pasco

Figure 1-1
Existing System and Pressure Zones

May 2018 15-1710

7 substations and 45 electric feeder lines. Each feeder supplies the needs of a number of defined geographic areas within the community, often referred to as sub-regions. The feeders are the basic planning component within the Franklin PUD system. Each feeder supplies the needs of approximately 850 houses.

Natural Gas

Cascade Natural Gas corporation provides gas service to the Pasco UGA. Cascade obtains its gas from the Williams interstate line through two reduction and gate stations within the Pasco UGA. The original gate station is located at the northwest corner of Court Street and Road 76. To serve the needs of an expanding community a seconded gate station was constructed in 1995 east of the Soccer complex and south of Burden Boulevard. From these two stations natural gas is conveyed through the Pasco UGA in a distribution system of smaller lines and regulators. Cascade supplies natural gas to 4,600 residential and 1,022 commercial customers in Pasco. Some of the less densely developed areas of West Pasco do not have gas service.

Natural gas consumption is directly related to both local and regional land use development. As local and regional development increases the demand for natural gas also increases. Based on current trends and projected population growth Cascade Natural Gas projects the system can be expanded to meet community growth needs. Future extensions of the natural gas distribution system will occur on an as-needed basis as development warrants.

Telecommunications

Telecommunications include conventional telephone, cellular phone, and cable television. Interstate and international telecommunication activities are regulated by the federal communications Commission (FCC), an independent Federal Government agency.

Changes in technology are having a major impact on telecommunications. Much of these technologies are merging with much less distinction between data, video, and voice technologies. Some of these utilities are regulated by the Washington State Utilities and Transportation Commission to meet a specific level of service to their service areas.

Conventional Telephone:

Telephone service to Pasco is provided by Qwest Communications International, Inc (Qwest). Qwest facilities within the Pasco UGA include a switching station, trunk lines and distribution lines. The switching station is located in a building at the corner of 5th Avenue and West Lewis Street. Four main feeder cable routes extended out from the switching station. Connected to these main feeders routes are branch feeder lines. The branch feeders connect with thousands of local loops that provide dial tone to every subscriber. These facilities may be aerial, or buried, copper or fiber optic. Local loops can be used for voice or data transmission.

While Qwest is involved with its own planning efforts much of the system necessary to accommodate future growth will be constructed on an as needed basis.

Cellular Telephone:

Cellular telephone service is provided by broadcasting and receiving radio signals to and from cellular facilities and cellular phone handsets. Cellular telephone service is licensed by the FCC for operation in Metropolitan Services Areas (MSAs) and Rural Service Areas (RSAs). The FCC grants several licenses within

each service area. Current licensed cellular service providers for the Pasco area include Verizon, Sprint, Cingular, T-Mobile, Qwest and Nextel.

A number of cellular base stations and antennas are located within the Pasco UGA. These base stations connect cellular phones to the regional network. Cellular antennas must be placed at a height that allows them to broadcast throughout their local area. In Pasco the antennas are located on the Housing Authority high rise apartment, on the city water tanks, on the Sacajawea Apartments building, on school, college and County property and on freestanding communication towers.

Expansion of cellular facilities is demand driven. Raising the density of transmission/reception equipment to accommodate additional subscribers follows, rather than proceeds, increase in local system load. Cellular companies therefore maintain a short response time and a tight planning horizon.

Internet Providers:

There are over a dozen internet service providers in the Pasco area. These internet companies provide a variety of data networking options for business and personal use. These services include standard dial up service, DSL, broadband, business voice services, web hosting, secure data centers, inter-office networks and high capacity data transport.

Irrigation

Irrigation within the City of Pasco is currently provided by The Franklin County Irrigation District and the City of Pasco. The Franklin County Irrigation District No.1 (FCID) provides irrigation water to almost 7 square miles of land within the existing Pasco UGA. Most of the properties within the FCID are located west of Highway 395 and south of the FCID canal. Some properties located between Highway 395 and 22nd Avenue also receive irrigation water from the FCID.

The City owns and operates a non-potable water utility that provides irrigation water to residential customers and a limited number of commercial customers in the northwest part of the City. The irrigation system serves approximately 6,890 residential accounts and 39 commercial and public facility accounts. Providing a system for irrigation water separate from the drinking water utility allows the City's customers to avoid using treated drinking water to irrigate.

The proposed UGA will also be located with the service area of the South Columbia Basin Irrigation District (SCID). The SCBID operates and maintains many of the facilities used to deliver irrigation water to landowners within Franklin County, and have the statutory authority to make decisions on development, water delivery, payment for and distribution of new water supplies as available.

FACILITY REQUIREMENTS

This section of the UGA Capital Facilities Analysis presents capital improvement projects required by the City of Pasco, to meet and maintain the level of service standards discussed earlier, based on the land use projections outlined. As identified earlier, the purpose of this analysis is to identify whether the City of Pasco has the capacity to provide Category 1 services to the proposed UGA expansion area and to identify the financial commitment required by the City to provide these services within six (6) years. As a result the Category 2 and 3 services were not analyzed.

Because the Pasco UGA Expansion Area is under private ownership, a substantial portion of the capital facilities required for growth will be provided by the private sector through the City's standard permitting process. This includes local access streets, internal sewer, water and utility distribution systems and connections. Future developer(s) will also be required to provide contributions toward the construction of public facilities on a "fair share" basis.

Transportation

2024 With UGA Expansion

The proposed UGA Expansion Area consists of approximately 4,100 acres, primarily to the north and west of the Tri-Cities Airport. Approximately 600 of these acres are proposed for industrial purposes along the west side of the US 395 corridor. This industrial area is not anticipated to be needed in the next 6-years and thus no evaluation has been performed in that portion of the City.

As discussed above, the Road 68 and Road 100 corridors are anticipated to provide primary access to the proposed Urban Growth Area. In order to evaluate year 2024 traffic conditions with the proposed expansion a review of available data and information was performed. It was determined that the study entitled "City of Pasco Feasibility Traffic Study for Interchanges" (Feasibility Study), completed in 2017 provided the best information for forecasting traffic volumes for year 2024.

As a tool in preparing the Regional Transportation Plan, the Benton Franklin Council of Governments (BFCOG) maintains a set of regional computerized transportation models. The model is developed using current traffic data and land uses in the region using Transportation Analysis Zones (TAZs) that are defined with various attributes describing the number and type of households and employees as well as other land uses within each zone. The model is calibrated for existing conditions using Federal Highway Administration procedures and methods. Once calibrated, changes in assumptions for future land uses and roadway networks can be made to determine the potential impacts of developments and/or roadway scenarios. Land use assumptions representing future conditions are developed to determine various impacts on the roadway network at a regional level.

The Feasibility Study relied on the year 2030 model created by the BFCOG. The project team worked with the City, BFCOG and the Washington State Department of Transportation (WSDOT) to develop a methodology to update the model's design year from 2030 to 2040. One of the major assumptions incorporated into the year 2040 model was an increase in population to 126,000, which is slightly higher than the projected population being used for the year 2038 in the current City of Pasco Comprehensive Plan Update being prepared in 2018. The model also assumed that in order to accommodate this significant increase in population (more than 40% higher than the population in the 2030 model), that it was reasonable to assume that growth would occur outside the existing UGA. It was determined through the course of that study that only approximately 102,000 people could be accommodated within the existing UGA and more than 20,000 people would need to be in an expanded UGA.

These assumptions fit the purposes of this current UGA capital facilities analysis quite well. To prepare a 6-year forecast for the year 2024, the 2040 forecasted volumes prepared for the Feasibility Study were reviewed and the growth between existing volumes and year 2040 volumes was interpolated. Since many of the traffic counts for the Feasibility Study were collected in 2015, the 2015 volumes were increased by nine years of the 25 years of growth represented in the 2040 model. The resulting traffic volumes are shown in Figure 7.

It is worth mentioning that although a straight-line interpolation between the 2015 and 2040 traffic volumes was used, it is reasonable to expect that much of the growth within the next six years will occur within the existing city limits and within other areas currently inside the UGA such as the county islands south of I-182. As such, the forecasted traffic volumes shown in Figure 7 are conservatively high.

Using the 2024 traffic volumes shown in Figure 7, capacity analysis was performed using the existing intersection geometry to determine any mitigation that would need to be implemented in order to provide acceptable Levels of Service in the two primary study corridors. For the purposes of this analysis it was assumed that Harris Road west of Road 100 would be realigned to connect to Road 100 opposite the existing Sandifur Parkway intersection. This improvement will help both intersections function better, as well as provide improved operation at the I-182 westbound ramps because of increased storage for the two southbound through lanes.

