Pueblo Stormwater Master Plan Basin Planning Study Report

Final Submittal

Prepared For

City of Pueblo
Department of Public Works
Stormwater Utility

STORMWATER UTILITY

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Executive Summary

Acknowledgement

Sellards & Grigg wishes to acknowledge the various individuals who assisted in the preparation of this Stormwater Master Basin Planning Study for the City of Pueblo. A Technical Advisory Committee made up of the project sponsors and other interested individuals and agencies provided guidance during the study process. The Technical Advisory Committee met regularly from November 2004 through January 2007. The members of the Technical Advisory Committee are as follows:

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INTRODUCTION

This Pueblo Master Basin Planning Study (Project No. 04-081) is formulated in compliance with the Stormwater Utility Ordinance, i.e. Section 12-1-9, of the revised Pueblo Municipal Code. In January 2004, the City of Pueblo created a new Stormwater Management Utility (SMU). The SMU is charged with meeting NPDES regulations and the planning, operation, maintenance and construction of storm drainage facilities in the City. The Master Plan is developed for the purpose of meeting the storm drainage requirements of the citizens of Pueblo.

The Master Plan provides an analysis of existing drainage conditions for all drainage basins impacting the City of Pueblo and develops stormwater improvement alternatives. Stormwater improvement alternatives include stormwater quality improvements and flood control improvements. The Master Basin Planning Study incorporates criteria found in the City of Pueblo *Storm Drainage Design Criteria and Drainage Policies (Criteria)* dated June 9, 1997, in the evaluation of improvement alternatives.

BACKGROUND

Phases of Study

The Pueblo Master Basin Planning Study was completed in three phases over a 24-month period. Each phase studied specific geographic drainage areas within the City and County of Pueblo. The study areas (watersheds) corresponding to the three phases of the Pueblo Master Basin Planning Study are as follows:

PHASE 1		PHASE 2		PHASE 3	
Basin Name	**Area (sq. mi.)**	**Basin Name**	**Area (sq. mi.)**	**Basin Name**	**Area (sq. mi.)**
Goodnight Arroyo	7.7	Wild Horse Creek	80.1	Central Pueblo	3.1
Southwest Pueblo	10.2	West Pueblo	2.5	East Fountain	5.2
Lake Minnequa	11.6			East Pueblo	1.9
				West Fountain	6.4
				Dry Creek	7.1

Note that the bulk of the information in this report is presented by the three phases of study.

The Lake Minnequa Park Master Plan was developed in conjunction with the Phase 1 work.

Data Sources

The data sources for the Pueblo Master Basin Planning Study include City/County GIS aerial photography and mapping for the study area obtained from Pueblo County. The mapping provides zoning information, parcel maps, City/County ownership street maps, soils mapping and 2-foot contour intervals for most of the study area and 5-foot contour coverage for the outlying areas. The mapping is superimposed on the ortho-photo coverage of the study area.

The City of Pueblo has compiled photos of historic flooding events at various locations throughout the study area. Many of these are included in the report. Additional photoreconnaissance was performed on specific areas such as the Bessemer Ditch, Lake Minnequa, and Central High School.

The City of Pueblo provided Storm Sewer Utility maps showing location, pipe size and inlets for existing storm sewer systems. Invert elevations at manholes were also listed. It should be noted that a datum conversion was used to translate invert elevations shown on the utility mapping to the datum used in the topographic mapping and therefore in the Master Plan modeling. The conversion is:

Master Plan (Pueblo County GIS) = Utility Mapping (City Datum) – 10.28'

PLAN FORMULATION

Meetings

Regular, monthly Progress Meetings were held at the Public Works Office of the City of Pueblo from November 2004 through January 2007. Attendance at the meetings included members of the consultant team and the Technical Advisory Committee (TAC). The TAC included representatives from the City, the County, CDOT, and Rocky Mountain Steel.

Community meetings were held to present project progress information, receive project input, as well as provide an educational introduction to stormwater management, NPDES, risk assessment, impact fees, and how they affect everyday life in Pueblo. The initial Project Introduction (Phase I) and the final Recommendations (Phase III) community meetings were organized as city-wide events focused on all geographic basin areas. Beyond the initial and final community meetings, two progress Community meetings were held during each Phase. These progress Community Meetings were held in the neighborhoods and focused on local issues/solutions. Community meetings included formal presentations that included relevant project information and educational material. A great deal of feedback from the general public was received at each community meeting. This information was used in identifying problem drainage areas and developing alternatives.

Phase 1 included three public meetings:

- #1 Community Open House Meeting, held at the Pueblo County Conference Building (Spradley Building) on January 13, 2005. 45 people attended. Purpose: city-wide project introduction for the Stormwater Master Basin Planning Study
- #2 Community Meeting, held at Bessemer Historical Society, March 2, 2005. Approximately 70 people attended. Purpose: receive input on Lake Minnequa Park Master Planning
- #3 Community Meeting, held at Pueblo County Conference Building (Spradley Building) on May 11, 2005. Approximately 22 people attended. Purpose: receive input on Lake Minnequa and Southwest Pueblo Stormwater Improvement Alternatives

Several meetings with special interest/focus groups were held throughout the duration of the project. Phase 1 included meetings with the following groups or topics:

- DFIRM
- I-25 EIS planning
- Stormwater Utility finances
- Lake Minnequa site walk
- Bessemer Ditch Company

Hydrologic & Hydraulic Methodology

Existing and proposed condition runoff hydrographs were developed for the 2, 5, 10, and 100-year return period events, and the 25-year event in Central Pueblo. Basin-wide routing of sub-basin runoff hydrographs was performed to determine peak flows for the above stated return periods. This was performed at key design points associated with critical collection and conveyance facility components. Proposed condition analysis included storage routing through existing and proposed detention ponds and other significant proposed storage elements.

The major drainage basin boundaries developed in the 1995 Master Plan were used as a basis of beginning for basin delineation. The major drainage basin boundaries were modified based upon the topographic mapping made available by the City of Pueblo and Pueblo County. The major drainage basins were given two or three letter designations following the convention used in the 1995 Master Plan. The following table summarizes the basins and abbreviations.

Major Basin	Abbreviation
Central Pueblo	CP
Dry Creek	DC
East Fountain	EF
East Pueblo	EP
Goodnight Arroyo	GA
Lake Minnequa	LM
Southwest Pueblo	SWP
West Fountain	WF
Wild Horse Creek	WHC
West Pueblo	WP

Sub-basins were delineated using the topographic mapping. If needed, major drainage basin and sub-basin delineations were verified using visual observations in the field. Further refinement to the basin delineations was performed using storm sewer maps provided by the City of Pueblo. Sub-basin size was determined by the location of critical collection and conveyance facility components.

Surface conveyance element geometric data was based on topographic mapping provided by the City. Existing conveyance element modeling was based on existing underground utility information obtained from the City of Pueblo.

Infiltration parameters were developed using land use and soil type information available through Pueblo County GIS. Rainfall data and percent impervious for various types of zoning were taken from the City of Pueblo *Criteria*.

The hydrologic analysis was performed using the Colorado Urban Hydrograph Procedure (CUHP) as the basic methodology for analysis of runoff response to a specified design storm. The two-hour design storm that is used with CUHP was adopted as the design storm for the analysis of all basins included in the study. The CUHP model was used to determine rainfall excess amounts for the two-hour design storm based on required infiltration parameters. The CUHP model was used to convolute the unit hydrograph with predicted rainfall excess amounts to obtain the flood hydrograph for the 2, 5, 10, and 100-year design storms, and the 25-year storm in Central Pueblo.

For the Lake Minnequa basin, a parallel hydrologic analysis has been completed using a 24-hour storm. The decision to use a 24-hour storm is based on the large amount of usable flood control storage that is available in the Lake Minnequa impoundment. The 24-hour storm will be analyzed in addition to the two-hour storm for the Lake Minnequa basin. The CUHP methodology was not intended to be used with a 24-hour duration storm. The parallel hydrologic analysis of the Lake Minnequa Basin has been completed using the Soil Conservation Service (SCS) hydrologic analysis methodology. The SCS methodology makes use of a 24-hour Type II design storm that defines the temporal pattern for the hypothetical 24-hour storm. The results of the SCS hydrologic analysis is be reported in the Technical Appendix.

Routing of sub-basin hydrographs was accomplished using dynamic routing procedures contained in the XPSTORM software. XPSTORM uses a link and node topology to describe the watershed being modeled. It has the capacity to model underground conveyance and surface conveyance elements simultaneously in a link between nodes. Conveyance elements that can be modeled include weirs, orifices, pipes, and open channels with described geometry. The model allows for the determination of the depth of surface flow in described conveyance elements for evaluation of compliance with the City of Pueblo *Criteria*.

The development of the routing model included development of a routing schematic that contains the sub-basin identifier, the conveyance or storage element identifier and the design point identifier. Routing schematics for each of the major drainage basins are included in the Technical Appendix of this report.

Development of Alternatives

Alternative improvement plans were developed to address existing drainage problems within the study area. Existing drainage problems addressed include areas of flooding documented by the City. Additionally, problems presented by the public or those identified during analysis were also analyzed. Conceptual level designs were developed for up to three alternative solutions for each flooding problem area. Solutions consist of:

- Provision of storage to reduce flood peak discharges at downstream locations
- Provision of increased conveyance or cross drainage
- Combinations of the above

Alternatives were developed using the parameters outlined in the City of Pueblo *Criteria*. The *Criteria* lists the dual purpose of drainage system design in the City as follows:

- Conveying runoff from the 100-year design storm while minimizing health and safety hazards, property damage, and disruption to emergency services.
- Conveying runoff from the 5-year design storm (25-year design storm in the Central Business District) while minimizing inconvenience to people and traffic.

At a minimum, storm sewers will be designed for the 5-year event except for the Central Business District where storm sewers will be sized for the 25-year event. In many areas, there is insufficient street capacity to meet criteria for the 100-year event. In these areas storm sewers will be sized for greater than the 5-year event. The *Criteria* also outlines criteria for street flow, pipe flow, open channel flow, inlet capacity, and detention storage.

During alternative development, areas for proposed regional detention ponds were identified. In addition, existing drainage corridors which need maintenance have been identified. Areas where development of new drainage corridors are needed has also been identified.

Water Quality

Opportunities to include water quality features in the drainage improvement plans were explored for each basin. Several components of an overall strategy to protect water quality were explored, including:

In-stream Treatment. Opportunities exist to create a network of drainageways in a given watershed that not only provide for flood conveyance, but also enhance water quality. Drainageways that feature stable base-flow channels and wide, well-vegetated overbanks to spread out flow can filter and infiltrate runoff, as well as provide favorable habitat. It is important to dedicate adequate corridors for these drainageways so water quality opportunities may be pursued.

Effective Stormwater Detention. An effective detention strategy in the upstream watershed can also help to protect water quality. Extended-duration detention (draining over several days) helps to settle out sediments and adsorbed pollutants. Effective flood control detention helps to reduce peak discharges that can lead to stream erosion. A new concept to be considered for implementation in Pueblo is "full-spectrum detention", an approach being explored by Denver's Urban Drainage & Flood Control District for effective water quality and flood detention. This concept has been shown through hydrologic modeling to approximate historic condition runoff peaks for a full spectrum of storm sizes and development conditions, and to provide water quality settling for a greater volume of runoff than the current water quality capture volume (WQCV) approaches.

Regional implementation of detention was explored. Regional detention facilities that are publicly owned and maintained have the best chance of operating effectively over the long-term and are able to be accounted for in the determination of downstream design flow rates.

Low Impact Development. Another potential component in the stormwater quality strategy for the watershed is a development practice termed by the Urban Drainage & Flood Control District as "minimizing directly connected impervious areas (MDCIA)". The practice is termed "low impact development (LID)" by staff in Prince Georges County, Maryland, who have also published guidance documents promoting the approach. The goal is to take advantage of the natural ability of vegetated soils to slow down, filter, and infiltrate stormwater runoff, and to moderate the rapid runoff and washoff of paved surfaces.

Low impact development approaches feature more grass buffers, swales, and depressions or inlets in landscape areas and fewer storm sewers and inlets in pavement areas. Sometimes, curb and gutter is eliminated. Low impact development needs to be applied carefully, considering local soils, groundwater issues, and typical development practices in Pueblo.

The NPDES Stormwater permit acquired by the City of Pueblo requires that water quality measures be implemented for new developments and substantial redevelopments. Water quality improvements will not be required in basins that are already fully developed, however, water quality improvements will be incorporated in fully developed basins to the extent that the improvements are practical.

Water quality component recommendations will be included for each basin. A detailed analysis of potential pollutant loads and estimated removal rates was not performed.

Cost Modeling

Costs have been compiled for each drainage alternative:

- Storm Sewer (66 in. and smaller): $3.00 per inch diameter per linear foot
- Storm Sewer (72 in. - 96 in.): $4.35 per inch diameter per linear foot
- Storm Sewer (96 in – 120 in): $4.35 to $6.50 per inch per linear foot
- Jack and Bore Pipe: $20.00 per inch diameter per linear foot
- Box Culverts: $350 per cy concrete, plus $0.70 per lb. steel
- Manholes: $2,175 – 9,600 each Type IA, IB, IC, and II
- Junction Boxes: $500 per cubic yard of reinforced concrete
- Inlets: $2,500 - $5,860 each Type S, W and 13
- Inlet Laterals: Assumed 20 linear feet of 24-inch RCP per inlet
- Stormwater Detention Facility: $40,000 per acre-foot active storage volume
- Asphalt Patch (assumed full depth section 8-ft. wider than the pipe diameter): $4.00 per sq-in ($72.73/ton) for assumed 9-inch street section
- Wet Utility Relocation Cost: $2,000 per crossing for sanitary sewer avoidance; $1,000 to $20,000 per waterline relocation
- Dry Utility Administration Cost: 5% of subtotal construction costs
- Land Acquisition/Easement Cost: $24 per sq. ft. for land acquisition, $12 per sq. ft. for easement cost

Indirect costs and contingency have been expressed as a percentage of the total direct construction costs. The indirect costs and contingency are as follows:

- Traffic Control: 3%
- Mobilization/Demolition: 10%
- Engineering: 15%
- Materials Management (limited to environmental remediation and disposal): 5%
- Contract Administration/Construction Management: 10%
- Contingency: <u>25%</u>

Indirect Cost Total 68%

Financial Planning Summary and Impact Fee Development

<u>Introduction</u>

Since the establishment of its Stormwater Utility Ordinance in 2003, the City of Pueblo has realized that revenues from the monthly stormwater service fee are not sufficient to cover ongoing operation and maintenance costs while fully funding needed system upgrades and other capital improvements. As the City's Stormwater Utility Enterprise ("Utility") began the process to initiate the Master Basin Planning Study ("Study"), it was determined that an overall financial plan was also needed so that capital improvements identified through the Study could be coordinated with specific financial strategies to fund those improvements. The two anticipated products related to the financial plan were a financial planning model and an impact fee.

The financial planning model is a tool that the Utility can use for multi-year projections of Utility revenues, and expenditures, including capital projects, extending over a 20-year time period that matches the planning period in the Study. The financial plan will help the City address fiscal policies related to the operation of the Utility and implementation of the Study's Capital Improvement Plan ("CIP"), such as:

- Whether the City's existing "pay as you go" policy of funding capital improvements is retained, or whether the City will issue debt to fund capital improvements
- Scheduling of CIP Projects
- Identifying the funding source for growth-related capital improvements
- Sizing and timing of stormwater fee increases
- Adherence to the City's cost allocation percentages prescribed in the Stormwater Utility Ordinance

The analysis and calculation of a proposed impact fee is also included in the financial plan. An impact fee is a one-time fee applied to new commercial and residential development, payable at the time of development.

The data and assumptions used in development of the financial plan and a description of the financial plan and impact fee analysis are included below. The conclusions and recommendations include analysis and discussion of the financial plan results and alternative strategies available to the Utility to implement the CIP identified in the Study. The financial plan was developed as a tool for the Utility to allow modifications, optional scenarios, and provide budgeting and CIP scheduling support.

Data Collection and Assumptions

Key data used in the financial plan was obtained from the City's Public Works and Accounting Departments and the project team. The data included:

- 2006 Stormwater Utility Operation and Maintenance ("O&M") budget
- The City's Stormwater Utility Ordinance defined in Pueblo Municipal Code Section 16-12. The Stormwater Utility Ordinance requires that funds on deposit be apportioned as follows:
    - 37.75 percent for capital projects
    - 28 percent for stormwater quality (NPDES)
    - 13 percent for routine maintenance
    - Nine percent for operations
    - 6.25 percent for administrative
    - Six percent for operating and emergency reserves
- 2006 stormwater service fee revenues of $2,651,723
- Capital improvements of approximately $1,100,000 per year contained in the City's capital plan are included in the financial plan for 2007 and 2008
- The CIP projects and cost estimates identified by the Study:

Growth related CIP projects:	$ 24 million
CIP required for existing issues:	$ 85 million
Total CIP identified by Study:	$109 million

Key Assumptions used in the financial plan included:

- Annual system growth rate of 0.64 percent, based on the projected population growth rate for 2007 – 2025 from the Pueblo Comprehensive Plan
- Annual inflation rate of 2.4 percent[1]
- Future Stormwater Administration costs (Department 4210) annually increase with the inflation rate and the system growth rate
- Future Stormwater Maintenance costs (Department 4220) annually increase with the inflation rate and 0.4 percent of the Utility's capital spending. This increase acknowledges that the City's future capital improvements will result in infrastructure that requires funds to maintain
- The total number of equivalent residential units ("ERUs") was estimated by dividing the total stormwater service fee revenue for 2005 of $2,651,723 by the middle tier residential annual stormwater fees; estimated total ERUs for 2005 are 63,136
- Future development outside the current city limits was assumed to be annexed by the City prior to development to create a future condition of the city limits incorporating all forecasted development in the Study

Financial Plan

The financial plan was developed as a tool to model and assist the Utility in projecting revenues, expenses and funding available for the CIP projects identified in the Study. As discussed in the Data and Assumptions, the CIP projects identified by the Study total $109 million, including $85 million related to existing stormwater drainage issues and $24 million associated with growth and development related stormwater projects. The financial plan serves as a tool to analyze different financial options associated with funding the $109 million of CIP projects.
Several scenarios were analyzed using the financial planning model. Some of the scenarios analyzed are described below.

- Scenario 1: Pay as You Go – Inflationary Rate Increases
    - Inflationary rate increases annually (2.4 percent)
    - No debt issues
    - Follow ordinance constraints
- Scenario 2: Pay as You Go – Engineering News Record Construction Cost Index ("ENR CCI") Rate Increase
    - ENR rate increases annually (five percent)[2]
    - No debt issues
    - Follow ordinance budget constraints
- Scenario 3: Pay as You Go - Increase Rates to fully fund CIP
    - Estimate rate required to fund CIP in 20 years
    - No debt issues
    - Follow ordinance budget constraints
- Scenario 4: Increase rates and issue debt to fully fund CIP
    - Fully fund CIP in 20 years
    - Utilize debt and cash to fully fund CIP
    - Remove ordinance budget constraints

[1] *Blue Chip Economic Indicators*, October, 2006, CPI, Blue Chip Consensus 2007-2017

[2] *Engineering News Record,* National Construction Cost Index annual increase for 2005, January 2006

Table 1-1 shows the results associated with the financial plan analysis of the four scenarios described above. For this analysis, only the CIP cost estimates related to existing stormwater issues were used ($85 million). See the Impact Fee portion of this section for more information on the CIP projects related to growth and development.

Table 1-1
Financial Plan Scenario Summary

Scenario	Annual Rate Increase	Debt Issue	Follow Ordinance Constraints	CIP Funding Available in 20 Years	Schedule to Complete CIP
1	2.4% (Inflation)	No	Yes	$18M (21%)	80 years
2	5% (ENR CCI)	No	Yes	$32M (38%)	44 years
3	11%	No	Yes	$85M (100%)	20 years
4	2008-2010: 17% 2011-2028: 5.25%	$2.6M per year (60% debt / 40% cash funded CIP)	No	$85M (100%)	20 years

The financial planning model demonstrates that Scenario 1 and 2 do not adequately fund the full CIP developed by the Study during a 20-year period. The average annual amount of CIP expenditures related to existing stormwater issues is approximately $4.2 million (2006 dollars) per year. Scenario 1, Pay as You Go provides approximately $900,000 (2006 dollars) per year for CIP projects and Scenario 2, ENR CCI increase provides approximately $1.6 million (2006 dollars) per year. Scenarios 1 and 2 take 80 and 44 years, respectively, to complete the CIP projects required to address existing stormwater issues. If growth-related CIP projects are included ($24 million) in addition to the CIP required for existing issues, Scenarios 1 and 2 require 104 years and 68 years, respectively, to complete the total $109 million CIP. Figure 1-1 below uses the results from Table 1-1 to compare each scenario with the CIP required to address existing stormwater drainage issues.

As seen in Table 1-1 and Figure 1-1, it is possible for the Utility to complete the CIP projects identified in the Study in the 20-year planning period; however, the Utility must either significantly increase annual rate increases every year to fund the program or use a combination of debt and rate increases to fund the program. Figure 1-2 below shows the resulting annual changes in the monthly stormwater fee for a middle tier residential customer ($3.50 per month) for each scenario during the 20-year financial plan.

Table 1-2 below shows the monthly stormwater service fees associated with the four scenarios for 2010 and 2025.

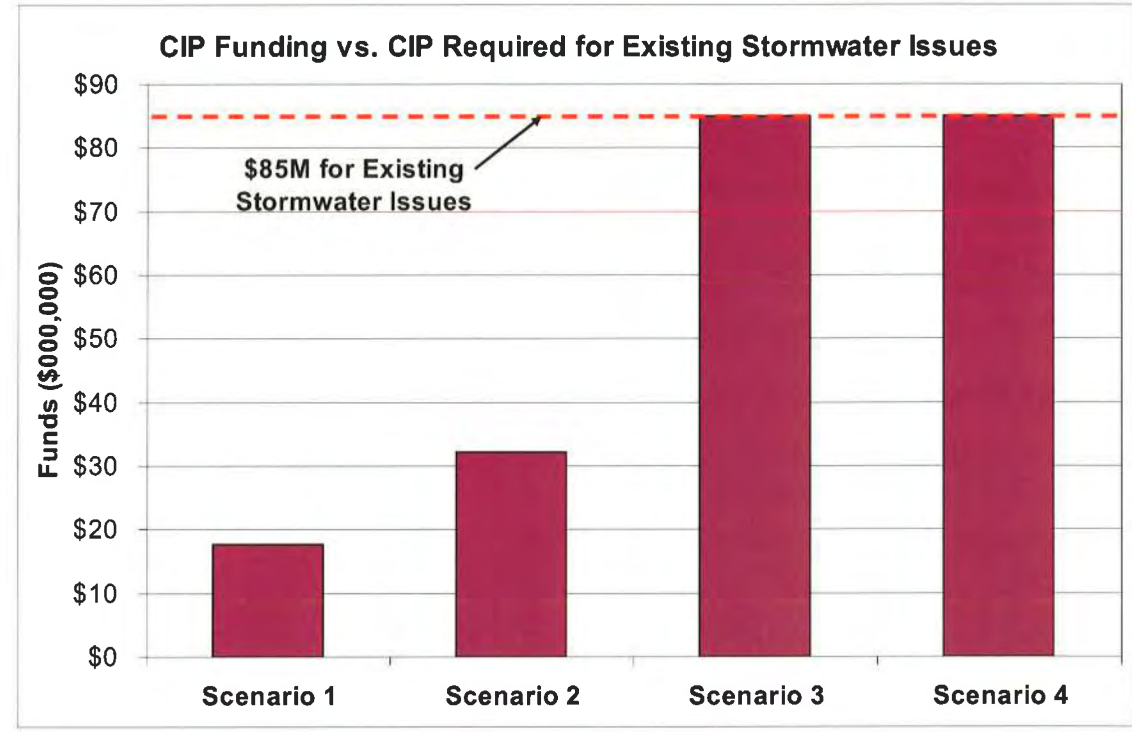


Figure 1-1: CIP Funding Available and Required CIP for Existing Stormwater Issues

Table 1-2
Projected Monthly Stormwater Fees by Scenario

Scenario		Annual Rate Increase	Monthly Rate 2010	Monthly Rate 2025
1	Pay as You Go – Inflation	2.4%	$3.76	$5.36
2	Pay as You Go – ENR CCI	5.0%	$4.05	$8.40
3	Pay as You Go – Full CIP in 20 yrs	11.0%	$4.79	$22.90
4	Increase Rates and Issue Debt to Fully Fund CIP in 20 yrs	2008-2010: 17% 2011-2028: 5.25%	$5.62	$12.09

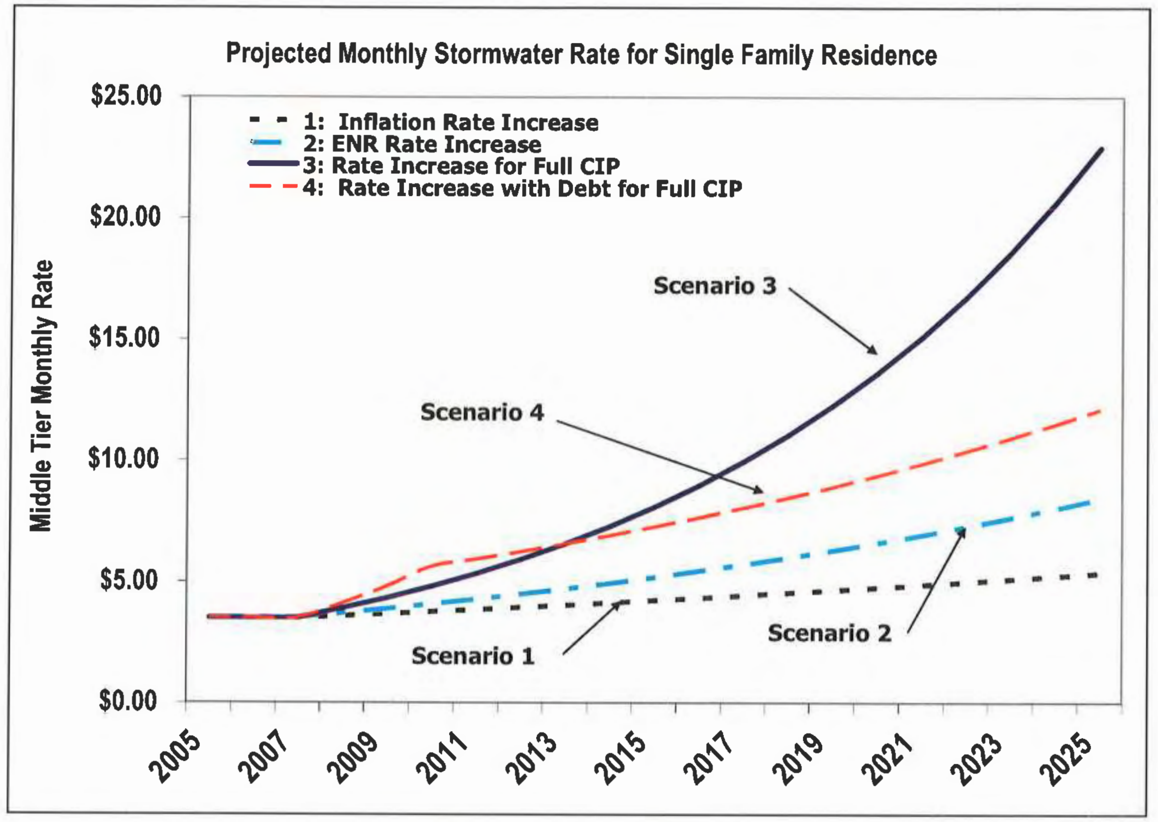


Figure 1-2: Projected Monthly Stormwater Service Rates

Using the previously noted assumptions and data, the financial plan demonstrated there would not be adequate funding for the entire CIP developed by the Master Basin Planning Study utilizing a Pay as You Go Approach in Scenario 1 and 2. Due to the lack of funding associated with Scenario 1 and 2, other revenue sources were assessed including impact fees. The possible use and calculation of impact fees is discussed below.

Impact Fee

Adopting an impact fee is one way a municipality can pay for growth related infrastructure. The City of Pueblo Stormwater Utility is considering implementing an impact fee for new development to provide proportional funding for stormwater infrastructure related to growth and new development. If an impact fee were adopted, the City would build and pay for the growth related infrastructure and would recover its costs from impact fee revenues. This section describes possible impact fee calculations and risks that the City may incur if an impact fee was adopted for the Utility. Ultimately, an impact fee is not recommended, and discussion of this recommendation is contained at the end of this section.

Impact fees in Colorado are authorized under Colorado Revised Statutes ("CRS") 29-20-104.5. Under this statute, impact fees must be used to defray the projected impact on capital facilities caused by proposed development and cannot be used to correct any deficiencies in facilities that exist unrelated to the proposed development.
The methodology for calculating an impact fee includes:

Step 1: Determine the capital facilities required to serve new growth and related costs.

Step 2: Determine the growth in capacity requirements for the stormwater system; estimated by determining the growth and total ERUs during the planning period.

Step 3: Determine the average unit cost of capacity. Two approaches were analyzed for determining the average cost of capacity. Approach 1: Impact fees are calculated allocating the growth-related CIP costs among the entire future customer base. Approach 2: Impact fees are calculated allocating the growth-related CIP costs among the projected system growth, so that the impact fee represents a proportionate share of the infrastructure cost required to serve the new development.

The Pueblo impact fee calculation includes CIP projects related to growth or new development and estimated total equivalent residential units ("ERUs") at the end of the Study period. Table 1-3 below shows the CIP projects developed in the Pueblo Master Basin Planning Study serving new development.

The 2005 stormwater monthly fees were used to estimate a current number of ERUs of 63,136. The CIP developed from the Study is projected to be implemented over a 20-year period beginning in 2009. The projected number of ERUs at the end of the CIP implementation period (2028) is 73,114. The projected change of ERUs between the possible implementation of the impact fees (2008) and 2028 is 9,167 ERUs. Following Approach 1 for the impact fee calculation generates the following calculation:

$$\text{Impact Fee} = \frac{\text{Total Growth Related CIP}}{\text{Total ERUs in 2028}} = \frac{\$24{,}251{,}662}{73{,}114} = \$332 \text{ per SFR}$$

Following Approach 2 for the impact fee calculation generates the following calculation:

$$\text{Impact Fee} = \frac{\text{Total Growth Related CIP}}{\text{Growth ERUs (2008-2029)}} = \frac{\$24{,}251{,}662}{9{,}167} = \$2{,}646 \text{ per SFR}$$

Using Approach 1 and the Pueblo Comprehensive Plan projections for growth, annual impact fee revenues are approximately $140,000 per year in 2006 dollars. Using Approach 2 and the Pueblo Comprehensive Plan projections for growth, annual impact fee revenues are approximately $1.1 million per year in 2006 dollars. During the 21-year period impact fees could be collected (2008 through 2028) for the growth related CIP, Approach 1 would generate approximately $3.1 million (13 percent) of revenue, while Approach 2 would generate the full $24 million needed for the growth related CIP.

The impact fee collection process was discussed with representatives of the Pueblo Association of Home Builders ("PAHB"). The City and PAHB discussed the process and cash flow issues related to implementing the impact fee and funding growth related CIP projects. Once the impact fee is implemented, the Utility would likely experience cash flow issues related to the growth related CIP projects and their associated schedule requirements. For example, multiple projects could be required by development within the same year; however, the impact fees collected during the year may not adequately fund the cost of the projects. The Utility must then identify alternative funding sources, such as debt issue(s), to construct the project, with the impact fees replacing the alternative funds at a later date.

Table 1-3
CIP Related to New Development

Project	CIP Costs
Central Pueblo Sub Basin	$0
Dry Creek Sub Basin	$2,505,450
East Fountain Sub Basin	$500,000
East Pueblo Sub Basin	$0
Goodnight Arroyo Sub Basin	$6,197,700
Lake Minnequa Sub Basin	$8,319,465
Southwest Pueblo Sub Basin	$0
West Fountain Sub Basin	$48,048
Wild Horse Creek Sub Basin	$6,680,999
Subtotal Growth-Related CIP	$24,251,662
CIP Costs Related to Existing Development	$84,588,610
Total CIP Costs	$108,840,272

The City and PAHB representatives believed this cash flow issue may create risk for the Utility and an alternate solution to impact fees was discussed. Rather than developers paying impact fees, the developers and contractors could be responsible for constructing the growth related CIP projects identified in the Master Basin Planning Study, as the projects are needed with developments in the individual basins. The developers and contractors would share the costs associated with each growth related project with each of the developments that utilize the new stormwater facility. With developers responsible for funding and constructing the growth related CIP projects, the Utility would not pursue implementing impact fees, and thus not become responsible for the growth related CIP projects. The Utility and PAHB representatives agreed this alternative approach is preferred over implementing impact fees.

Conclusions and Recommendations

Below is a list of conclusions and recommendations developed from the financial planning results and discussions with the project team, City and other stakeholders.

- The most significant data and assumptions that affect the Utility's financial plan and ability to fund the CIP developed by the Study are the stormwater utility monthly service fee rate increases, the Stormwater Ordinance limitations and the possible use of debt issue(s) for capital projects.
- The financial plan demonstrated Scenario 1, Pay as You Go with inflationary rate increases cannot adequately fund the $85 million CIP required to address existing stormwater issues in a 20-year period. If the Utility utilizes Scenario 1, it can only fund 21 percent of the CIP projects. The CIP project list must be prioritized to identify the projects the Utility is able to complete with available funds and which projects will require smaller, phased approaches. See the CIP project prioritization completed by Sellards and Grigg.
- There were several other scenarios, which would allow the Utility greater flexibility and affect the CIP funds available to the Utility and the related CIP implementation schedule. The financial planning model developed for this Study provides the Utility with a tool to evaluate these scenarios and other alternatives. Using the financial model to analyze the Scenarios discussed earlier in this section indicates the Utility has opportunities to fully fund the CIP projects identified. Scenario 4 indicates the Utility could utilize cash and debt financing, long-term moderate rate increases and ordinance modifications to fully fund the $85 million CIP required to address existing stormwater issues.
- The Stormwater Ordinance currently limits the Utility's flexibility to financially plan and fund capital projects. It is recommended that the Utility pursue modifying the ordinance to adjust or remove the budgeting constraints and pursue an annual monthly stormwater fee rate increase to allow for greater flexibility.
- In working with PAHB, the City and PAHB agreed implementing impact fees would likely create cash flow issues and increase risk for the Utility and City. The conclusion reached by the City and PAHB was to require growth related CIP be funded by developers and not by impact fees and the Utility. We support the conclusion of not implementing the impact fees reached at the meeting and suggest the Utility pursue developer funding of growth related facilities.

While the conclusions and recommendations discussed above offer the Utility some flexibility and ability to effectively implement the CIP identified, the Utility should make decisions associated with the Stormwater Ordinance, rate increases, and debt issuance in order to properly proceed with implementing the CIP developed by the Study.

For more detailed information related to the financial plan, O&M expenses, detailed evaluations, calculations and impact fees, reference the Financial Planning Report under a separate cover.

MAJOR DRAINAGE BASINS – PHASE ONE

Lake Minnequa Basin (LM)

Basin Description: The Lake Minnequa Basin is a partially developed area in the southern quadrant of the city. It is primarily undeveloped with some areas of residential and commercial development. The basin is bounded by the Goodnight Arroyo and Southwest Pueblo Basins to the north, Rocky Mountain Steel property to the east, and undeveloped rangeland to the south and west. Primary features in the Lake Minnequa Basin are Lake Minnequa, the Lake Minnequa Feeder Ditch, and the Arkansas Valley Conduit (AVC). The Lake Minnequa Feeder Ditch enters the basin from the south and flows north to Lake Minnequa. The AVC enters the basin from the north and flows south to St. Charles Reservoirs 2 and 3.

Drainage Deficiencies: Historic flooding has occurred at several locations in the Lake Minnequa Basin. The primary problem areas include street and intersection flooding. Housing damage has occurred in a few areas. Three distinct problem areas are: Tucci Avenue near the Lake Minnequa Feeder Ditch, Pueblo Boulevard near Prairie Avenue, and Lake Avenue east of Lake Minnequa.

Drainage Problem Areas:

Illinois Avenue and Poplar Avenue: Street flooding will be resolved by construction of the Poplar Street storm sewer.

Intersection of Pueblo Boulevard and Prairie Avenue: Street flooding will be resolved by construction of the Aster-Pueblo Boulevard storm sewer.

Gradishar Place and Acero Avenue: Street flooding will be resolved by construction of the Tucci Lane drainage improvements.

Alternatives:

Storm Sewer Improvement in Tucci Lane

Street flooding along Tucci Lane will be resolved by constructing a storm sewer along Prairie Avenue from O'Neal Avenue to Tucci Lane, then east to the Lake Minnequa Feeder Ditch. The Tucci Lane drainage improvements will intercept stormwater flows from the existing residential neighborhood and route those flows into the feeder ditch to reduce the volume of stormwater flowing to Acero Avenue. The feeder ditch culvert crossing at Acero Avenue will be upgraded to accommodate the additional stormwater flow.

Storm Sewer Improvements in Poplar Street

The street flooding in the residential neighborhood east of Lake Avenue between Maryland Avenue and Aqua Avenue will be resolved with construction of a storm sewer in Poplar Street from Illinois Avenue north to Highland Avenue, then west along Highland Avenue to Lake Minnequa. The proposed storm sewer will route historic flows from the existing residential neighborhood across the Lake Avenue right-of-way. Lake Avenue is constructed higher than the adjacent streets creating a damming effect. The proposed storm sewer will alleviate historic flooding. The existing drainage swale along the west edge of Lakeshore Drive can be utilized as a water quality feature for removal of pollutants from the existing residential neighborhood.

Aster-Pueblo Storm Sewer

Street flooding along Pueblo Boulevard between the Lake Minnequa Feeder Ditch and Forsythia Street will be resolved by constructing the Aster-Pueblo Boulevard storm sewer system. A storm sewer will be constructed along Pueblo Boulevard from Forsythia Street to the east to the Lake Minnequa Feeder Ditch. Also, a storm sewer will be constructed along Lancaster Drive from Sheffield Lane to Pueblo Boulevard connecting to the proposed storm sewer in Pueblo Boulevard. Construction of the Aster-Pueblo Boulevard storm sewer will intercept flows that have historically flowed to the Pueblo Boulevard right-of-way, then easterly to the Prairie Avenue intersection. This is an area of historic flooding.

Arkansas Valley Conduit (AVC)

The AVC historically diverted flows from the Arkansas River to St. Charles Reservoirs 2 and 3. The flows were then routed north in the Lake Minnequa Feeder Ditch to Lake Minnequa. Rocky Mountain Steel routed this water from Lake Minnequa to the steel mill for cooling and process purposes. Rocky Mountain Steel, formerly CF&I, no longer uses the AVC or Lake Minnequa for their process water needs. Currently, water is diverted from the St. Charles River into St. Charles Reservoirs 2 and 3 then directed into the steel mill. The AVC acts as a retention pond that intercepts all flows from the west. Improvements have already been made to the AVC north of Burnt Mill Road to increase storage volume. Improvements south of Burnt Mill Road are proposed to increase storage volume. The AVC has no outlet except for emergency spillways in the event of a major storm event. Since the AVC has no outlet, the drain down time is dependent on infiltration and evaporation. The potential extended drain down time creates a concern for sequential storms. Please see the following section regarding analysis of sequential storms.

Lake Minnequa Modifications

Lake Minnequa historically was a reservoir for process water utilized by CF&I. Currently, the lake is utilized as a stormwater detention/retention facility. Modifications to the lake edge and outlet structures are proposed to maximize stormwater storage volume. By maximizing storage volume in Lake Minnequa, costs for downstream storm sewer improvements can be minimized. Utilization of the existing pipe system downstream of Lake Minnequa results in long drain down times for the lake, which creates a concern with sequential storms. Please see the following section regarding analysis of sequential storms. Lake Minnequa will also be utilized as a regional park and recreational area. The outlet structure will be designed to maintain a minimum water surface elevation for recreational purposes. Stormwater storage volume will be above the constant water surface elevation. Edge treatments around the lake will need to be designed to sustain long periods of inundation after a storm event.

Future development in the Lake Minnequa Basin should be designed to limited discharge to historic levels through the use of regional detention ponds including full spectrum detention components.

Cost:

Detailed cost analyses for the Lake Minnequa Improvements are included in the Technical Appendix. A summary cost table is provided in this report.

Hydrology:

<u>Lake Minnequa Existing Conditions Analysis</u>

Basin ID	Area	Impervious %	Max Flow (cfs)	Time to Peak (mins)	Total surface runoff (ac-ft)
LM1	0.439	8	721	40	40.95
2IA	0.069	51	111	45	8.28
2IB	0.094	94	235	40	13.8
2IC	0.239	54	384	50	29.23
2ID	0.218	42	406	40	25.04
2IE	0.108	46	220	40	12.64
2IF	0.123	62	164	55	15.73
2IIA	0.158	70	413	40	20.92
2IIB	0.239	40	357	455	27.2
2IIC	0.18	41	416	35	20.55
2III	0.566	2	373	65	50.98
2IV	0.617	2	484	5	55.61
2V	0.605	2	345	70	54.51
2VI	0.316	2	191	65	28.47
3IA	0.04	44	94	35	4.69
3IB	0.057	74	158	35	7.67
3IC	0.071	43	150	35	8.18
3ID	0.142	42	283	40	15.86
3IE	0.079	52	138	40	9.34
3IIA	0.067	90	199	35	9.75
3IIIA	0.116	73	351	35	15.56
3IIIB	0.215	51	463	40	25.95
4IA	0.21	44	438	40	24.38
4IB	0.042	95	102	40	6.24
4IC	0.02	95	61	35	2.95
4IIB	0.159	95	519	35	23.52

Basin ID	Area (mi2)	Impervious %	Max Flow (cfs)	Time to Peak (mins)	Total surface runoff (ac-ft)
4IIC	0.182	52	201	60	22.06
4IIIA	0.448	89	811	55	64.75
4IV	0.645	2	291	80	58.12
5IA1	0.035	68	100	35	4.57
5IA2	0.034	63	92	35	4.41
5IA3	0.022	62	49	40	2.87
5IA4	0.059	49	110	40	6.99
5IA5	0.043	54	92	40	5.33
5IIA	0.166	49	281	45	19.85
5IIIA	0.204	63	415	45	26.09
61A	0.169	30	53.414	35	3.064
61B	0.134	3	8.739	40	0.579
61C	0.132	38	43.049	35	2.957
61D	0.092	5	5.176	45	0.479
61E	0.111	2	9.739	35	0.44
61F	0.145	2	7.707	45	0.574
61G	0.231	2	11.788	45	0.914
62A	0.154	40	91.628	30	3.615
63A	0.281	18	28.854	45	3.287
64A	0.156	2	13.301	40	0.616
64B	0.16	2	8.546	45	0.631
65A	0.19	2	15.248	40	0.749
65B	0.116	2	6.739	40	0.459
65C	0.261	2	11.842	45	1.033
66A	0.162	2	10.06	40	0.641
66B	0.238	2	14.45	40	0.94
67A	0.364	2	27.2	40	1.441
67B	0.214	2	10.086	45	0.844
67C	0.095	2	7.4	40	0.374
68A	0.302	2	21.471	40	1.193
68B	0.217	2	11.518	45	0.858
68C	0.26	2	12.667	45	1.027
68D	0.236	2	13.083	45	0.934

Lake Minnequa Master Plan
Conceptual Layout of Water Quality Facilities

A conceptual water quality management plan has been developed to help protect the health and water quality of Lake Minnequa. Lake Minnequa receives runoff from a large watershed that is projected to undergo extensive development in the near term. The lake itself is the focal point of a planned regional park and open space area. Addressing stormwater quality is of particular importance in this area to preserve and enhance the resource value of the lake.

The concept shown in this Master Plan to protect water quality in Lake Minnequa consists of several components, including features within the lake, facilities in the park adjacent to the lake, and techniques implemented upstream within the watershed. The following elements of a water quality plan are proposed.

1. **Features in Lake Minnequa**. It is recommended that the main body of the lake be reshaped to provide a favorable range of depths and perimeter shaping, and that any high-oxygen-demand bottom sediments be removed or covered. The permanent water surface elevation will be established at the current water level so that it is stable over the long term, thus shoreline vegetation and park enhancements are not subject to disruptive fluctuations.

   The lake will be fed with groundwater, treated storm runoff, and, if necessary water rights are secured, inflows from the St. Charles Reservoir system. These inflows will be conveyed to Lake Minnequa in the existing feeder ditch on the west side of the lake. The ditch inflows are important to promote circulation and reduce the residence time of the lake. Baseflows, stormwater, and ditch inflows are proposed to be brought into the lake at the southerly, upstream end to establish a circulation pattern through the entire lake. Consideration will be given to providing more than a single outlet at the north end of the lake to promote the distribution of flows, reducing areas of poor circulation.

   In-lake aeration will be considered to help maintain healthy oxygen levels in the lake and in the bottom sediments. Aeration systems could include various means of pumping air or oxygen into the lake or systems to mix the water column to bring water into contact with air at the surface.

   Shallow submerged wetland vegetation is proposed along portions of the lake shoreline, including around several islands that may be created in the lake. The wetland vegetation and islands are intended to provide a diverse habitat for wildlife around the lake. In-lake fisheries issues will continue to be considered as the design of Lake Minnequa progresses.

2. **Facilities Adjacent to the Lake**. Opportunities exist to help protect water quality in Lake Minnequa by incorporating stormwater treatment facilities adjacent to the lake. A complex of stormwater quality wetland treatment basins is proposed west and east of the upper end of the lake. These facilities are intended to be designed to emulate natural features that will complement the open space area around the lake. The west complex will capture storm runoff and baseflows from the main feeder ditch and other inflow points to the south and north. The east wetlands basin will capture flow from the area east of the lake. Both facilities are proposed to be configured in two main cells, an upstream basin acting as a sediment forebay, and a downstream basin where additional settling and treatment of storm flows would occur. The general design concept of these basins would follow guidance provided in the UDFCD Volume 3 criteria manual for constructed wetlands basins. The character of the basins would consist of areas of shallow submergent wetland plants and deeper areas of open water, surrounded by higher ground that would both serve as embankments to contain inflowing stormwater and the foundation for a network of primary and secondary trails. Establishment of wetland vegetation, as well as all upland grasses and other vegetation, will need to consider the high sodium content of the soils and water in the area. Table 1 summarizes the volumes associated with the west and the east constructed wetlands basins based on sizing them for the entire watershed area upstream of the basins.

   A practice that will be considered further is to use the headwater ponds that receive stormwater inflows as a source for irrigating vegetated areas of the park. Open space areas or the maintained turf grass areas of the park (the latter will need to be considered in light of the high sodium content of the soils and water in the area) could both be irrigated with this runoff. If land application is determined to be an effective treatment strategy and if water rights considerations are addressed, this practice can become one of the components for enhancing water quality in the lake.

3. **Practices Upstream in the Watershed**. Several practices are recommended in the upstream watershed to help to protect water quality in Lake Minnequa. Regional detention basins in the upstream watershed are proposed to incorporate full-spectrum detention, an approach being explored by Denver's Urban Drainage & Flood Control District for effective water quality and flood detention. This concept has been shown through hydrologic modeling to approximate historic condition runoff peaks for a full spectrum of storm sizes and development conditions, and to provide water quality settling for a greater volume of runoff than current water quality capture volume (WQCV) approaches. The concept is anticipated to moderate the severe stream erosion normally associated with increased runoff from urbanization, and to help create a stable network of drainageways upstream of Lake Minnequa

   Opportunities exist to create a network of drainageways in the Lake Minnequa watershed that not only provide for flood conveyance, but also enhance water quality. Drainageways that feature "in-stream treatment", with stable base-flow channels and wide, well vegetated overbanks to spread out flow, can filter and infiltrate runoff, as well as provide favorable habitat. It will be important to dedicate adequate corridors for these drainageways so water quality opportunities may be pursued.

   Another potential component in the stormwater quality strategy for the Lake Minnequa watershed is a development practice termed by the Urban Drainage & Flood Control District as "minimizing directly connected impervious areas (MDCIA)". The practice is termed "low impact development (LID)" by staff in Prince Georges County, Maryland, who have also published guidance documents promoting the approach. The goal is to take advantage of the natural ability of vegetated soils to slow down, filter, and infiltrate stormwater runoff, and to moderate the rapid runoff and washoff of paved surfaces.

   Low impact development approaches feature more grass buffers, swales, and depressions or inlets in landscape areas than traditional drainage practices and fewer storm sewers and inlets in pavement areas. Sometimes, curb and gutter is eliminated. Low impact development needs to be applied carefully, considering local soils, groundwater issues, and typical development practices in Pueblo.

Southwest Pueblo Basin (SWP)

Basin Description: The Southwest Pueblo Basin is a fully developed area of the city. It includes primarily residential development with limited areas of commercial/business concentration. The basin is bounded by the Arkansas River on the north, the Goodnight Arroyo Basin to the west, the Lake Minnequa Basin to the south and I-25 and the Rocky Mountain Steel property to the east. The total area of the Southwest Pueblo Basin as delineated in this study is 6,435 acres. A primary feature in the Southwest Pueblo Basin is the Bessemer irrigation ditch. The ditch enters the basin from the west, cuts through the basin as it turns from an easterly direction to the south, and then easterly again where it crosses under I-25 and exits the basin to the east. I-25 is another prominent feature in the basin. It bisects the basin north to south and forms the southeastern border of the basin. The Colorado State Fair Grounds are located within the Southwest Pueblo Basin.

The Bessemer Ditch provides for the conveyance of irrigation flows diverted from Pueblo Reservoir to locations east of I-25. The ditch has historically intercepted stormwater from the urban drainage basin in the City of Pueblo. Ample precedent for the use of the ditch as a stormwater conveyance element exists. Per meetings with personnel from the Bessemer Ditch Company, the maximum diversion flow in the

Bessemer Ditch is 394 cfs. Analysis performed for the Master Plan assumes that the maximum diverted flow can occur coincident with flood events resulting in the interception of storm flows by the Bessemer Ditch.

Bessemer Ditch looking downstream at I-25 (Restriction)

Storm inflow point to the Bessemer Ditch between Cedar and Pine on Bay State Avenue

Drainage Deficiencies: Historic flooding has occurred at several locations in the Southwest Pueblo Basin. The primary problem areas include street and intersection flooding. However, in isolated areas, overflow from the Bessemer Ditch has caused localized flooding. Housing damage has occurred in a few areas. One distinct area is along the west side of the Bessemer Ditch between Summit Avenue and Northern Avenue.

Drainage Problem Areas:

Bay State Avenue and Eden Avenue: Street flooding will be resolved by construction of Phase II of the Prairie-Creston Storm Sewer System including a lateral along Bay State with inlets.

Bay State Avenue and Garwood Drive: Street flooding will be resolved by construction of Phase II of the Prairie-Creston Storm Sewer System including a lateral along Bay State with inlets.

Arthur Street and West Routt Avenue: Street flooding will be resolved by construction of the Cleveland-Arthur Storm Sewer Improvements including inlets at this intersection.

Between Garfield Street and Arthur Street on West Evans: Street flooding will be resolved by construction of the Cleveland-Arthur Storm Sewer Improvements including inlets in this area.

Alternative Concepts:

Southwest Pueblo Stormwater Improvement Alternatives for the Bessemer Ditch

The Bessemer Ditch provides for the conveyance of irrigation flows diverted from the Pueblo Reservoir to locations east of I-25. The Bessemer Ditch has historically intercepted stormwater from the urban drainage basin in Pueblo. There is ample precedent for the use of the Bessemer Ditch as a stormwater conveyance element. Investigation completed during the preparation of the Master Basin Planning Study has resulted in the establishment of 394 cubic feet per second as the maximum flow diverted into the Bessemer Ditch for beneficial use at locations downstream of I-25. Stormwater improvement alternatives for the Bessemer Ditch have been developed based on the assumption that the diverted flow into the Bessemer Ditch, which can occur coincident with flood events, is statistically substantially less than the maximum flow. The maximum coincident Bessemer Ditch base flow used for designing the stormwater improvements was 209 cfs. This value was based on Bessemer Ditch diversion flow data from 1996 to 2003 obtained from the State Engineers Office.

Hydraulic Connections to the Bessemer Ditch at Pueblo Boulevard, Prairie Avenue, and Alma Avenue

The application of a uniform design storm in accordance with the *Criteria* for the entire Southwest Pueblo Basin indicates no excess capacity for the 100-year storm flow in the Pueblo Boulevard storm sewer and some available capacity at the Prairie Creston storm sewer. The Bessemer Ditch in the areas where these storm sewers cross it has sufficient capacity to carry the base flows as well as stormwater runoff that goes into the ditch in areas around Pueblo Boulevard and Prairie Avenue. Historical flooding of the Bessemer Ditch has occurred downstream of Summit, but not in the upper reaches of the Southwest Pueblo Basin. Further investigation will be performed to determine the benefits of a Bessemer Ditch diversion into the Prairie Creston storm sewer in combination with the Central High School Baseball Field Detention.

Storm Flow Diversions from the Bessemer Ditch into the Central High School Baseball Field Detention Facility

The use of the Central High School baseball field was proposed based on consideration of the high cost of right-of-way acquisition by the purchase of residential housing in the vicinity of the intersection of Summit Avenue and the Bessemer Ditch. The area near Summit Avenue and the Bessemer Ditch is a location where stormwater overflows of the ditch have historically occurred. The Central High School ball field is strategically located to allow for reducing peak discharges in the Madison Street storm sewer and providing an effective means of diverting Bessemer Ditch flows in excess of 394 cfs to the detention facility. The diversion of flows in excess of 394 cfs to the Central High School ball field can be efficiently accomplished by a lateral weir on the Bessemer Ditch designed to provide for an incipient spill condition for a flow of 394 cfs in the ditch. The use of a lateral weir to spill into the detention facility makes efficient use of storage by allowing flows less than 394 cfs to bypass the detention facility. The reduction of the 100-year peak discharge to 394 cfs (the maximum demand downstream) allows storm flows to enter the Bessemer Ditch downstream of Summit Avenue without overflowing the ditch, until the total capacity of the ditch has again been exceeded. In addition to the inflow of stormwater directly by overland flow, there are several point discharges of stormwater into the Bessemer Ditch resulting from storm sewer connections and weir sections which concentrate street flow into a point discharge at the location of the weir.

A more detailed analysis of the Bessemer Ditch hydraulic capacity was undertaken after the 35% submittal to determine the effect of the contracted openings at several of the street crossings of the Bessemer Ditch. The contracted openings reduce the capacity of the ditch downstream of Summit as was experienced during large historical events. The diversion at the Central High Ball Field detention should prevent overtopping of the Bessemer Ditch due to the contracted openings.

Interaction Between the Lake Minnequa Stormwater System and the Southwest Pueblo Stormwater System

In one of the stormwater improvement alternatives presently under consideration, storm flows discharged from Lake Minnequa enter the Carteret storm sewer system and the existing pipe in Jones Avenue, both in the Southwest Pueblo Basin. For this stormwater improvement alternative and with the provision for increased storage in Lake Minnequa, the storm flow from the Lake Minnequa Basin is bifurcated into two downstream storm sewer systems. This alternative makes strategic use of existing underground water conveyance infrastructure. The Jones Avenue System presently conveys water to the Bessemer Ditch near the Bay Street Bridge. The potential for adding increased flow to the Bessemer Ditch from the Jones sewer has been examined and determined not to be feasible. This is possibly due to the diversion of the Bessemer Ditch at the Central High Ball Field and may reduce the total drain time from Lake Minnequa as well as the total storage at Lake Minnequa. This diversion of outflow from Lake Minnequa into the Bessemer Ditch may be controlled at the Lake Minnequa outlet.

Description of Three System Alternatives

The first alternative consists of basin-wide storm sewer improvements to contain the 100-year event in the storm sewer and the street, with the limits of flooding being the right-of-way. The locations for improvements are based on historical flooding. Additionally, improvements are considered wherever the hydraulic model shows that the flow in the street exceeds the right-of-way. This alternate also proposes to introduce a detention pond in the block of the Central High Ball Field that would provide flood control as well as water quality.

The second alternative provides storm sewer improvements in the same areas as alternative one but the storm sewer improvements are sized to convey the 5-year event in the sewer. The intent of this alternative is to provide a more cost-effective flood control solution for areas that historically have not flooded but that show flooding in the hydraulic model. This alternative also includes the Central High Detention Pond to provide water quality and flood control.

Alternative three proposes the same storm sewer improvements as alternative one, with the exception of the Central High Detention Pond. Instead of a detention pond, alternative three provides flood control by the construction of a new storm sewer along Jefferson, and increasing the size of the existing sewer along Washington to the outfall at the Arkansas River. This alternative does not provide any stormwater quality improvements.

Alternative Components for the Southwest Pueblo Basin:

Boulder Outfall

Historically, streets in the vicinity of Cleveland and Evans are prone to flooding. This can cause street and alley damage, as well as unsafe conditions. The street grades in this area are relatively flat and the existing storm sewer system connecting to an outfall in Boulder Avenue is too small to adequately drain the area. The drainage improvements include adding a storm sewer on Evans between Cleveland and Harrison connecting to the existing storm sewer, adding new inlets to intercept sufficient runoff to maximize the sewer capacity, and replacing the outfall down Arthur Street, southeast on Abriendo, and along Boulder Avenue.

4th Street Outfall

The State is providing an outfall at 4th Street just northwest of Abriendo. The intersections at 4th and Abriendo and 4th and Evans are prone to flooding. Connecting the outfall to proposed storm sewers along 4th from Elmhurst Place to Evans Avenue and providing inlets to capture surface runoff will alleviate the flooding at these intersections.

Abriendo-Main Outfall to the Arkansas River

Analysis of the basins northwest of Michigan Street, bounded by Adams and Abriendo, show that these basins drain into either the Madison Street storm sewer or the Abriendo Avenue storm sewer. Both of these are inadequate to receive these flows. The proposed storm sewer construction would intercept stormwater from these Basins at Michigan Street or Lake Avenue (shown at Michigan at 65%,) and outfall to the Arkansas River either via Olney Avenue to Townsend Avenue, or down Penn Avenue, depending on whether the final design puts the storm sewer on Michigan or Lake. While historically there has been some flooding at Abriendo and Colorado, there has been no known flooding in the contributing basins to the proposed storm sewer. It is possible that a large amount of the stormwater from this area is carried on the street within the right-of-way toward the northeast and into the Arkansas River

Northern & Lake Avenue Improvements

The area south of Summit and bounded by Prairie Avenue and the Bessemer Ditch mostly drains to the Madison Street Storm sewer, which begins down Carteret and turns toward the east at Summit. This area is relatively flat, the existing storm sewer on Carteret is undersized, and the laterals contributing to it, primarily down Northern and Sprague, are undersized as well. As a result, this area has had many flooding problems in the past, and the hydraulic model reveals flooding throughout the existing storm sewer system. The proposed improvements include construction of a trunk line parallel to the Carteret storm sewer, increasing the size of the storm sewer on Northern Avenue, and adding inlets as required to maximize the sewer capacities. The increased flows that the proposed storm sewer will convey downstream will be intercepted either by the proposed detention pond at the Central High Ball Field or by the proposed construction of the Jefferson & Washington Outfall System.

Sprague Avenue Improvements

Sprague Avenue, like Northern Avenue, is very flat and the existing storm sewer is undersized. The proposed construction will upsize the existing storm sewer and add inlets to intercept surface runoff.

Bay State Avenue Improvements

Construction of the Bay State Improvements is a previously planned extension of the Prairie Avenue trunk line. The Prairie Avenue trunk line turns west on Bay State and will extend to the west to alleviate historical flooding along Bay State and Jones Avenue. Proposed construction includes a storm main running from the Prairie storm sewer west to Hollywood Drive as well as a parallel line along Jones that connects to Bay State at Maplewood Drive. Inlets will be provided as needed throughout to intercept surface runoff.

Northern Avenue Improvements at Pueblo Boulevard

Proposed improvements along Northern Avenue southwest of Pueblo Boulevard are designed to carry the 5-year storm event. Historical flooding along Northern Avenue occurs sporadically between La Vista Road and Pueblo Boulevard. Northern Avenue is a wide road with a grade which appears adequate to convey larger storm events without exceeding the right-of-way. It is probable that the historic flooding is due to localized inconsistencies in grade that may be corrected with a regrading of these areas. However, since there is currently no storm sewer along Northern Avenue and anticipated development to the southwest would increase traffic on Northern Avenue, it may be prudent to construct a storm sewer in this area to minimize street flow during minor events that may be coincident with a higher traffic load. The proposed storm sewer construction is designed to handle minor flows fully in the pipe and reduce street flow during larger storm events.

Sage Street and Thatcher Avenue Improvements

Sage Street and Thatcher Avenue act as stormwater conveyance for contributing basins west of the Pueblo Boulevard storm sewer. They do not have an existing storm sewer, and they flatten out as they approach Pueblo Boulevard. As such, they are prone to flooding. Construction of the Sage and Thatcher storm sewer consists of storm sewer laterals to the Pueblo Boulevard trunk line extending west to Cherry Lane with inlets as needed to intercept runoff.

I-25 & Arroyo Outfall to the Arkansas River

The Basin contributing to the existing Arroyo Outfall extends between Routt Avenue and I-25, and between Summit Avenue and Northern Avenue. The existing line is undersized and should be replaced in order to minimize flooding. Historically there has been some flooding near Arroyo and Abriendo, and the hydraulic model shows flooding in the existing system. The proposed construction will increase the line size in Arroyo and add inlets to intercept the increased flows. This work should be coordinated with future improvements to I-25 so that the outfall could be constructed while the I-25 improvements are being done.

Santa Fe Avenue Improvements

The intersections of Santa Fe Avenue with Northern Avenue and Mesa Avenue are relatively flat and have historically been subjected to flooding. Storm sewer improvements consist of a new storm sewer and inlets to be installed along Santa Fe toward the north, and into the I-25 drainage system. Coordination with the design of the I-25 improvements will be made to determine the outfall location and the required extent of the storm sewer. These changes will be reflected in the 90% submittal.

Central High Detention Pond Improvements

Construction of the Central High detention pond serves the purpose of reducing flows in the Madison Street storm sewer, as well as the Bessemer Ditch. The existing Madison Street storm sewer is not capable of conveying the increased flows from the Lake Avenue improvements upstream. The Bessemer Ditch has historically overtopped downstream of the proposed pond location. This floods neighborhoods to the east, and reduces the efficiency of discharge pipes from neighborhoods west and south of the Bessemer Ditch, thereby causing flooding in those areas as well. The Central High detention pond will also serve to provide water quality for approximately 817 acres upstream.

The Madison storm sewer diversion into the pond will occur at Summit Avenue where it turns and becomes Madison Street. There will be a low flow water quality pipe to convey minor storm events into the pond, and a higher capacity pipe above it to take full advantage of the existing Madison Street storm sewer without exceeding its capacity.

The Bessemer Ditch diversion structure will be constructed just southwest of the pond and flow directly into the first stage pond. The diversion structure will be an approximate 300-foot weir along the ditch with the discharge elevation set at approximately 394 cfs, which is what the downstream users are entitled to, based on their water rights.

The Central High detention pond will be a two-stage detention basin where one pond is constructed southwest of the ball field with an overflow weir into the field. This construction will minimize the frequency of the ball field flooding thereby making better use of the recreational aspects of the field. The total volume of the ponds will be 53 acre-feet. Both ponds will have an outlet structure discharging into a proposed storm sewer on Jefferson Street that will reconnect with the Madison Street system at Routt Avenue.

Jefferson-Washington Outfall to the Arkansas River

The proposed Jefferson-Washington Outfall will serve the same purpose as the Central High Detention pond, except it does not provide any water quality benefits. It will reduce flows in the Madison Street system and the Bessemer Ditch. The proposed construction will branch off of the Madison Street sewer at Adams Avenue, head southeast on Adams, northeast at Jefferson, southeast on Routt, northeast on Washington, and finally merge with the existing outfall just east of Abriendo. The existing outfall will have to be upsized. An alternate route would be to branch off toward the east at Fairview Avenue, which would minimize disturbance to the existing Madison outfall and the I-25 ramp, but would require cooperation from CDOT in designing a new outfall into the I-25 drainage system.

Cost: Detailed cost analyses are provided in the Technical Appendix. Cost estimate summaries are provided in this report.

Hydrology:

Southwest Pueblo Existing Conditions Analysis

Basin ID	Area (mi^2)	Impervious %	Max Flow (cfs)	Time to Peak (mins)	Total surface runoff (ac-ft)
SWP1	0.645	15	460	55	57
SWP2-I	0.121	26	233	35	12
SWP2-II	0.042	43	102	35	5
SWP3	0.523	67	1075	45	65
SWP4	0.709	34	774	55	73
SWP5-I	0.084	69	247	35	11
SWP5-II	0.42	45	625	50	47
SWP5-III	0.107	25	203	35	11
SWP5-IV	0.106	44	200	40	12
SWP6-I	0.151	79	329	40	20
SWP6-II	0.75	46	950	55	84
SWP6-III	0.123	43	261	35	14
SWP7-I	0.33	21	242	55	32
SWP7-II	0.329	42	457	50	35
SWP7-III	0.108	43	228	35	12
SWP7-IV	0.113	43	224	40	13
SWP8-I	0.186	48	319	45	21
SWP8-II	0.065	43	166	35	7
SWP8-III	0.107	40	203	40	11
SWP8-IV	0.229	60	527	40	28
SWP8-V	0.127	95	5 cfs (Controlled release from fairgrounds)		18
SWP8-VI	0.152	44	192	50	17
SWP9-I	0.16	71	398	40	21
SWP9-II	0.16	30	204	45	17
SWP9-V	0.147	43	229	45	16
SWP10-I	0.035	51	85	35	4
SWP10-II	0.05	45	119	35	6
SWP10-III	0.421	47	605	50	47
SWP10-IV	0.141	48	258	40	16
SWP10-V	0.35	43	599	45	39
SWP11	0.439	54	1263	35	53
SWP12-I	0.048	43	102	35	5
SWP12-II	0.205	41	286	45	22
SWP12-III	0.461	48	1021	40	50
SWP12-IV	0.141	53	371	35	16
SWP12-V	0.13	50	303	35	15
SWP13-I	0.096	43	164	40	10
SWP13-II	0.188	44	364	40	21

Basin ID	Area (mi2)	Impervious %	Max Flow (cfs)	Time to Peak (mins)	Total surface runoff (ac-ft)
SWP13-III	0.286	41	531	40	32
SWP14	0.149	43	392	35	17
SWP15	0.298	43	610	40	34
SWP16-I	0.16	42	260	45	18
SWP16-II	0.099	45	195	40	11
SWP16-III	0.178	45	293	45	20
SWP16-IV	0.093	43	358	30	10

Water Quality Improvements for Southwest Pueblo

The Southwest Pueblo watershed in its entirety is approximately 6,435 acres in size. The Southwest Pueblo Basin is almost completely developed. Two detention ponds with water quality components are planned for the Southwest Pueblo Basin.

The Central High School baseball field, located at the intersection of Madison Street and Orman Avenue, has been proposed for a regional detention facility. This pond will serve as a water quality detention pond and a flood control detention pond. The contributing drainage area above the detention pond is approximately 820 acres. The procedure for water quality capture analysis contained in the Urban Storm Drainage Criteria Manual Volume 3 prepared by the Urban Drainage & Flood Control District has been used to determine the water quality capture volume for the detention pond. This pond has been planned as a two-stage detention pond. The first stage of the pond will be segregated from the ball field itself by a wall along the outfield of the playing field. The first stage will provide for the required water quality detention volume of 13 acre-feet and will also afford flood peak reduction for events less than the 10-year return period. It will also allow for a low release in accordance with the criteria set forth in Volume 3 of the Urban Storm Drainage Criteria Manual. The detention area for the first stage of the detention pond will have pervious bottom area that can be vegetated with wetland plant material.

The existing detention ponds on the State Fair Grounds provide for peak reduction and are planned to be retrofitted for water quality detention. The additional water quality detention that is planned for the detention on the State Fair Grounds is approximately 1.3 acre-feet.

A forebay and micropool will be evaluated as part of a final design process to maximize the effectiveness of the water quality facility and to facilitate maintenance operations.

Goodnight Arroyo (GA)

Basin Description: The Goodnight Arroyo Basin adjoins the Southwest Pueblo Basin and the Lake Minnequa Basin on the east. The Goodnight Arroyo Basin has experienced some development near the eastern boundary of the basin. The western portion of the Goodnight Arroyo basin is largely undeveloped. The Master Basin Planning Study will focus largely on channel improvements for channel stability, regional detention for flood peak control, and for water quality enhancement as the basin develops. The total area of the Goodnight Arroyo Basin as delineated in this study is 4,930 acres. A primary feature in the Basin is Goodnight Arroyo and the regional detention pond near State Highway No. 78. Additional drainage features include the Arkansas River, which borders the basin to the south.

Drainage Deficiencies: Historic flooding has occurred at multiple locations in the Goodnight Arroyo Basin. The primary problem areas include channel capacity and road culvert crossings. Housing damage has occurred in a few areas. Two distinct problem areas are Red Creek Springs Road and the Arkansas River confluence.

Regional detention pond near State Highway No. 78

Channel section north of State Highway 96: Property flooding will be resolved by channel improvements.

Drainage Problem Areas:

Red Creek Springs Road: Street flooding will be resolved by construction of a larger box culvert.

Alternative Components:

Storm Sewer Culvert Improvements at Red Creek Springs Road

Street flooding across Red Creek Springs Road will be resolved by constructing a larger storm sewer box culvert across the road. The larger culvert will contain the 100-year flows and keep the 100-year flood plain below the road elevation.

Channel Improvements north of State Highway 96

The property flooding in the residential neighborhood north of Highway No. 96 along Goodnight Arroyo will be resolved by widening and improving the channel section from Highway No. 96 to the Arkansas River.

Bandera Detention Pond

A regional detention pond is proposed adjacent to the future Bandera Boulevard road alignment. The regional pond will serve future development to the west. The regional pond is located along a main drainage corridor tributary to the Goodnight Arroyo. The regional detention basin serves approximately 2,200 acres with a required storage volume of approximately 275 acre-ft. This pond is intended to be an on-line detention pond located within the 100-year flood zone. The regional pond can be constructed in phases as development occurs in the tributary basin.

Bessemer Detention Pond

A regional detention pond is proposed adjacent to the Bessemer Ditch. It will serve future development to the southwest. This pond is located along a main drainage corridor tributary to the Arkansas River, and it will serve approximately 975 acres with a required storage volume of approximately 125 acre-ft. The regional detention pond is intended to be an on-line detention pond. Like the Bandera Pond, this pond can be constructed in phases as development occurs in the tributary basin.

Cost:

Detailed cost analyses for the Goodnight Arroyo Improvements are included in the Technical Appendix. A summary cost table is provided in this report.

Hydrology:

Goodnight Arroyo Existing Conditions Analysis

Design Point	Basin ID	Area (sq-mi)	Impervious %	Max Flow (cfs)	Time to Peak (mins)	Total surface runoff (ac-ft)
1	1I	0.069	8	117.3	35	6.427
2	1II	0.252	2	274.9	45	22.511
3	1III	0.391	2	261.3	60	35.358
4	1IV	0.132	2	112.2	50	11.856
5	1V	0.745	2	507.8	65	67.632
6	2I	0.051	7	49.9	50	4.798
7	2II	0.181	14	255.9	40	18.375
8	2III	0.088	29	162.1	35	9.851
9	2IV	0.136	13	79.8	55	13.334
10	2V	0.215	2	153.1	55	18.417
11	2VI	0.27	2	175.7	60	23.566
12	3I	0.233	28	308.0	45	26.342
13	3II	0.434	28	429.1	55	49.642
14	4I	0.374	2	222.9	65	33.696
15	4II	0.184	2	134.5	55	16.704
16	4III	0.476	2	352.9	55	43.172
17	4IV	0.48	2	425.5	50	43.437
18	4V	0.676	2	439.1	65	61.262
19	4VI	0.238	2	174.2	55	21.606
20	4VII	0.378	2	336.6	50	34.315
21	4VIII	0.556	2	543.9	50	50.474
22	5I	0.206	2	143.0	55	18.701
23	5II	0.246	2	205.3	50	22.332
24	5III	0.459	2	282.5	65	41.669
25	5IV	0.216	2	145.6	55	19.609

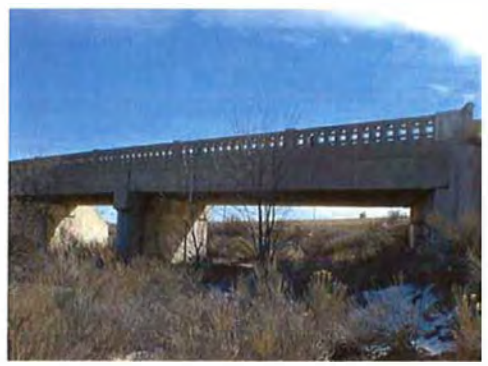
Water Quality Improvements for Goodnight Arroyo:

The majority of the Goodnight Arroyo basin is undeveloped; therefore, water quality basins or other appurtenances will be located and constructed in future subdivisions as development occurs. Water quality will be accommodated on a site-by-site basis.

MAJOR DRAINAGE BASINS – PHASE TWO

Wild Horse Dry Creek (WHC)

Basin Description: The Wild Horse Dry Creek Basin adjoins the West Fountain Basin on the east and the West Pueblo Basin on the south. This basin has experienced some development in its eastern portion. The western and northern portions of the Wild Horse Dry Creek basin is largely undeveloped. The Master Basin Planning Study will focus largely on channel improvements for channel stability, regional detention for flood peak control, and water quality enhancements as the basin develops. Additional drainage recommendations for existing drainage problem areas will be addressed with recommended improvements. The total area of the Wild Horse Dry Creek Basin as delineated in this study is 10,230 acres with an offsite tributary area of 41,150 acres. A few primary features in the Basin are Wild Horse Creek, Williams Creek, and Dry Creek. Additional features include the Arkansas River, which borders the basin to the south, State Highway No. 50, and Pueblo Boulevard.



State Highway No. 50 bridge crossing Williams Creek

Drainage Deficiencies: Historic flooding has occurred at several locations in the Wildhorse Dry Creek Basin. The primary problem areas include the Hyde Park Neighborhood and the residential area east of the railroad right-of-way. Several channels and road culverts are historic drainage deficiencies. Housing damage has occurred in a few areas.

Drainage Problem Areas:

15th Street Railroad Crossing: Neighborhood flooding will be resolved by construction of regional detention ponds upstream of this box culvert.

23rd Street Railroad Crossing: Neighborhood flooding will be resolved by construction of a regional detention pond.

Hyde Park Neighborhood: Local neighborhood flooding will be resolved by constructing storm sewer in the existing right-of-ways and construction of channel improvements.

Alternative Components:

23rd Street Detention Pond

Regional detention is proposed adjacent to the railroad right-of-way at 23rd Street. The regional pond will serve existing development to the east. This pond is located along a main drainage corridor tributary to Wildhorse Dry Creek. The regional detention basin serves approximately 380 acres, with a required storage volume of approximately 12 acre-ft. It is intended to detain runoff in order to convey flows through the existing culvert crossing at the railroad right-of-way. This will keep stormwater runoff from bypassing the culverts and flooding local neighborhoods to the south.

Bancroft Street Detention Pond

A regional detention pond is proposed adjacent to the railroad right-of-way at Bancroft Street. This regional pond will serve existing development to the east. It is located along a main drainage corridor tributary to Wildhorse Dry Creek. The regional detention basin serves approximately 75 acres, with a required storage volume of approximately 12 acre-ft. It is intended to work in conjunction with the 23rd Pond to detain runoff in order to convey flows through the existing culvert crossing at the railroad right-of-way. This will keep the stormwater runoff from bypassing the culverts and flooding local neighborhoods to the south.

18th Street Detention Pond

A regional detention pond is proposed adjacent to the railroad right-of-way at the 18th Street bridge. This regional pond will serve existing development to the east. It is located along a main drainage corridor tributary to the 15th Street railroad culverts. The regional detention basin serves approximately 26 acres, with a required storage volume of approximately 12 acre-ft. This pond is intended to detain runoff to minimize flooding at the 15th Street culverts. This facility will help to minimize flooding to the south.

15th Street Detention Pond

Regional detention is proposed adjacent to the railroad right-of-way at 15th Street. This pond will serve existing development to the east. This regional pond is located along a main drainage corridor tributary to Wildhorse Dry Creek, and will serve approximately 150 acres with a required storage volume of approximately 4 acre-ft. This pond is intended to detain runoff so the water can pass through the existing culvert crossing at the railroad right-of-way without flooding. This will minimize stormwater runoff bypassing the culverts, which can lead to flooding of local neighborhoods to the south.

Honor Farm Pond 1

A regional detention pond is proposed adjacent to the Pueblo Boulevard right-of-way. It will serve future development to the west. This pond is located along a main drainage corridor tributary to Wildhorse Dry Creek. The regional detention basin serves approximately 1,800 acres, with a required storage volume of approximately 220 acre-ft. The regional detention pond is intended to be an on-line detention pond located in a current drainage corridor. The regional pond can be constructed in phases as development occurs within the tributary basin.

Honor Farm Pond 2

Another regional detention pond is proposed adjacent to the Pueblo Boulevard right-of-way. This regional pond will serve future development to the west. It is located along a main drainage corridor tributary to Wildhorse Dry Creek. This detention basin serves approximately 1,700 acres, with a required storage volume of approximately 210 acre-ft. The regional detention pond is intended to be an on-line detention pond located in a current drainage corridor. The regional pond can be constructed in phases as development occurs in the tributary basin.

Ranch Drive Pond

A regional detention pond is proposed near Ranch Drive at the west edge of the master basin boundary. It will serve future development to the west. This pond is located along a main drainage corridor of Wildhorse Creek, with an area of approximately 1,800 acres, and a required storage volume of approximately 220 acre-ft. It is intended to be an on-line detention pond located in the 100-year flood plain. This regional pond can also be constructed in phases as development occurs within the tributary basin.

Purcell Boulevard Pond

A regional detention pond is proposed adjacent to the right of way of Purcell Boulevard. This regional pond will serve future development to the west. The pond is located along a main drainage corridor tributary to Dry Creek. This regional detention basin serves approximately 2,000 acres, with a required storage volume of approximately 250 acre-ft. It is intended to be an on-line detention pond located in the 100-year flood plain. This detention pond is also intended to minimize stormwater impacts to Purcell Boulevard. The pond can be constructed in phases as development occurs in the tributary basin.

Wildhorse Pond 1

Regional detention is also proposed along the main drainage corridor of Dry Creek. This regional pond will serve future development to the north, with an area of approximately 2,500 acres, and with a required storage volume of approximately 310 acre-ft. This regional detention pond is intended to be an on-line detention pond located in the 100-year flood plain. It can also be constructed in phases as development occurs in the tributary basin.

Wildhorse Pond 2

Another regional detention pond is proposed along the main drainage corridor of Dry Creek. It will serve future development to the north. This regional basin serves approximately 2,000 acres, with a required storage volume of approximately 250 acre-ft. The regional detention pond is intended to be an on-line detention pond located in the 100-year flood plain. The regional pond can be constructed in phases as development occurs in the tributary basin.

Wildhorse Pond 3

A third regional detention pond is proposed along the main drainage corridor of Dry Creek. This regional pond will serve future development to the north with an area of approximately 2,500 acres, and a required storage volume of approximately 310 acre-ft. This pond is also intended to be an on-line detention pond located in the 100-year flood plain, and it can be constructed in phases as development occurs within the tributary basin.

11TH Street Storm Sewer

Currently, 11th, 12th, and 13th Street capacities are exceeded during storm events in Hyde Park. Flooding in the referenced streets will be alleviated by the construction of a proposed storm sewer from 13th Street to 11th Street in Lambert Avenue with an outfall from Oak Avenue to Wildhorse Dry Creek in 11th Street. The storm sewer will be designed to intercept the 100-year flows that cannot be handled in the existing street right-of-ways. The 11th Street storm sewer will outfall into Wildhorse Dry Creek. An energy dissipater will be required to protect the natural channel.

16TH Street Storm Sewer

Currently, the capacities of 14th, 15th, 16th, and 17th Streets are exceeded during storm events in Hyde Park. Flooding in the referenced streets will be alleviated by the construction of a proposed storm sewer from 14th Street to 17th Street in Lambert Avenue with an outfall from Lambert Avenue to Wildhorse Dry Creek in 16th Street. The storm sewer will be designed to intercept the 100-year flows that cannot be handled in the existing street right-of-ways. The 16th Street storm sewer will outfall into Wildhorse Dry Creek. An energy dissipater will be required to protect the natural channel.

Hyde Park Channel 1

Currently, 14th, 15th, 16th, and 17th Street's capacities are exceeded during storm events in Hyde Park. Flooding in the referenced streets will be alleviated by the construction of a proposed channel along the west edge of the existing residential development from 14th Street to the existing storm sewer along the east edge of School District No. 60 property. The storm sewer connects to the existing storm sewer outfall in 18th Street.

The capacities of 11th, 12th, and 13th Streets are exceeded during storm events in Hyde Park. Flooding in the referenced streets will be alleviated by the construction of a channel along the west edge of the existing residential development from 14th Street to proposed storm sewer in 11th Street. Refer to the 11th Street Storm Sewer improvements above.