In traffic operations analysis, and in fact in on-the-ground implementation, there can be many goals: sometimes it is most important to maximize through-put of a particular roadway, sometimes it is desirable to minimize total delay at an intersection, other times it may be important to distribute delay evenly around an intersection. At unsignalized intersections there is less opportunity to achieve these various goals since traffic laws govern who has the right-of-way at an intersection and minor street traffic must wait for gaps in traffic on the major street. At signalized intersections, timing of the traffic signal can dictate which movements have priority and how much green time each lane group is allotted during the signal cycle, within the constraints of the lane configurations available. Coordination of traffic signals through a corridor can also facilitate the reduction of delay at intersections, allowing for platooning of vehicles departing one intersection to arrive at the next signalized intersection while the traffic signal is green. For the purposes of this study the goal was to provide overall intersection delay that meets Level of Service standards of “D”, with no approach to a signalized intersection falling below LOS “E”. It is important to note that in order to achieve these purposes some increased delay may be experienced for the major street through movements in order to provide additional green time for side street movements or for left turns. The results of the analysis are included in the Appendix and shown in Table 5.

Table 5. Summary of 2024 PM Peak Hour Delay (sec) and Level of Service

Intersection	PM Peak Hour	
	Overall Intersection	Worst Approach
Road 100/I-182 EB Ramps	41.1/D	NB—44.4/D
Road 100/I-182 WB Ramps	9.5/A	WB38.2/D
Road 100/Sandifur Parkway	30.6/C	EB—37.0/D
Road 100/Burns Road	*	WB—37.7/E
	*(1)	WB—34.8/D
Road 68/I-182 EB Ramps	18.2/B	NB—23.0/C
Road 68/I-182 WB Ramps	8.5/A	SB—9.0/A
Road 68/Burden Boulevard	51.5/D	WB—65.1/E
Road 68/Wrigley Drive	14.4/B	EB—29.8/C
Road 68/Sandifur Parkway	20.4/C	SB—23.9/C
Road 68/Burns Road	*	WB—27.6/D
	*(2)	WB—27.0/D

LEGEND
13.6/B Delay and Level of Service using existing lane configurations
* Uncontrolled Movements (major street through) not provided for overall intersection Analysis for Two-way Stop Controlled Intersections

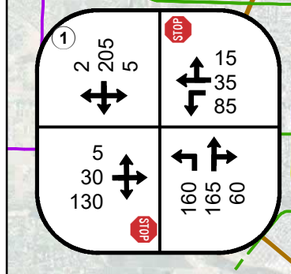
NB = northbound, SB = southbound, WB = westbound, EB = eastbound

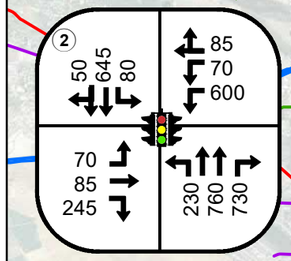
Notes:
(1) Assumes exclusive NB and SB exclusive left turn lanes.
(2) Assumes an exclusive NB right turn lane.

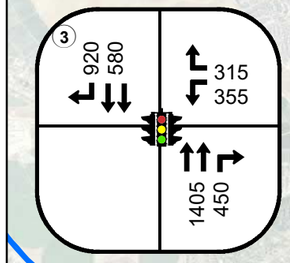
As shown in Table 5, with minor improvements at existing unsignalized intersections, and with signal modifications at signalized intersection, all intersections on the two primary corridors can provide acceptable Levels of Service to serve the forecasted volumes. At the Road 100/Burns Road intersection poor LOS for the westbound approach can be improved by providing a northbound right turn lane. This will aid westbound vehicles to recognize gaps in the north-south flow of traffic enough to improve the LOS to an acceptable level. At the intersection of Road 68/Burns Road it is recommended that exclusive northbound and southbound left turn lanes be provided.

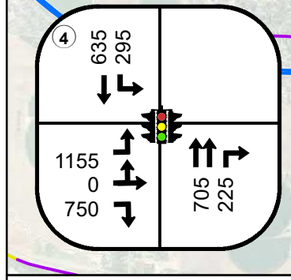
Federal Functional Class
- Interstate
- Other Fwy Expwy
- Other Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector

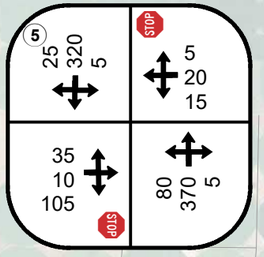
- Pasco City Limitis
- Existing UGA
- Proposed UGA