Any future development that occurs west of the existing Hyde Park neighborhood will be required to detain developed flows on-site and release historic flow rates to the 11th Street or 18th Street storm sewer outfalls.

Norwich Storm Sewer

Currently, local neighborhood flooding occurs from 25th Street to 22nd Street between Wildhorse Dry Creek and the railroad right-of-way. Flooding will be alleviated by constructing a storm sewer from 25th Street to 24th Street in Lowell Avenue; thence east in 24th Street to Carthage Avenue; thence south in Carthage to 23rd Street; thence east in 23rd to Adrian Avenue; thence south in Adrian to Bancroft Avenue; thence east in Bancroft to Norwich Avenue; thence south in Norwich to the existing drainage channel. The channel conveys flows from the east side of the railroad right-of-way to Wildhorse Dry Creek. The storm sewer will be designed to intercept the 100-year flows and convey them to the Wildhorse Dry Creek. An energy dissipater will be required at the point of discharge into the natural channel.

Hyde Park Channel 2

The existing channel conveys flow from the east side of the railroad right-of-way to Wildhorse Dry Creek. Currently, the existing channel capacity is exceeded during storm events, which causes flooding to occur in the neighborhood to the south. This flooding will be alleviated by improving the channel to increase its stormwater capacity. This channel works in conjunction with proposed storm sewer system improvements and proposed detention ponds.

Atlanta Channel

The existing channel along the Alabama right-of-way conveys flow from 29th Street to the 23rd Street railroad culvert crossing. Currently, the existing channel capacity is exceeded during storm events. Flooding will be alleviated by improving the channel to increase its stormwater capacity. This channel works in conjunction with the storm sewer system improvements and proposed detention ponds.

Atlanta Culvert

Currently, the existing culvert crossing of Atlanta Avenue at the 15th Street channel near Cheyenne Avenue cannot convey the 100-year stormwater flows. During a 100-year storm event, stormwater overtops and flows across Atlanta Avenue. The 15th Street Channel conveys flows from east of the railroad right-of-way to Wildhorse Dry Creek. The flooding will be alleviated by improving the cross-drainage capacity. This culvert and channel work in conjunction with the proposed detention ponds.

Cheyenne Storm Sewer

Cheyenne Avenue conveys flows south towards the 18th Street bridge. The existing street capacity is exceeded during 100-year storm events. A proposed storm sewer will start at 21st Street and Cheyenne Avenue and convey flows to the south in Cheyenne Avenue right-of-way to the proposed 18th Street detention pond. The storm sewer will be designed to maximize the existing street capacity and to minimize pipe sizes.

Halleck Storm Sewer

Halleck Avenue conveys flows south towards the 11th Street bridge. The existing street capacity is exceeded during 100-year storm events. A proposed storm sewer will start at 14th Street and Halleck Avenue and convey flows to the south in Halleck Avenue right-of-way to a proposed retention pond along the north side of the 11th Street bridge embankment. The storm sewer will be designed to maximize the existing street capacity and to minimize pipe sizes. The proposed retention pond will be designed with no outlet.

Cheyenne Storm Sewer 2

Cheyenne Avenue conveys flows south towards 11th Street. The existing street capacity is exceeded during 100-year storm events. A proposed storm sewer will start at 13th Street and Cheyenne Avenue and convey flows to the south in Cheyenne Avenue right-of-way to the existing channel near 11th Street. The storm sewer will be designed to maximize the existing street capacity and to minimize pipe sizes.

Perry Channel

The existing channel conveys flow from Pueblo Boulevard to Wildhorse Dry Creek. Currently, the existing channel capacity and culvert crossings at Perry Avenue and Newport Avenue are exceeded during 100-year storm events. Flooding occurs in the neighborhood adjacent to the channel. This flooding will be alleviated by improving the channel to increase the channel's stormwater capacity and increasing culvert capacities at Perry and Newport.

Cost:

Detailed cost analyses for the Wildhorse Dry Creek Improvements are included in the Technical Appendix. A summary cost table is provided in this report.

Hydrology:

Wildhorse Dry Creek Existing Conditions Analysis

Basin ID	Area (sq-mi)	Impervious %	Max Flow (cfs)	Time to Peak (mins)	Total surface runoff (ac-ft)
1-01	0.382	25	2237.6	40	152.93
1-02	0.229	7	415.0	75	82.362
1-03	0.209	5	274.5	55	33.751
1-04	0.152	4	182.3	50	20.193
1-05	0.069	6	268.2	40	19.707
1-06	0.139	26	569.3	40	34.875
1-07	0.107	39	999.3	45	67.399
1-08	0.46	38	622.9	45	42.526
1-09	0.706	5	156.0	50	19.11
2-01	0.115	60	630.6	35	26.502
2-02	0.178	2	107.5	55	13.528
2-03	0.336	15	72.8	50	6.628
2-04	0.125	30	213.6	40	15.073
2-05	0.091	2	93.8	45	9.208
2-06	0.585	48	1115.6	40	54.948
2-07	0.443	33	1033.8	45	77.842
2-08	0.388	30	180.6	40	12.47
2-09	0.338	39	317.7	40	19.663
2-10	0.113	49	789.7	40	40.341
2-12	0.191	75	279.6	35	12.245
3-01	0.106	8	439.8	55	54.09
3-02	0.143	7	340.4	50	40.191
3-03	0.208	4	309.6	50	34.345
3-04	0.266	4	243.9	55	30.48
3-05	0.11	7	114.0	50	10.367
3-06	0.335	7	200.1	50	24.974
3-07	0.251	6	155.0	50	17.891
3-08	0.141	7	143.7	40	9.891
3-09	0.106	6	154.1	45	13.419
3-10	0.208	23	265.4	45	21.134
3-11	0.39	35	432.6	40	28.907
4-01	0.32	2	123.8	45	10.058
4-02	0.431	2	420.9	45	30.63
4-03	0.446	53	594.1	40	30.751
4-04	0.415	40	362.5	35	16.151
4-05	0.114	43	269.3	35	12.337
4-06	0.572	2	278.0	40	18.404
4-07	1.035	2	334.6	50	35.659
4-08	0.118	4	270.4	50	29.641
4-09	0.062	3	271.7	60	39.576
4-10	0.107	2	311.3	60	39.192
4-11	0.179	10	251.2	60	39.954
4-12	0.135	14	84.7	50	11.253
4-13	0.046	3	394.7	60	51.877
5-01	2.061	5	510.0	75	93.184
5-02	19.128	6	71.8	55	10.972
5-03a	0.551	47	154.9	35	7.282
5-03b	0.364	47	261.7	35	12.568
5-04	0.452	14	138.0	50	17.402
5-05	23.029	73	546.2	30	18.194
5-06	1.821	2	34.0	45	4.206
6-01	1.203	4	666.7	105	185.494
6-02	9.245	4	3555.6	205	1721.557
6-03	1.526	4	340.7	65	49.591
6-04	1.201	4	225.6	60	32.761
6-05	0.311	4	193.8	75	40.681
6-06	1.213	4	5183.1	180	2072.655
6-07	1.268	4	1061.6	70	163.894
6-08	0.461	4	990.6	55	108.272
7-01	0.34	4	2463.6	145	841.787
7-02	0.216	4	697.2	85	138.947
7-03	0.216	4	616.6	75	109.355
8-01	0.216	61	797.1	40	39.627
8-02	0.216	11	726.9	65	116.143
8-04	0.216	53	857.0	45	56.077
8-05	0.216	41	571.6	45	38.01

Water Quality Improvements for Wildhorse Dry Creek:

The majority of the Wildhorse Dry Creek basin is undeveloped; therefore, water quality basins or other appurtenances will be located and constructed in future subdivisions as development occurs. Water quality will be accommodated on a site-by-site basis. Water quality for existing development can be accommodated by utilizing Wildhorse Dry Creek as a treatment channel before the runoff reaches the Arkansas River. Improvements and locations will have to be examined on a case-by-case basis and must be site specific.

West Pueblo (WP)

Basin Description: The West Pueblo Basin is a partially developed area. The majority of the basin is outside City limits and undeveloped. The developed area within the city limits is a mix of commercial and residential uses. A large portion of the basin is owned by either the City of Pueblo or State of Colorado. The City of Pueblo and State of Colorado-owned portion of the basin is referred to as the Honor Farm property. The basin is bounded by the Arkansas River on the south, the Wildhorse Dry Creek basin to the north and east, and additional Honor Farm Property to the west. The total area of the West Pueblo Basin as delineated in this study is 1,600 acres. A primary feature in the West Pueblo Basin is the Honor Farm Property. Additional drainage features include the Arkansas River.

Arkansas River trail near Pueblo Blvd

Drainage Deficiencies: No significant historic flooding has been reported in the West Pueblo basin, likely due to the large area of undeveloped property. Therefore, no recommendations have been made to address existing drainage deficiencies. In addition, since the large undeveloped area is owned by the state and city, development in the Honor Farm property is unlikely. Therefore, no recommendations for drainage infrastructure for future development have been made.

Alternative Components for West Pueblo:

No alternatives have been proposed for the West Pueblo Basin, as noted above.

Cost:

Since no improvements are presented for West Pueblo, no cost estimates have been included.

Hydrology:

West Pueblo Existing Conditions Analysis

Basin ID	Area (sq-mi)	Impervious %	Max Flow (cfs)	Time to Peak (mins)	Total surface runoff (ac-ft)
1I	0.051	6	26.3	45	3.473
1II	0.119	7	87.5	45	10.505
1III	0.066	2	59.8	45	5.681
1IV	0.049	19	63.1	45	5.01
1V	0.061	64	143.6	40	7.97
1VI	0.011	2	16.4	40	1
1VII	0.111	17	127.2	45	11.262
2I	0.034	3	19.4	50	3.12
3I	0.225	15	215.6	45	22.298
3II	0.11	3	97.9	45	10.142
3III	0.076	22	116.3	40	7.957
3IV	0.086	10	107.7	45	8.33
3V	0.204	7	212.3	45	19.35
3VI	0.334	5	211.4	60	31.237
3VII	0.286	6	201.0	55	26.944
4I	0.048	2	74.6	40	4.396
4II	0.161	45	485.4	35	18.556
4III	0.069	41	135.7	40	8.046
5I	0.089	7	115.0	40	8.442
5II	0.198	6	177.7	45	18.643
6I	0.11	7	158.9	40	10.434

Water Quality Improvements for West Pueblo:

Currently, there are no water quality improvement features within the West Pueblo basin. There are several open areas that could be utilized for water quality north of the Arkansas river. The Arkansas River is separated from drainage to the north by the old railroad grade, which is now utilized by the river trail system. The railroad grade creates a low area with dense vegetation that could be modified to address water quality concerns in the basin.

MAJOR DRAINAGE BASINS – PHASE THREE

Central Pueblo (CP)

Basin Description: The Central Pueblo Basin is a fully developed area of the city. It is a mix of commercial, residential, and institutional uses. The Pueblo Central Business District (CBD) is located in the Central Pueblo Basin. The basin is bounded by the Arkansas River on the south, Wild Horse Creek to the Northwest, West Fountain Creek to the Northeast, and East Fountain Creek to the east. The total area of the Central Pueblo Basin as delineated in this study is 1,730 acres. A primary feature in the Central Pueblo Basin is the Historic Arkansas Riverwalk of Pueblo. Additional drainage features include the Arkansas River and Fountain Creek, which borders the basin to the east. Interstate 25 is another prominent feature in the basin. It intersects the basin north to south near Fountain Creek.

The Historic Arkansas Riverwalk of Pueblo

Drainage Deficiencies: Historic flooding has occurred at several locations in the Central Pueblo Basin. Street and intersection flooding has been reported in several areas. Some of these major problem areas include, but are not limited to, the intersection around 11^{th} and Baxter Streets (Basin CP1-VII – near Atchinson Way). Several flooding issues have been reported in this area, including 12^{th} and Francisco, 15^{th} and Francisco, and 15^{th} and Martin Streets, and the area referred to as Peppersauce Bottom. Another reported problem area is the intersection of 1^{st} and Santa Fe. The intersection of 17^{th} and Conley Street was also identified as a problem area after the 1994 storm.

Drainage Problem Areas:

17^{th} & Conley St: Street flooding will be resolved by extending existing storm sewer from 14^{th} and Conley to the intersection of 17^{th}, including inlets and laterals.

Peppersauce Bottom: Area flooding issues will be resolved by constructing storm sewer on 11^{th} Ave from Conley to Francisco Street, including inlets and laterals. Improvements in Wildhorse Creek will also alleviate drainage issues.

Concept for Central Pueblo:

Basin CP1 Upgrade System

The major drainage deficiencies in the Central Pueblo basin lie mainly in upper areas of the basin, mostly in basin CP1. Major flooding has historically occurred in the Peppersauce Bottoms area, party as a result of the deficiencies in basins to the north. A large portion of the storm sewer system in this area is undersized, especially in the uppermost reaches of the basin. Several of the sub basins are drained by 15" diameter pipes, which have a very limited capacity. In addition, several basins have no collection system at all, leading to street flooding during the minor storms. It is recommended that several of these 15" diameter pipes be upgraded to a minimum of 18" diameter. It is also recommended that storm sewer systems be installed in basins with no collection system, such as basins CP1-II and CP1-VII.

Alternative Components for Central Pueblo:

Storm Sewer Improvements in Conley Street

Currently, storm sewer in Conley Street reaches a terminus at the intersection of 14^{th} and Conley. Flooding in Conley Street will be alleviated by the construction of a proposed storm sewer from this terminus to the intersection of 17^{th} Street. Storm sewer improvements will be designed to intercept the entire 25-year storm, which presently floods nearly the entire street. Conduits in Conley Street are presently undersized, conveying pressurized flow during the 25-year storm. Upsizing of these conduits will be necessary from 10^{th} to 14^{th} Street. At 10^{th} Street, the Conley Street storm sewer will outfall into the 9^{th} Street detention basin, which is discussed below.

Storm Sewer Improvements in Francisco Street

Flooding problems along Francisco Street will be remedied by constructing new storm sewer. Proposed improvements will start at the intersection of 15^{th} and Francisco Street, and proceed south to 11^{th} Street. At the intersection of 11^{th} and Francisco, flows will outfall into a proposed detention basin discussed below. These improvements will collect flows from basins CP1-II and CP1-VII, before they flow into the Peppersauce Bottoms area. Currently, much of this runoff overland flows across Peppersauce Bottom, and is not intercepted by any storm sewer system. The Francisco Street system will reduce the amount of runoff flooding the Peppersauce Bottoms area.

Basin CP1-VI Drainage Channel Improvements

Currently, there is a flooding problem in Peppersauce Bottoms, located south of Hood Avenue. It was decided that to alleviate flooding issues, runoff should be captured before it flows to the train yard. A proposed drainage channel will be constructed in Basin CP1-VI to intercept these flows. This channel will begin near the intersection of 11^{th} St. and Hooper Ave., near the state hospital. From there, it runs east approximately 1400 feet, along the railroad spur alignment. Near the extension of Francisco Street, it will turn southward, to several open parcels. This channel will outfall into the 9^{th} Street detention basin, which is planned for the area bounded by the railroad tracks, Blake Street, and Francisco Street.

9^{th} Street Detention Basins

Two detention basins are planned for parcels 525323010 and 525345002. These parcels are located between 8^{th} and 11^{th} Streets, and between Francisco and Blake Streets. These basins will detain and treat flows from basins CP1-II, CP1-III, CP1-VI, and CP1-VII. Due to depth limitations in this area, 2 ponds in series have a greater storage capacity than a single large pond. With a nearly flat bottom and 3:1 side slopes, these ponds could detain approximately 31 acre-feet of runoff. This pond will outfall into a proposed conduit which will begin near 8th and Blake Street. It will travel east one block to the intersection of 8th and Craig Street, where it will tie into an existing 90" pipe.

In the existing condition, runoff from basin CP1-III is collected by a system in Conley Street. These flows are currently undetained and untreated, and they flow directly into the existing Central Pueblo storm sewer. In the proposed scenario, these flows will now be detained and treated in the proposed detention pond. As a result, this will decrease the hydraulic loading on downstream elements, decrease street flooding downstream, and increase water quality.

8th Street Improvements

In order to drain the 9th Street detention basins, a storm sewer is proposed for 8th Street between Blake and Craig Streets. The 9th Street detention basin will outfall into an 18" conduit, which will take flows to 8th and Blake Street. At 8th and Blake, flows from the Peppersauce Bottoms infiltration basin (see below) will tie into this system. This conduit will upsize to a 24" diameter at this intersection. From 8th and Blake, it will travel east one block to Craig Street, where it will tie into an existing 90" conduit.

Cost:

Detailed cost analyses for the Central Pueblo Improvements are included in the Technical Appendix. A summary cost table is provided in this report.

Hydrology:

Basin ID	Area (mi^2)	Impervious %	Max Flow (cfs)	Time to Peak (mins)	Total surface runoff (ac-ft)
CP1-I	0.118	40	103	35	7.13
CP1-II	0.054	51	38	35	3.27
CP1-III	0.037	53	30	35	2.24
CP1-IV	0.031	54	21	35	1.88
CP1-V	0.039	57	33	35	2.33
CP1-VI	0.120	31	67	40	7.01
CP1-VII	0.037	51	27	35	2.26
CP1-VIII	0.060	53	58	35	3.57
CP1-IX	0.022	52	18	35	1.33
CP1-X	0.030	70	21	35	1.82
CP1-XI	0.098	55	53	40	5.01
CP1-XII	0.069	92	41	40	4.04
CP2-I	0.364	33	113	60	18.21
CP2-II	0.076	93	34	40	3.83
CP2-III	0.048	82	25	40	2.42
CP3-I	0.129	95	89	40	7.56
CP3-II	0.023	85	22	30	1.40

Basin ID	Area (sq-mi)	Impervious %	Max Flow (cfs)	Time to Peak (mins)	Total surface runoff (ac-ft)
CP3-V	0.007	83	7	205	.35
CP3-VI	0.008	97	6	90	.40
CP3-VII	0.039	95	24	35	1.97
CP3-VIII	0.026	49	10	45	1.35
CP3-IX	0.245	70	66	65	12.31
CP3-X	0.004	96	6	105	.2
CP3-XI	0.021	44	19	30	1.05
CP3-XII	0.133	76	84	40	6.69
CP4-I	0.376	29	98	75	20.75
CP4-II	0.106	15	59	40	5.82
CP4-III	0.086	34	47	60	9.39
CP4-IV	0.164	48	53	35	4.30

Water Quality Improvements for Central Pueblo:

Thomas-Phelps Creek Water Quality Basin

The majority of the Central Pueblo basin drains into the Arkansas River. Thomas-Phelps Creek runs through basin CP4-II which conveys the majority of this runoff. A water quality basin has been planned for this area, near the existing baseball fields. Approximately 600 acres are tributary to this pond. This water quality pond would require approximately 13 acre-feet of storage volume, based on Urban Drainage and Flood Control Criteria for a 40-hour detention time. Areas tributary to either the 9th Street detention basins or the Peppersauce Bottoms infiltration basin were not included in water quality calculations for the Thomas-Phelps Creek water quality basin, since flows tributary to these ponds will already be treated by the time they reach the Thomas-Phelps Creek water quality basin. This water quality basin is proposed for Parcel 1406000107, which is owned by the City. It is located at the intersection of the railroad tracks and Thomas-Phelps creek.

9th Street Detention Basins

The proposed detention pond near 9th and Blake Streets will also provide water quality for several basins in Central Pueblo. In addition to providing water quality, this pond will also reduce the peak flow released into the Central Pueblo drainage system.

Peppersauce Bottoms Infiltration Basin

In order to reduce localized flooding, an infiltration basin is planned for the Peppersauce Bottoms area. Due to the flat topography in this area, only 6 ac-ft of water can be stored and infiltrated. In addition to providing peak flow control and water quality benefits, this basin will also reduce the amount of flooding incurred at Peppersauce Bottoms. Due to the layout of the basin, it will intercept upstream bypassed flow before it reaches the housing development, and re-route it around local houses. Flows will then be collected by an 18" pipe, which ties into the 8th Street system at 8th and Blake.

East Pueblo (EP)

Basin Description: The East Pueblo Basin is a fully developed area of the city. It is a mix of commercial, residential, and industrial uses. The basin is bounded by the Arkansas River on the south, East Fountain Creek to the west, and Dry Creek to the east. The total area of the East Pueblo Basin as delineated in this study is 1,200 acres. A primary feature in the East Pueblo Basin is the Wastewater Treatment Plant. Additional drainage features include the Arkansas River.

Drainage Deficiencies: Historic flooding has occurred at several locations in the East Pueblo Basin. According to the latest information, housing damage due to flooding has been reported in the East Pueblo Basin in several areas. Street and intersection flooding has also been reported in several areas. Since there is very little drainage infrastructure in the East Pueblo Basin, there are many reported occurrences of street and intersection flooding. Areas of East Pueblo that do contain a storm sewer system have a much lower reported rate of street/intersection flooding. One prominent location of flooding, based on resident input, is the Portland Ave/Grenadillo St. intersection.

Alternative Concepts for East Pueblo:

One alternative has been proposed for the East Pueblo Basin. As noted above, the lack of drainage infrastructure in East Pueblo is the main cause of much of its flooding problems. Therefore, one option is presented in order to rectify these flooding issues. This is the East Pueblo Basin upgrade. Storm interceptor lines are proposed in Ogden and Queens Avenues, in order to intercept the major and minor storms.

Alternative Components for East Pueblo:

XP-Storm results have shown that there are several capacity-deficient areas in the upper part of the East Pueblo basin.

Norwood Avenue Improvements

Norwood Avenue currently contains several separate drainage collection systems. The uppermost system, in basin EP1, is currently undersized. Replacing the existing 24" pipe from 12th to 14th Street with a 36" diameter pipe will satisfy the drainage requirements for Basin EP1.

Basin EP2 Upgrades

Basin EP2 is currently served by an undersized drainage system in Norwood Avenue and E. 9th Street. Increasing the capacity of this system will alleviate reported flooding issues within this basin. The existing 18" pipe in Norwood Avenue from 9th to 11th Streets should be replaced with a 24" pipe. Currently, at the intersection of 9th and Norwood Avenue, the existing system turns east with 21" pipe to Reading Avenue, at which point this runoff is transferred to the Dry Creek basin. These 21" pipes should be upsized to 42" diameter pipe from Norwood Avenue to Reading Avenue in order to provide sufficient capacity. Additional upsizing of pipes in the Dry Creek basin will be necessary in order to convey these flows to the outfall in Dry Creek.

Ogden Avenue Improvements

Currently there is no drainage system in basins EP3-EP7. This has led to frequent flooding in Basin EP5-I, specifically, near the intersection of Portland Avenue and Grenadillo Street. A proposed collection system in Ogden Avenue will help alleviate some of these problems.

Beginning at the intersection of 5th Street and Norwood Avenue, this system will travel east with a 30" diameter pipe to the intersection of 5th and Ogden. At this intersection, it turns south onto Ogden Street with a 36" pipe. At 2nd Street, this pipe upsizes to a 42" diameter and continues south. This pipe then outfalls into the existing channel at Ogden and River Street, where it continues through existing channels and culverts, which have sufficient capacity. At Ogden and Beech, a channel is proposed to convey runoff to a proposed water quality pond in Basin EP5-I. This channel runs south from Ogden and Beech, to the old railroad line, at which point it turns east and travels to Portland Avenue. At this point, flows will be piped via a 4'x4' box culvert to the water quality basin.

Queens Avenue Upgrades

As noted above, frequent flooding occurs in Basin EP5-I, near the intersection of Portland and Grenadillo Street. The Queens Avenue Upgrades will eliminate these frequent low-intensity storm flooding issues by intercepting flows from Basin EP7 before they are allowed to pond in Basin EP5. Beginning at the intersection of 2nd and Queens Avenue, a 36" pipe will run south to Queens and River Streets. At this intersection, there is open area where a water quality pond is proposed. Flows will outfall into an open channel, which will convey them to this pond.

Cost:

Detailed cost analyses for the East Pueblo Improvements are included in the Technical Appendix. A summary cost table is provided in this report.

Hydrology:

Basin ID	Area (mi²)	Impervious %	Max Flow (cfs)	Time to Peak (mins)	Total surface runoff (ac-ft)
EP1-I	0.068	52	36	40	2.96
EP1-II	0.043	58	24	40	2.05
EP1-III	0.033	58	17	40	1.74
EP1-IV	0.056	57	40	40	2.93
EP2-I	0.024	57	13	40	1.25
EP2-II	0.068	57	41	40	3.54
EP3-I	0.040	57	21	40	2.08
EP3-II	0.057	57	40	40	2.97
EP3-III	0.035	57	19	40	1.82
EP3-IV	0.050	57	25	45	2.60
EP3-V	0.046	57	27	40	2.36
EP4-I	0.072	50	27	45	3.75
EP4-II	0.051	61	36	55	2.66
EP4-III	0.085	23	45	40	3.07
EP4-IV	0.022	10	8	40	0.58
EP5-I	0.035	24	15	40	1.19
EP6-I	0.158	52	72	45	7.78
EP6-II	0.193	2	83	40	4.62
EP6-III	0.094	7	36	45	2.56
EP6-IV	0.066	50	34	45	3.24
EP6-V	0.102	5	35	45	2.78
EP6-VI	0.190	37	100	40	4.95
EP7-I	0.055	50	28	40	2.65
EP7-II	0.049	29	20	45	1.79
EP7-III	0.082	57	53	40	4.27

Water Quality Improvements for East Pueblo:

Currently, there are no water quality improvement features within the East Pueblo basin. Two ponds are proposed which will treat the majority of the East Pueblo basin.

Damson Street Water Quality Pond

Basins EP3 and portions of basin EP7 could be treated with a proposed water quality pond in Basin EP5-I, at the intersection of Portland Avenue and Evergreen Street. From Urban Drainage and Flood Control Criteria for water quality sizing, this pond would need to be approximately 3 ac-ft in size for a 40-hour detention time. There is an existing lake in Basin EP6-V located just east of the treatment plant which this water quality basin could outfall into. Assuming this basin was connected to the existing lake in Basin EP6-V with an open channel, it would be approximately 3200 feet in length, with an average slope of approximately 0.15%. One advantage of such a shallow slope is an increase in water quality benefits due to the slower-flowing runoff, and a decrease in possible problems due to erosion.

Ash Street Water Quality Pond

An open parcel near the intersection of Ash and Queens could serve as a water quality basin for treatment of runoff from portions of basins EP3, EP4, and EP7. As noted above, the Queens Avenue upgrade system would outfall into this water quality basin. Approximately 1.7 ac-ft of water quality storage is required for this treatment pond. This pond will be drained by the proposed channel that is used to drain the Damson Street water quality pond. A 48" conduit is needed to take flows from this pond under the railroad tracks. Once flows are south of the railroad tracks, a short open channel is proposed to convey flows to the Damson Street water quality outfall channel.

East Fountain Creek (EFC)

Basin Description: The East Fountain Creek Basin adjoins the East Dry Creek Basin on the east, the East Pueblo Basin on the south, and the West Fountain Creek Basin on the West. The East Fountain Creek Basin is mostly developed except for its northeasterly portion. It includes a mix of commercial, residential, and industrial uses. The total area of the Basin as delineated in this study is 3,300 acres. A few primary features in the Basin are Fountain Creek and the CSU at Pueblo Campus. Additional features include State Highway No. 50.

Drainage Deficiencies: Historic flooding has occurred at several locations in the East Fountain Creek Basin. According to the latest information, housing damage due to flooding has been reported in several areas. Street and intersection flooding has also been reported in several areas. Since there is very little drainage infrastructure in the older residential neighborhoods, there are many reported occurrences of street and intersection flooding. Areas of East Fountain that do contain a storm sewer system have a much lower reported rate of street/intersection flooding. One prominent location of flooding, based on resident input, is Belmont Park.


Drainage Channel along 47th Street


Fountain Creek

Drainage Problem Areas:

Belmont Park: Road flooding will be resolved by increasing detention storage in the park.

Alternative Components:

Bonforte Blvd. Storm Sewer

Currently, Bonforte Blvd. street capacities are exceeded during storm events in Belmont. Flooding will be alleviated by the construction of a proposed storm sewer from Robertson Road to Belmont Park in Bonforte Blvd. The storm sewer will be designed to intercept the 100-year flows that cannot be handled in the existing street right-of-ways. The Bonforte Boulevard system is tributary to the Bonforte Detention Pond in Belmont Park. An energy dissipater or armoring will be required to protect the park landscaping.

Bonforte Detention Pond

A regional detention pond currently exists in Belmont Park. Proposed improvements to the existing pond include raising the top of berm elevation to increase storage capacity, which will alleviate downstream flooding. The regional pond will serve existing development to the north and east. The regional pond is located along a main drainage corridor tributary to Fountain Creek. The regional detention basin serves approximately 200 acres. It is intended to detain runoff such that it can pass through the existing storm sewer system downstream.

XP-Storm results have shown that there are several capacity-deficient areas in the southern portion of the East Fountain Creek basin.

4th Street Storm Sewer

Currently, 4th Street capacities are exceeded during storm events resulting in street and intersection flooding. Flooding will be alleviated by upsizing of the existing storm sewer from Hudson Avenue to Fountain Creek. The storm sewer will be designed to intercept 100-year flows that cannot be handled in the existing street right-of-ways.

5th Street Storm Sewer

Capacities in 5th Street are exceeded during storm events, which results in street and intersection flooding. Flooding will be alleviated by upsizing of the existing storm sewer from Hudson Avenue to Fountain Creek. The storm sewer will be designed to intercept 100-year flows that cannot be handled in the existing street right-of-ways.

7th Street Storm Sewer

Street and intersection flooding currently results during storm events in 7th Street. Flooding will be alleviated by upsizing of the existing storm sewer in Hudson Avenue from 9th Street to 7th Street, and by upsizing the existing storm sewer in 7th Street from Hudson Avenue to Fountain Creek. The storm sewer will be designed to intercept 100-year flows that cannot be handled in the existing street right-of-ways.

8th Street Storm Sewer

Currently, 8th Street capacities are exceeded during storm events resulting in street and intersection flooding. Flooding will be alleviated by upsizing of the existing storm sewer from Hudson Avenue to Fountain Creek. The storm sewer will be designed to intercept 100-year flows that cannot be handled in the existing street right-of-ways.

Cost:

Detailed cost analyses for the East Fountain Creek Improvements are included in the Technical Appendix. A summary cost table is provided in this report.

Hydrology:

East Fountain Creek Existing Conditions Analysis

Basin ID	Area (sq-mi)	Impervious %	Max Flow (cfs)	Time to Peak (mins)	Total surface runoff (ac-ft)
1I	0.246	2	212.8	50	22.103
1II	0.281	17	307.5	45	29.461
1III	0.153	42	288.3	40	17.216
1IV	0.132	58	306.8	40	17.504
1V	0.192	25	431.1	35	19.949
1VI	0.174	9	202.8	45	17.147
1VII	0.243	45	438.4	45	30.16
1VIII	0.197	48	597.6	35	24.964
1IX	0.235	48	514.1	40	29.674
1X	0.136	46	285.9	40	16.435
1XI	0.101	55	537.2	30	13.345
1XIIA	0.1	64	241.2	40	13.787
1XIIB	0.149	64	371.2	40	20.543
1XIII	0.105	39	176.0	40	12.224
1XIV	0.026	72	83.8	35	3.707
2I	0.164	46	498.2	35	20.089
2II	0.209	49	597.6	35	26.376
2III	0.112	46	277.5	35	13.843
2IV	0.109	45	231.2	40	13.12
2V	0.117	45	235.9	40	13.591
2VI	0.196	45	847.3	30	21.749
2VII	0.15	45	284.4	35	11.447
2VIII	0.058	44	125.5	35	6.338
2IX	0.176	49	505.0	30	14.387
2X	0.193	65	523.0	35	21.776
3I	0.058	49	114.0	35	4.739
3II	0.039	74	161.1	30	4.98
3III	0.11	45	315.4	35	12.495
3IV	0.071	66	336.4	30	8.089
3V	0.117	62	466.5	30	15.663
3VIA	0.028	52	51.2	40	3.518
3VIB	0.041	52	80.0	40	5.277
3VII	0.102	46	358.2	30	12.114
3VIII	0.021	50	42.4	40	2.672
3IX	0.05	49	194.0	30	6.207
3X	0.023	60	71.4	35	3.091
3X	0.022	60	68.9	35	2.956
3XI	0.184	48	591.4	35	22.972
3XII	0.124	52	376.1	35	15.749
3XIII	0.079	68	233.1	35	9.487
3XIV	0.047	42	79.0	40	5.222

Water Quality Improvements for East Fountain Creek:

The majority of the East Fountain Creek basin is developed, therefore, locations for water quality are limited. One location that could be modified to incorporate water quality is in Belmont Park. Water quality basins or other appurtenances for the undeveloped portion of the basin will be located and constructed in future subdivisions as development occurs. Water quality will be accommodated on a site-by-site basis.

West Fountain Creek (WFC)

Basin Description: The West Fountain Creek Basin adjoins the East Fountain Creek Basin on the east, the Central Pueblo Basin on the south, and the Wildhorse Dry Creek Basin on the West. The West Fountain Creek Basin is mostly developed except for its northerly portion. It includes a mix of commercial, residential, and industrial uses. The total area of the Basin as delineated in this study is 4,200 acres. A few primary features in this basin are Fountain Creek, Mineral Palace Park, and the Pueblo Golf and Country Club. Additional features include State Highway No. 50 and I-25.

Drainage Channel near I-25 and State Highway No. 50.

Detention Pond near I-25 and 28th Street

Drainage Deficiencies: Historic flooding has occurred at several locations in the West Fountain Basin. According to the latest information, housing damage due to flooding has been reported in several areas. Street and intersection flooding has also been reported in several areas. Since there is very little drainage infrastructure in the older residential neighborhoods, there are many reported occurrences of street and intersection flooding. Areas of West Fountain that do contain a storm sewer system have a much lower reported rate of street/intersection flooding. One prominent location of flooding, based on resident input, is the residential neighborhood adjacent to the west right-of-way line of I-25 near the Mineral Palace Park.

Drainage Problem Areas:

Mineral Palace Park: Flooding will be resolved by increasing the size of the I-25 storm sewer crossings.

Alternative Components:

Club Manor Storm Sewer

Currently, street flooding occurs on Club Manor Drive between Fortino Boulevard and Patty Lane. Flooding will be alleviated by upsizing of the existing Club Manor storm sewer crossing. The storm sewer outfalls to the west through private property to an open channel that flows south towards the I-25 - State Highway intersection. The storm sewer will be designed to intercept the 100-year flows and convey those flows to the east.

Elizabeth Street Detention Pond

A detention pond is proposed along the I-25 right-of-way north of the existing frontage road that connects to 30th Street. Currently, flooding occurs along this corridor, causing street flooding in the frontage road, which then contributes to street flooding at 29th Street. The proposed detention pond will alleviate downstream flooding. The pond will serve existing development to the west. The detention basin will serve approximately 100 acres, and it will outlet to the existing frontage road curb and gutter.

I-25 Storm Sewer crossings

Currently, street flooding occurs along the west right-of-way of I-25 between 21st Street and 13th Street. Flooding will be alleviated by upsizing of the existing Interstate storm sewer crossings at 13th, 19th, 20th and 21st Street. The storm sewer outfalls will begin at the west right-of-way line and terminate at Fountain Creek. An energy dissipater or armoring will be required to protect the natural channel. The storm sewer will be designed to intercept 100-year flows and convey those flows to the east.

19th Street Storm Sewer

Local neighborhood street capacities are exceeded during storm events in the neighborhood north of Mineral Palace Park. Flooding will be alleviated by upsizing of the existing storm sewer system from 27th Street and Elizabeth Street south to 25th Street; thence east to Court Street; thence south to 19th Street; thence east to the I-25 right-of-way. The storm sewer will be designed to intercept 100-year flows that cannot be handled in the existing street right-of-ways. The 19th Street storm sewer is tributary to the I-25 crossing and Fountain Creek.

13th Street Storm Sewer

Storm events in the neighborhood surrounding Mineral Palace Park cause local neighborhood street capacities to be exceeded. Flooding will be alleviated by upsizing of the existing storm sewer system from 18th Street and Court Street south to 13th Street; thence east to the I-25 right-of-way. The storm sewer will be designed to intercept the 100-year flows that cannot be handled in the existing street right-of-ways. The 13th Street storm sewer is tributary to the I-25 crossing and Fountain Creek.

Cost:

Detailed cost analyses for the West Fountain Creek Improvements are included in the Technical Appendix. A summary cost table is provided in this report.

Hydrology:

West Fountain Creek Existing Conditions Analysis

Basin ID	Area (sq-mi)	Impervious %	Max Flow (cfs)	Time to Peak (mins)	Total surface runoff (ac-ft)
1I	0.268	2	219.6	50	24.693
1II	0.155	7	125.0	50	15.024
1III	0.091	35	137.0	40	10.443
1IV	0.115	8	100.6	55	11.244
2I	0.044	2	43.9	50	4.054
2II	0.065	3	56.4	55	6.06
3I	0.362	24	387.0	50	37.037
4I	0.112	52	345.2	35	14.554
5I	0.318	42	575.5	40	38.511
5II	0.113	26	147.6	40	11.758
6I	0.041	26	103.3	35	4.359
7I	0.277	21	258.1	50	27.684
7II	0.078	40	136.0	40	9.341
7III	0.068	63	224.1	35	9.369
7IV	0.039	50	121.8	35	4.877
7V	0.157	45	448.3	35	19.528
7VI	0.082	48	207.5	35	10.349
8I	0.127	3	99.6	50	11.822
8II	0.133	51	291.6	40	16.498
8III	0.028	83	160.8	30	3.936
8V	0.117	45	271.3	35	13.632
8VI	0.061	37	188.4	30	6.258
8VII	0.149	77	469.0	35	19.946
9I	0.081	35	173.7	35	9.267
10I	0.102	77	491.6	30	13.628
10II	0.024	70	78.0	35	3.347
10III	0.046	85	198.6	30	6.564
10IV	0.076	55	295.8	30	10.067
11I	0.266	63	694.0	40	36.682
11II	0.03	94	158.0	30	4.495
12I	0.208	54	552.8	35	26.372
12II	0.086	90	292.1	35	12.691
13I	0.096	91	316.5	35	14.175
13II	0.076	71	393.9	30	10.841
14I	0.055	88	174.0	35	8.035
15I	0.08	69	246.3	35	11.318
16I	0.079	79	241.5	35	10.936
16II	0.094	77	365.6	30	12.752
18I	0.103	57	263.3	35	13.785
18II	0.027	90	100.6	30	3.984
18III	0.143	57	302.8	40	19.13
18IV	0.025	85	135.4	30	3.592

Basin ID	Area (sq-mi)	Impervious %	Max Flow (cfs)	Time to Peak (mins)	Total surface runoff (ac-ft)
18V	0.125	54	227.4	45	16.468
18VI	0.093	54	247.6	35	12.245
19I	0.046	73	150.2	35	6.608
19II	0.02	57	98.9	30	2.68
20I	0.179	93	410.1	45	26.668
21I	0.037	80	162.7	30	5.156
22I	0.094	51	191.5	40	12.153
22II	0.03	51	92.1	35	3.881
22III	0.009	50	28.9	30	1.157
22IV	0.014	47	50.7	30	1.763
22V	0.013	53	43.8	30	1.702
22VI	0.028	49	75.0	35	3.571
22VII	0.016	66	61.7	30	2.238
23I	0.063	48	149.5	35	7.992
23II	0.096	47	215.9	35	12.082
23III	0.073	48	186.6	35	9.255
23IV	0.07	48	143.2	40	8.82
23V	0.129	46	284.6	40	16.044
23VI	0.071	45	171.5	35	8.836
23VII	0.026	47	72.5	35	3.273
24I	0.065	61	134.3	40	8.893
25I	0.067	50	295.6	30	8.609
26I	0.051	45	118.5	35	6.313
26IIB	0.36	58	1178.7	35	48.439
26IIC	0.36	58	1178.7	35	48.439
27I	0.045	83	172.4	30	6.389

Water Quality Improvements for West Fountain Creek:

The majority of the West Fountain Creek basin is developed, therefore locations for water quality are limited. One location that could be modified to incorporate water quality is Outlook Park near Outlook Boulevard and Eagleridge Boulevard. Additional areas that could be utilized for water quality are the storm sewer discharge points at Fountain Creek. Water quality basins or other appurtenances for the undeveloped portions of the basin will be located and constructed in future subdivisions as development occurs. Water quality will be accommodated on a site-by-site basis.