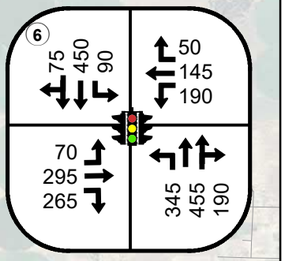


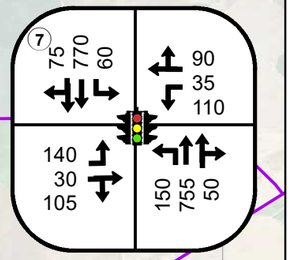


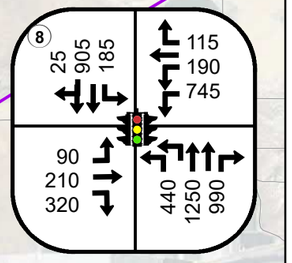


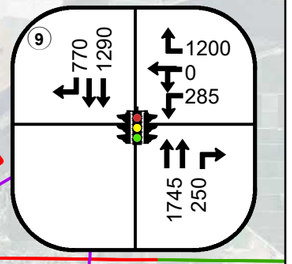


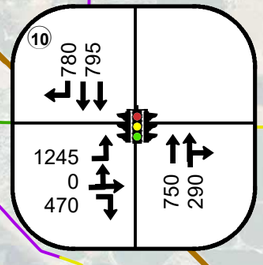


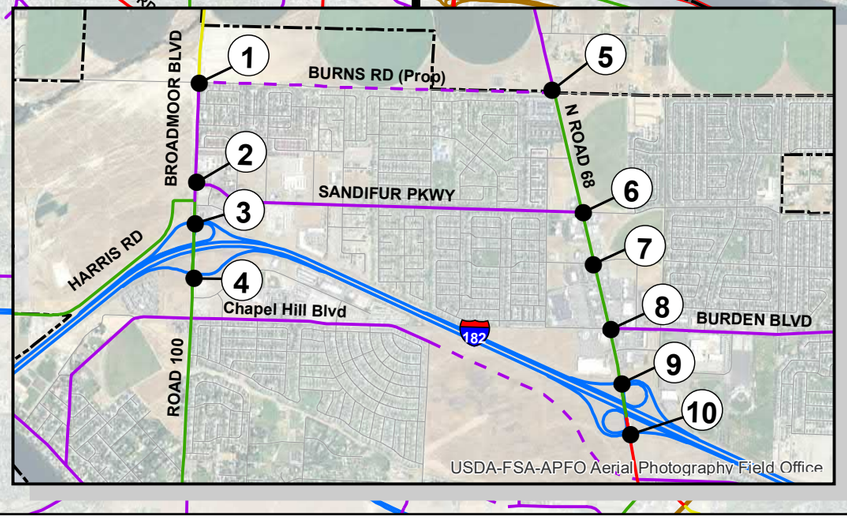












- Lane Configuration
- 345 - PM Peak Hour Volumes
- Stop Sign
- Traffic Signal

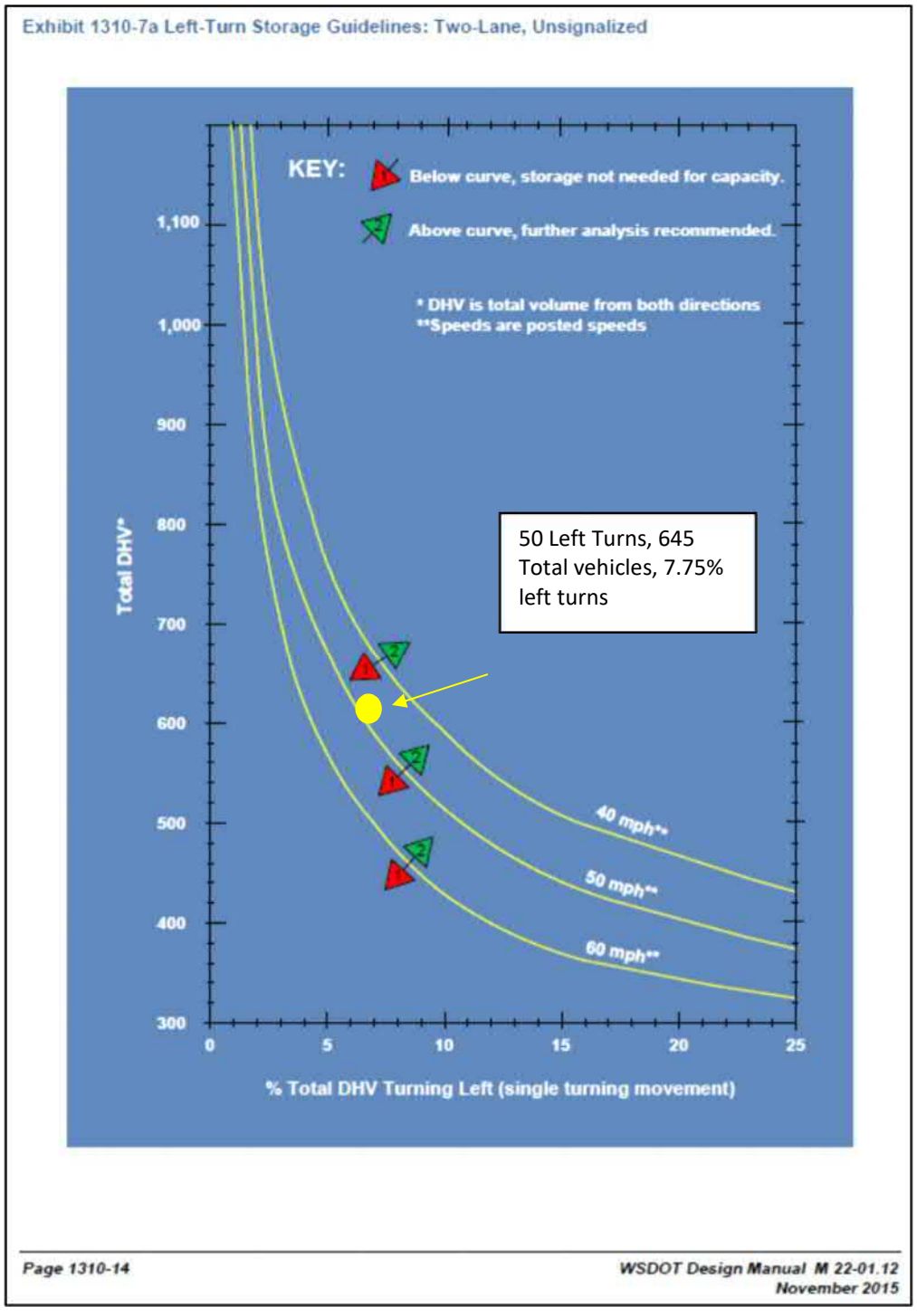
J-U-B ENGINEERS, INC.

2024 PM PEAK HOUR TRAFFIC VOLUMES

FIGURE 6

**CITY OF PASCO
UGA Capital Facilities Analysis**

Although the delay/LOS do not reflect unacceptable levels the 45 MPH speed of the facility creates an unsafe situation for turning vehicles. The WSDOT Design Manual provides guidance for left turn lanes through Exhibit 1310-7a shown on the following page. The cost of these improvements are in the range of $200,000 to $300,000.



2038 With UGA Expansion

For the 20 year traffic analysis general roadway capacity was examined to determine what potential large capacity capital projects might be anticipated. It is inherent in this analysis that intersection improvements will need to occur over time, but specific improvements for the 20-year period at the intersection level are difficult to determine for such a long-range forecast with so many variables. It is clear that the intersections of Road 100/Burns Road and Road 68/Burns Road will need to be signalized.

More detailed evaluation will be required in the future, when specific site proposals are presented, to better understand future traffic patterns and impacts of proposed developments. However, it is anticipated that Road 100 and Road 68 will need to be widened from I-182 north to Sandifur Parkway to 6 lanes, and north of Sandifur Parkway will need to be at least 4 lanes with turn lanes at intersections.

The Feasibility Study referenced earlier was the beginning of the process that the City of Pasco has initiated with both the WSDOT and the Federal Highway Administration to identify appropriate improvements in the I-182 corridor as well. That study identified multiple improvements to the local roadway system that would be needed prior to, or in conjunction with, improved access to I-182. It also examined 13 Alternatives and recommended 3 for further study through an Interchange Justification Report. It is clear that for the 20-year horizon that these studies will need to be pursued and that agreements made regarding appropriate improvements. The 3 recommended alternatives from the Feasibility Study are included in the Appendix.

Sanitary Sewer Service

Sanitary sewer service will be provided by the City of Pasco. The following sections describe the projected flows and necessary expansion of the sanitary sewer system to serve the UGA Study Area for both the 6-year (2024) and the 20-year (2038) planning periods. It should be noted that additional modeling and analysis of the sewer system was not prepared for this report. The results identified in this report were derived from the 2014 City of Pasco Sewer Comprehensive Plan and the 2017 Northwest Service Are Evaluation Memorandum. Both of these studies incorporated a 20-year population and land uses analysis . While the exact future UGA boundary was not defined at that time it incorporates the majority of the proposed UGA. The City is currently planning on updating the comprehensive sewer plan to reflect the most recent population projections, and adjust the evaluation of required improvements to the system to accommodate the associated demand.

Estimated Sewer Flows

In 2017 the City of Pasco had Murraysmith reevaluate the capacity and loading requirements of the Northwest Service Area as a result of potential development demands. This analysis evaluated an area of 1,300 acres that included the majority of the expansion area and used the updated traffic analysis zone (TAZ) data to determine a future population of 19,800 people. While this is lower than the current OFM population projections it was the best available at the time and provides an initial analysis of the future sewer needs. The 2017 analysis identified that the residential population in the proposed expansion area would have a total average flow of 80 gallons per capita per day. Therefore, for the purposes of this study, an average discharge flow of 1,100 gpm is assumed for the UGA Study Area.

The analysis also assumed that the new trunk line would connect to the existing pipe located on Court Street north of I-182 and a portion of the existing pipe would be improved near the intersection as required to prevent backwater in the new trunk line.

It should be noted that because of the rapid pace of development within the City of Pasco, master planning of sanitary sewer service for a large study area is difficult because of the unpredictable potential development patterns and densities. Therefore, as development continues to expand to the UGA Study

Area a future analysis with the new UGA and updated population projections should be analyzed separately to determine effects on the collection system and the wastewater treatment plant. As stated in the section above, the city is planning on updating the comprehensive sewer plan to reflect the most recent population projections, and adjust the evaluation of required improvements to the system to accommodate the associated demand

The 20-year planning period assumes full build-out of the UGA Study Area as identified in the 2017 Northwest Service Area Evaluation. The total population within the proposed UGA is projected to be approximately 19,790. Based upon the average per capita flow of 80 gallons per day, the average flow is 1,100 gpm and the peak flow is 3,298.

Utility Improvements Required Outside the UGA Study Area

The following sections address the impacts to two major facility categories of the sanitary sewer system: the collection system and the wastewater treatment plant.

Collection System

The natural ground topography of the UGA Study Area creates one singular sanitary sewer service area to the southwest. A strategy for providing gravity sanitary sewer service to this UGA Study Area was included in the 2017 Northwest Service Area Evaluation. A 30-inch diameter pipe along Harris Road from Court Street to Road 100 is proposed to be needed within the 6-year time frame to provide service for future development. The estimated cost for this improvement is approximately $3 million. In addition, regional lift station is planned to serve the Northwest Service Area as identified in the Comprehensive Sewer Plan. The final location of this lift station is currently being analyzed.

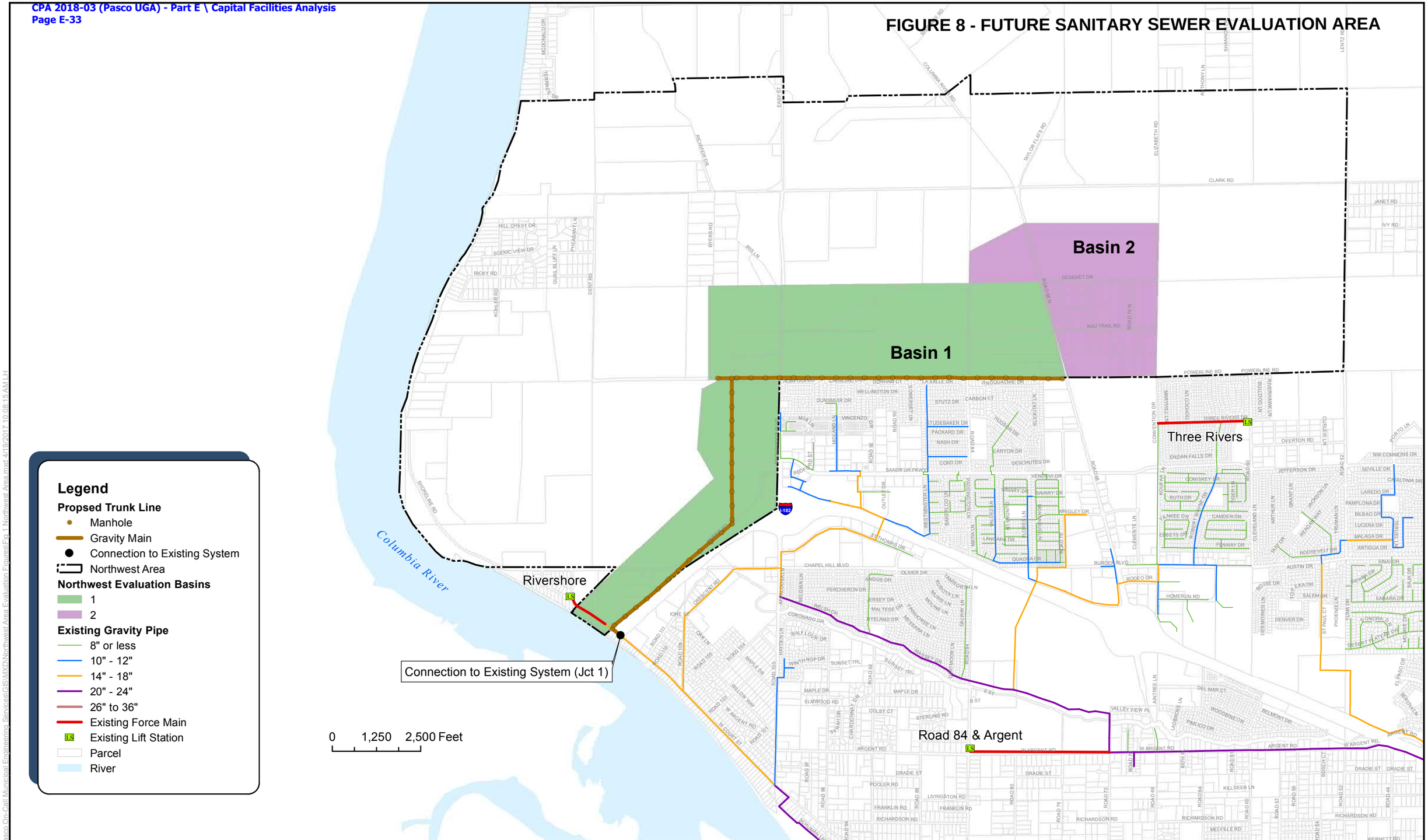
While this will not provide service to the UGA Study Area, it will provide service to an area within the existing City limits which is available for development. The intention of the City is to extent the sewer line to this point and allow future development to pay for the extension of the line as development occurs north to the UGA Study Area. .

For the 20-year planning period, the service area consists of the proposed UGA Study Area. The 18-inch diameter pipe needed for 6-year flows would still be adequate, however it has been indicated that the existing piping along the West Pasco Trunk is not adequate to convey the projected buildout of the UGA Study Area. The available capacity, beyond current flows is limited to 900 gpm or 1,575 equivalent residential units (ERU's). The limiting pipe is along Court Street between Road 101 and Road 103. As a result of the significant deficiencies in the Existing West Pasco Trunk, it was recommended that the City evaluate the West Pasco Trunk further to assess impacts due to future development in the UGA Study Area and determine the required improvements. As a result, for the 20-year build out the City will need to plan for future improvements to the West Pasco Trunk to handle the projected flows.

Wastewater Treatment Plant

For 20-year planning purposes, it is unknown if future development will trigger upgrades to accommodate future flows and regulatory requirements. The City of Pasco is currently developing a facility plan for the WWTP with a 20-year horizon. The plan is expected to be in final draft form by the end of 2018 and will address the improvements needed to accommodate the expected demand derived from the projected population growth.

FIGURE 8 - FUTURE SANITARY SEWER EVALUATION AREA



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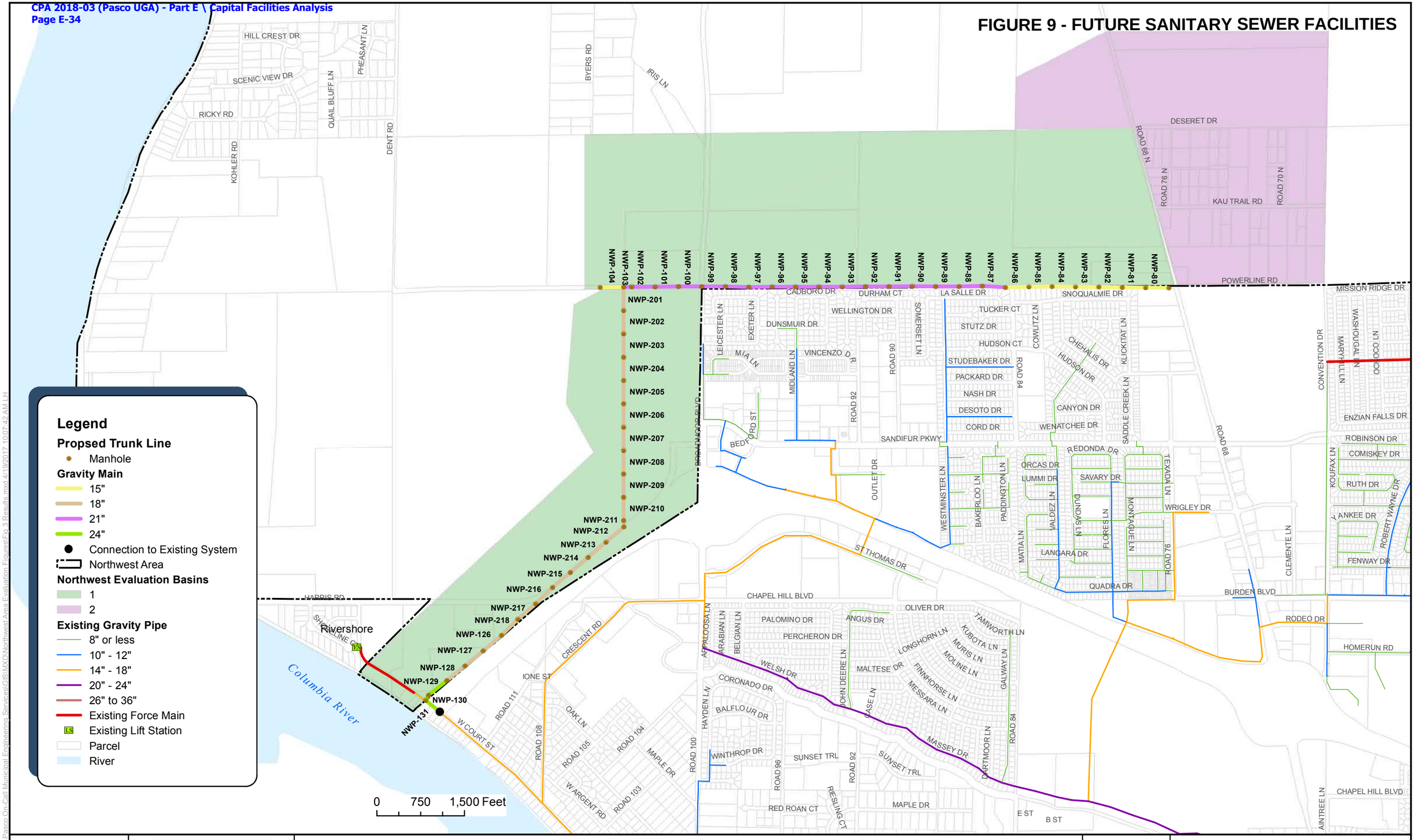
CITY OF PASCO

Northwest Service Area Evaluation

Figure 1
Northwest Evaluation Area

FIGURE 9 - FUTURE SANITARY SEWER FACILITIES



Legend

Propsed Trunk Line
- Manhole

Gravity Main
- 15"
- 18"
- 21"
- 24"
- Connection to Existing System
- Northwest Area

Northwest Evaluation Basins
- 1
- 2

Existing Gravity Pipe
- 8" or less
- 10" - 12"
- 14" - 18"
- 20" - 24"
- 26" to 36"
- Existing Force Main
- Existing Lift Station
- Parcel
- River

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CITY OF PASCO

Northwest Service Area Evaluation

Figure 3
Proposed Trunk Line Diameters

April 2017 16-1859

Potable Water Service

Potable water service will be provided by the City of Pasco. At this time, the City is currently updating their Comprehensive Water System Plan (CWSP) which is being reviewed for approval by the Department of Ecology. The planning period for this CWSP is 2022, 2027, and 2036, and identifies the existing system, the expected growth, the projected demands in each planning horizon, as well as, the performance criteria that dictate whether new infrastructure is required. The following sections is a summary of the proposed water demands and necessary expansion of the potable water system to serve City for both the year 2022 and 2036 (20-year) planning periods. As part of the WSP update, the City anticipate future growth and expansion of the UGA in Northwest Pasco. As a result, the updated WSP addresses the future demands and new infrastructure required to serve the UGA Study Area.