East Dry Creek (EDC)

Basin Description: The East Dry Creek Basin adjoins the East Fountain Creek Basin on the west, the East Pueblo Basin on the southeast and the Arkansas River on the South. The East Dry Creek Basin is partly developed. The northerly portion of the basin is undeveloped. This basin includes a mix of commercial and residential uses. The total area of the basin as delineated in this study is 4,550 acres. A few primary features in this Basin are East Dry Creek, the CSU at Pueblo Campus and the Arkansas River. Additional features include State Highway No. 50.


State Highway No. 50 bridge crossing

Drainage Deficiencies: Historic flooding has occurred at several locations in the East Dry Creek basin. According to the latest information, housing damage due to flooding has been reported in several areas. Street and intersection flooding has also been reported in several areas. Since there is very little drainage infrastructure in the older residential neighborhoods, there are many reported occurrences of street and intersection flooding. Areas of East Dry Creek that do contain a storm sewer system have a much lower reported rate of street/intersection flooding.

Drainage Problem Areas:


Railroad Bridge Crossing: Flooding will be alleviated by improving channel capacity and providing detention area upstream of the crossing.

Alternatives:

47th Street Pond

A regional detention pond is proposed north of State Highway No. 47 near the future 47th Street road alignment. This regional pond will serve future development to the north of, and adjacent to, the CSU at Pueblo Campus. It will be located along a main drainage corridor of East Dry Creek. This regional detention basin serves approximately 1,000 acres with a required storage volume of approximately 130 acre-ft. The regional detention pond is intended to be an on-line detention pond located in the 100-year flood plain. The regional pond can be constructed in phases as development occurs in the tributary basin.

East Dry Creek Channel Improvements

There is a flooding problem adjacent to the East Dry Creek channel between State Highway No. 47 and the Arkansas River. To alleviate flooding issues, channel improvements are recommended to increase the channel capacity through the referenced section. An alternate would be to create detention areas at road and bridge crossings in areas of concern to lower the water surface elevation. A lower water surface elevation would allow the 100-year flows to remain within the channel banks.

9th Street Storm Sewer

Currently, local neighborhood street capacities are exceeded during storm events in the neighborhood north of 4th Street. Flooding will be alleviated by upsizing the existing storm sewer system from 9th Street and Ogden Avenue to East Dry Creek. The storm sewer will be designed to intercept 100-year flows that cannot be handled in the existing street right-of-ways.

Cost:

Detailed cost analyses for the East Dry Creek Improvements are included in the Technical Appendix. A summary cost table is provided in this report.

Hydrology:

East Dry Creek Existing Conditions Analysis

Basin ID	Area (sq-mi)	Impervious %	Max Flow (cfs)	Time to Peak (mins)	Total surface runoff (ac-ft)
1I	0.371	5	320.4	50	34.505
1II	0.275	17	367.8	40	27.121
1III	0.41	7	265.6	55	37.166
1IV	0.195	68	531.0	35	25.444
1V	0.076	71	228.9	35	10.136
1VI	0.099	71	283.9	35	13.204
2I	0.079	49	169.0	40	9.122
2II	0.034	45	108.6	30	4
2III	0.034	45	108.6	30	4
2IV	0.161	45	333.5	40	18.285
2VI	0.064	45	141.6	35	7.321
2VII	0.113	46	256.8	35	13.363
2VIII	0.191	52	364.4	40	22.72
2IX	0.059	44	125.6	35	6.905
3I	0.089	50	249.0	35	10.527
3II	0.158	47	341.9	40	18.609
3III	0.207	39	412.8	40	23.474
3IV	0.09	45	197.6	35	10.542
3V	0.052	45	123.3	35	6.117
4I	0.122	51	354.0	35	14.8
4II	0.285	33	401.7	45	31.433
4III	0.169	61	507.2	35	21.537
4IV	0.105	58	300.6	35	13.188
4V	0.164	43	325.9	40	19.092
4VI	0.024	45	77.4	30	2.823
4VII	0.044	45	148.4	30	5.176
4VIII	0.153	20	203.9	40	15.664
4IX	0.015	45	43.2	35	1.765
4X	0.052	58	167.5	35	6.531
4XI	0.1	37	180.1	40	11.274
4XII	0.029	18	46.1	40	2.934
4XIII	0.083	46	216.7	35	9.815
5I	0.059	47	181.7	35	6.978
5II	0.106	7	131.0	40	9.531
5III	0.184	25	188.3	50	19.271
5IV	0.22	34	301.4	45	24.345
6I	0.091	23	154.2	40	9.482
6II	0.058	2	105.2	35	5.304
6III	0.197	28	311.3	40	21.126
6IV	0.027	45	72.0	35	3.176
6V	0.146	45	310.4	40	17.176
6VI	0.14	45	234.6	45	16.47

Basin ID	Area (sq-mi)	Impervious %	Max Flow (cfs)	Time to Peak (mins)	Total surface runoff (ac-ft)
6VII	0.162	32	177.5	50	17.768
6VIII	0.238	37	266.3	55	26.833
6VIIII	0.02	45	61.9	30	2.353
6X	0.035	28	94.1	30	3.753
6XI	0.037	19	65.3	35	3.766
6XII	0.042	6	62.4	40	3.943
6XIII	0.065	2	78.3	45	5.944
6XIV	0.047	2	39.1	55	4.298
6XV	0.197	6	141.4	50	18.493
6XVI	0.12	13	90.3	50	11.775
6XVII	0.104	2	86.4	50	9.464
6XVIII	0.034	2	48.8	40	3.109
6XVIIII	0.038	2	41.5	45	3.475
6XXI	0.076	2	100.0	40	6.649
6XXII	0.04	2	64.2	40	3.64
6XXIII	0.023	2	40.8	35	2.097
6XXIV	0.01	2	18.9	35	0.914
6XXV	0.023	2	30.9	40	1.977
6XXVI	0.03	2	33.1	45	2.514
6XXVII	0.024	2	32.8	40	2.195
6XXVIII	0.043	2	54.7	40	3.605
6XXVIIII	0.212	2	124.4	50	11.934
6XXX	0.068	2	57.4	40	3.719

Water Quality Improvements for East Dry Creek:

The northerly portion of the East Dry Creek basin is undeveloped. Water quality basins or other appurtenances for the undeveloped portion of the basin will be located and constructed in future subdivisions as development occurs. Water quality will be accommodated on a site-by-site basis.

REFERENCES

The City of Pueblo Master Storm Drainage Plan. May 1995.

Storm Drainage Design Criteria & Drainage Policies, City of Pueblo. June 1997.

Urban Drainage & Flood Control District. *Urban Storm Drainage Criteria Manual, Volumes I and II.* June 2001.

Urban Drainage & Flood Control District. *Urban Storm Drainage Criteria Manual, Volume III.* September 1999, revised June 2002.

"Peak Flow Control for Full Spectrum of Design Storms", Jim Wulliman, P.E., Muller Engineering Company and Ben Urbonas, P.E., Urban Drainage & Flood Control District, January 1, 2005

XP-STORM Version 9.5, Stormwater Management Model, XP Software © 2004.

Appendix A

- **Project Priority Spreadsheet**

Project Priority Spreadsheet
Existing Drainage Problem Projects

Evaluation Considerations (City of Pueblo Evaluation)

Pueblo Drainage Basin	Project Name	Project Cost	Potential for Enhancing Public Safety		Multi-Use Benefits of the Project		Citizenry Activism in Favor		Frequency of Flooding		Benefit to Cost Ratio		Ease of Phasing the Project for "Pay as you go construction"		Overall Project Priority Rating	Rank for Major City Drainage Basin	Overall Rank
			Rate from 1 to 3 for Low - Medium- High	Evaluator Weighting Factor (1 to 3)	Rate from 0 to 3 for None- Low- Medium- High	Weighting Factor (1 to 3)	Rate from 1 to 3 for Low - Medium- High	Evaluator Weighting Factor (1 to 3)	Rate from 1 to 3 for Low- Medium-High	Evaluator Weighting Factor (1 to 3)	Rate from 1 to 3 for Low - Medium- High	Weighting Factor (1 to 3)	Rate from 1 to 3 for Low - Medium- High	Evaluator Weighting Factor (1 to 3)			
Central Pueblo	Francesco Street Improvements	$569,181	3	2	1	2	3	2	3	2	1	2	3	2	28	4	23
Central Pueblo	Conley Street Improvements	$901,370	3	3	1	2	3	2	3	2	2	2	3	2	33	2	14
Central Pueblo	8th Street Imoriovements	$2,102,288	3	3	1	2	3	3	3	3	2	3	2	3	41	1	5
Central Pueblo	Water Quality Basin	$263,190	2	2	3	2	3	3	2	2	2	2	3	2	33	2	14
Central Pueblo	Infiltration and Outfall	$965,000	2	2	3	1	3	3	2	2	1	2	2	2	26	5	25
East Dry Creek	9th Storm Sewer	$1,776,275	2	3	1	2	2	2	1	2	1	2	1	2	18	3	48
East Dry Creek	EDC Channel Improvements	$578,078	2	2	2	3	1	2	1	2	2	2	1	2	20	2	42
East Dry Creek	**Channel Stabilization**	$2,850,000	2	2	2	3	1	2	2	2	2	1	3	2	24	1	29
East Fountain	Bonforte Storm Sewer (upstream of park)	$1,386,635	3	3	1	2	2	2	3	3	2	1	2	2	30	2	20
East Fountain	Bonforte Detention Pond	$71,321	3	2	3	3	3	2	3	2	3	1	2	2	34	1	12
East Fountain	4th Street Storm Sewer	$560,480	1	2	1	2	2	2	2	2	1	2	2	2	18	3	48
East Fountain	5th Street Storm Sewer	$680,685	1	2	1	2	2	2	2	2	1	2	2	2	18	3	48
East Fountain	7th Street Storm Sewer	$648,167	1	2	1	2	2	2	2	2	1	2	2	2	18	3	48
East Fountain	8th Street Storm Sewer	$897,716	1	2	1	2	2	2	2	2	1	2	2	2	18	3	48
East Pueblo	Norwood Ave. Improvements	$187,500	3	2	1	2	3	2	3	2	2	1	2	2	26	3	25
East Pueblo	**Norwood Ave. & 9th Improvements**	$940,681	2	2	1	2	2	2	2	2	1	2	1	2	18	5	48
East Pueblo	Ogden St. Improvements	$1,021,378	2	2	1	3	2	3	2	3	1	2	2	2	25	4	28
East Pueblo	Queens/Portland Ave. Improvements	$1,299,681	3	2	2	1	3	3	3	3	2	2	2	2	34	1	12
East Pueblo	Water Quality Ponds	$2,968,841	2	2	3	2	2	3	3	3	2	2	2	2	33	2	14
Goodnight Arroyo	Red Creek Culvert	$509,756	3	3	1	3	3	1	3	2	3	3	2	1	32	1	18
Goodnight Arroyo	**Thatcher Channel (county)**	$1,445,194	3	2	1	2	1	2	3	2	1	1	1	2	19	2	48
Lake Minnequa	AVC-1	$2,672,670	3	2	2	3	3	2	2	2	2	2	1	2	28	7	23
Lake Minnequa	Aster-Pueblo Blvd. - 1	$3,218,278	3	3	1	1	3	2	3	3	3	3	3	3	43	4	4
Lake Minnequa	(Tucci-1)	$904,466	3	2	1	1	3	3	3	3	2	2	2	2	33	5	14
Lake Minnequa	Minnequa Feeder Ditch -1	$467,717	3	2	3	3	2	2	3	3	3	3	3	3	46	1	1
Lake Minnequa	Lakeshore-1	$688,813	2	2	1	1	2	2	3	2	2	1	1	1	18	8	48
Lake Minnequa	Lake Ave. - 1	$7,745,958	2	2	1	1	2	2	3	2	2	1	1	1	18	8	48
Lake Minnequa	Lake Minnequa -1	$3,520,079	3	2	3	3	3	3	3	3	3	3	2	2	46	1	1
Lake Minnequa	Lake Minnequa -1	$301,614	3	2	3	2	3	3	3	3	3	3	3	2	45	3	3
Lake Minnequa	**I-25 Pond**	$445,410	3	2	3	2	2	1	3	3	2	3	1	2	31	6	19
Southwest Pueblo	Central High Detention Pond	$5,060,724	2	3	3	1	2	2	2	2	2	2	1	2	23	4	34
Southwest Pueblo	Boulder/Madison Outfall	$1,465,457	2	3	1	2	2	2	3	2	2	2	2	1	24	2	29
Southwest Pueblo	4th Street Outfall	$1,483,294	2	3	1	1	2	3	3	3	3	3	2	2	35	1	11
Southwest Pueblo	Abriendo-Main Outfall	$1,917,525	1	2	1	2	1	2	2	1	2	1	2	1	12	11	63
Southwest Pueblo	Northern & Lake Avenue Improvements	$6,467,870	1	2	1	1	3	1	3	2	2	1	2	2	18	8	48
Southwest Pueblo	Sprague Improvements	$3,035,071	3	3	1	2	2	1	3	2	2	1	3	1	24	2	29
Southwest Pueblo	Bay State Improvements	$2,633,554	2	3	1	1	2	2	3	2	2	2	1	1	22	5	35
Southwest Pueblo	Northern Avenue Improvements-Mesa?	$1,666,770	1	2	1	2	2	2	2	2	2	1	1	2	16	10	62
Southwest Pueblo	Sage Thatcher Improvements	$1,881,192	2	2	1	2	3	2	2	2	2	1	2	1	20	6	42
Southwest Pueblo	Lake Minneque 48" Pipe Outfall	$696,846	1	2	1	2	2	2	3	1	2	1	2	2	17	9	61
Southwest Pueblo	Alt. for Upsizing Madison Street Outfall	$2.429.173	1	2	1	1	2	3	3	2	2	1	2	1	19	7	45
West Fountain	**Club manor storm**	$96,096	3	2	1	1	2	2	2	2	2	2	1	1	20	8	42
West Fountain	Elizabeth Pond	$83,333	2	2	3	1	1	2	3	3	3	2	1	2	26	1	25
West Fountain	19th Storm	$2,684,945	2	2	1	1	2	2	3	2	2	1	2	2	21	6	40
West Fountain	13th Storm	$1,177,702	2	2	1	1	2	2	3	2	2	1	2	2	21	6	40
West Fountain	**19th Storm _I-25 crossing**	$164,902	3	2	1	2	2	2	3	2	2	1	1	2	22	2	35
West Fountain	**21st Storm I-25 Crossing**	$200,661	3	2	1	2	2	2	3	2	2	1	1	2	22	2	35
West Fountain	**20th Storm I-25 Crossing**	$151,652	3	2	1	2	2	2	3	2	2	1	1	2	22	2	35
West Fountain	**13th Storm-I-25 Crossing**	$171,659	3	2	1	2	2	2	3	2	2	1	1	2	22	2	35
Wild Horse	23rd Pond	$156,907	3	3	3	2	3	3	3	2	2	2	1	2	36	2	7
Wild Horse	Bancroft Pond	$176,802	3	3	3	2	3	3	3	2	2	2	1	2	36	2	7
Wild Horse	18th Pond	$136,411	3	3	3	2	3	3	3	2	2	2	1	2	36	2	7
Wild Horse	15th Pond	$149,399	3	3	3	2	3	3	3	2	2	2	1	2	36	2	7
Wild Horse	16th Storm	$782,432	2	3	1	2	3	2	3	2	2	2	3	2	30	6	20
Wild Horse	11th Storm	$920,082	2	3	1	2	3	2	3	2	2	2	3	2	30	6	20
Wild Horse	Norwich Storm	$939,864	3	2	1	2	2	1	2	2	2	1	2	1	18	11	48
Wild Horse	Atlanta Channel	$106,982	3	2	1	2	2	1	2	2	2	1	2	1	18	11	48
Wild Horse	Atlanta Culvert (15th Street channel)	$204,579	3	3	1	2	3	3	3	3	3	2	1	3	38	1	6
Wild Horse	Cheyenne Storm 2	$289,782	2	2	1	2	2	2	3	1	2	1	2	2	19	10	45
Wild Horse	Halleck Storm	$660,785	3	2	1	2	2	1	2	2	2	1	2	1	18	11	48
Wild Horse	Cheyenne Storm	$319,256	3	2	1	2	2	1	2	2	2	1	2	1	18	11	48
Wild Horse	Perry Channel	$484,234	3	2	2	2	2	2	3	2	2	1	2	1	24	8	29
Wild Horse	**Channel Stabilization**	$4,900,000	2	2	2	3	1	2	2	2	2	1	3	2	24	8	29
		$86,284,363															

LEGEND

RED-dependant on future development

GREEN -dependant on other project from another drainage basin

BLUE -project located outside of city limits

ORANGE -project partially depends on future development

PINK -Colorado Department of Transportation project

Project Priority Spreadsheet
Existing Drainage Problem Projects

Evaluation Considerations (Consultant Evlaution)

Pueblo Drainage Basin	Project Name	Project Cost	Total cost par basin	Potential for Enhancing Public Safety		Multi-Use Benefits of the Project		Citizenry Activism in Favor		Frequency of Flooding		Benefit to Cost Ratio		Ease of Phasing the Project for "Pay as you go construction"		Overall Project Priority Rating	Rank for Major City Drainage Basin	*Consultant Overall Rank*	City of Pueblo Overall Project Priority Rating	*City Staff Overall Rank*	Overall Project Priority Rating	***Overall Rank***
				Rate from 1 to 3 for Low - Medium- High	Evaluator Weighting Factor (1 to 3)	Rate from 0 to 3 for None- Low- Medium- High	Weighting Factor (1 to 3)	Rate from 1 to 3 for Low - Medium- High	Evaluator Weighting Factor (1 to 3)	Rate from 1 to 3 for Low- Medium-High	Evaluator Weighting Factor (1 to 3)	Rate from 1 to 3 for Low - Medium- High	Weighting Factor (1 to 3)	Rate from 1 to 3 for Low - Medium- High	Evaluator Weighting Factor (1 to 3)							
Central Pueblo	Francesco Street Improvements	$569,181		2	3	1	2	2	3	2	3	1	2	3	1	25	2	30	28	23	26.5	25
Central Pueblo	Conley Street Improvements	$901,370		2	3	1	2	2	2	2	3	2	2	3	1	25	2	30	33	14	29	18
Central Pueblo	8th Street Imoriovements	$2,102,288		2	3	1	2	2	1	2	3	2	2	2	1	22	5	38	41	5	31.5	14
Central Pueblo	Water Quality Basin	$263,190		2	3	3	2	2	1	2	3	2	2	3	1	27	1	23	33	14	30	17
Central Pueblo	Infiltration and Outfall	$965,000	$4,801,029	2	3	3	2	2	1	2	3	1	2	2	1	24	4	33	26	25	25	27
East Dry Creek	9th Storm Sewer	$1,776,275		2	3	1	2	2	2	1	3	1	2	1	1	18	1	53	18	48	18	56
East Dry Creek	EDC Channel Improvements	$578,078		2	3	1	2	1	2	1	3	2	2	1	1	18	1	53	20	42	19	51
East Dry Creek	**Channel Stabilization**	$2,850,000	$5,204,353	1	3	1	2	1	2	1	3	2	2	3	1	17	3	56	24	29	20.5	43
East Fountain	Bonforte Storm Sewer (upstream of park)	$1,386,635		2	3	1	2	2	2	3	3	2	2	2	1	27	2	23	30	20	28.5	19
East Fountain	Bonforte Detention Pond	$71,321		2	3	3	2	2	2	3	3	3	2	1	1	32	1	3	34	12	33	7
East Fountain	4th Street Storm Sewer	$560,480		1	3	1	2	1	2	2	3	1	2	1	1	16	3	57	18	48	17	59
East Fountain	5th Street Storm Sewer	$680,685		1	3	1	2	1	2	2	3	1	2	1	1	16	3	57	18	48	17	59
East Fountain	7th Street Storm Sewer	$648,167		1	3	1	2	1	2	2	3	1	2	1	1	16	3	57	18	48	17	59
East Fountain	8th Street Storm Sewer	$897,716	$4,245,004	1	3	1	2	1	2	2	3	1	2	1	1	16	3	57	18	48	17	59
East Pueblo	Norwood Ave. Improvements	$187,500		2	3	1	2	3	2	3	3	2	2	2	1	29	3	14	26	25	27.5	21
East Pueblo	**Norwood Ave. & 9th Improvements**	$940,681		2	3	1	2	2	2	2	3	1	2	1	1	21	5	46	18	48	19.5	48
East Pueblo	Ogden St. Improvements	$1,021,378		2	3	1	2	2	2	2	3	1	2	2	1	22	4	38	25	28	23.5	37
East Pueblo	Queens/Portland Ave. Improvements	$1,299,681		2	3	2	2	3	2	3	3	2	2	2	1	31	1	5	34	12	32.5	11
East Pueblo	Water Quality Ponds	$2,968,841	$6,418,081	2	3	3	2	2	2	3	3	2	2	2	1	31	1	5	33	14	32	12
Goodnight Arroyo	Red Creek Culvert	$509,756		2	3	1	2	3	2	3	3	3	2	1	1	30	1	9	32	18	31	16
Goodnight Arroyo	**Thatcher Channel (county)**	$1,445,194	$1,954,950	2	3	1	2	2	2	3	3	1	2	1	1	24	2	33	19	45	21.5	39
Lake Minnequa	AVC-1	$2,672,670		2	3	1	2	2	2	2	3	3	2	2	1	26	6	27	28	23	27	24
Lake Minnequa	**Aster-Pueblo Blvd. - 1**	$3,218,278		3	3	1	2	3	2	3	3	2	2	1	1	31	3	5	43	4	37	3
Lake Minnequa	(Tucci-1)	$904,466		3	3	1	2	3	2	3	3	3	2	2	1	34	1	1	33	14	33.5	5
Lake Minnequa	Minnequa Feeder Ditch -1	$467,717		2	3	3	2	2	2	2	3	3	2	2	1	30	4	9	46	1	38	2
Lake Minnequa	Lakeshore-1	$688,813		2	3	1	2	2	2	2	3	1	2	1	1	21	8	46	18	48	19.5	48
Lake Minnequa	Lake Ave. - 1	$7,745,958		2	3	1	2	1	2	2	3	1	2	1	1	19	9	50	18	48	18.5	53
Lake Minnequa	Lake Minnequa -1	$3,520,079		3	3	3	2	3	2	2	3	3	2	1	1	34	1	1	46	1	40	1
Lake Minnequa	Lake Minnequa -1	$301,614		2	3	3	2	3	2	2	3	2	2	1	1	29	5	14	45	3	37	3
Lake Minnequa	**I-25 Pond**	$445,410	$19,965,005	2	3	2	2	2	2	1	3	2	2	1	1	22	7	38	31	19	26.5	25
Southwest Pueblo	Central High Detention Pond	$5,060,724		2	3	3	2	2	2	2	3	2	2	1	1	27	2	23	23	34	25	27
Southwest Pueblo	Boulder/Madison Outfall	$1,465,457		2	3	2	2	1	2	2	3	2	2	2	1	24	5	33	24	29	24	36
Southwest Pueblo	4th Street Outfall	$1,483,294		2	3	2	2	2	2	2	3	3	2	2	1	28	1	17	35	11	31.5	14
Southwest Pueblo	Abriendo-Main Outfall	$1,917,525		1	3	1	2	1	2	2	3	2	2	2	1	19	11	50	12	63	15.5	63
Southwest Pueblo	Northern & Lake Avenue Improvements	$6,467,870		1	3	1	2	3	2	3	3	2	2	2	1	26	3	27	18	48	22	38
Southwest Pueblo	Sprague Improvements	$3,035,071		3	3	1	2	2	2	2	3	1	2	3	1	26	3	27	24	29	25	27
Southwest Pueblo	Bay State Improvements	$2,633,554		2	3	1	2	2	2	2	3	1	2	1	1	21	10	46	22	35	21.5	39
Southwest Pueblo	Northern Avenue Improvements-Mesa?	$1,666,770		1	3	2	2	2	2	2	3	2	2	1	1	22	7	38	16	62	19	51
Southwest Pueblo	Sage Thatcher Improvements	$1,881,192		2	3	2	2	1	2	2	3	1	2	2	1	22	7	38	20	42	21	41
Southwest Pueblo	Lake Minneque 48" Pipe Outfall	$696,846		1	3	1	2	2	2	3	3	2	2	2	1	24	5	33	17	61	20.5	43
Southwest Pueblo	Alt. for Upsizing Madison Street Outfall	$2,429,173	$28,737,476	1	3	1	2	1	2	3	3	2	2	2	1	22	7	38	19	45	20.5	43
West Fountain	**Club manor storm**	$96,096		1	3	1	2	1	2	2	3	1	2	1	1	16	6	57	20	42	18	56
West Fountain	Elizabeth Pond	$83,333		2	3	2	2	1	2	2	3	2	2	1	1	23	5	37	26	25	24.5	35
West Fountain	19th Storm	$2,684,945		1	3	1	2	1	2	1	3	1	2	2	1	14	8	63	21	40	17.5	58
West Fountain	13th Storm	$1,177,702		1	3	1	2	2	2	1	3	1	2	2	1	16	6	57	21	40	18.5	53
West Fountain	**19th Storm _I-25 crossing**	$164,902		3	3	1	2	3	2	2	3	2	2	1	1	28	1	17	22	35	25	27
West Fountain	**21st Storm I-25 Crossing**	$200,661		3	3	1	2	3	2	2	3	2	2	1	1	28	1	17	22	35	25	27
West Fountain	**20th Storm I-25 Crossing**	$151,652		3	3	1	2	3	2	2	3	2	2	1	1	28	1	17	22	35	25	27
West Fountain	**13th Storm-I-25 Crossing**	$171,659	$4,730,950	3	3	1	2	3	2	2	3	2	2	1	1	28	1	17	22	35	25	27
Wild Horse	23rd Pond	$156,907		3	3	2	2	3	2	2	3	2	2	1	1	30	3	9	36	7	33	7
Wild Horse	Bancroft Pond	$176,802		3	3	2	2	2	2	2	3	2	2	1	1	28	7	17	36	7	32	12
Wild Horse	18th Pond	$136,411		3	3	2	2	3	2	2	3	2	2	1	1	30	3	9	36	7	33	7
Wild Horse	15th Pond	$149,399		3	3	2	2	3	2	2	3	2	2	1	1	30	3	9	36	7	33	7
Wild Horse	16th Storm	$782,432		2	3	1	2	3	2	2	3	2	2	3	1	27	8	23	30	20	28.5	19
Wild Horse	11th Storm	$920,082		2	3	1	2	2	2	2	3	2	2	3	1	25	9	30	30	20	27.5	21
Wild Horse	Norwich Storm	$939,864		2	3	1	2	2	2	1	3	2	2	2	1	21	12	46	18	48	19.5	48
Wild Horse	Atlanta Channel	$106,982		3	3	2	2	3	2	2	3	3	2	1	1	32	1	3	18	48	25	27
Wild Horse	Atlanta Culvert (15th Street channel)	$204,579		3	3	1	2	2	2	3	3	2	2	1	1	29	6	14	38	6	33.5	5
Wild Horse	Cheyenne Storm 2	$289,782		2	3	1	2	2	2	2	3	1	2	2	1	22	10	38	19	45	20.5	43
Wild Horse	Halleck Storm	$660,785		2	3	1	2	2	2	1	3	1	2	2	1	19	13	50	18	48	18.5	53
Wild Horse	Cheyenne Storm	$319,256		2	3	1	2	2	2	2	3	1	2	2	1	22	10	38	18	48	20	47
Wild Horse	Perry Channel	$484,234		3	3	2	2	2	2	3	3	2	2	1	1	31	2	5	24	29	27.5	21
Wild Horse	**Channel Stabilization**	$4,900,000	$10,227,515	2	3	1	2	1	2	1	3	1	2	3	1	18	14	53	24	29	21	41
		$86,284,363	$86,284,363																			

LEGEND

RED-dependant on future development
GREEN -dependant on other project from another drainage basin
BLUE -project located outside of city limits
ORANGE -project partially depends on future development
PINK -Colorado Department of Transportation project

Project Priority Spreadsheet
Projects Dependant on Future Development

Evaluation Considerations **(City of Pueblo Evaluation)**

Pueblo Drainage Basin	Project Name	Project Cost	Potential for Enhancing Public Safety		Multi-Use Benefits of the Project		Citizenry Activism in Favor		Frequency of Flooding		Benefit to Cost Ratio		Ease of Phasing the Project for "Pay as you go construction"		Overall Project Priority Rating	Rank for Major City Drainage Basin	Overall Rank
			Rate from 1 to 3 for Low - Medium-High	Evaluator Weighting Factor (1 to 3)	Rate from 0 to 3 for None- Low- Medium-High	Weighting Factor (1 to 3)	Rate from 1 to 3 for Low - Medium- High	Evaluator Weighting Factor (1 to 3)	Rate from 1 to 3 for Low- Medium-High	Evaluator Weighting Factor (1 to 3)	Rate from 1 to 3 for Low - Medium- High	Weighting Factor (1 to 3)	Rate from 1 to 3 for Low - Medium- High	Evaluator Weighting Factor (1 to 3)			
East Dry Creek	47 Pond	$1,080,450	3	2	3	2	2	1	1	3	2	3	2	1	25	1	7
East Fountain	Channel Stabilization	$500,000	2	2	2	2	1	2	2	2	2	1	3	1	19	1	25
Goodnight Arroyo	Bandera Pond	$2,844,450	3	2	3	2	2	1	2	2	2	1	2	2	24	1	8
Goodnight Arroyo	Bessemer Pond	$1,433,250	3	2	3	2	2	1	2	2	2	1	2	2	24	1	8
Goodnight Arroyo	Channel Stabilization	$1,920,000	2	2	2	3	1	2	2	2	2	1	3	2	24	1	8
Lake Minnequa	Basin LM4-V Pond	$586,530	3	2	3	2	2	1	2	2	2	1	2	2	24	1	8
Lake Minnequa	Basin LM4-VI Pond	$727,650	3	2	3	2	2	1	2	2	2	1	2	2	24	1	8
Lake Minnequa	Basin LM2-III Pond	$868,770	3	2	3	2	2	1	2	2	2	1	2	2	24	1	8
Lake Minnequa	Basin LM2-IV Pond	$868,770	3	2	3	2	2	1	2	2	2	1	2	2	24	1	8
Lake Minnequa	Basin LM2-V Pond	$868,770	3	2	3	2	2	1	2	2	2	1	2	2	24	1	8
Lake Minnequa	Basin LM2-VI Pond	$657,090	3	2	3	2	2	1	2	2	2	1	2	2	24	1	8
Lake Minnequa	Basin LM8-I Pond	$798,210	3	2	3	2	2	1	2	2	2	1	2	2	24	1	8
Lake Minnequa	Basin LM8-IV Pond	$304,290	3	2	3	2	2	1	2	2	2	1	2	2	24	1	8
Lake Minnequa	Basin LM8-V Pond	$374,850	3	2	3	2	2	1	2	2	2	1	2	2	24	1	8
Lake Minnequa	Basin LM8-VII Pond	$798,210	3	2	3	2	2	1	2	2	2	1	2	2	24	1	8
Lake Minnequa	Basin LM8-VIII-2 Pond	$374,850	3	2	3	2	2	1	2	2	2	1	2	2	24	1	8
Lake Minnequa	Basin LM8-VIII Pond	$868,770	3	2	3	2	2	1	2	2	2	1	2	2	24	1	8
Wild Horse	Honor Farm Pond 1	$586,530	3	2	3	2	1	1	3	2	2	1	1	2	23	7	23
Wild Horse	Honor Farm Pond II	$515,970	3	2	3	2	1	1	3	2	2	1	1	2	23	7	23
Wild Horse	Ranch Drive Pond	$1,080,450	3	3	3	2	2	1	3	2	2	2	1	2	29	2	2
Wild Horse	Purcell Blvd Pond	$1,009,890	3	3	3	2	2	1	3	2	2	2	1	2	29	2	2
Wild Horse	Wild Horse Pond 1 (future Pueblo Blvd)	$1,151,010	3	3	3	2	2	1	3	2	2	2	1	2	29	2	2
Wild Horse	Wild Horse Pond 2	$1,080,450	3	3	3	2	2	1	3	2	2	2	1	2	29	2	2
Wild Horse	Wild Horse Pond 3	$1,220,100	3	3	3	2	2	1	3	2	2	2	1	2	29	2	2
Wild Horse	Hyde Park 1 Channel	$36,599	3	3	1	1	3	3	3	3	2	2	1	3	35	1	1
		$22,555,909															

LEGEND

RED-dependant on future development
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PINK -Colorado Department of Transportation project

Project Priority Spreadsheet
Projects Dependant on Future Development

Pueblo Drainage Basin	Project Name	Project Cost	Total cost per basin	*Evaluation Considerations* Potential for Enhancing Public Safety		Multi-Use Benefits of the Project		*(Consultant Evalutation)* Citizenry Activism in Favor		Frequency of Flooding		Benefit to Cost Ratio		Ease of Phasing the Project for "Pay as you go construction"		Overall Project Priority Rating	Rank for Major City Drainage Basin	*Consultant Overall Rank*	City of Pueblo Overall Project Priority Rating	*City Staff Overall Rank*	Overall Project Priority Rating	***Overall Rank***
				Rate from 1 to 3 for Low - Medium- High	Evaluator Weighting Factor (1 to 3)	Rate from 0 to 3 for None- Low- Medium- High	Weighting Factor (1 to 3)	Rate from 1 to 3 for Low- Medium- High	Evaluator Weighting Factor (1 to 3)	Rate from 1 to 3 for Low- Medium- High	Evaluator Weighting Factor (1 to 3)	Rate from 1 to 3 for Low - Medium- High	Weighting Factor (1 to 3)	Rate from 1 to 3 for Low - Medium- High	Evaluator Weighting Factor (1 to 3)							
East Dry Creek	47 Pond	$1,080,450		3	3	3	2	2	2	2	3	2	2	2	1	31	1	2	25	7	28	4
East Fountain	Channel Stabilization	$500,000	$1,580,450	1	3	1	2	1	2	1	3	2	2	3	1	17	1	25	19	25	18	25
Goodnight Arroyo	Bandera Pond	$2,844,450		3	3	3	2	2	2	2	3	2	2	2	1	31	1	2	24	8	27.5	7
Goodnight Arroyo	Bessemer Pond	$1,433,250		3	3	3	2	2	2	2	3	2	2	2	1	31	1	2	24	8	27.5	7
Goodnight Arroyo	Channel Stabilization	$1,920,000	$6,197,700	2	3	1	2	1	2	1	3	2	2	3	1	20	3	24	24	8	22	24
Lake Minnequa	Basin LM4-V Pond	$586,530		3	3	2	2	2	2	2	3	2	2	2	1	29	1	7	24	8	26.5	9
Lake Minnequa	Basin LM4-VI Pond	$727,650		3	3	2	2	2	2	2	3	2	2	2	1	29	1	7	24	8	26.5	9
Lake Minnequa	Basin LM2-III Pond	$868,770		3	3	2	2	2	2	2	3	2	2	2	1	29	1	7	24	8	26.5	9
Lake Minnequa	Basin LM2-IV Pond	$868,770		3	3	2	2	2	2	2	3	2	2	2	1	29	1	7	24	8	26.5	9
Lake Minnequa	Basin LM2-V Pond	$868,770		3	3	2	2	2	2	2	3	2	2	2	1	29	1	7	24	8	26.5	9
Lake Minnequa	Basin LM2-VI Pond	$657,090		3	3	2	2	2	2	2	3	2	2	2	1	29	1	7	24	8	26.5	9
Lake Minnequa	Basin LM6-I Pond	$798,210		3	3	2	2	2	2	2	3	2	2	2	1	29	1	7	24	8	26.5	9
Lake Minnequa	Basin LM6-IV Pond	$304,290		3	3	2	2	2	2	2	3	2	2	2	1	29	1	7	24	8	26.5	9
Lake Minnequa	Basin LM6-V Pond	$374,850		3	3	2	2	2	2	2	3	2	2	2	1	29	1	7	24	8	26.5	9
Lake Minnequa	Basin LM6-VI Pond	$798,210		3	3	2	2	2	2	2	3	2	2	2	1	29	1	7	24	8	26.5	9
Lake Minnequa	Basin LM6-VII-D Pond	$374,850		3	3	2	2	2	2	2	3	2	2	2	1	29	1	7	24	8	26.5	9
Lake Minnequa	Basin LM6-VII Pond	$868,770	$8,096,760	3	3	2	2	2	2	2	3	2	2	2	1	29	1	7	24	8	26.5	9
Wild Horse	Honor Farm Pond 1	$586,530		3	3	3	2	2	2	1	3	2	2	2	1	28	4	19	23	23	25.5	22
Wild Horse	Honor Farm Pond 2	$515,970		3	3	3	2	2	2	1	3	2	2	2	1	28	4	19	23	23	25.5	22
Wild Horse	Ranch Drive Pond	$1,080,450		3	3	2	2	1	2	1	3	2	2	2	1	24	8	23	29	2	26.5	9
Wild Horse	Pueblo Blvd Pond	$1,009,890		3	3	2	2	1	2	3	3	2	2	2	1	30	3	6	29	2	29.5	3
Wild Horse	Wild Horse Pond 1 (future Pueblo Blvd)	$1,151,010		3	3	3	2	2	2	2	3	2	2	2	1	31	2	2	29	2	30	2
Wild Horse	Wild Horse Pond 2	$1,080,450		3	3	2	2	1	2	2	3	2	2	2	1	27	6	21	29	2	28	4
Wild Horse	Wild Horse Pond 3	$1,220,100		3	3	2	2	1	2	2	3	2	2	2	1	27	6	21	29	2	28	4
Wild Horse	Hyde Park 1 Channel	$36,599	$6,680,999	2	3	1	2	3	3	3	3	3	2	1	1	33	1	1	35	1	34	1
		$22,555,909	$22,555,909																			

LEGEND
RED-dependant on future development
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Appendix B

- **Drawing Plates**

Pueblo Stormwater Master Plan Basin Planning Study Report

Phase 1 – Lake Minnequa, Southwest Pueblo & Goodnight Arroyo Basins

C-9

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 LM — PROPOSED DESIGN POINT

MAIN BASIN NAME

LM1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" — PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

DRAWN NSTAR DATE 11/06

Sellards & Grigg, Inc.
Consulting Engineers / Land Surveyors
An SEH Company
SEH

NORTHSTAR ENGINEERING AND SURVEYING, INC.
111 E. 5TH ST., PUEBLO, CO 81003
TELEPHONE: (719) 544-6823
FAX: (719) 544-6825
engineer@northstar-co.com

STORMWATER UTILITY
211 E "D" Street
Pueblo, Colorado 81003
(719) 553-2299 Fax (719) 553-2294
CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
LAKE MINNEQUA BASINS
100% SUBMITTAL

C-8
SHT 1 OF 24

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 LM — PROPOSED DESIGN POINT

MAIN BASIN NAME

LM1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

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ENGINEERING AND SURVEYING, INC.
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(719) 553-2299 Fax (719) 553-2294
CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
LAKE MINNEQUA BASINS
100% SUBMITTAL

C-9

SHT 2 OF 24

D-7

E-6

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT — 60 LM — PROPOSED DESIGN POINT
- MAIN BASIN NAME
- LM1 VIII 245 ac 38% — DEVELOPED BASIN; ACREAGE; PERCENT IMPERVIOUS; MINOR-BASIN; SUB-BASIN
- 30" PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

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D-6

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D-8

LEGEND

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- EXISTING SUB BASIN
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- MAIN BASIN NAME / LM1 VIII 245 ac 38% — ACREAGE; DEVELOPED BASIN; PERCENT IMPERVIOUS; MINOR-BASIN; SUB-BASIN
- 30" — PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

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PHASE 1
LAKE MINNEQUA BASINS
100% SUBMITTAL

D-7

SHT 4 OF 24

D-7

C-8

E-8

D-9

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

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MAIN BASIN NAME

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PROPOSED MANHOLE

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	A	B	C	D	E	F	G	H	J
1	A–1	B–1	C–1	D–1	E–1	F–1	G–1	H–1	J–1
2	A–2	B–2	C–2	D–2	E–2	F–2	G–2	H–2	J–2
3	A–3	B–3	C–3	D–3	E–3	F–3	G–3	H–3	J–3
4	A–4	B–4	C–4	D–4	E–4	F–4	G–4	H–4	J–4
5	A–5	B–5	C–5	D–5	E–5	F–5	G–5	H–5	J–5
6	A–6	B–6	C–6	D–6	E–6	F–6	G–6	H–6	J–6
7	A–7	B–7	C–7	D–7	E–7	F–7	G–7	H–7	J–7
8	A–8	B–8	C–8	D–8	E–8	F–8	G–8	H–8	J–8
9	A–9	B–9	C–9	D–9	E–9	F–9	G–9	H–9	J–9
10	A–10	B–10	C–10	D–10	E–10	F–10	G–10	H–10	J–10

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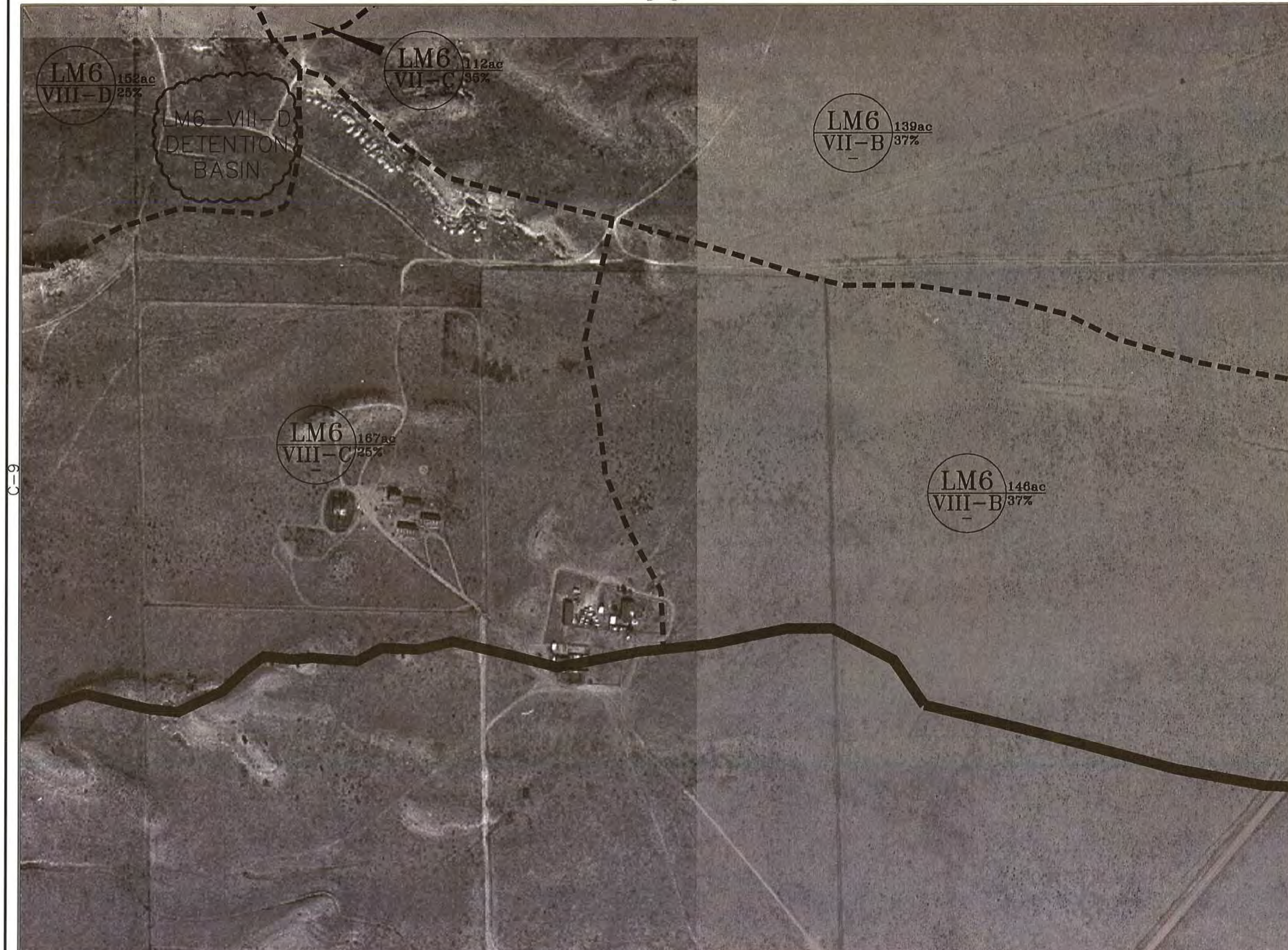
D–8

SHT 5 OF 24

D-8



C-9

E-9

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

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LM1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

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	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
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10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

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PHASE 1
LAKE MINNEQUA BASINS
100% SUBMITTAL

D-9

SHT 6 OF 24

LEGEND

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- EXISTING MINOR BASIN
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- 30" — PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

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SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
LAKE MINNEQUA BASINS
100% SUBMITTAL

E-5

D-6

F-6

E-7

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT (60 LM) — PROPOSED DESIGN POINT
- MAIN BASIN NAME, SUB-BASIN, MINOR-BASIN, ACREAGE, PERCENT IMPERVIOUS (LM1 VIII 245 ac 38%) — DEVELOPED BASIN
- 30" — PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
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4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
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PHASE 1
LAKE MINNEQUA BASINS
100% SUBMITTAL

E-6

SHT 8 OF 24

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 LM — PROPOSED DESIGN POINT

MAIN BASIN NAME — LM1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

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	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
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NORTH

0 400' SCALE

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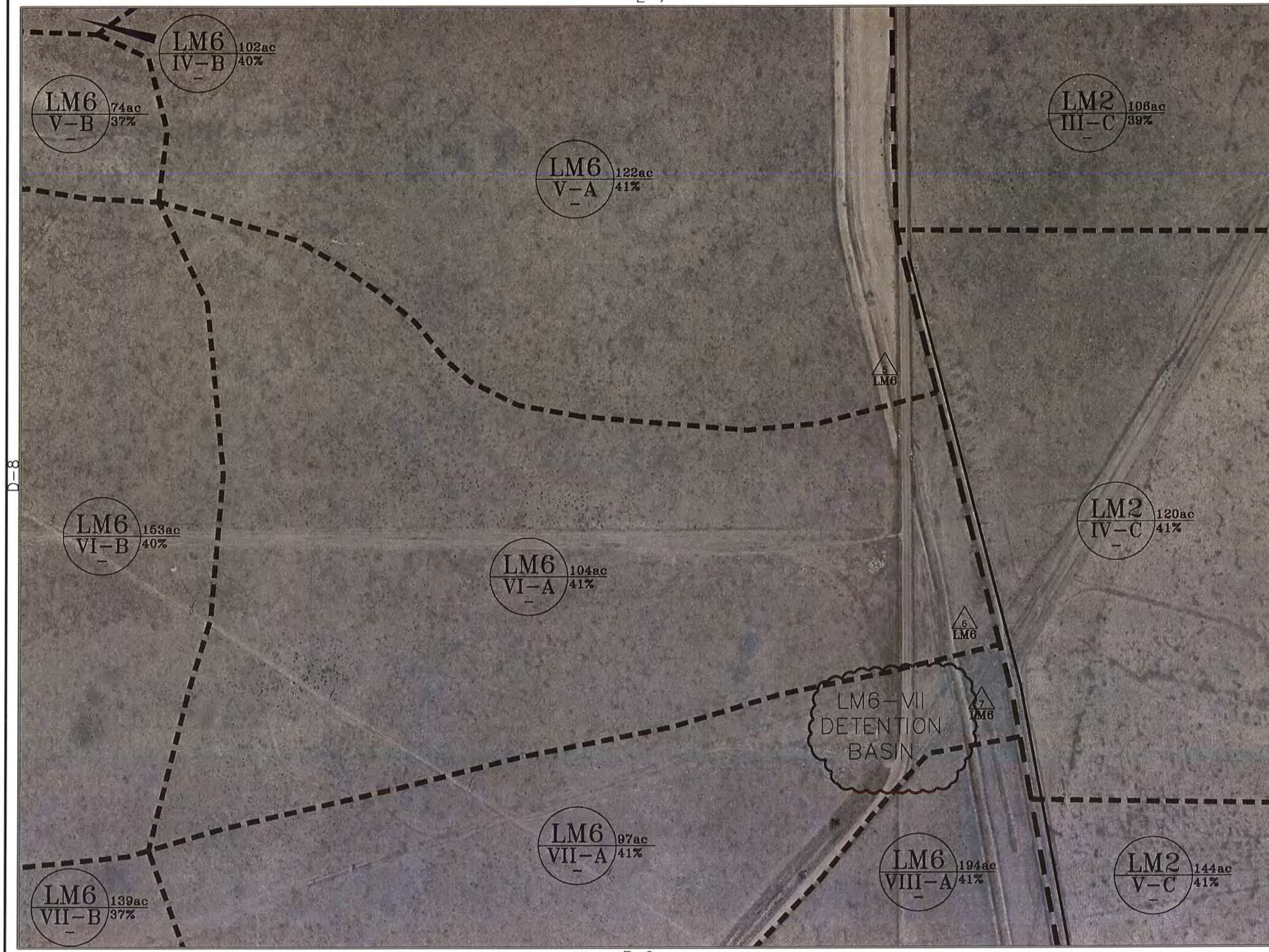
PHASE 1
LAKE MINNEQUA BASINS
100% SUBMITTAL

E-7

E-7



D-8

E-8

E-9

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
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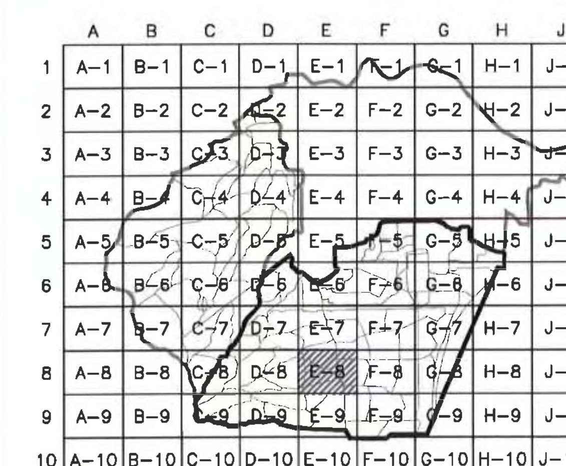
- 30" — PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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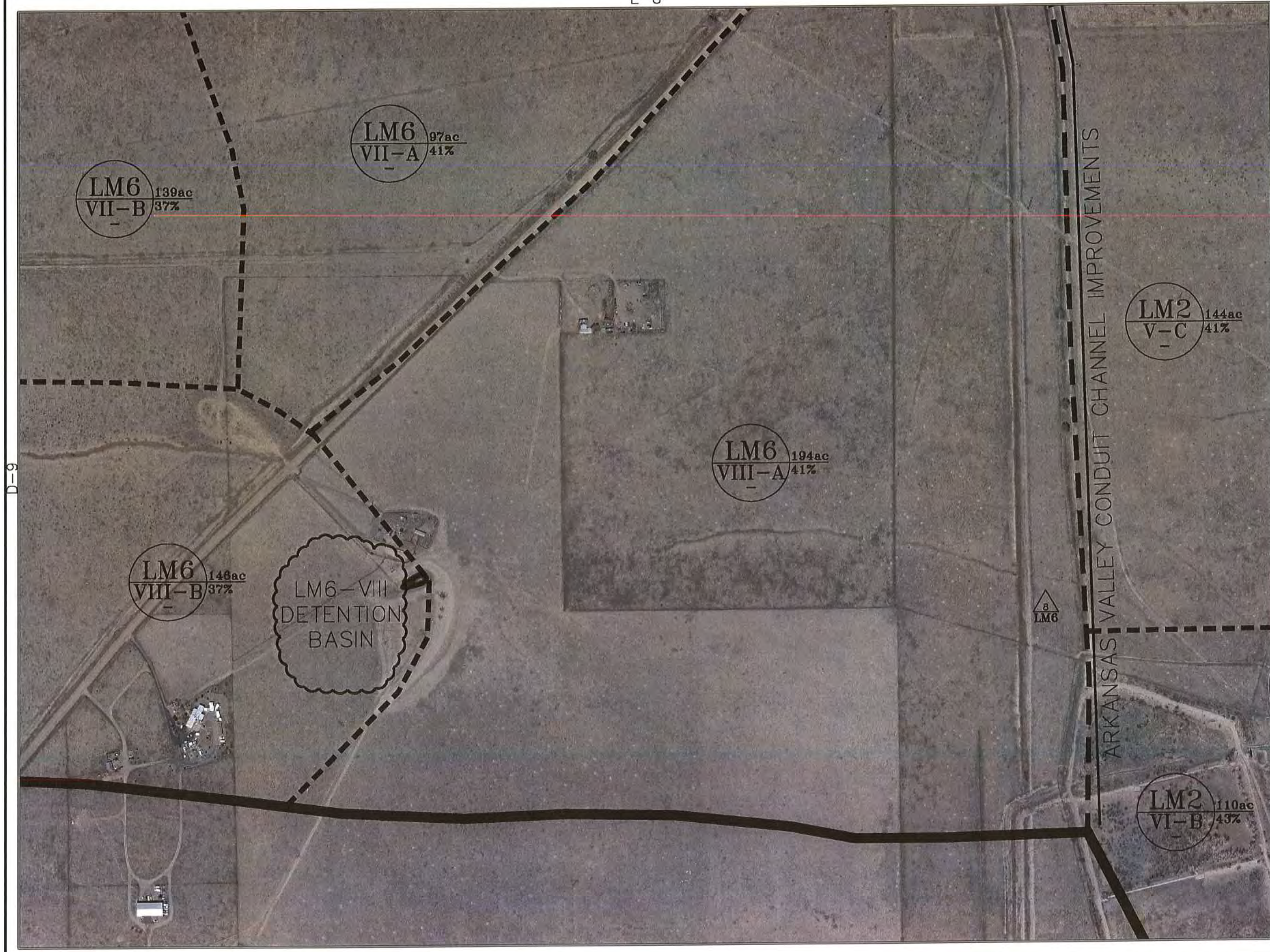
PHASE 1
LAKE MINNEQUA BASINS
100% SUBMITTAL

E-8

SHT 10 OF 24



LEGEND

EXISTING MAIN BASIN

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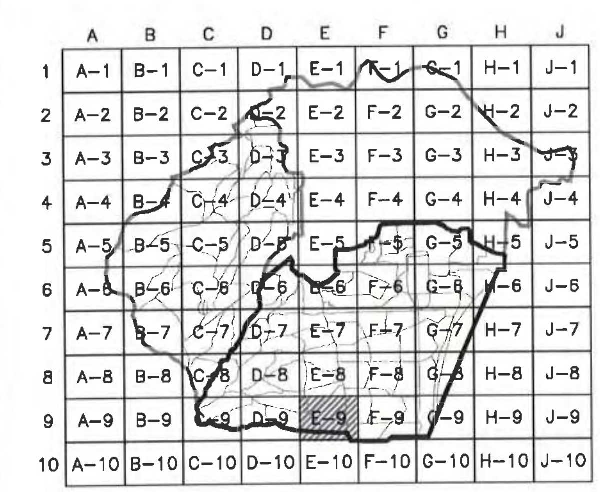
30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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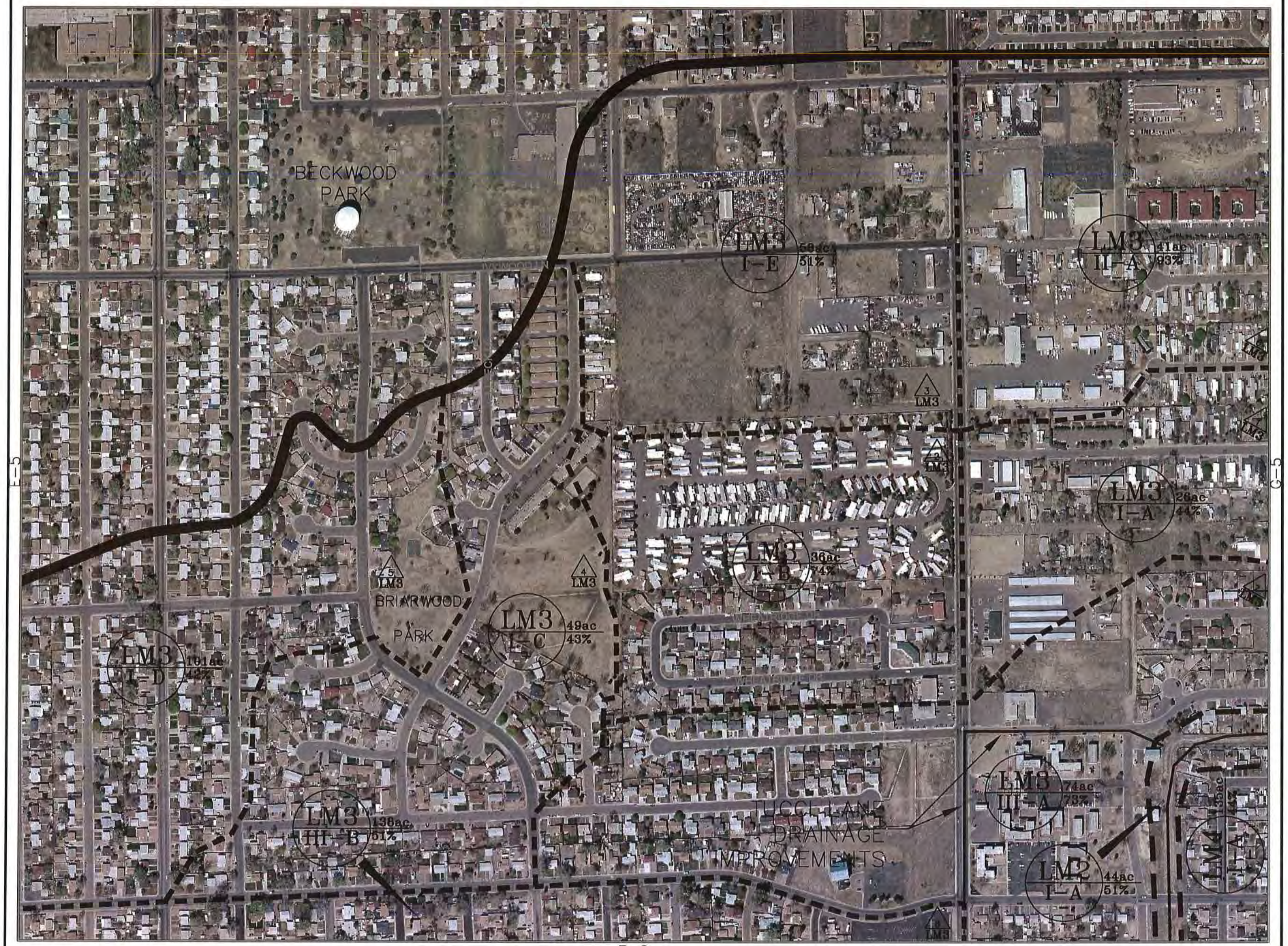

E-5

G-5

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LEGEND

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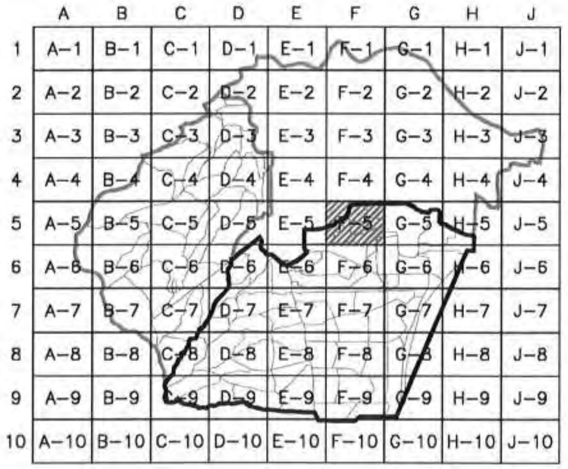
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

0 400' SCALE

DRAWN NSTAR DATE 11/06

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(719) 553-2299 Fax (719) 553-2294
CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
LAKE MINNEQUA BASINS
100% SUBMITTAL

F-5

SHT 12 OF 24

F-5

F-7

G-6

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 LM — PROPOSED DESIGN POINT

MAIN BASIN NAME

LM1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" — PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

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PHASE 1
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100% SUBMITTAL

F-6

SHT 13 OF 24

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT 60 LM — PROPOSED DESIGN POINT

MAIN BASIN NAME — LM1 VIII — ACREAGE 245 ac — DEVELOPED BASIN — 38% PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

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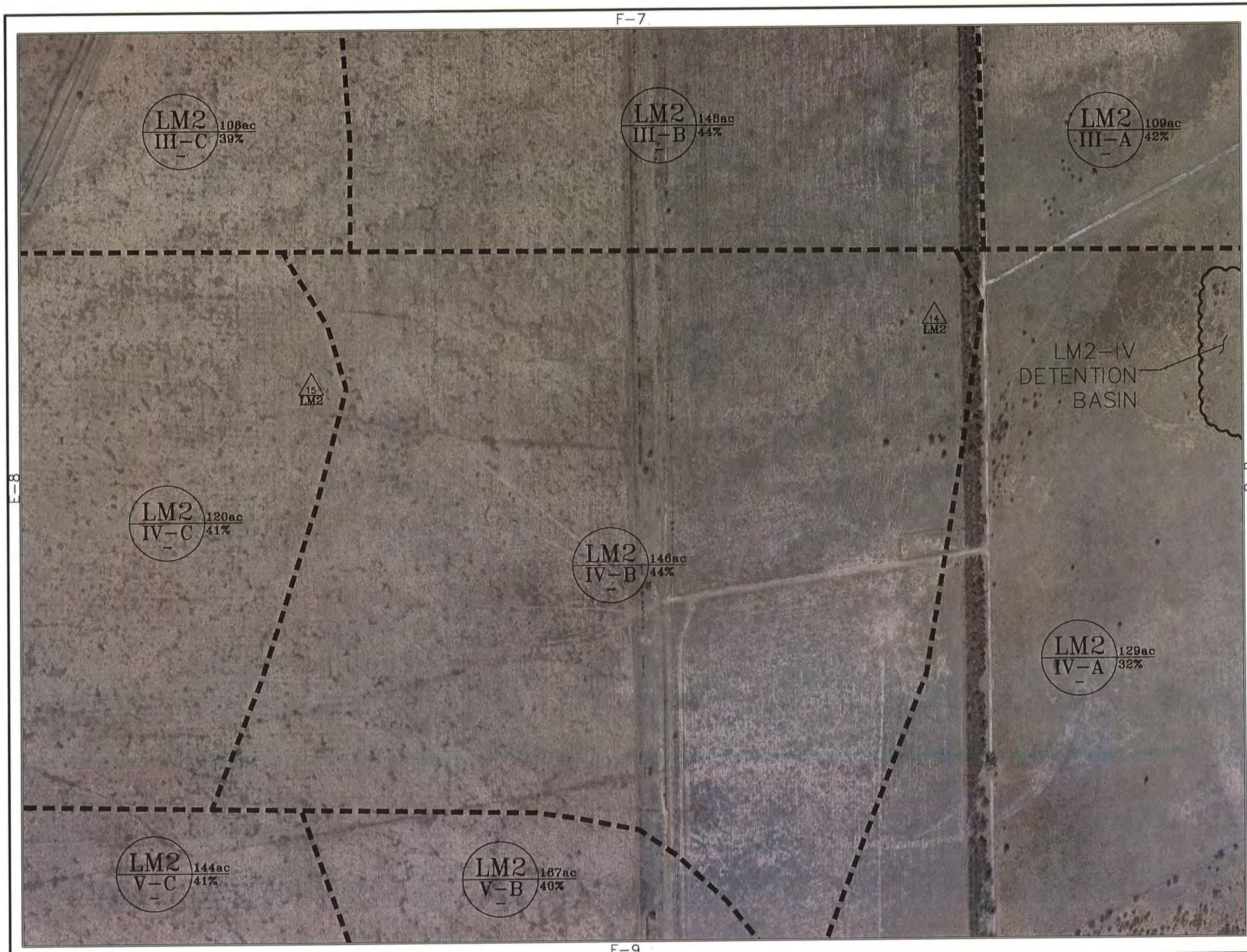
PHASE 1
LAKE MINNEQUA BASINS
100% SUBMITTAL

F-7

SHT 14 OF 24



LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 LM — PROPOSED DESIGN POINT

MAIN BASIN NAME — LM1 VIII — 245 ac — 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
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PHASE 1
LAKE MINNEQUA BASINS
100% SUBMITTAL

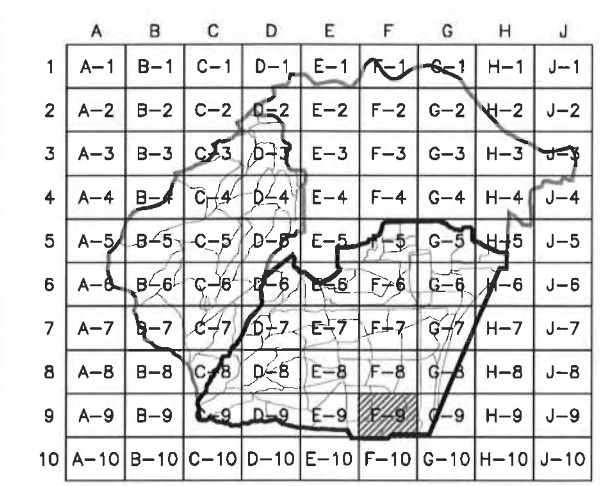
F-8

SHT 15 OF 24

F-8

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT — 60 LM — PROPOSED DESIGN POINT
- MAIN BASIN NAME
- LM1 VIII 245 ac 38% — DEVELOPED BASIN (ACREAGE, PERCENT IMPERVIOUS, MINOR-BASIN, SUB-BASIN)
- 30" — PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

0 400' SCALE

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PHASE 1
LAKE MINNEQUA BASINS
100% SUBMITTAL

F-9

SHT 16 OF 24

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — PROPOSED DESIGN POINT (60 LM)

MAIN BASIN NAME — LM1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
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5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
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9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

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PHASE 1
LAKE MINNEQUA BASINS
100% SUBMITTAL

G-5

SHT 17 OF 24

G–5

G–7

F–6

H–6

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — PROPOSED DESIGN POINT (60 LM)

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30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A–1	B–1	C–1	D–1	E–1	F–1	G–1	H–1	J–1
2	A–2	B–2	C–2	D–2	E–2	F–2	G–2	H–2	J–2
3	A–3	B–3	C–3	D–3	E–3	F–3	G–3	H–3	J–3
4	A–4	B–4	C–4	D–4	E–4	F–4	G–4	H–4	J–4
5	A–5	B–5	C–5	D–5	E–5	F–5	G–5	H–5	J–5
6	A–6	B–6	C–6	D–6	E–6	F–6	G–6	H–6	J–6
7	A–7	B–7	C–7	D–7	E–7	F–7	G–7	H–7	J–7
8	A–8	B–8	C–8	D–8	E–8	F–8	G–8	H–8	J–8
9	A–9	B–9	C–9	D–9	E–9	F–9	G–9	H–9	J–9
10	A–10	B–10	C–10	D–10	E–10	F–10	G–10	H–10	J–10

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

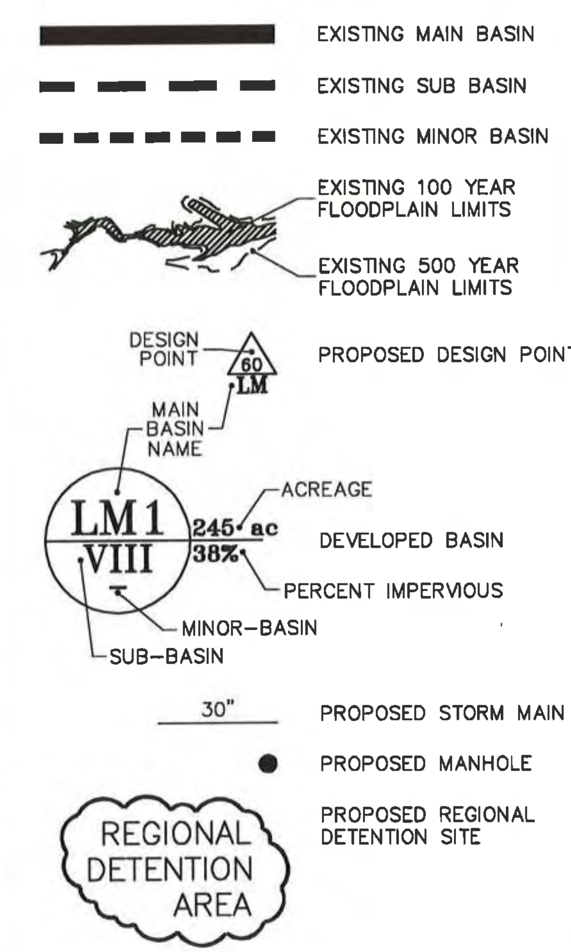
PHASE 1
LAKE MINNEQUA BASINS
100% SUBMITTAL

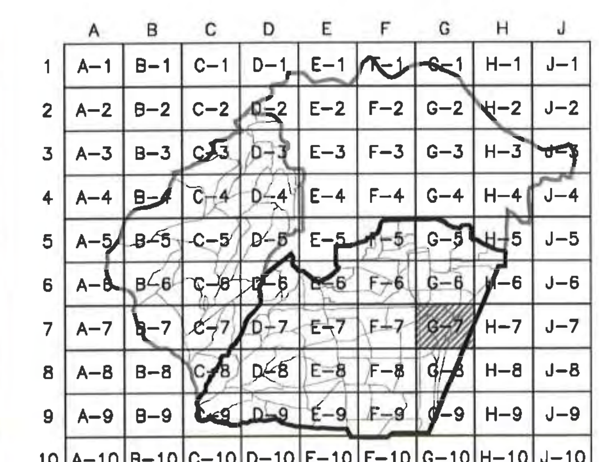
G–6

G-6

G-8

LEGEND





SCALE 0 400'

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PHASE 1
LAKE MINNEQUA BASINS
100% SUBMITTAL

G-7

SHT 19 OF 24

G-7

G-9

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 LM — PROPOSED DESIGN POINT

MAIN BASIN NAME — LM1 VIII — ACREAGE 245 ac — PERCENT IMPERVIOUS 38% — DEVELOPED BASIN — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

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PHASE 1
LAKE MINNEQUA BASINS
100% SUBMITTAL

G-8

SHT 20 OF 24

G–8

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT — 60 LM — PROPOSED DESIGN POINT
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- LM1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR–BASIN — SUB–BASIN
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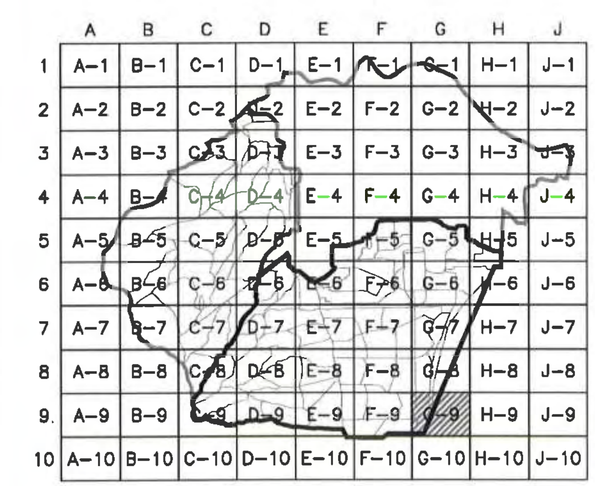

NORTH

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PHASE 1
LAKE MINNEQUA BASINS
100% SUBMITTAL

G–9

SHT 21 OF 24

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
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- DESIGN POINT — 60 LM — PROPOSED DESIGN POINT
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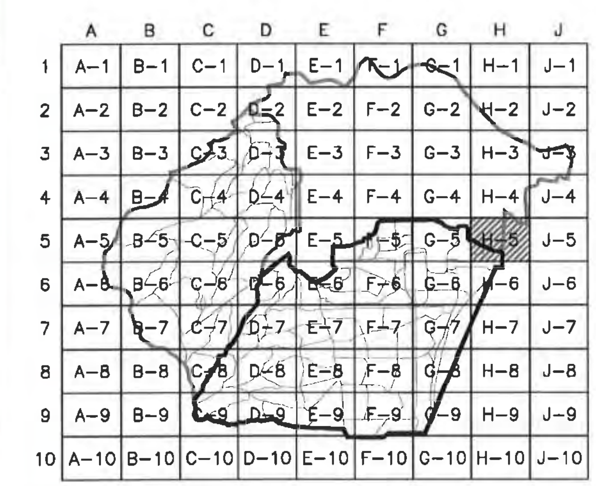

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PHASE 1
LAKE MINNEQUA BASINS
100% SUBMITTAL

H-5

H-5

G-6

H-7

LEGEND

EXISTING MAIN BASIN

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PROPOSED MANHOLE

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1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

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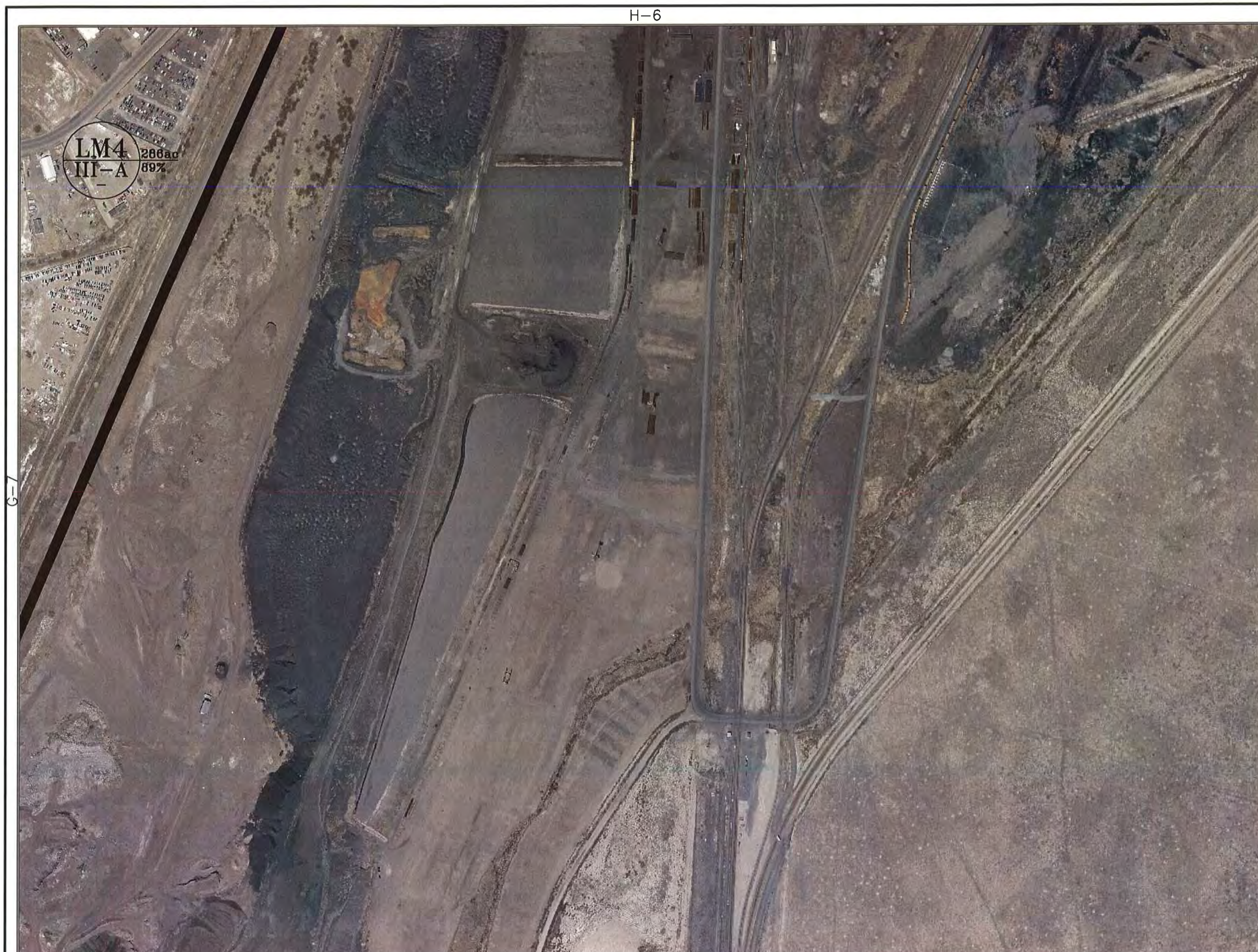
PHASE 1
LAKE MINNEQUA BASINS
100% SUBMITTAL

H-6



LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 LM — PROPOSED DESIGN POINT

MAIN BASIN NAME

LM1 VIII 245 ac 38%

ACREAGE

DEVELOPED BASIN

PERCENT IMPERVIOUS

MINOR-BASIN

SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

DRAWN NSTAR DATE 11/06

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NORTHSTAR ENGINEERING AND SURVEYING, INC.
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CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

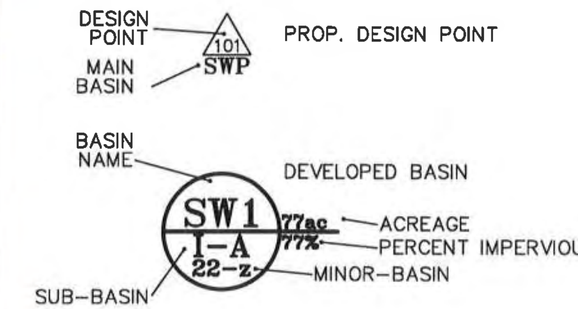
PHASE 1
LAKE MINNEQUA BASINS
100% SUBMITTAL

H-7

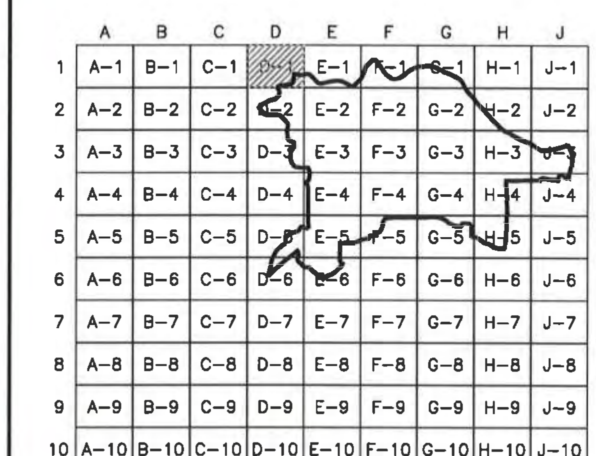
SHT 24 OF 24

LEGEND

EXISTING MAIN BASIN
EXISTING BASIN
EXISTING SUB-BASIN



PROP. DESIGN POINT
DEVELOPED BASIN
PROPOSED STORM MAIN
PROPOSED MANHOLE
DETENTION OR INFILTRATION BASIN



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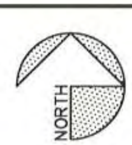

0 400'
SCALE

DRAWN S&G DATE 5/05

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
SW PUEBLO BASIN
100% SUBMITTAL

D-1

SHT 1 OF 41

P:\land projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\SW PUEBLO\4060-D2.dwg 3/22/2007 9:53:00 AM MDT

D-1

C-2

E-2

D-3

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 — PROP. DESIGN POINT

MAIN BASIN — SWP

BASIN NAME — SW1 — DEVELOPED BASIN

77ac — ACREAGE

77% — PERCENT IMPERVIOUS

I-A — SUB-BASIN

22-z — MINOR-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

DRAWN S&G DATE 5/05

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
SW PUEBLO BASIN
100% SUBMITTAL

D-2

SHT 2 OF 41

D-2

C-3

E-3

D-4

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 — MAIN BASIN — SWP — PROP. DESIGN POINT

BASIN NAME — SW1 — I-A — 22-z — 77ac — 77% — DEVELOPED BASIN — ACREAGE — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

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PUEBLO STORMWATER
MASTER BASIN
PLANNING STUDY

PHASE 1
SW PUEBLO BASIN
100% SUBMITTAL

D-3

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D-4

C-4

E-6

D-6

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT 101 — PROP. DESIGN POINT

MAIN BASIN SWP

BASIN NAME — DEVELOPED BASIN

SW1 I-A 22-z 77ac 77%

ACREAGE

PERCENT IMPERVIOUS

MINOR-BASIN

SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

DRAWN S&G DATE 5/05

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CITY OF PUEBLO

PUEBLO STORMWATER
MASTER BASIN
PLANNING STUDY

PHASE 1, ALT. 1
SW PUEBLO BASIN
100% SUBMITTAL

D-5

SHT 4 OF 41

D-4

C-4

E-6

D-6

LEGEND

- EXISTING MAIN BASIN
- EXISTING BASIN
- EXISTING SUB-BASIN
- DESIGN POINT / MAIN BASIN (101 / SWP): PROP. DESIGN POINT
- BASIN NAME (SW1 / I-A / 22-z / 77ac / 77%): DEVELOPED BASIN — ACREAGE, PERCENT IMPERVIOUS, MINOR-BASIN, SUB-BASIN
- PROPOSED STORM MAIN
- PROPOSED MANHOLE
- DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

SCALE 0 400'

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CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 2
SW PUEBLO BASIN
100% SUBMITTAL

D-5

SHT 5 OF 41

P: \land projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\SW PUEBLO\4060-D5 Alt 2.dwg 3/22/2007 9:58:15 AM MDT