It should be noted that additional modeling and analysis of the sewer system was not prepared for this report. The results identified in this report were derived from the 2018 Draft City of Pasco CWSP which used current traffic analysis zones (TAZ's) to identify future 20-year population and land uses analysis and looked beyond the current UGA boundary at the time. While the exact future UGA boundary was not defined at that time it incorporates the majority of the proposed UGA. As a result, it is anticipated that the general results of the future capacity issues of the system wide network is addressed in this plan.

Estimated Water Demands

The WSP identified that the system-wide future consumption projections were estimated as a part of the 2016 Regional Water Forecast and Conservation Plan (RWFCP). Future demands in the RWFCP were estimated using current patterns of water use and projected population. The table below identifies the average and maximum day projections developed from the RWFCP for the years 2022 and 2036.

Year	Description	City of Pasco Water Service Area
2022	Water Service Population	82,500
	Total Supply (gallons)	5,359,527,342
	Total Supply (gpm)	10,197
	Supply per Capita (gallons/yr)	64,964
	ERUs[1]	34,631
2036	Water Service Population	112,200
	Total Supply (gallons)	7,288,957,185
	Total Supply (gpm)	13,868
	Supply per Capita (gallons/yr)	64,964
	ERUs[1]	47,098

Notes:
Source: Regional Water Forecast and Conservation Plan Report, January 2016
1 Based on an existing ERU = 424 gallons per day per residential family unit;
gpdpd=gallons per dwelling per day

As a result of the water use analysis as discussed in the WSP, the following key findings were identified.

- In 2022, the City's water distribution system must have adequate capacity to serve a maximum day demand of 31.0 mgd, with a peak hour demand of 39.3 mgd, for a growth of 16 percent when compared to current demands (2015). For this planning horizon, the expected additional industrial demand is 0.6 mgd.

- In 2036, the City's water distribution system must have adequate capacity to serve a maximum day demand of 41.9 mgd, with a peak hour demand of 53.4 mgd, for a growth of 56 percent when compared to current demands (2015). For this planning horizon, the expected additional industrial demand is 3.1 mgd.

Facility Improvements

The WSP identified that the adequacy of the water system was evaluated by comparing the existing capacity with the requirements dictated by the hydraulic criteria, for current and future demand conditions (2022 and 2036 planning horizons). The hydraulic model was used to assess the system's ability to convey flows under maximum day, peak hour, and fire flow conditions while maintaining minimum residual pressures. Additionally, supply, storage, and pumping capacity evaluations were performed to identify the adequacy of those respective system components. The following is the main conclusions of the system analysis:

- The results show that in general, the system has adequate capacity to provide for existing demands and to accommodate the 2022, 2027, and 2035 planning horizons.
- The storage capacity evaluation shows existing deficiencies in Zones 2 and 3, which includes the UGA Study Area. The combined deficiency is 5.8 MG. These deficiencies increase to 6.70 MG for 2022, 7.97 for 2027 and 9.05 MG for 2036.
- The hydraulic analysis confirms the existing network is able to deliver water to meet peak hourly demand at the required pressure to customers, under existing and future conditions.
- Fire flow availability was adequate in most of the system, with the exception of four locations under existing conditions and one location under future conditions. The associated improvement for these locations will be the upgrade or installation of short segments of pipe (less than 1,000 feet each).
- The transmission system is adequate to serve existing and future needs, with only one deficiency on the 20-inch transmission line from West Pasco WTP to Broadmoor Pump Station during 2036 PHD conditions.

System-Wide Water Demands

As previously identified, the total available water rights for the City allows for 34 MGD of instantaneous withdrawal and 12.9 MGD of Annual Average. In 2015, the Maximum Day Demand for the City was 26.8 and plans to be using approximately 31 MGD in the year 2022 and 41.9 MGD in the year 2036. In the future the city will need to have adequate capacity to meet the daily demands.

Source Capacity

According to the WSP update, the City water system is supplied from surface water withdrawals from the McNary Pool of the Columbia river. Currently, the system is served by two surface water treatment plants, Butterfield, which is a conventional filtration plant and West Pasco is an ultrafiltration membrane plant. Overall capacity of each water treatment plant is 30 mgd and 6 mgd respectively. It should be noted that while current capacity of the West Pasco WTP is 6 mgd, it is designed for expansion up to 18 mgd.

Based on the overall system analysis as identified in the previous section, it is anticipated that within the 6-year time frame the West Pasco WTP will have adequate supply capacity to meet the maximum daily demands for future growth. However, for the 20-year time frame, the city will trigger the need for increased source capacity and the West Pasco WTP will need to be expanded to 18 mgd to meet this demand.

The CIP for the WSP has listed the expansion of the West Pasco WTP into two phases (6 mgd for each phase). However, only the first phase is anticipated to be needed within the 6-year time frame. The anticipated cost for Phase 1 of the West Pasco WTP expansion is $1.35 million.

Distribution System

A hydraulic analysis was performed to determine impacts on the existing distribution system as well as proposed sizing for distribution system expansion to serve the future growth of the City and UGA Study Area. This hydraulic analysis is documented in the WSP. As a result, the model identified that the pressure range at all service connections throughout the system is within the required range for MDD and PHD conditions. However, there are some areas of low and high pressure. The low pressures were identified as being at facilities or on transmission mains, which were acceptable. The high pressures were identified as being not excessive since they occurred on a transmission line in an industrial area. It was recommended that the City monitor these areas and evaluate with the next planning cycle.

As a result, the hydraulic model results show the existing network is able to deliver adequate water to meet peak hourly demand at the required pressure at every existing service connection, for existing and future conditions. Fire flow availability was adequate in most of the system, with few exceptions, those areas that were identified as deficiencies consist of a few short segments of pipe (less than 1,000 feet) which need upgraded. These improvements have been identified in the CIP.

The WSP has identified several new transmission and distribution improvements within the City and to the UGA Study Area. These improvements are necessary to provide water service. Similar to the sewer improvements, the City is anticipating that the development will be required extend service within the study area. However, for the purpose of this study, it was assumed that the City would provide the extension of the utilities to the service area. As a result, the following improvements are identified:

- IP-005 - New 20-in transmission pipe connecting to existing 20-inch at Ione St and Road 108, then north along Crescent Rd up to Chapel Hill Blvd, then east up to Broadmoor Blvd, then north up to St Thomas Dr, connecting to existing 24-inch. Construction year: 2018-2019, cost $2.5 million.

- FP-017 - Waterline Loop - Broadmoor Blvd. Construction year: 2026, cost $1.4 million.

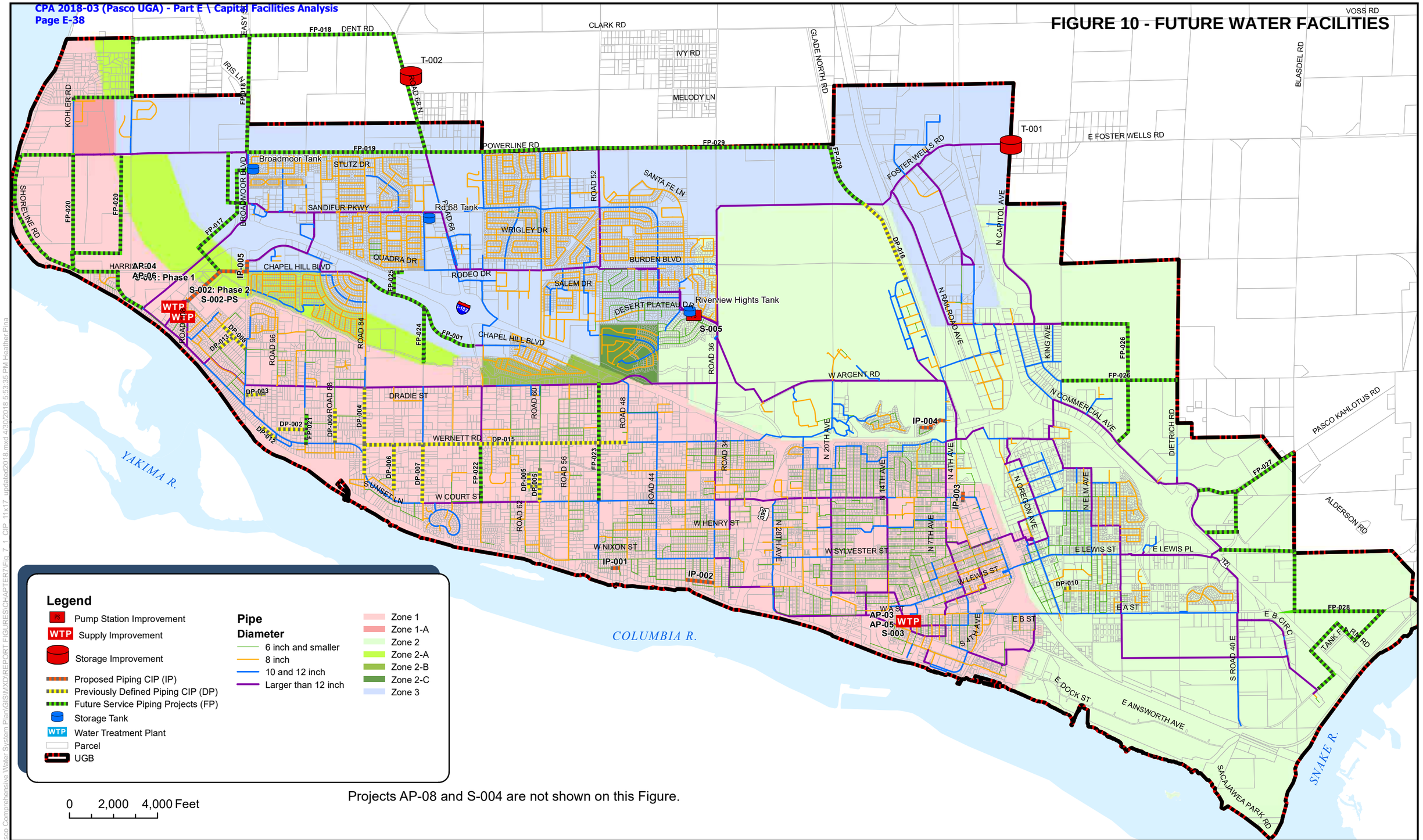
Storage Capacity

The WSP evaluated the storage capacity of each of the 3 main pressure zones. The UGA Study Area is in Zone 3. As a result of the analysis, it was identified that the storage capacity in Zones 3 is deficient for existing and future conditions, with a total existing deficit of 3.73 MG, 3.76 MG for 2022, and 3.98 MG for 2036. The CIP has identified that two new storage reservoirs are need to meet future demands. One is located in the East Pasco Industrial area and will serve Zone 2 (5.75 MG), this project is anticipated to be built within the 6-year time frame, however the need is to serve an existing deficiency for Zone 2 which is not part of the study area. As a result, the cost for this improvement is not directly related to the improvement needs of the UGA Study Area. The other reservoir planned is with the UGA Study area and will serve Zone 3 (3.5 MG), however the CIP it is not anticipated that this reservoir will be needed until 2035. Therefore, the cost analysis for this improvement was not included in this study, but should be planned for as future development occurs.

Irrigation

The City is currently in the process of studying how irrigation service will be provided to the proposed UGA Area. The results of this study are expected in the fall of 2018.

FIGURE 10 - FUTURE WATER FACILITIES



Legend

- Pump Station Improvement
- Supply Improvement
- Storage Improvement
- Proposed Piping CIP (IP)
- Previously Defined Piping CIP (DP)
- Future Service Piping Projects (FP)
- Storage Tank
- Water Treatment Plant
- Parcel
- UGB

Pipe Diameter

- 6 inch and smaller
- 8 inch
- 10 and 12 inch
- Larger than 12 inch

- Zone 1
- Zone 1-A
- Zone 2
- Zone 2-A
- Zone 2-B
- Zone 2-C
- Zone 3

0 2,000 4,000 Feet

Projects AP-08 and S-004 are not shown on this Figure.

murraysmith

CITY OF PASCO

Comprehensive Water System Plan Update
City of Pasco

Figure 7-1
Capital Improvement Program

May 2018 15-1710

FUNDING SOURCES

This section discusses many of the existing and potential revenue sources, debt capacity and options for using debt financing by the City of Pasco to fund needed capital improvements related to growth.

The City of Pasco uses a number of different financing sources to pay for capital projects. Typically, large capital projects are financed through long-term bonded debt and grants and loans. For the purposes of this CFP, it is assumed that the cost of capital improvements will be funded by a variety of funding sources which range from the City of Pasco, late comer agreements and grants and loans.

The following discusses the various revenue sources available to the City of Pasco. Not all of these sources are currently being used by the City to fund capital improvements. Those that are being currently used are identified.

Taxes

Property Taxes

RCW 84.52 authorizes this tax on the assessed valuation of real and personal property, subject to two limitations: Initiative 747 limits growth of regular property taxes to 1% of the highest amount levied in the previous year, before adjustments for new construction and annexations; and, The State Constitution limits the total regular property taxes to 1% of assessed valuation or $10.00 per $1,000 of value (if the taxes of all districts exceed this amount, each is proportionately reduced until the total is at or below the 1% limit).

Voters may approve excess property tax levies over the constitutional and statutory limits for a number of years to pay off general obligation bonds for construction, or a single year levy (two years for school districts) for general operating purposes. The constitution requires 40% voter turnout in the previous general election and a 60% favorable majority vote (RCW 41 and 84).

RCW 85.55 allows cities that are levying property taxes at a rate lower than the statutory maximum, to lift the levy lid by more than 1%. A simple majority vote is required. The purpose for which the money will be used does not need to be specified. Cities that are levying at their statutory maximum rate can raise their rate for one year. This is called an Operations and Maintenance Levy and also requires 40% voter turnout in the previous general election and a 60% favorable majority vote. The purpose for which the money will be used does not need to be specified.

Retail Sales and Use Tax

There is levied a total of 8.6% on all retail sales, except for off-premise food and drugs. The allocation of the 8.6% is as follows:

- State - 6.5%
- County - 1.5%
- City - 0.60%

The City does not need to designate how their portion of the sales taxes will be spent.

Real Estate Excise Taxes

The state authorizes a tax of 1.28% on the sale of all real estate. RCW 82.46 authorizes cities, planning under the GMA, to assess an additional tax on real estate sales of .25%. These funds must be spent on capital projects listed in the capital facilities plan. A second .25% may also be levied to help defray the costs of development and rehabilitation. The City levies both .25% taxes for use in funding capital projects.

Lodging Excise Taxes

RCW 67.28 authorizes a 2% tax on all charges for lodging furnished for a continuous period of less than one month. This tax is taken as a credit against the 6.5% State sales tax assessed on the lodging charges for the promotion of tourism, acquisition and or operation of tourism related facilities (i.e. specific stadium, convention, performance or visual arts facilities). An additional 2% tax can be levied for a total rate of 4%. The additional 2% levy does not reduce the sales tax rate.

Leasehold Excise Tax

RCW 82.29A authorizes a 12.84% tax on the permanent occupancy of publicly-owned premises for private use for 30 days or more. The tax is a substitute for regular property taxes to compensate for services provided. The tax is sent to the Department of Revenue which keeps 6.84%, with 2% of the remaining 6% going to the County and 4% going to the City. The purpose for which the money will be used does not need to be specified.

Commercial Parking Tax

The Transportation Improvement Act authorizes a tax on commercial parking based on either gross proceeds, the number of parking stalls or on the number of users. Revenues must be spent for general transportation purposes, including highways, public transportation, high capacity transportation, transportation planning, etc. Currently, the City of Pasco does not impose a Commercial Parking Tax.

Business and Occupation Tax

RCW 35.11 authorizes cities to collect this tax on gross or net income of businesses, not to exceed a rate of 0.2 percent. Revenue may be used for capital facility acquisition, construction, maintenance, and operations. Voter approval is required to initiate the tax or increase the tax rate.