D-5

C-6

E-6

D-7

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT 101 — PROP. DESIGN POINT
MAIN BASIN SWP

BASIN NAME SW1 — DEVELOPED BASIN
SUB-BASIN I-A
MINOR-BASIN 22-z
77ac ACREAGE
77% PERCENT IMPERVIOUS

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
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6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

DRAWN S&G DATE 5/05

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
SW PUEBLO BASIN
100% SUBMITTAL

D-6

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LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 — MAIN BASIN — SWP — PROP. DESIGN POINT

BASIN NAME — SW1 — I-A — 22-z — 77ac — 77% — DEVELOPED BASIN

ACREAGE

PERCENT IMPERVIOUS

MINOR-BASIN

SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1		F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

DRAWN S&G DATE 5/05

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CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
SW PUEBLO BASIN
100% SUBMITTAL

E-1

E-1

E-3

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 — PROP. DESIGN POINT
MAIN BASIN — SWP

BASIN NAME — SW1 — DEVELOPED BASIN
77ac — ACREAGE
77% — PERCENT IMPERVIOUS
I-A — SUB-BASIN
22-z — MINOR-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

DRAWN S&G DATE 5/05

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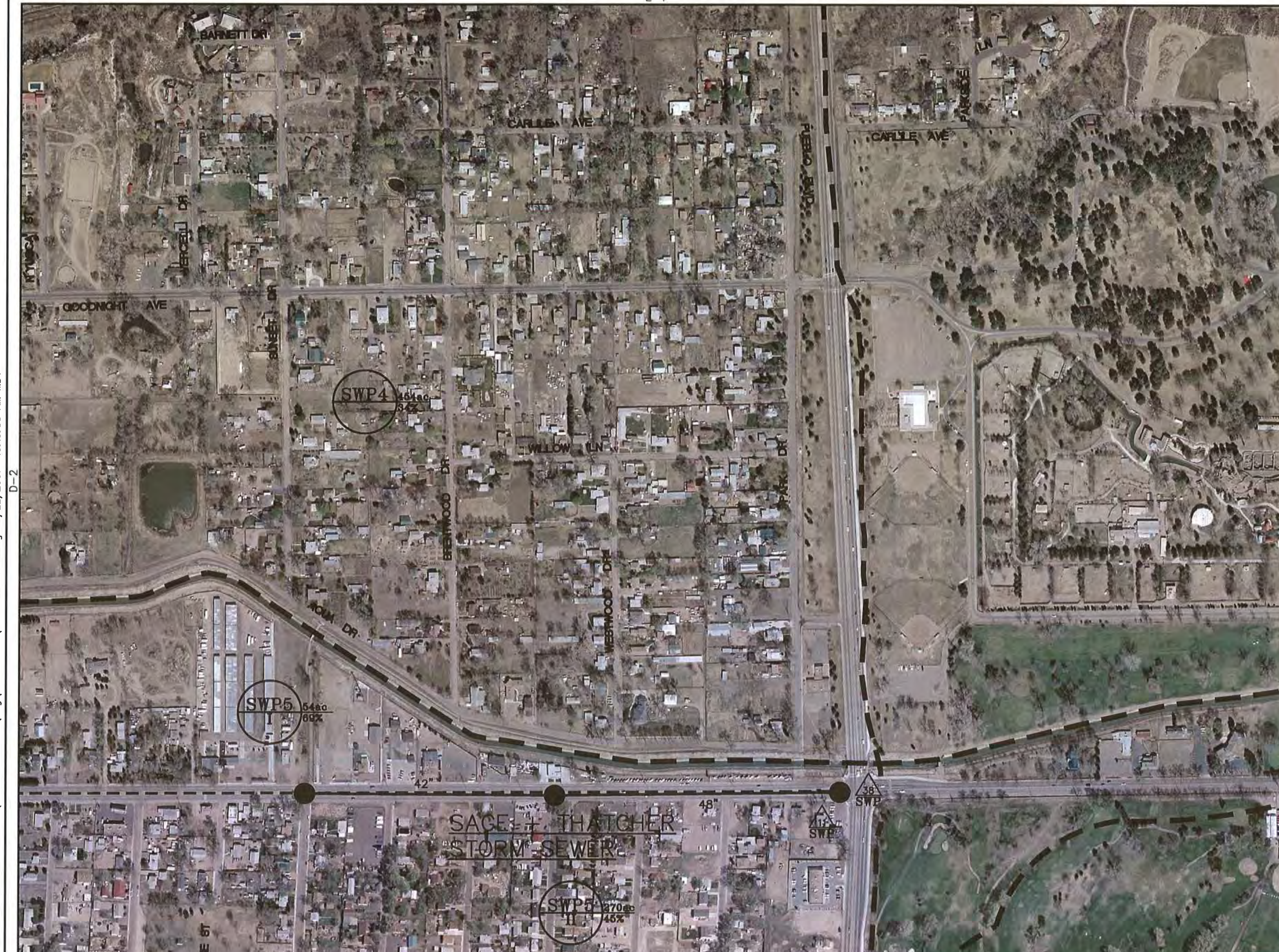
PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 1
SW PUEBLO BASIN
100% SUBMITTAL

E-2

E-1

D-2



F-2

E-3

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT
101
MAIN BASIN
SWP
PROP. DESIGN POINT

BASIN NAME
DEVELOPED BASIN
SW1
1-A
22-z
77ac
77%
ACREAGE
PERCENT IMPERVIOUS
MINOR-BASIN
SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
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CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 2
SW PUEBLO BASIN
100% SUBMITTAL

E-2

P:\land projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\SW PUEBLO\4060-E3 Alt 1.dwg 3/22/2007 10:21:49 AM MDT

E-2

D-3

F-3

E-4

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT 101 — PROP. DESIGN POINT

MAIN BASIN SWP

BASIN NAME — DEVELOPED BASIN

SW1 I-A 22-z — 77ac ACREAGE; 77% PERCENT IMPERVIOUS; MINOR-BASIN; SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

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SCALE

DRAWN S&G DATE 5/05

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CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 1
SW PUEBLO BASIN
100% SUBMITTAL

E-3

SHT 10 OF 41

E-2

D-3

F-3

E-4

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 / SWP — MAIN BASIN — PROP. DESIGN POINT

BASIN NAME — SW1 / 1-A / 22-z — 77ac — 77% — DEVELOPED BASIN — ACREAGE — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

P:\land projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\SW PUEBLO\4060-E3 Alt 2.dwg 3/22/2007 10:24:05 AM MDT

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 2
SW PUEBLO BASIN
100% SUBMITTAL

E-3

SHT 11 OF 41

E-3

E-5

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — MAIN BASIN — 101 SWP — PROP. DESIGN POINT

BASIN NAME — SW1 I-A 22-z 77ac 77% — DEVELOPED BASIN — ACREAGE — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400' SCALE

DRAWN S&G DATE 5/05

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1 SW PUEBLO BASIN 100% SUBMITTAL

E-4

P:\land projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\SW PUEBLO\4060-E4.dwg 3/22/2007 10:26:16 AM MDT

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E-4

D-5

F-5

E-6

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT / MAIN BASIN — 101 SWP — PROP. DESIGN POINT

BASIN NAME, SUB-BASIN — SW1 I-A 22-z — 77ac ACREAGE, 77% PERCENT IMPERVIOUS, MINOR-BASIN — DEVELOPED BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

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CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 1
SW PUEBLO BASIN
100% SUBMITTAL

E-5

E-4

D-5

F-5

E-6

LEGEND

- EXISTING MAIN BASIN
- EXISTING BASIN
- EXISTING SUB-BASIN
- DESIGN POINT / MAIN BASIN — 101 SWP — PROP. DESIGN POINT
- BASIN NAME / SUB-BASIN — SW1 I-A 22-z, 77ac, 77% — DEVELOPED BASIN — ACREAGE, PERCENT IMPERVIOUS, MINOR-BASIN
- PROPOSED STORM MAIN
- PROPOSED MANHOLE
- DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

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SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 2
SW PUEBLO BASIN
100% SUBMITTAL

E-5

SHT 14 OF 41

P: \land projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\SW PUEBLO\4060-E5 Alt 2.dwg 3/22/2007 10:29:58 AM MDT

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E-5

D-6

F-6

E-7

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 — PROP. DESIGN POINT

MAIN BASIN — SWP

BASIN NAME — SW1 — DEVELOPED BASIN

77ac — ACREAGE

77% — PERCENT IMPERVIOUS

SUB-BASIN — 1-A

22-z — MINOR-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6		F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

DRAWN S&G DATE 5/05

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
SW PUEBLO BASIN
100% SUBMITTAL

E-6

SHT 15 OF 41

E-1

D-1

F-2

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 — PROP. DESIGN POINT

MAIN BASIN — SWP

BASIN NAME — SW1 — DEVELOPED BASIN

77ac — ACREAGE

77% — PERCENT IMPERVIOUS

I-A — SUB-BASIN

22-z — MINOR-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

SCALE 0 — 400'

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
SW PUEBLO BASIN
100% SUBMITTAL

F-1

SHT 16 OF 41

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F-1

E-2

G-2

F-3

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT / MAIN BASIN — 101 SWP — PROP. DESIGN POINT

BASIN NAME — SUB-BASIN — DEVELOPED BASIN: SW1 I-A 22-z 77ac 77% — ACREAGE, PERCENT IMPERVIOUS, MINOR-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400' SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1 SW PUEBLO BASIN 100% SUBMITTAL

F-2

F-2

E-3

G-3

F-4

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 SWP — MAIN BASIN — PROP. DESIGN POINT

BASIN NAME — SW1 I-A 22-z — DEVELOPED BASIN

77ac — ACREAGE

77% — PERCENT IMPERVIOUS

MINOR-BASIN

SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'

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CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
SW PUEBLO BASIN
100% SUBMITTAL

F-3

SHT 18 OF 41

P:\and projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\SW PUEBLO\4060-F3.dwg 3/22/2007 10:37:39 AM MDT

LEGEND

- EXISTING MAIN BASIN
- EXISTING BASIN
- EXISTING SUB-BASIN
- PROP. DESIGN POINT (DESIGN POINT 101, MAIN BASIN SWP)
- DEVELOPED BASIN (BASIN NAME SW1, SUB-BASIN I-A, ACREAGE 77ac, PERCENT IMPERVIOUS 77%, MINOR-BASIN 22-z)
- PROPOSED STORM MAIN
- PROPOSED MANHOLE
- DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 1
SW PUEBLO BASIN
100% SUBMITTAL

F-4

P:\land projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\SW PUEBLO\4060-F4 Alt 2.dwg 3/22/2007 10:41:31 AM MDT

F-3

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — MAIN BASIN — 101 SWP — PROP. DESIGN POINT

BASIN NAME — SW1 I-A 22-z — 77ac 77% — DEVELOPED BASIN — ACREAGE — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

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CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 2
SW PUEBLO BASIN
100% SUBMITTAL

F-4

P:\land projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\SW PUEBLO\4060-F5.dwg 3/22/2007 10:43:52 AM MDT

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT 101 MAIN BASIN SWP — PROP. DESIGN POINT

BASIN NAME SW1 I-A 22-z 77ac 77% — DEVELOPED BASIN; ACREAGE; PERCENT IMPERVIOUS; MINOR-BASIN; SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

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SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
SW PUEBLO BASIN
100% SUBMITTAL

F-5

SHT 21 OF 41

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LEGEND

EXISTING MAIN BASIN
EXISTING BASIN
EXISTING SUB-BASIN

DESIGN POINT / MAIN BASIN — 101 SWP — PROP. DESIGN POINT

BASIN NAME — SW1 I-A 22-z 77ac 77% — DEVELOPED BASIN
ACREAGE
PERCENT IMPERVIOUS
MINOR-BASIN
SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 1
SW PUEBLO BASIN
100% SUBMITTAL

G-1

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LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 — MAIN BASIN — SWP — PROP. DESIGN POINT

BASIN NAME — SW1 — I-A — 22-z — 77ac — 77% — DEVELOPED BASIN — ACREAGE — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

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CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 2
SW PUEBLO BASIN
100% SUBMITTAL

G-1

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT, MAIN BASIN (101 SWP) — PROP. DESIGN POINT

BASIN NAME, SUB-BASIN (SW1 I-A 22-z 77ac 77%) — DEVELOPED BASIN; ACREAGE; PERCENT IMPERVIOUS; MINOR-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 1
SW PUEBLO BASIN
100% SUBMITTAL

G-2

P:\land projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\SW PUEBLO\4060-G2 Alt 1.dwg 3/22/2007 10:49:20 AM MDT

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G-1

F-2

H-2

G-3

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 — PROP. DESIGN POINT
MAIN BASIN — SWP

BASIN NAME — DEVELOPED BASIN
SW1 I-A 22-z — 77ac — ACREAGE; 77% — PERCENT IMPERVIOUS; MINOR-BASIN
SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

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SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 2
SW PUEBLO BASIN
100% SUBMITTAL

G-2

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LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT, MAIN BASIN (101 SWP) — PROP. DESIGN POINT

BASIN NAME, SUB-BASIN (SW1 I-A 22-z, 77ac 77%) — DEVELOPED BASIN: ACREAGE, PERCENT IMPERVIOUS, MINOR-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

SCALE 0 400'

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 1
SW PUEBLO BASIN
100% SUBMITTAL

G-3

SHT 26 OF 41

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT / MAIN BASIN — PROP. DESIGN POINT (101 SWP)

BASIN NAME (SW1) / SUB-BASIN (I-A) / MINOR-BASIN (22-z) — DEVELOPED BASIN; 77ac — ACREAGE; 77% — PERCENT IMPERVIOUS

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

DRAWN S&G DATE 5/05

Sellards & Grigg, Inc.
Consulting Engineers / Land Surveyors
An SEH Company
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390 Union Boulevard Suite 630 Lakewood, Colorado 80228
Phone: 303-986-1444 FAX: 303-986-0994 www.sehinc.com

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111 E. 5TH ST., PUEBLO, CO 81003
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FAX: (719) 544-6825

STORMWATER UTILITY
211 E "D" Street
Pueblo, Colorado 81003
(719) 553-2299 Fax (719) 553-2294
CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 2
SW PUEBLO BASIN
100% SUBMITTAL

G-3

P:\land projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\SW PUEBLO\4060-G3 Alt 2.dwg 3/22/2007 10:56:15 AM MDT

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G-2

F-3

H-3

G-4

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — MAIN BASIN — 101 SWP — PROP. DESIGN POINT

BASIN NAME — SUB-BASIN — SW1 I-A 22-z 77ac 77% — DEVELOPED BASIN — ACREAGE — PERCENT IMPERVIOUS — MINOR-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

NOTE:
ALT. 3 IMPROVEMENTS ARE THE SAME AS ALT. 1 EXCEPT OMIT CENTRAL HIGH DETENTION POND AND ADD JEFFERSON + WASHINGTON OUTFALL.

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

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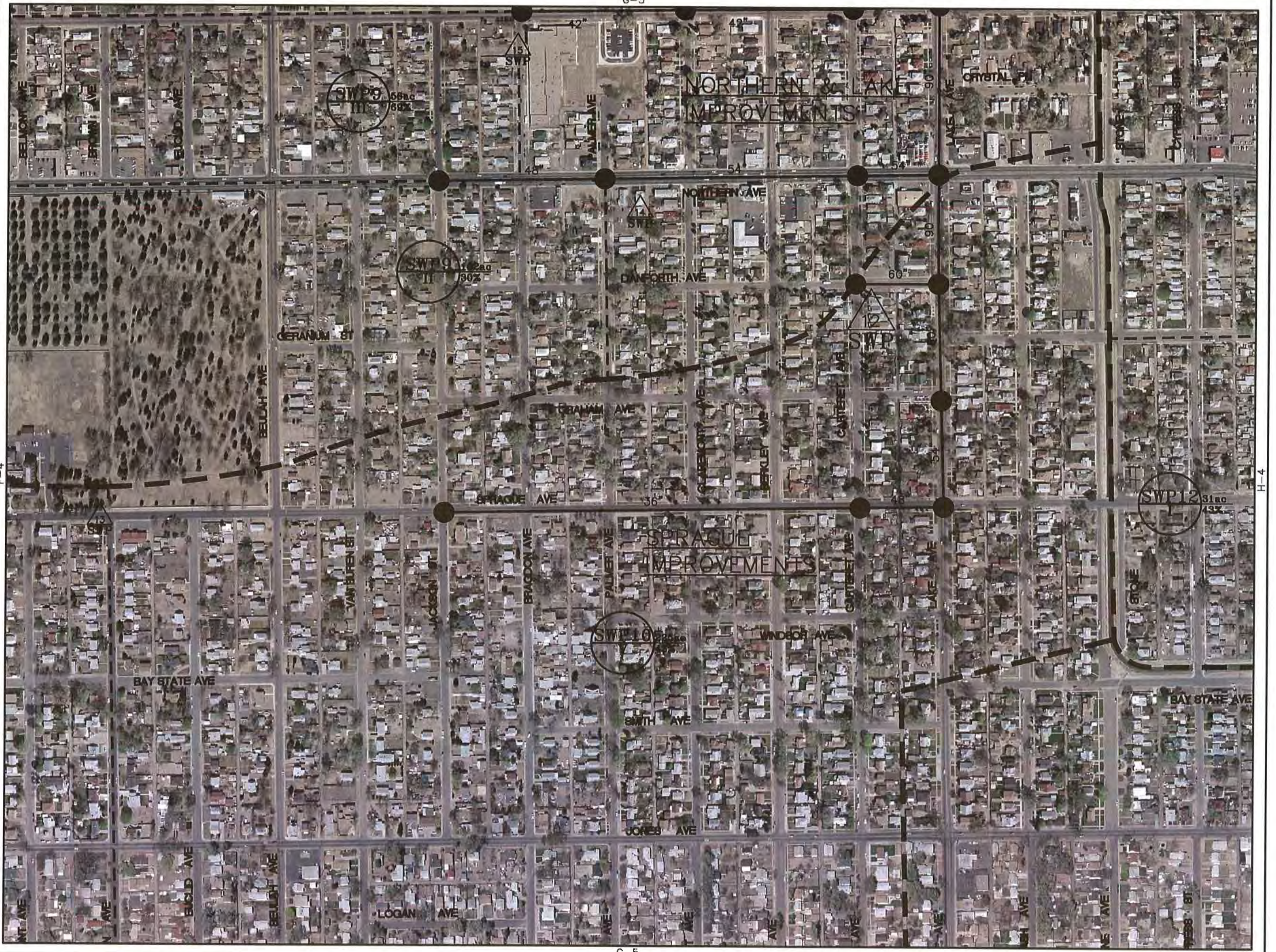
PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 3
SW PUEBLO BASIN
100% SUBMITTAL

G-3

SHT 28 OF 41

P: \land projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\SW PUEBLO\4060-G4 Alt 1.dwg 3/22/2007 11:01:52 AM MDT



LEGEND

- EXISTING MAIN BASIN
- EXISTING BASIN
- EXISTING SUB-BASIN
- DESIGN POINT / MAIN BASIN — 101 SWP — PROP. DESIGN POINT
- BASIN NAME / SUB-BASIN — SW1 I-A 22-z 77ac 77% — DEVELOPED BASIN: ACREAGE, PERCENT IMPERVIOUS, MINOR-BASIN
- PROPOSED STORM MAIN
- PROPOSED MANHOLE
- DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 1
SW PUEBLO BASIN
100% SUBMITTAL

G-4

SHT 29 OF 41

G-3

G-5

LEGEND

- EXISTING MAIN BASIN
- EXISTING BASIN
- EXISTING SUB-BASIN
- DESIGN POINT / MAIN BASIN — 101 SWP — PROP. DESIGN POINT
- BASIN NAME / SUB-BASIN — SW1 I-A 22-z 77ac 77% — DEVELOPED BASIN (ACREAGE, PERCENT IMPERVIOUS, MINOR-BASIN)
- PROPOSED STORM MAIN
- PROPOSED MANHOLE
- DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 2
SW PUEBLO BASIN
100% SUBMITTAL

G-4

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT
MAIN BASIN
101
SWP
PROP. DESIGN POINT

BASIN NAME
SUB-BASIN
SW1
I-A
22-z
77ac
77%
DEVELOPED BASIN
ACREAGE
PERCENT IMPERVIOUS
MINOR-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
SW PUEBLO BASIN
100% SUBMITTAL

G-5

SHT 31 OF 41

P:\land projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\SW PUEBLO\4060-G5.dwg 3/22/2007 11:05:36 AM MDT

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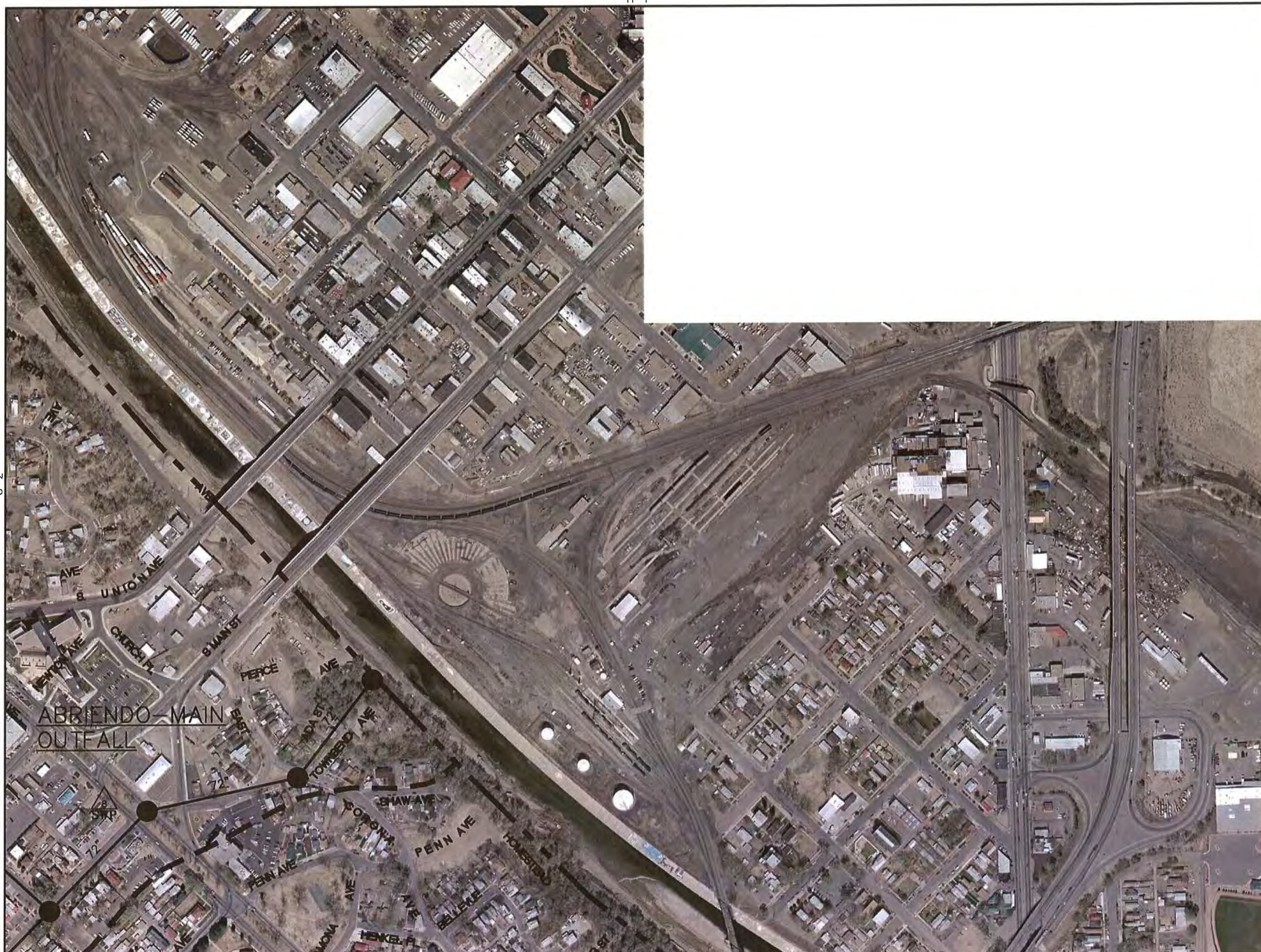

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT / MAIN BASIN — 101 SWP — PROP. DESIGN POINT

BASIN NAME / SUB-BASIN — SW1 I-A 22-z 77ac 77% — DEVELOPED BASIN; ACREAGE; PERCENT IMPERVIOUS; MINOR-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

DRAWN S&G DATE 5/05

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 1
SW PUEBLO BASIN
100% SUBMITTAL

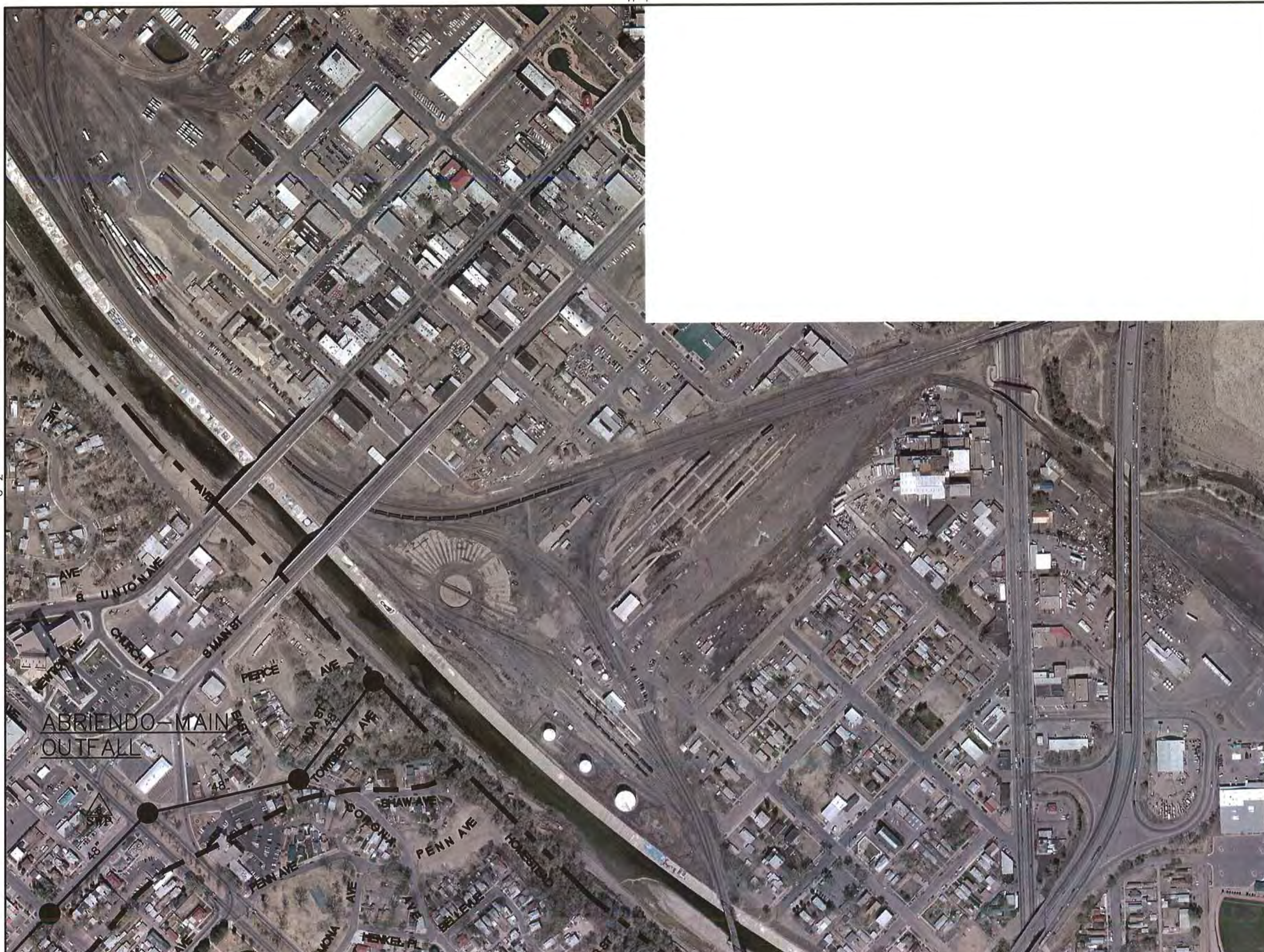
H-2

SHT 32 OF 41

H-1

G-2

J-2



H-3

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT, MAIN BASIN — 101 SWP — PROP. DESIGN POINT

BASIN NAME, SUB-BASIN — SW1 I-A 22-z 77ac 77% — DEVELOPED BASIN; ACREAGE; PERCENT IMPERVIOUS; MINOR-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2		J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

DRAWN S&G DATE 5/05

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 2
SW PUEBLO BASIN
100% SUBMITTAL

H-2

P:\land projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\SW PUEBLO\4060-H2 Alt 2.dwg 3/22/2007 11:09:04 AM MDT

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H-2

G-3

J-3

H-4

LEGEND

- EXISTING MAIN BASIN
- EXISTING BASIN
- EXISTING SUB-BASIN
- DESIGN POINT / MAIN BASIN — 101 SWP — PROP. DESIGN POINT
- BASIN NAME — SW1 I-A 22-z 77ac 77% — DEVELOPED BASIN; ACREAGE; PERCENT IMPERVIOUS; MINOR-BASIN; SUB-BASIN
- PROPOSED STORM MAIN
- PROPOSED MANHOLE
- DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 1
SW PUEBLO BASIN
100% SUBMITTAL

H-3

SHT 34 OF 41

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 — MAIN BASIN — SWP — PROP. DESIGN POINT

BASIN NAME — SW1 — SUB-BASIN — 1-A — 77ac ACREAGE — 77% PERCENT IMPERVIOUS — 22-z MINOR-BASIN — DEVELOPED BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 2
SW PUEBLO BASIN
100% SUBMITTAL

H-3

P:\and projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\SW PUEBLO\4060-H3 Alt 3.dwg 3/22/2007 11:15:27 AM MDT

H-2

G-3

J-3

H-4

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 — PROP. DESIGN POINT

MAIN BASIN — SWP

BASIN NAME — SW1 — DEVELOPED BASIN

77ac — ACREAGE

77% — PERCENT IMPERVIOUS

SUB-BASIN — I-A — 22-z — MINOR-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

NOTE:
ALT. 3 IMPROVEMENTS ARE THE SAME AS ALT. 1 EXCEPT OMIT CENTRAL HIGH DETENTION POND AND ADD JEFFERSON + WASHINGTON OUTFALL.

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

DRAWN S&G DATE 5/05

Sellards & Grigg, Inc.
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An SEH Company
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CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 3
SW PUEBLO BASIN
100% SUBMITTAL

H-3

SHT 38 OF 41

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — PROP. DESIGN POINT (101 SWP)

MAIN BASIN

BASIN NAME — DEVELOPED BASIN (SW1 1-A 22-z, 77ac 77%)

ACREAGE

PERCENT IMPERVIOUS

MINOR-BASIN

SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

DRAWN S&G DATE 5/05

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CITY OF PUEBLO

PUEBLO STORMWATER
MASTER BASIN
PLANNING STUDY

PHASE 1, ALT. 1
SW PUEBLO BASIN
100% SUBMITTAL

H-4

SHT 37 OF 41

P:\land projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\SW PUEBLO\4060-H4 Alt 1.dwg 3/22/2007 11:17:34 AM MDT

H-3

G-4

J-4

H-5

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — MAIN BASIN — 101 SWP — PROP. DESIGN POINT

BASIN NAME — SW1 I-A 22-z — DEVELOPED BASIN — 77ac ACREAGE — 77% PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1, ALT. 2
SW PUEBLO BASIN
100% SUBMITTAL

H-4

P:\land projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\SW PUEBLO\4060-H4 Alt 2.dwg 3/22/2007 11:19:25 AM MDT

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H-4

G-5

J-5

H-6

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT 101 SWP MAIN BASIN — PROP. DESIGN POINT

BASIN NAME, SW1, 1-A, 22-z, SUB-BASIN, 77ac ACREAGE, 77% PERCENT IMPERVIOUS, MINOR-BASIN — DEVELOPED BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

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DRAWN S&G DATE 5/05

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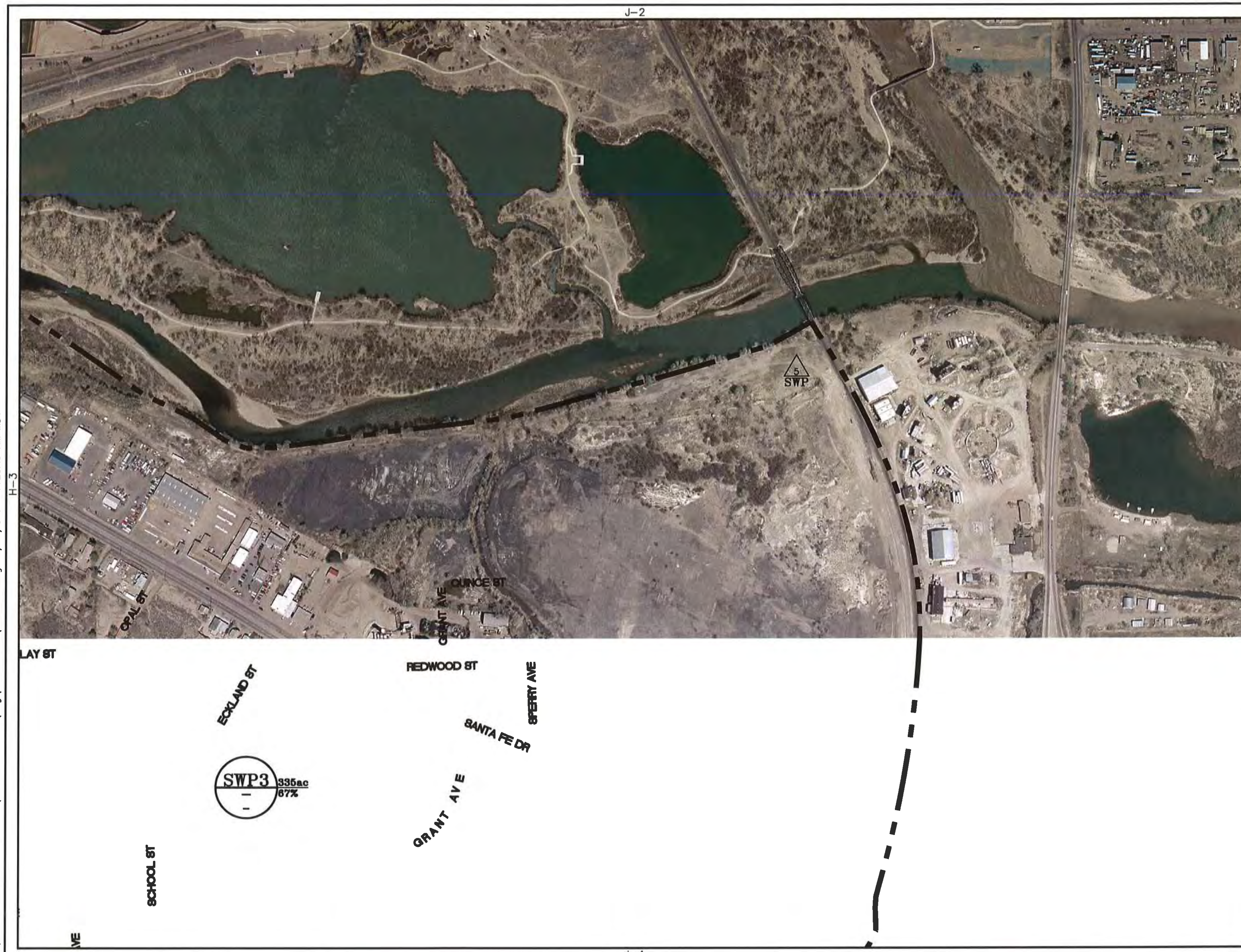
CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
SW PUEBLO BASIN
100% SUBMITTAL

H-5



LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 — MAIN BASIN — SWP — PROP. DESIGN POINT

BASIN NAME — SW1 — I-A — 22-z — 77ac — 77% — DEVELOPED BASIN — ACREAGE — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

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SCALE

DRAWN S&G DATE 5/05

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
SW PUEBLO BASIN
100% SUBMITTAL

J-3

SHT 40 OF 41

P:\land projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\SW PUEBLO\4060-J3.dwg 3/22/2007 11:23:13 AM MDT

J-3

H-4

J-5

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 — PROP. DESIGN POINT

MAIN BASIN — SWP

BASIN NAME — SW1 — DEVELOPED BASIN

77ac — ACREAGE

77% — PERCENT IMPERVIOUS

I-A — SUB-BASIN

22-z — MINOR-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

DRAWN S&G DATE 5/05

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CITY OF PUEBLO

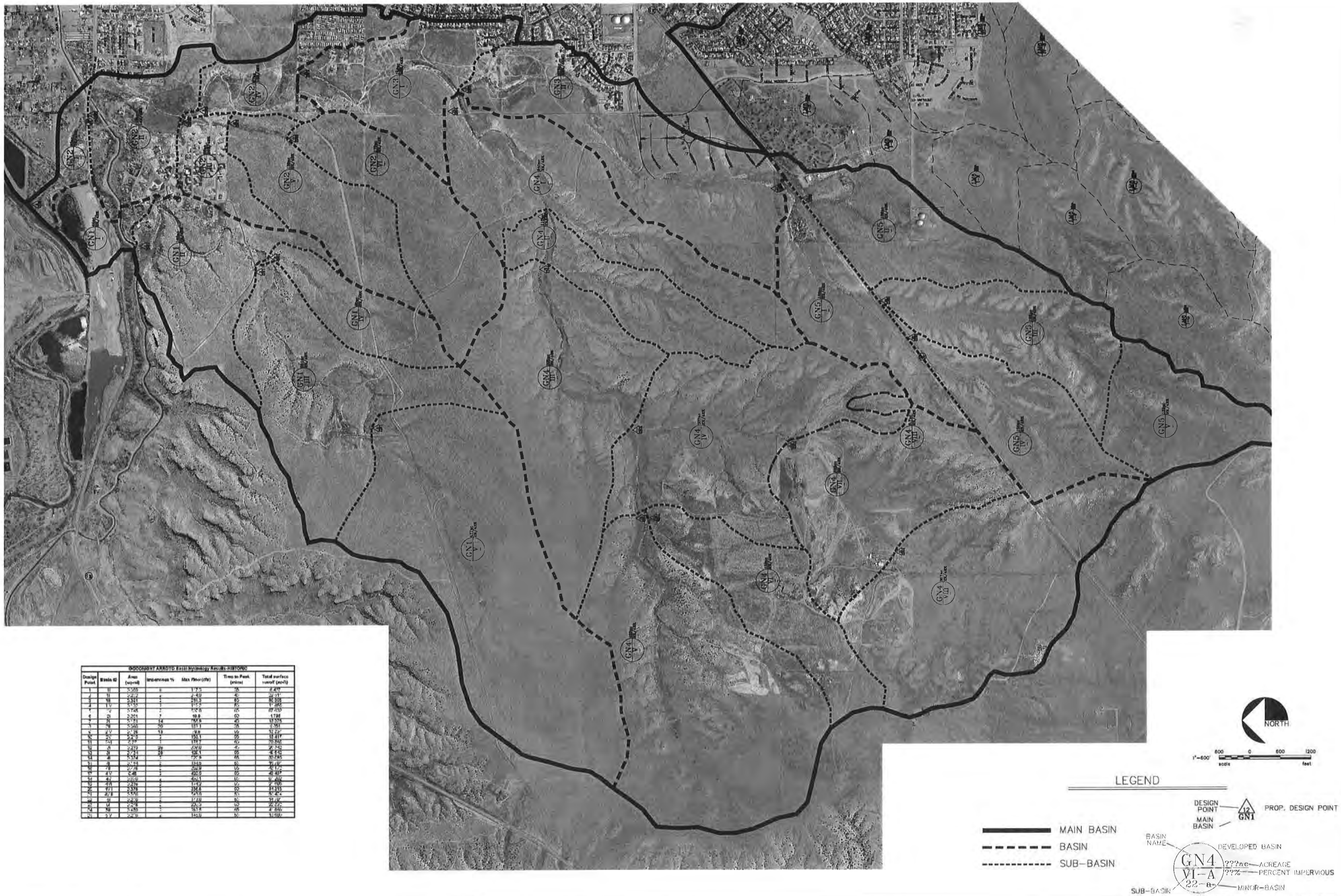
PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
SW PUEBLO BASIN
100% SUBMITTAL

J-4

SHT 41 OF 41

P:\land projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\SW PUEBLO\4060-J4.dwg 3/22/2007 11:25:00 AM MDT