Gambling Tax

RCW 9.46 provides for a tax on gambling revenues. Currently the City collects 5% of the gross revenue less the amount paid for prizes for bingo and raffles, 10% of gross receipts for punch boards and pull-tabs, and 10% of gross receipts on all card games. Funding is primarily used for gambling enforcement.

Admission Tax

All cities may levy an admission tax in an amount no greater than five percent of the admission charge, as is authorized by RCW 35.21.280. This tax can be levied on admission charges (including season tickets) to places such as theaters, dance halls, circuses, clubs that have cover charges, observation towers, stadiums, and any other activity where an admission charge is made to enter the facility.

The statute provides exceptions for admission to elementary or secondary school activities and any public facility of a city or county public facility district for which the district has levied an admission tax under RCW 35.57.100 or 36.100.210. A city may, however, impose its own tax on admission to activities at a public facility district, in addition to the tax the district levies, if the revenue is used for the construction, operation, maintenance, repair, replacement, or enhancement of that public facility or to develop, support, operate, or enhance programs in that public facility.139 The admission tax must be collected, administered, and audited by the city. Some cities exempt certain events sponsored by nonprofits from the tax. This is not a requirement, however.

At this time the City's admission tax is 2.5 percent which applies to all for profit admission fees within the City.

Local Option Sales Tax

Local government may collect a tax on retail sales of up to 1.1 percent, of which .1 percent can be used only for criminal justice purposes. Imposition of this tax requires voter approval.

Intergovernmental Revenues

Liquor Revenues and Liquor Excise Taxes:

The City receives distributions from the state for liquor related taxes through Liquor Excise Taxes and Liquor Board Profits. 2% of all liquor revenues received must be used for an approved alcohol and drug addiction program under RCW 71.24.555. Initiative 1183 passed November 2011 privatized the distribution and retail sale of liquor effective June 1, 2012.

Liquor Excise Taxes:

In 2012, the state legislature diverted all liquor excise tax revenue to the state general fund for FY2013. For FY2014, $10 million was permanently diverted to the state general fund, the majority of which comes from the City portion. For the 2013-2015 budget, the state legislature increased the share of liquor taxes collected and remitted under RCW 82.08 that is deposited into the state general fund effectively decreasing the local share to 17.5%. The increased share for the state general fund will end on June 30, 2015, however, the permanent diversion of $10 million per year will not.

Liquor Board Profits:

The markups on liquor have been replaced as a state revenue source by license fees that are paid to the state by retailers and distributors. A portion of these fees goes to cities, counties and border cities and counties. They are apportioned in a manner that provides that each category of recipients received in the aggregate, no less than it received from the liquor revolving fund during comparable periods prior to December 8,2011. An additional distribution of $10 million per year from the spirits license fees must be provided to border areas, counties, cities and towns for the purpose of enhancing public safety programs.

The result is a 0.3% of the total amount distributed to border cities and counties. Of the remaining 97%, 80% goes to cities and 20% to counties. The City must use 20.23% of its distribution for public safety programs.

Motor Vehicle Fuel Tax

The State of Washington provides a state-collected gasoline tax that is shared with cities (RCW 82.36). The base tax in Washington State is 37.5 cents per gallon. Of this amount, the City receives 10.6961% of 23 cents and 8.3333% of 3 cents. These funds are placed in the city street fund and can be used for general anew construction, repair or reconstruction of streets identified in the City's six-year street improvement program and approved by the state. Cities are required to spend 0.42% of gas tax receipts on paths and trails unless the amount is less than $500.

Local Option Fuel Tax

The Transportation Improvement Act authorizes the County, with voter approval, to levy a local option tax equivalent to 10% of the statewide Motor Vehicle Fuel Tax and a special fuel tax of 2.3 cents per gallon. Revenues are distributed to the County and cities on a weighted per capita basis, i.e. 1.5 County/1.0 City. City of Pasco does not have a local option fuel tax at this time. These revenues must be spent for highway purposes, including construction, maintenance and operation.

Licenses and Permits

The City collects fees for a number of licenses and permits, including Business Licenses, Building Permits and permit fees for zoning plan review and inspections.

Utility Taxes and Franchise Fees

RCW35A.82 authorizes the collection of taxes on the operating revenues of private and public utilities within the City. The City levies taxes on electric, gas, telephone, cable, water, sewer, storm water and garbage utilities operating within the City. The current rate is 8.5 percent.

Charges for Services

Park User Fees and Program Fees

The City charges fees for using park facilities, or for participating in recreational programs.

Sewer User Fees

The state authorizes sewer charges to wastewater generators. Fees may be based on the amount of potable water consumed based on the assumption that there is a correlation between water consumption and wastewater generation or a flat (base) rate only. Commercial customers pay base and consumption rate. Revenue may be used for capital facilities, operations and maintenance.

Water User Fees

State authorized rate charged to each residential and commercial customer, based on the volume of water used. Revenue may be used for capital facilities, operations and maintenance.

Road Impact Fees

ESHB 2929 authorizes impact fees to pay for roads required to serve new development. Impact fees must be used for capital facilities needed for growth, and not to meet current deficiencies and cannot be used for operating expenses. Road impact fees must also be directly related to the impacts created by the development and must be utilized within 5 years or returned.

Fire Protection and Emergency Services Impact Fees

ESHB 2929 authorizes impact fees to pay for fire protection and emergency service facilities required due to new development. These fees are usually collected at the issuance of building permits or certificates of occupancy. Fire and emergency services fees are usually based on a flat rate for dwelling units by type and per square foot for non-residential uses. Adjustments must be made to fee calculations to account for fire and Emergency Services costs that are paid by other sources of revenue. Additional credit can also be given to developers that contribute land, improvements or other assets. These impact fees are in addition to any mitigation or voluntary payments authorized by SEPA, local improvement districts, etc. Impact fees must be used for capital facilities needed for growth, and not to meet current deficiencies, and cannot be used for operating expenses. Fire and emergency services impact fees must also be directly related to the impacts created by the development and must be utilized within 5 years or returned. Currently, City of Pasco does not impose fire protection and emergency services impact fees.

Park and Recreation Impact Fees

ESHB 2929 authorizes impact fees to pay for park and recreation facilities required due to new development. These fees are usually collected at the issuance of building permits or certificates of occupancy. Adjustments must be made to fee calculations to account for park and recreation costs that are paid by other sources of revenue. Additional credit can also be given to developers that contribute

land, improvements or other assets. These impact fees are in addition to any mitigation or voluntary payments authorized by SEPA, local improvement districts, etc. Impact fees must be used for capital facilities needed for growth, and not to meet current deficiencies, and cannot be used for operating expenses.

Bonds

General Obligation/Councilmanic Bonds

There are two types of General Obligation Bonds: Voter approved and Councilmanic. Voter approved bonds are backed by the value of the property within the jurisdiction. They increase the property value rate, with increased tax revenues dedicated to paying the principal and interest on the bonds. Councilmanic Bonds are authorized without voter approval and paid from general tax sources without an increase in tax revenue. The amount of local government debt allowable in the form of general obligation bonds is limited to 7.5 percent of the taxable value of property in the jurisdiction. This is divided so that a jurisdiction cannot use all of its bonding capacity for one type of improvement. The total general obligation bonding capability is divided as follows: 2.5 percent general purpose use; 2.5 percent for utility bonds, and; 2.5 percent open space and park facilities. If the jurisdiction has an approved general purpose bond with unused capacity, as much as 1.5 percent of the 2.5 percent may be used as council manic bonds.

Special Assessment District Bonds

Special assessment districts, such as Local Improvement Districts (LID), Road Improvement Districts (RID) and Utility Local Improvement Districts (ULID), may be formed by the city to finance capital facilities required by other entities (property owners, developers, etc.). These capital facilities are funded through the issuance of special assessment bonds, paid for by the entities benefited. Use of special assessment bonds is restricted to the purpose for which the special assessment district is created.

Grants and Loans

Community Development Block Grants

Department of Community Development grants of up 100% may be available through the Federal Department of Housing and Urban Development for public facilities projects, economic development, housing, etc. which benefit low and moderate income households.

Community Economic Revitalization Board Grants

Department of Trade and Economic Development revenue are available for low interest loans and grants to finance sewer, water, access roads, etc. to facilitate private sector industrial development that supports the trading of goods or services outside of the State, and either creates or maintains jobs.

Public Works Trust Fund Loans

Department of Community Development low interest loan funds are available for capital facilities, emergency planning, and capital improvement planning. Applicants must have a capital facilities plan, must be levying the 1/4% real estate excise tax, and must be in compliance with UGA requirements. Capital improvement planning projects are limited to planning for streets and utilities.