GOODNIGHT ARROYO Basin Hydrology Results-HISTORIC						
Design Point	Basin ID	Area (sq-mi)	Impervious %	Max Flow (cfs)	Time to Peak (mins)	Total surface runoff (ac-ft)
1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6	[illegible]	[illegible]	7	49.8	[illegible]	1.798
7	[illegible]	[illegible]	14	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	13	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	2.48	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

GOODNIGHT ARROYO
EXISTING CONDITIONS

DATE: 01/24/07
FILE NAME: GOODNIGHT_BASE.DWG

CITY OF PUEBLO
MASTER BASIN PLANNING STUDY

Sellards & Grigg, Inc.
Consulting Engineers / Land Surveyors
An SEH Company
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FAX: (719) 544-6825
engineer@northstar-co.com

A-6

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT — 60 GN — PROPOSED DESIGN POINT
- MAIN BASIN NAME
- GN1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN
- 30" — PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
GOODNIGHT BASINS
100% SUBMITTAL

A-5

SHT 1 OF 18

A-5

B-6

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT 60 GN — PROPOSED DESIGN POINT

MAIN BASIN NAME

GN1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" — PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

DRAWN NSTAR DATE 11/06

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
GOODNIGHT BASINS
100% SUBMITTAL

A-6

SHT 2 OF 18

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 GN — PROPOSED DESIGN POINT

MAIN BASIN NAME — ACREAGE — GN1 VIII 245 ac 38% — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 — 400'
SCALE

DRAWN NSTAR DATE 11/06

Sellards & Grigg, Inc.
Consulting Engineers / Land Surveyors
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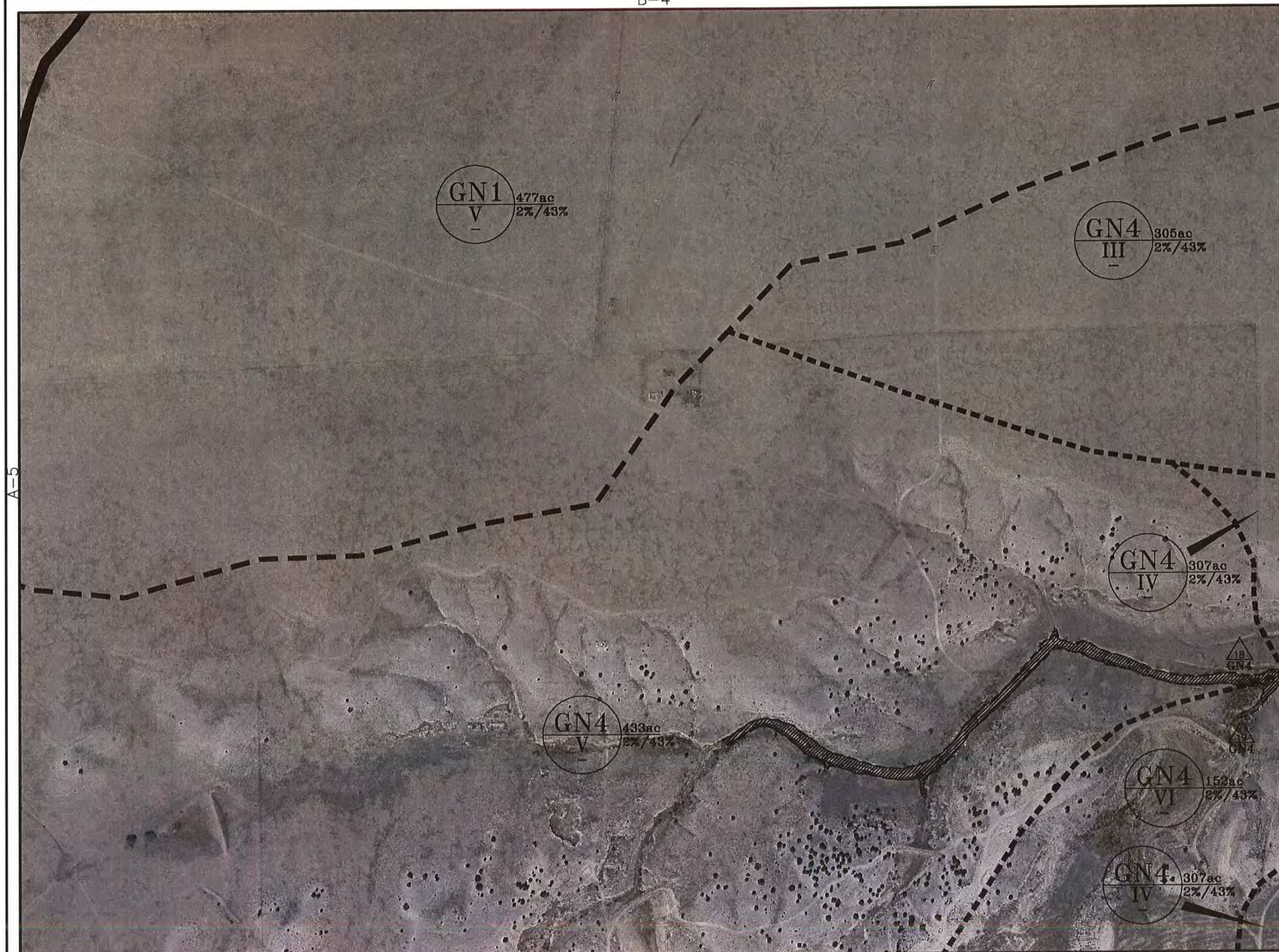
CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
GOODNIGHT BASINS
100% SUBMITTAL

B-4

SHT 3 OF 18



LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 GN — PROPOSED DESIGN POINT

MAIN BASIN NAME

GN1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400' SCALE

DRAWN NSTAR DATE 11/06

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
GOODNIGHT BASINS
100% SUBMITTAL

B-5

SHT 4 OF 18

B–5

A–6

C–6

B–7

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 GN — PROPOSED DESIGN POINT

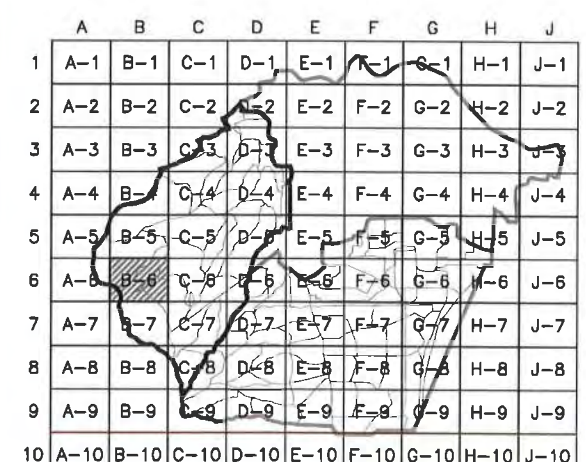
MAIN BASIN NAME

GN1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR–BASIN — SUB–BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



	A	B	C	D	E	F	G	H	J
1	A–1	B–1	C–1	D–1	E–1	F–1	G–1	H–1	J–1
2	A–2	B–2	C–2	D–2	E–2	F–2	G–2	H–2	J–2
3	A–3	B–3	C–3	D–3	E–3	F–3	G–3	H–3	J–3
4	A–4	B–4	C–4	D–4	E–4	F–4	G–4	H–4	J–4
5	A–5	B–5	C–5	D–5	E–5	F–5	G–5	H–5	J–5
6	A–6	B–6	C–6	D–6	E–6	F–6	G–6	H–6	J–6
7	A–7	B–7	C–7	D–7	E–7	F–7	G–7	H–7	J–7
8	A–8	B–8	C–8	D–8	E–8	F–8	G–8	H–8	J–8
9	A–9	B–9	C–9	D–9	E–9	F–9	G–9	H–9	J–9
10	A–10	B–10	C–10	D–10	E–10	F–10	G–10	H–10	J–10

NORTH

0 400'
SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
GOODNIGHT BASINS
100% SUBMITTAL

B–6

SHT 5 OF 18

B–6

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 GN — PROPOSED DESIGN POINT

MAIN BASIN NAME

GN1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR–BASIN — SUB–BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A–1	B–1	C–1	D–1	E–1	F–1	G–1	H–1	J–1
2	A–2	B–2	C–2	D–2	E–2	F–2	G–2	H–2	J–2
3	A–3	B–3	C–3	D–3	E–3	F–3	G–3	H–3	J–3
4	A–4	B–4	C–4	D–4	E–4	F–4	G–4	H–4	J–4
5	A–5	B–5	C–5	D–5	E–5	F–5	G–5	H–5	J–5
6	A–6	B–6	C–6	D–6	E–6	F–6	G–6	H–6	J–6
7	A–7	B–7	C–7	D–7	E–7	F–7	G–7	H–7	J–7
8	A–8	B–8	C–8	D–8	E–8	F–8	G–8	H–8	J–8
9	A–9	B–9	C–9	D–9	E–9	F–9	G–9	H–9	J–9
10	A–10	B–10	C–10	D–10	E–10	F–10	G–10	H–10	J–10

NORTH

0 400'
SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1 GOODNIGHT BASINS 100% SUBMITTAL

B–7

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 GN — PROPOSED DESIGN POINT

MAIN BASIN NAME — GN1 VIII 245 ac 38% — ACREAGE, DEVELOPED BASIN, PERCENT IMPERVIOUS, MINOR-BASIN, SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

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PHASE 1
GOODNIGHT BASINS
100% SUBMITTAL

C-3

SHT 7 OF 18

C-3

B-4

D-4

C-5

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 GN — PROPOSED DESIGN POINT

MAIN BASIN NAME

GN1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400' SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
GOODNIGHT BASINS
100% SUBMITTAL

C-4

SHT 8 OF 18

C-4

B-5

D-5

C-6

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 GN — PROPOSED DESIGN POINT

MAIN BASIN NAME

GN1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

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PHASE 1
GOODNIGHT BASINS
100% SUBMITTAL

C-5

C-6

C-8

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 GN — PROPOSED DESIGN POINT

MAIN BASIN NAME

GN1 VIII 245 ac 38% — DEVELOPED BASIN

ACREAGE

PERCENT IMPERVIOUS

MINOR-BASIN

SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
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8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

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PHASE 1
GOODNIGHT BASINS
100% SUBMITTAL

C-7

SHT 11 OF 18

C-7

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT 60 GN — PROPOSED DESIGN POINT

MAIN BASIN NAME

GN1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS

MINOR-BASIN

SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
GOODNIGHT BASINS
100% SUBMITTAL

C-8

SHT 12 OF 18

C–5

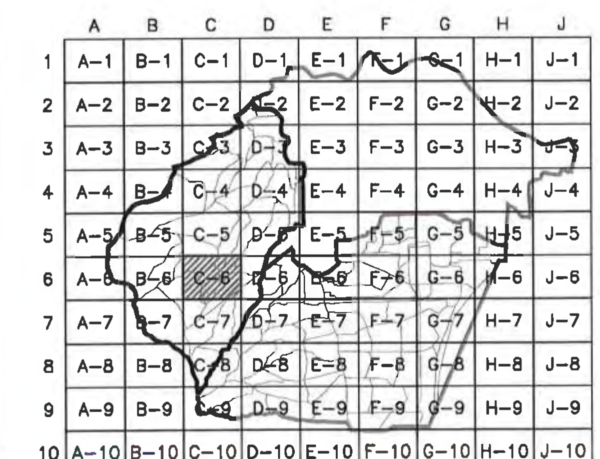
B–6

D–6

C–7

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT — 60 GN — PROPOSED DESIGN POINT
- MAIN BASIN NAME; GN1 VIII 245 ac 38% — ACREAGE, PERCENT IMPERVIOUS, MINOR-BASIN, SUB-BASIN — DEVELOPED BASIN
- 30" — PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH	0 400' SCALE DRAWN NSTAR DATE 11/06	Sellards & Grigg, Inc. Consulting Engineers / Land Surveyors An SEH Company SEH	NORTHSTAR ENGINEERING AND SURVEYING, INC. 111 E. 5TH ST., PUEBLO, CO 81003 TELEPHONE: (719) 544-6823 FAX: (719) 544-6825 engineer@northstar-co.com	STORMWATER UTILITY 211 E "D" Street Pueblo, Colorado 81003 (719) 553-2299 Fax (719) 553-2294 CITY OF PUEBLO	PUEBLO STORMWATER MASTER BASIN PLANNING STUDY	PHASE 1 GOODNIGHT BASINS 100% SUBMITTAL	C–6 SHT 10 OF 18

D-3

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

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DESIGN POINT — 60 GN — PROPOSED DESIGN POINT

MAIN BASIN NAME

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30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400' SCALE

DRAWN NSTAR DATE 11/06

Sellards & Grigg, Inc.
Consulting Engineers / Land Surveyors
An SEH Company
SEH

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CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
GOODNIGHT BASINS
100% SUBMITTAL

D-2

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

DRAWN NSTAR DATE 11/06

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
GOODNIGHT BASINS
100% SUBMITTAL

D-3

SHT 14 OF 18

D-3

C-4

D-5

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 GN — PROPOSED DESIGN POINT

MAIN BASIN NAME

GN1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
GOODNIGHT BASINS
100% SUBMITTAL

D-4

SHT 15 OF 18

D-4

C-5

D-6

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT 60 GN PROPOSED DESIGN POINT

MAIN BASIN NAME

GN1 VIII 245 ac 38% ACREAGE DEVELOPED BASIN PERCENT IMPERVIOUS MINOR-BASIN SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
GOODNIGHT BASINS
100% SUBMITTAL

D-5

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 GN — PROPOSED DESIGN POINT

MAIN BASIN NAME

GN1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400' SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
GOODNIGHT BASINS
100% SUBMITTAL

D-6

SHT 17 OF 18

D-6

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT 60 GN — PROPOSED DESIGN POINT

MAIN BASIN NAME

GN1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 1
GOODNIGHT BASINS
100% SUBMITTAL

Pueblo Stormwater Master Plan Basin Planning Study Report

Phase 2 – Wild Horse Basin, West Pueblo

A-6

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT — 60 WH — PROPOSED DESIGN POINT
- MAIN BASIN NAME — WH1 VIII 245 ac 38% — ACREAGE; DEVELOPED BASIN; PERCENT IMPERVIOUS; MINOR-BASIN; SUB-BASIN
- 30" — PROPOSED STORM MAIN
- ● PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8

NORTH

0 400'
SCALE

DRAWN NSTAR DATE 11/06

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

A-5

SHT 1 OF 43

A-5

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 WH — PROPOSED DESIGN POINT

MAIN BASIN NAME

WH1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8

NORTH

0 400'
SCALE

DRAWN NSTAR DATE 11/06

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 2
WILD HORSE &
WEST PUEBLO BASINS
100% SUBMITTAL

A-6

SHT 2 OF 43

B-3

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

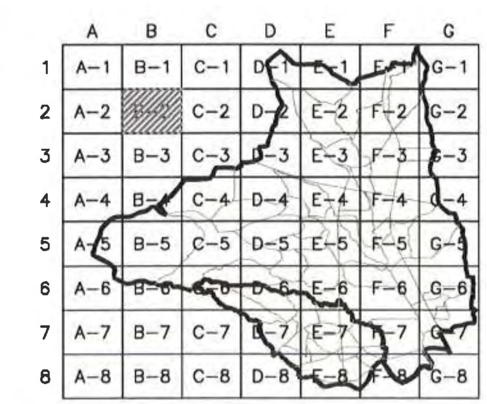
DESIGN POINT — PROPOSED DESIGN POINT (60 WH)

MAIN BASIN NAME — ACREAGE — DEVELOPED BASIN (WH1 VIII 245 ac 38%) — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH	0 400' SCALE DRAWN NSTAR DATE 11/06	Sellards & Grigg, Inc. Consulting Engineers / Land Surveyors An SEH Company SEH	NORTHSTAR ENGINEERING AND SURVEYING, INC. 111 E. 5TH ST., PUEBLO, CO 81003 TELEPHONE: (719) 544-6823 FAX: (719) 544-6826 engineer@northstar-co.com	STORMWATER UTILITY 211 E "D" Street Pueblo, Colorado 81003 (719) 553-2299 Fax (719) 553-2294 CITY OF PUEBLO	PUEBLO STORMWATER MASTER BASIN PLANNING STUDY	PHASE 2 WILD HORSE & WEST PUEBLO BASINS 100% SUBMITTAL	B-2 SHT 3 OF 43

B-2

B-4

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 WH — PROPOSED DESIGN POINT

MAIN BASIN NAME

WH1 VIII 245 ac 38% — DEVELOPED BASIN

ACREAGE

PERCENT IMPERVIOUS

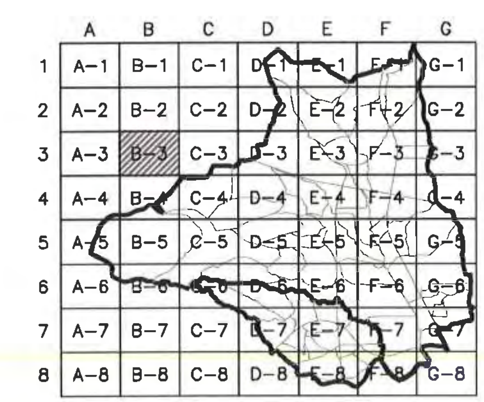
MINOR-BASIN

SUB-BASIN

30" — PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

0 400'
SCALE

DRAWN NSTAR DATE 11/06

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

B-3

SHT 4 OF 43

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

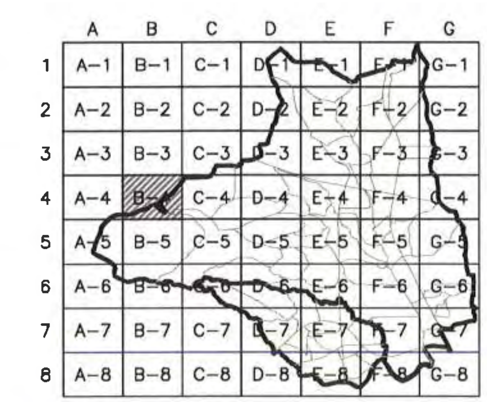
DESIGN POINT — PROPOSED DESIGN POINT (60 WH)

MAIN BASIN NAME, ACREAGE, DEVELOPED BASIN, PERCENT IMPERVIOUS, MINOR-BASIN, SUB-BASIN (WH1 VIII 245 ac 38%)

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

SCALE 0 400'

DRAWN NSTAR DATE 11/06

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 2 WILD HORSE & WEST PUEBLO BASINS 100% SUBMITTAL

B-4

B-4

A-5

C-5

B-6

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT

60

WH

PROPOSED DESIGN POINT

MAIN BASIN NAME

WH1

VIII

245 ac

38%

ACREAGE

DEVELOPED BASIN

PERCENT IMPERVIOUS

MINOR-BASIN

SUB-BASIN

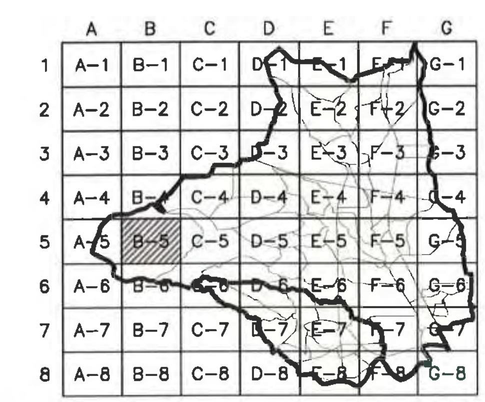
30"

PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA

PROPOSED REGIONAL DETENTION SITE



NORTH

0 400'

SCALE

DRAWN NSTAR DATE 11/06

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PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

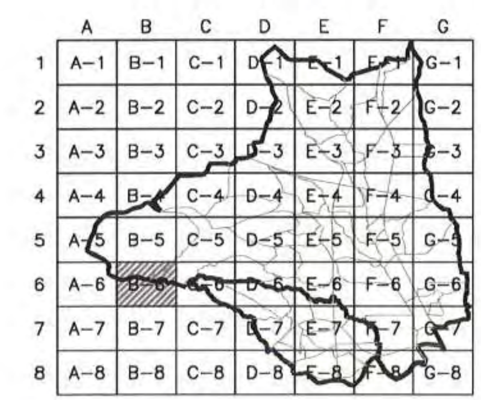
B-5

SHT 6 OF 43

B-5

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT (60 WH) — PROPOSED DESIGN POINT
- MAIN BASIN NAME; ACREAGE; PERCENT IMPERVIOUS; MINOR-BASIN; SUB-BASIN (WH1 VIII 245 ac 38%) — DEVELOPED BASIN
- 30" — PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

0 400'
SCALE

DRAWN NSTAR DATE 11/06

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CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

B-6

SHT 7 OF 43

C-4

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

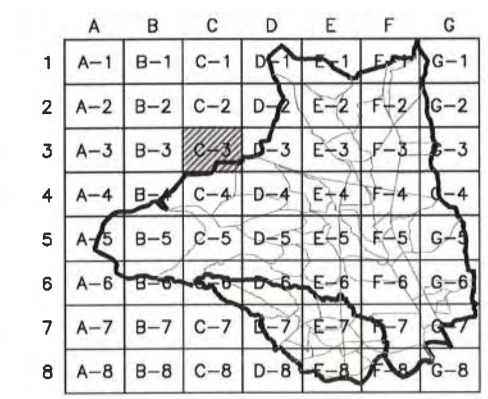
DESIGN POINT 60 WH — PROPOSED DESIGN POINT

MAIN BASIN NAME — WH1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

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PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

C-3

SHT 8 OF 43

C-3

B-4

D-4

C-5

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — PROPOSED DESIGN POINT (60 WH)

MAIN BASIN NAME

ACREAGE

WH1 VIII 245 ac 38% — DEVELOPED BASIN

PERCENT IMPERVIOUS

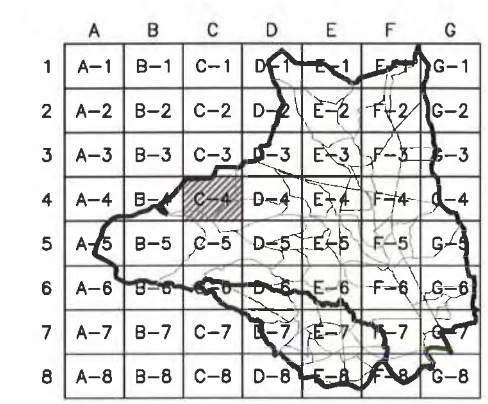
MINOR-BASIN

SUB-BASIN

30" — PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

0 400'
SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

C-4

C-4

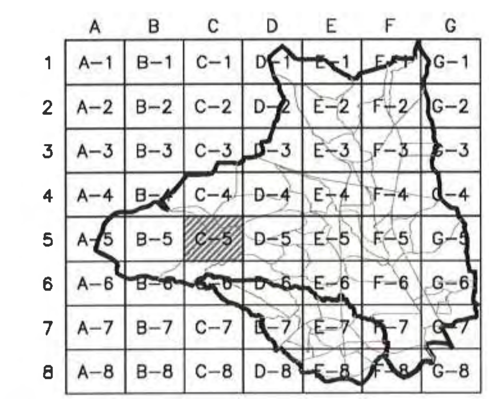
B-5

D-5

C-6

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT — 60 WH — PROPOSED DESIGN POINT
- MAIN BASIN NAME
- WH1 VIII 245 ac 38% — DEVELOPED BASIN (ACREAGE, PERCENT IMPERVIOUS, MINOR-BASIN, SUB-BASIN)
- 30" — PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

C-5

SHT 10 OF 43

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 WH — PROPOSED DESIGN POINT

MAIN BASIN NAME — WH1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8

NORTH

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PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

C-6

D-2

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT 60 WH — PROPOSED DESIGN POINT

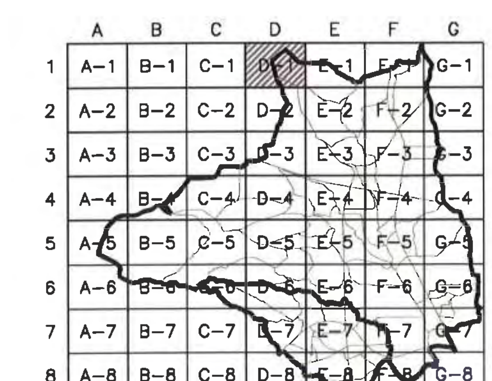
MAIN BASIN NAME

WH1 / VIII — 245 ac, 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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SCALE

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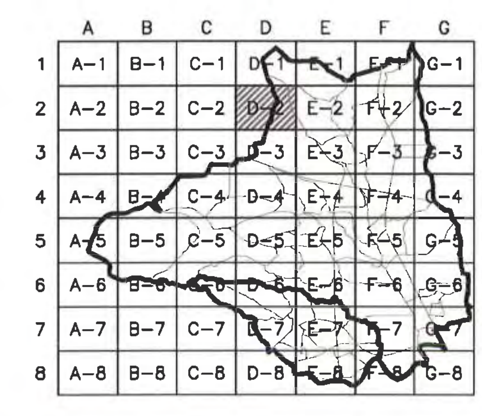
PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

D-1

SHT 12 OF 43

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT (60 WH) — PROPOSED DESIGN POINT
- MAIN BASIN NAME; WH1 VIII 245 ac 38% — ACREAGE; DEVELOPED BASIN; PERCENT IMPERVIOUS; MINOR-BASIN; SUB-BASIN
- 30" — PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 2 WILD HORSE & WEST PUEBLO BASINS 100% SUBMITTAL

D-2

SHT 13 OF 43

LEGEND

EXISTING MAIN BASIN
EXISTING SUB BASIN
EXISTING MINOR BASIN
EXISTING 100 YEAR FLOODPLAIN LIMITS
EXISTING 500 YEAR FLOODPLAIN LIMITS
DESIGN POINT — PROPOSED DESIGN POINT (60, WH)
MAIN BASIN NAME; ACREAGE; DEVELOPED BASIN (WH1, VIII, 245 ac, 38%); PERCENT IMPERVIOUS; MINOR-BASIN; SUB-BASIN
30" — PROPOSED STORM MAIN
PROPOSED MANHOLE
REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8

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SCALE

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PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

D-3

D-3

C-4

E-4

D-5

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 WH — PROPOSED DESIGN POINT

MAIN BASIN NAME

WH1 VIII 245 ac 38% — DEVELOPED BASIN

ACREAGE

PERCENT IMPERVIOUS

MINOR-BASIN

SUB-BASIN

30" — PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8

NORTH

0 400'
SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

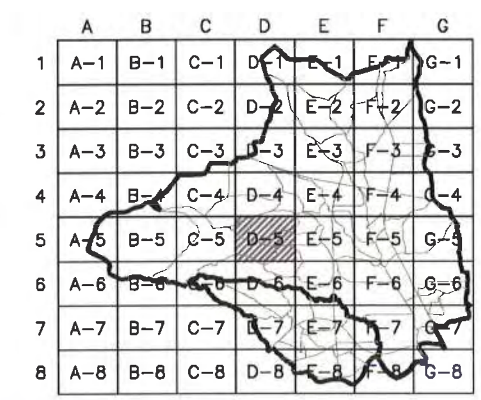
D-4

D-4

D-6

LEGEND

EXISTING MAIN BASIN
EXISTING SUB BASIN
EXISTING MINOR BASIN
EXISTING 100 YEAR FLOODPLAIN LIMITS
EXISTING 500 YEAR FLOODPLAIN LIMITS
DESIGN POINT — 60 WH — PROPOSED DESIGN POINT
MAIN BASIN NAME
WH1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN
30" PROPOSED STORM MAIN
PROPOSED MANHOLE
REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

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PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

D-5

SHT 16 OF 43

D-5

C-6

E-6

D-7

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — PROPOSED DESIGN POINT (60 WH)

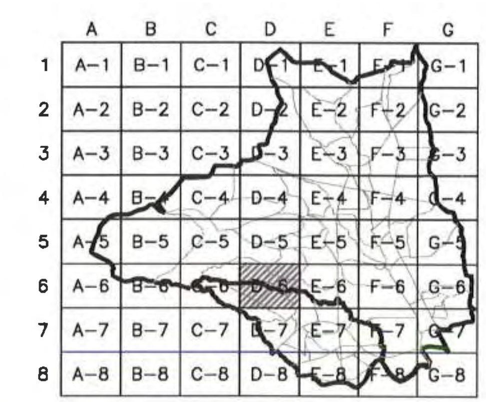
MAIN BASIN NAME

WH1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

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PHASE 2 WILD HORSE & WEST PUEBLO BASINS 100% SUBMITTAL

D-6

SHT 17 OF 43

D-6

D-8

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 WH — PROPOSED DESIGN POINT

MAIN BASIN NAME

WH1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS

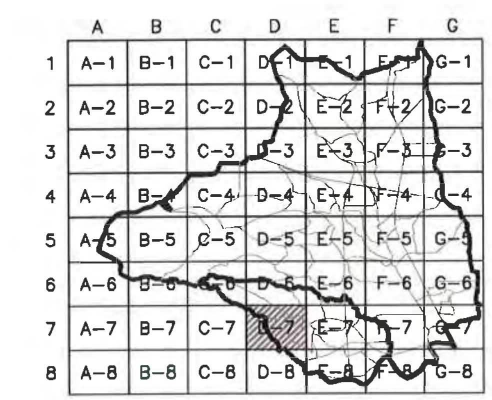
MINOR-BASIN

SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

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PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

D-7

SHT 18 OF 43

D-7

D-8

LEGEND

EXISTING MAIN BASIN
EXISTING SUB BASIN
EXISTING MINOR BASIN
EXISTING 100 YEAR FLOODPLAIN LIMITS
EXISTING 500 YEAR FLOODPLAIN LIMITS
DESIGN POINT — PROPOSED DESIGN POINT (60 WH)
MAIN BASIN NAME, ACREAGE, DEVELOPED BASIN, PERCENT IMPERVIOUS, MINOR-BASIN, SUB-BASIN (WH1 VIII 245 ac 38%)
30" PROPOSED STORM MAIN
PROPOSED MANHOLE
REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8

NORTH

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SCALE

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PHASE 2
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100% SUBMITTAL

D-8

SHT 19 OF 43

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — PROPOSED DESIGN POINT (60 WH)

MAIN BASIN NAME

ACREAGE

WH1 VIII 245 ac 38% — DEVELOPED BASIN

PERCENT IMPERVIOUS

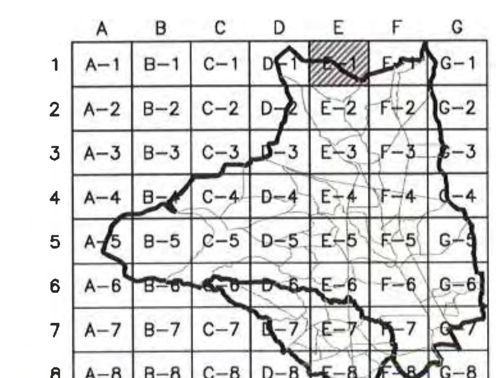
MINOR-BASIN

SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

E-1

SHT 20 OF 43

E-1

E-3

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

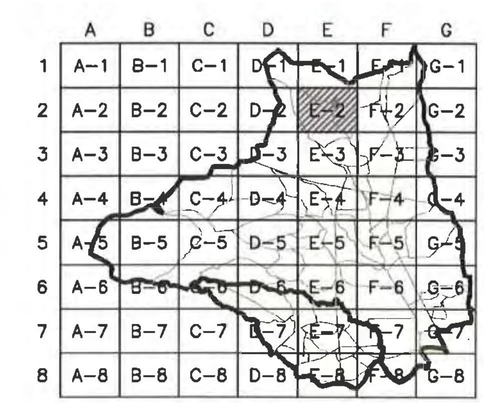
DESIGN POINT — 60 WH — PROPOSED DESIGN POINT

MAIN BASIN NAME — WH1 VIII — ACREAGE 245 ac — PERCENT IMPERVIOUS 38% — MINOR-BASIN — SUB-BASIN — DEVELOPED BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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(719) 553-2299 Fax (719) 553-2294
CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

E-2

SHT 21 OF 43

E-2

E-4

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 WH — PROPOSED DESIGN POINT

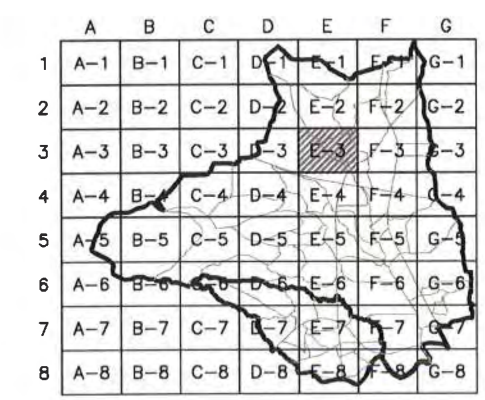
MAIN BASIN NAME

WH1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" — PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

0 400'
SCALE

DRAWN NSTAR DATE 11/06

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PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

E-3

SHT 22 OF 43

E-3

D-4

F-4

E-5

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 WH — PROPOSED DESIGN POINT

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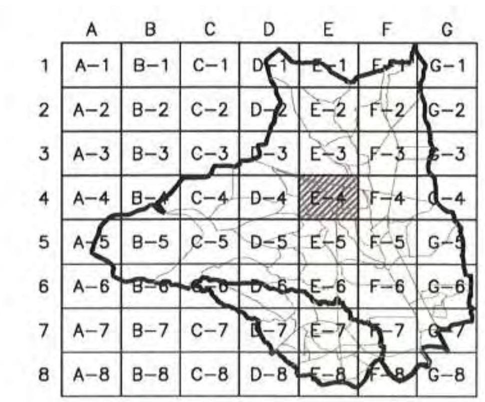
30" — PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

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PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

E-4

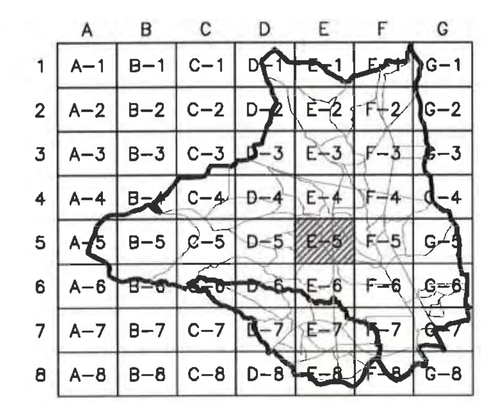
SHT 23 OF 43

E-4

E-6

LEGEND

EXISTING MAIN BASIN
EXISTING SUB BASIN
EXISTING MINOR BASIN
EXISTING 100 YEAR FLOODPLAIN LIMITS
EXISTING 500 YEAR FLOODPLAIN LIMITS
DESIGN POINT 60 WH PROPOSED DESIGN POINT
MAIN BASIN NAME
WH1 VIII 245 ac 38% DEVELOPED BASIN
ACREAGE
PERCENT IMPERVIOUS
MINOR-BASIN
SUB-BASIN
30" PROPOSED STORM MAIN
PROPOSED MANHOLE
REGIONAL DETENTION AREA PROPOSED REGIONAL DETENTION SITE



NORTH

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SCALE

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PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

E-5

SHT 24 OF 43

E-5

D-6 | F-6

E-7

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT 60 WH — PROPOSED DESIGN POINT
- MAIN BASIN NAME; WH1 VIII 245 ac 38% — ACREAGE, DEVELOPED BASIN, PERCENT IMPERVIOUS, MINOR-BASIN, SUB-BASIN
- 30" — PROPOSED STORM MAIN
- ● PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8

NORTH

0 400'
SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

E-6

E-6

E-8

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

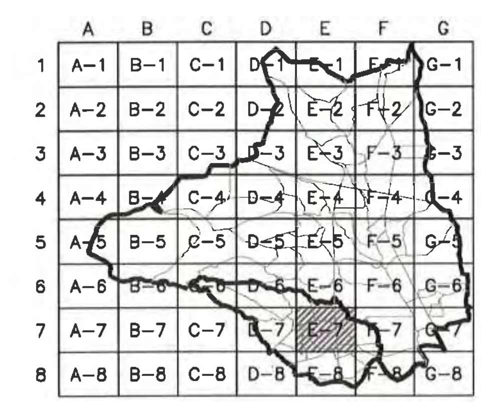
DESIGN POINT 60 WH — PROPOSED DESIGN POINT

MAIN BASIN NAME — WH1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

E-7

SHT 26 OF 43

E-7

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

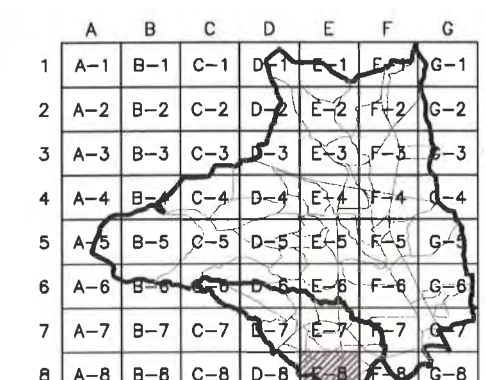
DESIGN POINT 60 WH — PROPOSED DESIGN POINT

MAIN BASIN NAME — WH1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" — PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

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SCALE

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PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

E-8

SHT 27 OF 43

F-2

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT 60 WH — PROPOSED DESIGN POINT
- MAIN BASIN NAME
- WH1 VIII 245 ac 38% — ACREAGE, DEVELOPED BASIN, PERCENT IMPERVIOUS, MINOR-BASIN, SUB-BASIN
- 30" — PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8

NORTH

0 400'
SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

F-1

SHT 28 OF 43

F-1

F-3

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 WH — PROPOSED DESIGN POINT

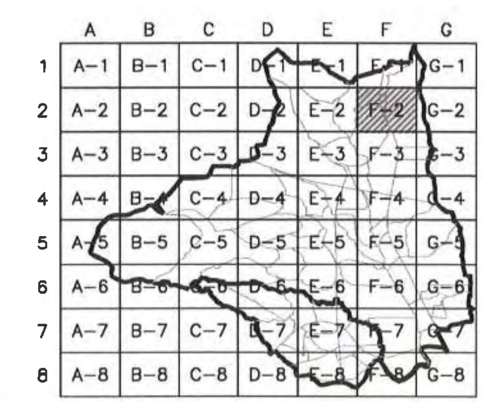
MAIN BASIN NAME

WH1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" — PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

F-2

F-2

F-4

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 WH — PROPOSED DESIGN POINT

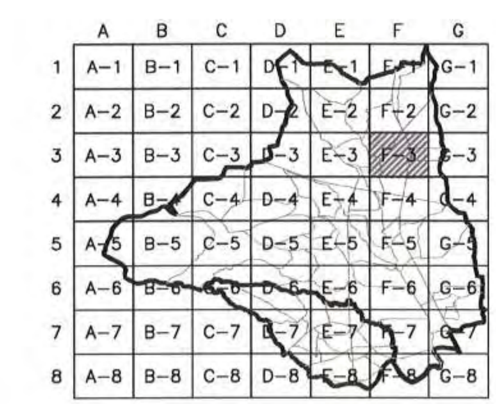
MAIN BASIN NAME

WH1 VIII 245 ac 38% — ACREAGE; DEVELOPED BASIN; PERCENT IMPERVIOUS; MINOR-BASIN; SUB-BASIN

30" — PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



A-1	B-1	C-1	D-1	E-1	F-1	G-1
A-2	B-2	C-2	D-2	E-2	F-2	G-2
A-3	B-3	C-3	D-3	E-3	F-3	G-3
A-4	B-4	C-4	D-4	E-4	F-4	G-4
A-5	B-5	C-5	D-5	E-5	F-5	G-5
A-6	B-6	C-6	D-6	E-6	F-6	G-6
A-7	B-7	C-7	D-7	E-7	F-7	G-7
A-8	B-8	C-8	D-8	E-8	F-8	G-8

NORTH

0 400' SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

F-3

SHT 30 OF 43

F-3

E-4

G-4

F-5

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 WH — PROPOSED DESIGN POINT

MAIN BASIN NAME

WH1 VIII 245 ac 38%

ACREAGE

DEVELOPED BASIN

PERCENT IMPERVIOUS

MINOR-BASIN

SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8

NORTH

0 400'
SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

F-4

F-4

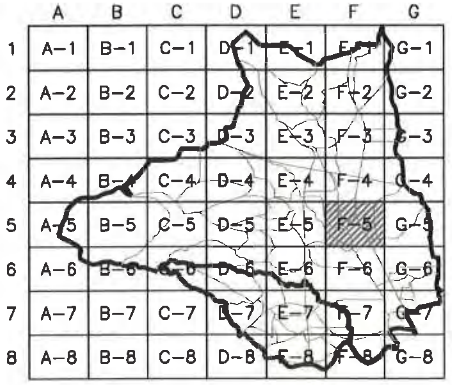
F-6

E-5

G-5

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT 60 WH — PROPOSED DESIGN POINT
- MAIN BASIN NAME / WH1 VIII 245 ac 38% / ACREAGE / DEVELOPED BASIN / PERCENT IMPERVIOUS / MINOR-BASIN / SUB-BASIN
- 30" PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