Federal Bridge Replacement Program

Grants (80% Federal/20% Local) issued by the Washington State Department of Transportation (WSDOT) State Aid Division, are available for replacement of structurally deficient of functionally obsolete bridges. The bridge must be on the Washington State Inventory of Bridges.

National Highway System Grants

WSDOT State Aid Division revenue is available for construction and improvement of the National Highway System. The project must be on the Regional Transportation Improvement Program (TIP) list and must be a component of the National Highway System (NHS), including all highways classified as principal arterials. These funds are available on an 86.5% Federal/13.5% Local match, based on the highest ranking projects from the Regional TIP list.

Transportation Improvement Board (TIB) Grants

State Transportation Improvement Board (TIB) grants are available for roadway and sidewalk projects caused by economic development or growth, development activities, and partially funded locally. Grants are funded 80% State/20% Local.

- Urban Arterial Program (UAP) - best suited for roadway projects that improve safety and mobility.
- Urban Sidewalk Program (SP) – Best suited for sidewalk projects that improve safety and connectivity.
- Arterial Preservation Program (APP) – provides funding for overlay of federally classified arterial streets in cities with a assessed valuation less than $2 billion.

Transportation Partnership Program (TPP)

Transportation Improvement Board grants are available for projects to relieve and prevent traffic congestion. Preference is given to projects that are structurally deficient, congested by traffic, and has geometric deficiencies or accident incidents. Grants are funded 80% State 20% Local.

Surface Transportation Program

WSDOT State Aid Division block grant revenue is available for road construction and maintenance, transit capital projects, bridge projects, transportation planning, research and development, participation in wetland mitigation and wetland banking. Funds are distributed generally at 80% federal/20% local based on the highest ranking projects from Regional Transportation Improvement Program list.

State Parks and Recreation Commission Grants

State Parks and Recreation Commission grants are available for the acquisition of land and capital improvement projects for parks and recreation purposes. Funds come from both State and Federal sources and are granted on a 50% State and 50% Local basis.

Department of Health Grants & Loans

State grants & loans for technical assistance and updating existing water systems, are available for ensuring effective management, and achieving maximum conservation of safe drinking water. Matching requirements for grant vary depending on the program and loan rates for loan programs.

Centennial Clean Water Fund

Department of Ecology grants for the design, acquisition, construction, and improvement of Water Pollution Control facilities (WPC), and related activities, are available to meet state and federal WPC requirements and protect and improve water quality.

Department of Ecology administers low interest loans and loan guarantees. Applicants must show water quality need, have a facility plan, have the ability to repay, and conform to other State and Federal WPC requirements.

Department of Ecology Grants

State of Washington supplies grants for a variety of programs related to solid waste, including Remedial Action Grants to assist with local hazardous waste sites, Moderate Risk/Hazardous Waste Implementation Grants to manage local hazardous waste, and Food and Yard Waste Composting Grants.

Local Revitalization Financing (LRF) program

In the 2009 Legislative Session Senate Bill 2SSB 5045 Chapter 270 was adopted creating the Local Revitalization Financing (LRF) program. The program helps local governments finance public improvement projects that encourage private development within a revitalization area. The LRF program authorizes cities and counties to create "revitalization areas" and allows certain increases in local sales and use tax revenues and local property tax revenues generated from within the revitalization area, additional funds from other local public sources, and a state contribution to be used for payment of bonds issued for financing local public improvements within the revitalization area. The state contribution is provided through a new local sales and use tax that is credited against the state sales and use tax (sometimes referred to as the "LRF tax"). This tax does not increase the combined sales and use tax rates paid by consumers.

The Department of Revenue administers the LRF program. The state provides money to the local government sponsoring the LRF area through a local sales and use tax under RCW 82.14.510 (commonly referred to as the "LRF tax"). This local sales and use tax is credited against the state sales and use tax, so it does not increase the sales and use tax rate for the consumer. Instead, the LRF tax shifts revenue from the state general fund to the sponsoring local government.

The maximum amount allowed statewide for state contributions to LRF is $4.75 million per state fiscal year. Of this amount, $2.25 million is allocated for the seven demonstration projects, and $2.5 million is allocated for the other projects approved on a first-come basis. The maximum amount of state contribution for each demonstration project is specified in the bill and ranges from $200,000 to $500,000 per project. The maximum state contribution for each project approved on a first-come basis is $500,000.

CAPITAL FACILITIES FUNDING

The Growth Management Act requires that funding for capital facilities be reasonably available to meet the projected growth at the adopted level of service for at least a 6-year period. This section discusses the funding for those public facilities for which additional capital improvements will be required over the next 6 years.

Funding for capital facilities, projected growth rates and desired LOS need to be in balance. This balancing effort has been achieved for the UGA with the assistance of City staff and technical consultants.

Projected Capital Facility Cost

Table 6 below summarizes the total public capital facilities costs as well as the proposed amount the city would be required to contribute to serve the UGA Expansion Area for the period 2018 to 2024. These costs are based on the information provided in the previous Section, Facility Requirements, and were calculated based on 2018 construction costs.

Table 6. Estimated Capital Facilities Costs 2018-2024

Capital Facility	Estimated Total Cost
Street and Roads	
Road 100/Burns Road -northbound right turn lane	$250,000
Road 68/Burns Road - northbound and southbound left turn lanes	$250,000
Total Streets and Roads	**$500,000**
Sanitary Sewer	
Extend 4,010 LF of 30-inch Diameter Gravity Sewer Main	$3,000,000
Total Sanitary Sewer	**$3,000,000**
Domestic Water	
West Pasco WTP Phase 1 - 6MGD expansion	$1,350,000
20-inch Transmission Line	$2,500,000
Total Domestic Water	**$3,850,000**
TOTAL CAPITAL COST	**$7,350,000**

Source: City of Pasco

All costs are in current dollars, are rounded to the nearest hundred, and include all applicable fees and contingency costs. Current costs are used under the assumption that both construction costs and projected income would rise at similar rates because of the difficulty of projecting costs and income into the future. The above costs identify do not include costs for capital facilities normally provided by developers as part of their projects or by non-City utilities such as telephone and cable. Also, not included are costs for projects that may be partially funded by developers in order to meet concurrency requirements and to mitigate projected impacts (on-site infrastructure). For City provided utilities, only those capital facilities that are in excess of normal line expansion covered by the City's normal utility hook-up fees are included.

Projected Capital Facilities Revenue Sources

Revenues to fund transportation capital facilities are anticipated to come from a variety of sources ranging from general funds, LID's, grants, the Motor Vehicle Fuel Tax (both Restricted and Unrestricted), and developer contributions to fund capital improvements. Revenues to fund capital improvements of sewers

and water facilities will come from consumer utility rates, developer contributions and state and federal loans and grants.

Revenue Projections

Based on the City's 2018-2024 Capital Improvement Plan the following projects identify in Table 6 above are identified for funding:

Street and Roads

- Funding sources for the identified right turn lanes at Road 68/Burns and Road 100/Burns have not been identified at this time, however it is likely that these would be partially paid by developer contributions.

Sanitary Sewer

- NW Area Sewer Transmission Main Project (AKA Harris Road Sewer Transmission main) #14001 – this project is identified to be funded by Sewer Utility Rates and 2015 and 2017 Revenue Bond. This project is currently in design phase and is planned to be constructed in the year 2019.

Domestic Water

- Water Main Installation — Crescent-Chapel Hill/Sandifur Transmission Main Project #00042 - this project is identified to be funded by Water Utility Rates and is planned to be designed and constructed in the years 2018 & 2019.

Developer Contributions

Recent State Supreme Court decisions and State law have limited developer contributions to those which directly relate to the impact that a specific development will have on a capital facility. The City must show a direct relationship, or "nexus", between a specific project and the mitigation measure being imposed. The exception to this is where a development will result in a lack of concurrency in the Level of Service for a Category 1 Capital Facilities. It is anticipated that as the city continues to grow to the north, all new development will be required to pay for all city infrastructure in direct proportion to the impact of the project on the City Facility. As a result, all cost associated to upsize or increase capacity of the infrastructure to serve the other development areas will be paid by the City or other funding sources.

Summary

Based on the discussion above, it is anticipated that the funding needed for the proposed infrastructure project to serve the UGA Expansion Area over the next 6 years will be provided by a range of funding sources including developer contributions, water and sewer utility fees, and bonds. In addition, other revenue sources will also be available to help the city pay for these facilities including the tax revenues, mitigation fees, LID's, and grants. As a result, it is anticipated that there will be sufficient funding to provide the capital improvements required to meet the growth projected for the UGA Expansion Area over the next 6 years.