	A	B	C	D	E	F	G
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8

NORTH

0 400'
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PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

F-5

F-5

E-6

G-6

F-7

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 WH — PROPOSED DESIGN POINT

MAIN BASIN NAME

WH1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8

NORTH

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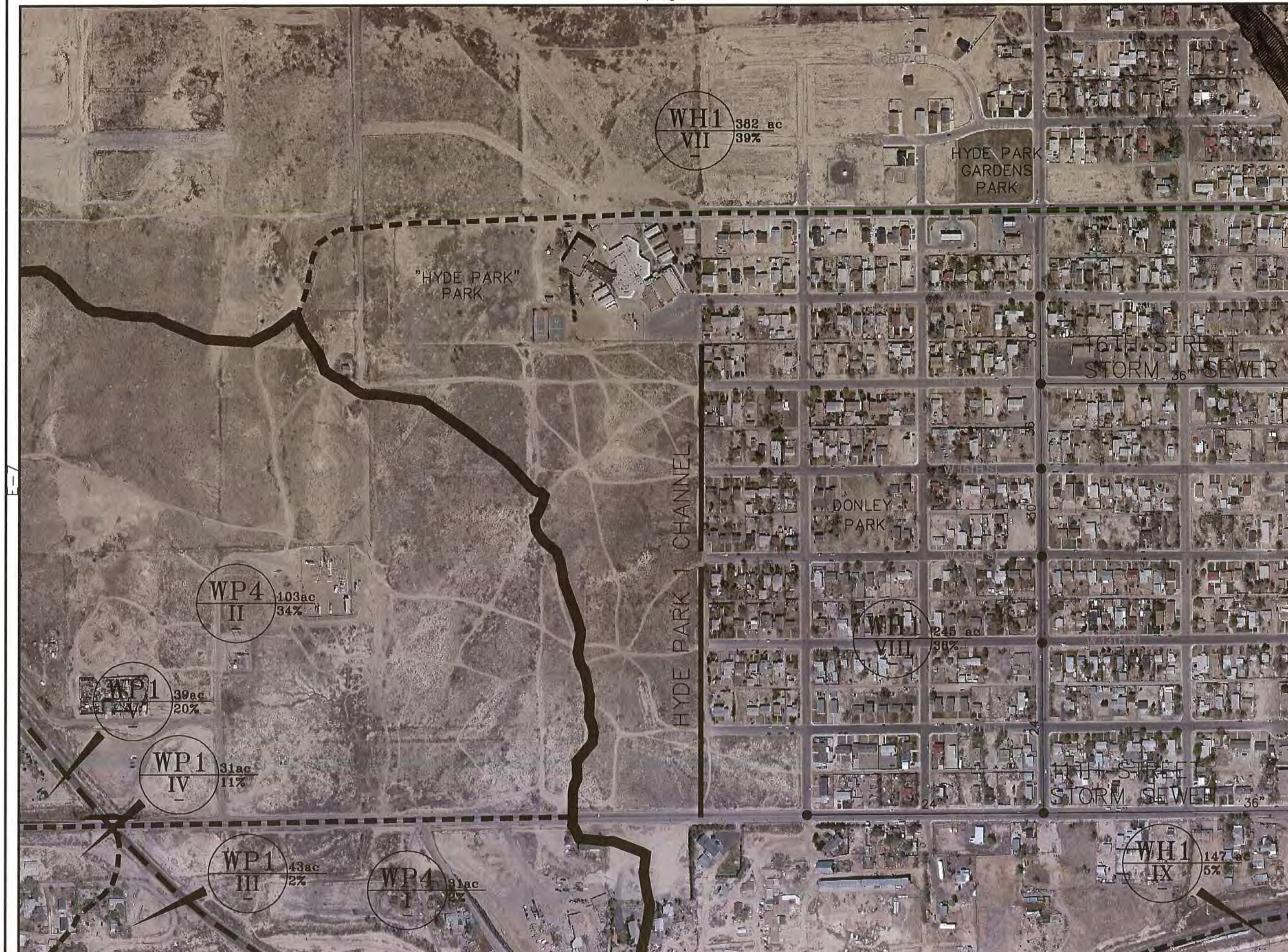
PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

F-6

F-6



F-8

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 WH — PROPOSED DESIGN POINT

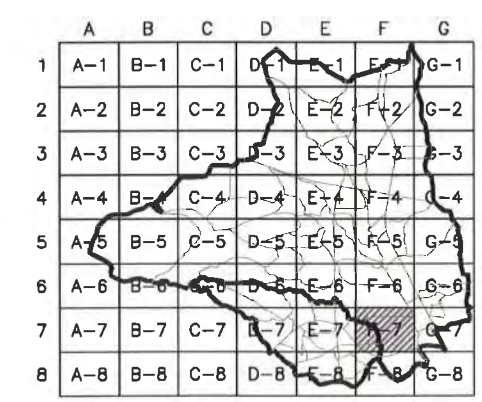
MAIN BASIN NAME

WH1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



	A	B	C	D	E	F	G
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2	A-2	B-2	C-2	D-2	E-2	F-2	G-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8

NORTH

0 400' SCALE

DRAWN NSTAR DATE 11/06

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CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

F-7

SHT 34 OF 43

F-7

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 WH — PROPOSED DESIGN POINT

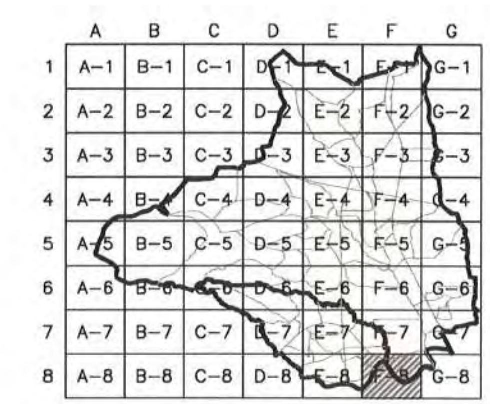
MAIN BASIN NAME

WH1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" — PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH	0 400' SCALE DRAWN NSTAR DATE 11/06	Sellards & Grigg, Inc. Consulting Engineers / Land Surveyors An SEH Company SEH	NORTHSTAR ENGINEERING AND SURVEYING, INC. 111 E. 5TH ST., PUEBLO, CO 81003 TELEPHONE: (719) 544-6823 FAX: (719) 544-6825 engineer@northstar-co.com	STORMWATER UTILITY 211 E "D" Street Pueblo, Colorado 81003 (719) 553-2299 Fax (719) 553-2294 CITY OF PUEBLO	PUEBLO STORMWATER MASTER BASIN PLANNING STUDY	PHASE 2 WILD HORSE & WEST PUEBLO BASINS 100% SUBMITTAL	F-8 SHT 35 OF 43

G–2

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT — 60 WH — MAIN BASIN NAME — PROPOSED DESIGN POINT
- WH1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR–BASIN — SUB–BASIN
- 30" PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G
1	A–1	B–1	C–1	D–1	E–1	F–1	G–1
2	A–2	B–2	C–2	D–2	E–2	F–2	G–2
3	A–3	B–3	C–3	D–3	E–3	F–3	G–3
4	A–4	B–4	C–4	D–4	E–4	F–4	G–4
5	A–5	B–5	C–5	D–5	E–5	F–5	G–5
6	A–6	B–6	C–6	D–6	E–6	F–6	G–6
7	A–7	B–7	C–7	D–7	E–7	F–7	G–7
8	A–8	B–8	C–8	D–8	E–8	F–8	G–8

NORTH

0 400'
SCALE

DRAWN NSTAR DATE 11/06

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 2 WILD HORSE & WEST PUEBLO BASINS 100% SUBMITTAL

G–1

G-1

G-3

LEGEND

EXISTING MAIN BASIN

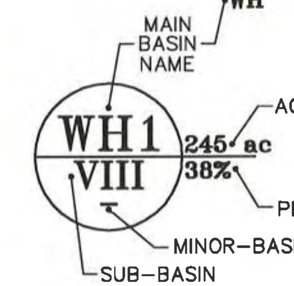
EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 WH — PROPOSED DESIGN POINT

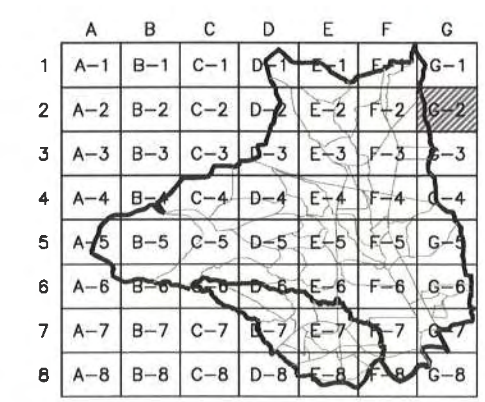


DEVELOPED BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

G-2

SHT 37 OF 43

G–2

G–4

F–3

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT 60 WH — PROPOSED DESIGN POINT

MAIN BASIN NAME

WH1 VIII 245 ac 38% — ACREAGE, DEVELOPED BASIN, PERCENT IMPERVIOUS, MINOR–BASIN, SUB–BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G
1	A–1	B–1	C–1	D–1	E–1	F–1	G–1
2	A–2	B–2	C–2	D–2	E–2	F–2	G–2
3	A–3	B–3	C–3	D–3	E–3	F–3	G–3
4	A–4	B–4	C–4	D–4	E–4	F–4	G–4
5	A–5	B–5	C–5	D–5	E–5	F–5	G–5
6	A–6	B–6	C–6	D–6	E–6	F–6	G–6
7	A–7	B–7	C–7	D–7	E–7	F–7	G–7
8	A–8	B–8	C–8	D–8	E–8	F–8	G–8

NORTH

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SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 2 WILD HORSE & WEST PUEBLO BASINS 100% SUBMITTAL

G–3

SHT 38 OF 43

G-3

G-5

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 WH — PROPOSED DESIGN POINT

MAIN BASIN NAME

WH1 VIII 245 ac 38%

ACREAGE

DEVELOPED BASIN

PERCENT IMPERVIOUS

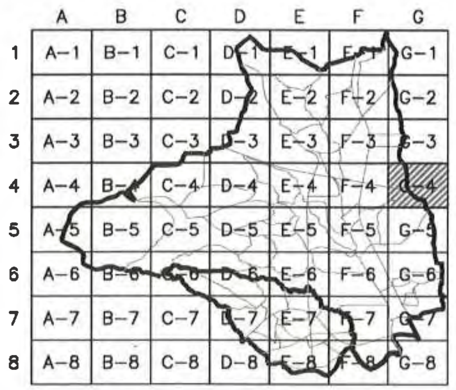
MINOR-BASIN

SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

G-4

SHT 39 OF 43

G-4

G-6

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 WH — PROPOSED DESIGN POINT

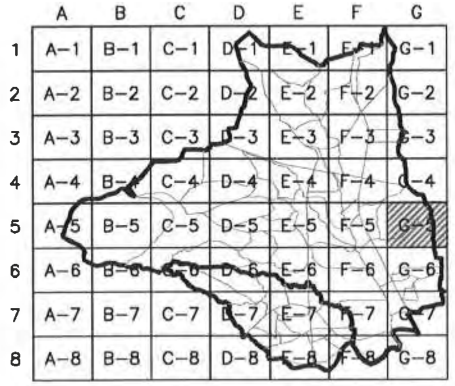
MAIN BASIN NAME

WH1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

G-5

SHT 40 OF 43

G-5

G-7

F-6

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — PROPOSED DESIGN POINT (60 WH)

MAIN BASIN NAME — WH1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F	G
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8

NORTH

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 2 WILD HORSE & WEST PUEBLO BASINS 100% SUBMITTAL

G-6

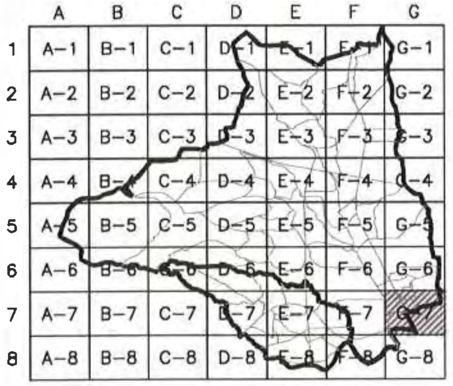
SHT 41 OF 43

G-6

G-8

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT — PROPOSED DESIGN POINT (60 WH)
- MAIN BASIN NAME; ACREAGE; WH1 VIII 245 ac 38% — DEVELOPED BASIN; PERCENT IMPERVIOUS; MINOR-BASIN; SUB-BASIN
- 30" — PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 2 WILD HORSE & WEST PUEBLO BASINS 100% SUBMITTAL

G-7

G-7

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT 60 WH — PROPOSED DESIGN POINT

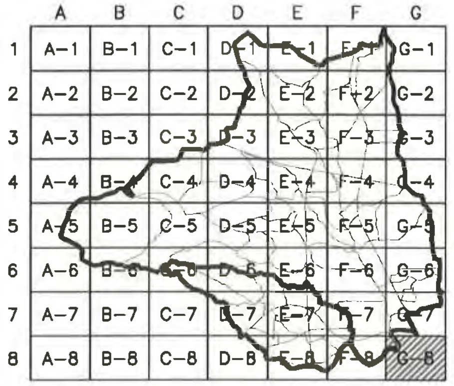
MAIN BASIN NAME

WH1 VIII 245 ac 38% — ACREAGE; DEVELOPED BASIN; PERCENT IMPERVIOUS; MINOR-BASIN; SUB-BASIN

30" — PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 2
WILD HORSE & WEST PUEBLO BASINS
100% SUBMITTAL

G-8

SHT 43 OF 43

Pueblo Stormwater Master Plan Basin Planning Study Report

Phase 3 – Central Pueblo, East Pueblo, East Fountain Creek, West Fountain Creek & East Dry Creek Basins

P:\land projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\CENTRAL PUEBLO\Sheet A-2.dwg 3/22/2007 9:19:41 AM MDT

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT
MAIN BASIN
101
SWP
PROP. DESIGN POINT

BASIN NAME
SW1
I-A
22-z
77ac
77%
SUB-BASIN
DEVELOPED BASIN
ACREAGE
PERCENT IMPERVIOUS
MINOR-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

DRAWN: SEH DATE: 1/07

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PHASE 3
CENTRAL PUEBLO BASIN
100% SUBMITTAL

A-2

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LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 — PROP. DESIGN POINT

MAIN BASIN — SWP

BASIN NAME — SW1 — DEVELOPED BASIN

77ac — ACREAGE

77% — PERCENT IMPERVIOUS

I-A — SUB-BASIN

22-z — MINOR-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

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PHASE 3
CENTRAL PUEBLO BASIN
100% SUBMITTAL

A-3

SHT 2 OF 12

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LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT
MAIN BASIN
101
SWP
PROP. DESIGN POINT

BASIN NAME
SW1
I-A
22-z
77ac
77%
SUB-BASIN
DEVELOPED BASIN
ACREAGE
PERCENT IMPERVIOUS
MINOR-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1		C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

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(719) 553-2299 Fax (719) 553-2294
CITY OF PUEBLO

PUEBLO STORMWATER
MASTER BASIN
PLANNING STUDY

PHASE 3
CENTRAL PUEBLO BASIN
100% SUBMITTAL

B-1

SHT 3 OF 12

P:\land projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\CENTRAL PUEBLO\Sheet B-2.dwg 3/22/2007 9:28:03 AM MDT

B-1

A-2

C-2

B-3

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 — MAIN BASIN — SWP — PROP. DESIGN POINT

BASIN NAME — SW1 — I-A — 22-z — DEVELOPED BASIN

77ac — ACREAGE

77% — PERCENT IMPERVIOUS

MINOR-BASIN

SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

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SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3
CENTRAL PUEBLO BASIN
100% SUBMITTAL

B-2

SHT 4 OF 12

P:\land projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\CENTRAL PUEBLO\Sheet B-3.dwg 3/22/2007 9:30:13 AM MDT

B-2

A-2

C-3

B-4

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT / MAIN BASIN — 101 SWP — PROP. DESIGN POINT

BASIN NAME — DEVELOPED BASIN

SW1 I-A 22-z 77ac 77% — ACREAGE, PERCENT IMPERVIOUS, MINOR-BASIN, SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

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PHASE 3
CENTRAL PUEBLO BASIN
100% SUBMITTAL

B-3

SHT 5 OF 12

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B-3

C-4

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 SWP — MAIN BASIN — PROP. DESIGN POINT

BASIN NAME — SW1 I-A 22-z — 77ac ACREAGE — 77% PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN — DEVELOPED BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	[illegible]	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

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SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3
CENTRAL PUEBLO BASIN
100% SUBMITTAL

B-4

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LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 — PROP. DESIGN POINT

MAIN BASIN — SWP

BASIN NAME — SW1 — DEVELOPED BASIN

77ac — ACREAGE

77% — PERCENT IMPERVIOUS

I-A — SUB-BASIN

22-z — MINOR-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	[illegible]	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

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SCALE

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PHASE 3
CENTRAL PUEBLO BASIN
100% SUBMITTAL

C-2

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LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 — PROP. DESIGN POINT

MAIN BASIN — SWP

BASIN NAME — DEVELOPED BASIN

SW1 I-A 22-z — 77ac ACREAGE — 77% PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3		D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

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PHASE 3 CENTRAL PUEBLO BASIN 100% SUBMITTAL

C-3

SHT 8 OF 12

P:\land projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\CENTRAL PUEBLO\Sheet C-4.dwg 3/22/2007 9:40:27 AM MDT

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 — SWP — MAIN BASIN: PROP. DESIGN POINT

BASIN NAME — SW1 — I-A — 22-z — SUB-BASIN: DEVELOPED BASIN

77ac — ACREAGE

77% — PERCENT IMPERVIOUS

MINOR-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

THOMAS PHELPS WATER QUALITY BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3 CENTRAL PUEBLO BASIN 100% SUBMITTAL

C-4

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LEGEND

EXISTING MAIN BASIN
EXISTING BASIN
EXISTING SUB-BASIN

DESIGN POINT
MAIN BASIN
101
SWP
PROP. DESIGN POINT

BASIN NAME
SUB-BASIN
SW1
I-A
22-z
77ac
77%
DEVELOPED BASIN
ACREAGE
PERCENT IMPERVIOUS
MINOR-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3
CENTRAL PUEBLO BASIN
100% SUBMITTAL

C-5

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT 101 — PROP. DESIGN POINT

MAIN BASIN SWP

BASIN NAME — DEVELOPED BASIN

SW1 / 1-A / 22-z — 77ac ACREAGE, 77% PERCENT IMPERVIOUS, MINOR-BASIN

SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

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PHASE 3
CENTRAL PUEBLO BASIN
100% SUBMITTAL

D-4

SHT 11 OF 12

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D-4

C-5

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 SWP — MAIN BASIN — PROP. DESIGN POINT

BASIN NAME — SW1 I-A 22-z 77ac 77% — DEVELOPED BASIN — ACREAGE — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

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PHASE 3
CENTRAL PUEBLO BASIN
100% SUBMITTAL

D-5

SHT 12 OF 12

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LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT
MAIN BASIN
101
SWP
PROP. DESIGN POINT

BASIN NAME
SUB-BASIN
SW1
I-A
22-z
77ac
77%
DEVELOPED BASIN
ACREAGE
PERCENT IMPERVIOUS
MINOR-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

CHANNEL IMPROVEMENTS

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

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PUEBLO STORMWATER
MASTER BASIN
PLANNING STUDY

PHASE 3
EAST PUEBLO BASIN
100% SUBMITTAL

D-1

SHT 1 OF 9

P:\land projects r2\2004060 Pueblo Stormwater\100% SUBMITTAL\dwg\EAST PUEBLO\REVISED DWGS-READ ONLY\Sheet D-2-RO.dwg 8/16/2007 3:23:00 PM MDT

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT
MAIN BASIN
101
SWP
PROP. DESIGN POINT

BASIN NAME
DEVELOPED BASIN
SW1
I-A
22-z
77ac — ACREAGE
77% — PERCENT IMPERVIOUS
MINOR-BASIN
SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

CHANNEL IMPROVEMENTS

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE
DRAWN: SEH DATE: 1/07

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3
EAST PUEBLO BASIN
100% SUBMITTAL

D-2

SHT 2 OF 9

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D-2

D-4

E-3

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — MAIN BASIN — 101 SWP — PROP. DESIGN POINT

BASIN NAME — SUB-BASIN — SW1 I-A 22-z — 77ac 77% — DEVELOPED BASIN — ACREAGE — PERCENT IMPERVIOUS — MINOR-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

CHANNEL IMPROVEMENTS

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3
EAST PUEBLO BASIN
100% SUBMITTAL

D-3

SHT 3 OF 9

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D-3

D-5

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 — PROP. DESIGN POINT
MAIN BASIN — SWP

BASIN NAME — SW1 — DEVELOPED BASIN
77ac — ACREAGE
77% — PERCENT IMPERVIOUS
SUB-BASIN — I-A
22-z — MINOR-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

CHANNEL IMPROVEMENTS

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3
EAST PUEBLO BASIN
100% SUBMITTAL

D-4

SHT 4 OF 9

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D-4

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 — MAIN BASIN — SWP — PROP. DESIGN POINT

BASIN NAME — SW1 — I-A — 22-z — 77ac — 77% — DEVELOPED BASIN — ACREAGE — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

CHANNEL IMPROVEMENTS

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3
EAST PUEBLO BASIN
100% SUBMITTAL

D-5

SHT 5 OF 9

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LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT, MAIN BASIN — 101 SWP — PROP. DESIGN POINT

BASIN NAME — SW1 — DEVELOPED BASIN

I-A, 22-z, 77ac, 77%

ACREAGE

PERCENT IMPERVIOUS

MINOR-BASIN

SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

CHANNEL IMPROVEMENTS

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3
EAST PUEBLO BASIN
100% SUBMITTAL

E-2

SHT 6 OF 9

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E-2

D-3

E-4

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT 101 SWP MAIN BASIN — PROP. DESIGN POINT

BASIN NAME SW1 I-A 22-z 77ac 77% — DEVELOPED BASIN; ACREAGE; PERCENT IMPERVIOUS; MINOR-BASIN; SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

CHANNEL IMPROVEMENTS

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400' SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3 EAST PUEBLO BASIN 100% SUBMITTAL

E-3

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LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT, MAIN BASIN — 101 SWP — PROP. DESIGN POINT

BASIN NAME, SUB-BASIN — SW1 I-A 22-z 77ac 77% — DEVELOPED BASIN, ACREAGE, PERCENT IMPERVIOUS, MINOR-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

CHANNEL IMPROVEMENTS

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4		F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3
EAST PUEBLO BASIN
100% SUBMITTAL

E-4

SHT 8 OF 9

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E-4

D-5

LEGEND

EXISTING MAIN BASIN

EXISTING BASIN

EXISTING SUB-BASIN

DESIGN POINT — 101 — PROP. DESIGN POINT

MAIN BASIN — SWP

BASIN NAME — DEVELOPED BASIN

SW1 / 1-A / 22-z — 77ac ACREAGE — 77% PERCENT IMPERVIOUS — MINOR-BASIN

SUB-BASIN

PROPOSED STORM MAIN

PROPOSED MANHOLE

CHANNEL IMPROVEMENTS

DETENTION OR INFILTRATION BASIN

	A	B	C	D	E	F	G	H	J
1	A-1	B-1	C-1	D-1	E-1	F-1	G-1	H-1	J-1
2	A-2	B-2	C-2	D-2	E-2	F-2	G-2	H-2	J-2
3	A-3	B-3	C-3	D-3	E-3	F-3	G-3	H-3	J-3
4	A-4	B-4	C-4	D-4	E-4	F-4	G-4	H-4	J-4
5	A-5	B-5	C-5	D-5	E-5	F-5	G-5	H-5	J-5
6	A-6	B-6	C-6	D-6	E-6	F-6	G-6	H-6	J-6
7	A-7	B-7	C-7	D-7	E-7	F-7	G-7	H-7	J-7
8	A-8	B-8	C-8	D-8	E-8	F-8	G-8	H-8	J-8
9	A-9	B-9	C-9	D-9	E-9	F-9	G-9	H-9	J-9
10	A-10	B-10	C-10	D-10	E-10	F-10	G-10	H-10	J-10

NORTH

0 400'
SCALE

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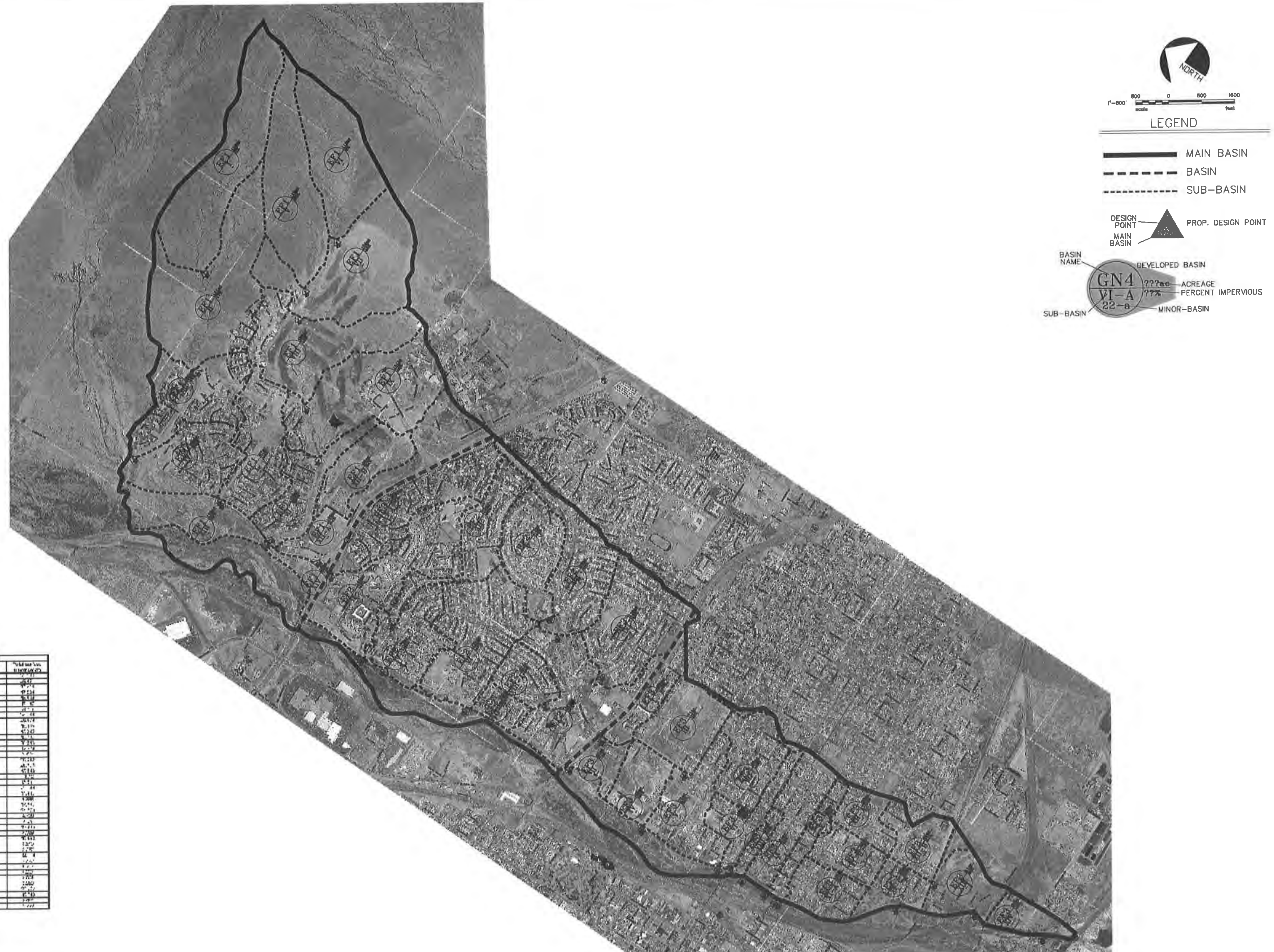
PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3
EAST PUEBLO BASIN
100% SUBMITTAL

E-5

SHT 9 OF 9



DATE: 01/24/07
FILE NAME: EF_BASE.DWG

EAST FOUNTAIN EXISTING CONDITIONS

CITY OF PUEBLO MASTER BASIN PLANNING STUDY

Sellards & Grigg, Inc.
Consulting Engineers / Land Surveyors
An SEH Company
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FAX: (719) 544-6826
engineer@northstar-co.com

C-5

D-4

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 GN — PROPOSED DESIGN POINT

MAIN BASIN NAME

GN1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR–BASIN — SUB–BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F
1	A–1	B–1	C–1	D–1	E–1	F–1
2	A–2	B–2	C–2	D–2	E–2	F–2
3	A–3	B–3	C–3	D–3	E–3	F–3
4	A–4	B–4	C–4	D–4	E–4	F–4
5	A–5	B–5	C–5	D–5	E–5	F–5
6	A–6	B–6	C–6	D–6	E–6	F–6
7	A–7	B–7	C–7	D–7	E–7	F–7
8	A–8	B–8	C–8	D–8	E–8	F–8
9	A–9	B–9	C–9	D–9	E–9	F–9
10	A–10	B–10	C–10	D–10	E–10	F–10
11	A–11	B–11	C–11	D–11	E–11	F–11

NORTH

0 400'
SCALE

DRAWN NSTAR DATE 01/07

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CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

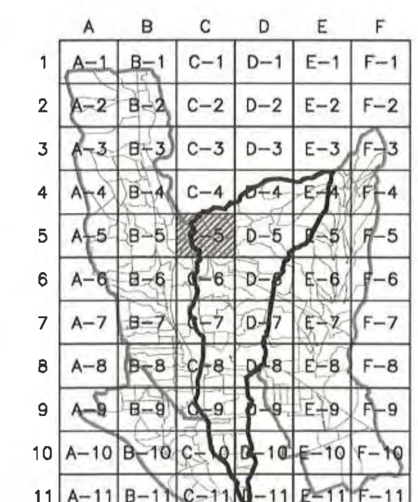
PHASE 3
EAST FOUNTAIN CREEK BASINS
100% SUBMITTAL

C-4

SHT 1 OF 17

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT 60 GN — PROPOSED DESIGN POINT
- MAIN BASIN NAME, ACREAGE, PERCENT IMPERVIOUS, MINOR–BASIN, SUB–BASIN: GN1 VIII 245 ac 38% — DEVELOPED BASIN
- 30" — PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

SCALE 0 400'

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3
EAST FOUNTAIN CREEK BASINS
100% SUBMITTAL

C-5

SHT 2 OF 17

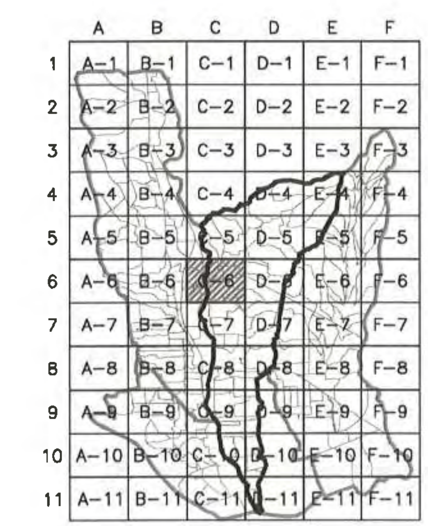
C-5

C-7

D-6

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT — 60 GN — PROPOSED DESIGN POINT
- MAIN BASIN NAME — GN1 VIII 245 ac 38% — ACREAGE, DEVELOPED BASIN, PERCENT IMPERVIOUS, MINOR-BASIN, SUB-BASIN
- 30" PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

0 400'
SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3
EAST FOUNTAIN CREEK BASINS
100% SUBMITTAL

C-6

SHT 3 OF 17

C-6

D-7

C-8

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 GN — PROPOSED DESIGN POINT

MAIN BASIN NAME

GN1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" — PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F
1	A-1	B-1	C-1	D-1	E-1	F-1
2	A-2	B-2	C-2	D-2	E-2	F-2
3	A-3	B-3	C-3	D-3	E-3	F-3
4	A-4	B-4	C-4	D-4	E-4	F-4
5	A-5	B-5	C-5	D-5	E-5	F-5
6	A-6	B-6	C-6	D-6	E-6	F-6
7	A-7	B-7	C-7	D-7	E-7	F-7
8	A-8	B-8	C-8	D-8	E-8	F-8
9	A-9	B-9	C-9	D-9	E-9	F-9
10	A-10	B-10	C-10	D-10	E-10	F-10
11	A-11	B-11	C-11	D-11	E-11	F-11

NORTH

0 400' SCALE

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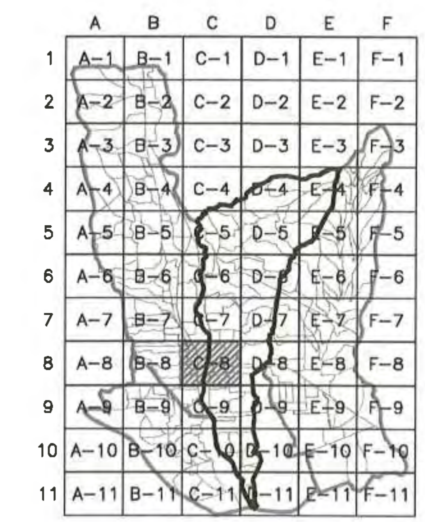
PHASE 3
EAST FOUNTAIN CREEK BASINS
100% SUBMITTAL

C-7

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT — PROPOSED DESIGN POINT (60 GN)
- MAIN BASIN NAME; ACREAGE; PERCENT IMPERVIOUS; MINOR-BASIN; SUB-BASIN — DEVELOPED BASIN (GN1 VIII 245ac 38%)
- 30" — PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3
EAST FOUNTAIN CREEK BASINS
100% SUBMITTAL

C-8

SHT 5 OF 17

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT 60 GN — PROPOSED DESIGN POINT

MAIN BASIN NAME — GN1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F
1	A-1	B-1	C-1	D-1	E-1	F-1
2	A-2	B-2	C-2	D-2	E-2	F-2
3	A-3	B-3	C-3	D-3	E-3	F-3
4	A-4	B-4	C-4	D-4	E-4	F-4
5	A-5	B-5	C-5	D-5	E-5	F-5
6	A-6	B-6	C-6	D-6	E-6	F-6
7	A-7	B-7	C-7	D-7	E-7	F-7
8	A-8	B-8	C-8	D-8	E-8	F-8
9	A-9	B-9	C-9	D-9	E-9	F-9
10	A-10	B-10	C-10	D-10	E-10	F-10
11	A-11	B-11	C-11	D-11	E-11	F-11

NORTH

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3
EAST FOUNTAIN CREEK BASINS
100% SUBMITTAL

C-9

SHT 6 OF 17

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT — 60 GN — PROPOSED DESIGN POINT
- MAIN BASIN NAME
- GN1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN
- 30" — PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F
1	A-1	B-1	C-1	D-1	E-1	F-1
2	A-2	B-2	C-2	D-2	E-2	F-2
3	A-3	B-3	C-3	D-3	E-3	F-3
4	A-4	B-4	C-4	D-4	E-4	F-4
5	A-5	B-5	C-5	D-5	E-5	F-5
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7	A-7	B-7	C-7	D-7	E-7	F-7
8	A-8	B-8	C-8	D-8	E-8	F-8
9	A-9	B-9	C-9	D-9	E-9	F-9
10	A-10	B-10	C-10	D-10	E-10	F-10
11	A-11	B-11	C-11	D-11	E-11	F-11

NORTH

0 400'
SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3 EAST FOUNTAIN CREEK BASINS 100% SUBMITTAL

C-10

C-4

E-4

D-5

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT 60 GN — PROPOSED DESIGN POINT

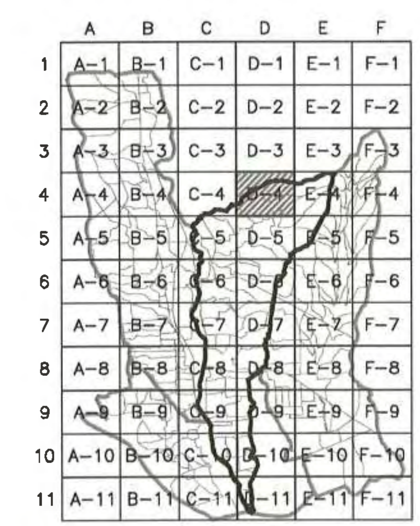
MAIN BASIN NAME

GN1 VIII 245 ac 38% — ACREAGE, DEVELOPED BASIN, PERCENT IMPERVIOUS, MINOR-BASIN, SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3
EAST FOUNTAIN CREEK BASINS
100% SUBMITTAL

D-4

SHT 8 OF 17

D-4

C-5

E-5

D-6

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT 60 GN — PROPOSED DESIGN POINT

MAIN BASIN NAME, GN1 VIII 245 ac 38%, ACREAGE — DEVELOPED BASIN, PERCENT IMPERVIOUS, MINOR-BASIN, SUB-BASIN

30" — PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F
1	A-1	B-1	C-1	D-1	E-1	F-1
2	A-2	B-2	C-2	D-2	E-2	F-2
3	A-3	B-3	C-3	D-3	E-3	F-3
4	A-4	B-4	C-4	D-4	E-4	F-4
5	A-5	B-5	C-5	D-5	E-5	F-5
6	A-6	B-6	C-6	D-6	E-6	F-6
7	A-7	B-7	C-7	D-7	E-7	F-7
8	A-8	B-8	C-8	D-8	E-8	F-8
9	A-9	B-9	C-9	D-9	E-9	F-9
10	A-10	B-10	C-10	D-10	E-10	F-10
11	A-11	B-11	C-11	D-11	E-11	F-11

NORTH

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PHASE 3
EAST FOUNTAIN CREEK BASINS
100% SUBMITTAL

D-5

SHT 9 OF 17

D-5

C-6

D-7

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT 60 GN — PROPOSED DESIGN POINT

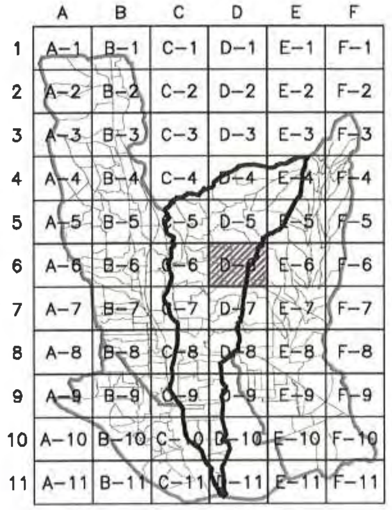
MAIN BASIN NAME

GN1 VIII 245 ac 38% — ACREAGE, DEVELOPED BASIN, PERCENT IMPERVIOUS, MINOR-BASIN, SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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PHASE 3 EAST FOUNTAIN CREEK BASINS 100% SUBMITTAL

D-6

SHT 10 OF 17

D-6

C-7

D-8

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 GN — PROPOSED DESIGN POINT

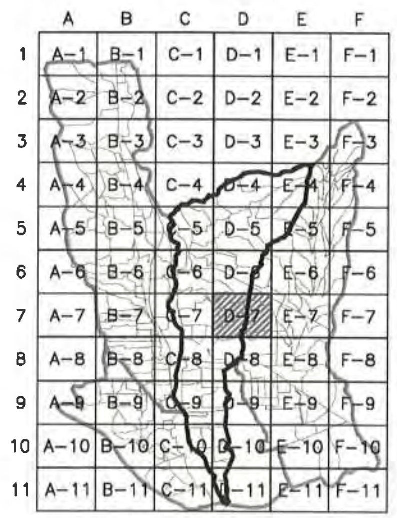
MAIN BASIN NAME

GN1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

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PHASE 3
EAST FOUNTAIN CREEK BASINS
100% SUBMITTAL

D-7

SHT 11 OF 17

D-7

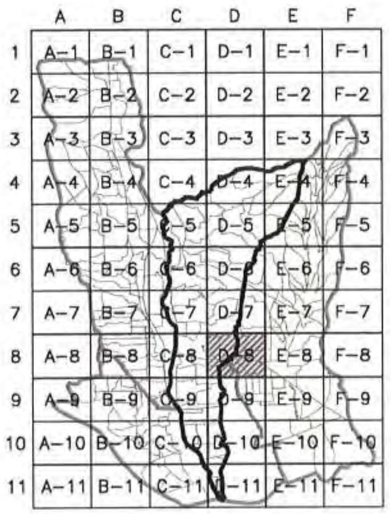
C-8

C-6

D-9

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT — 60 GN — PROPOSED DESIGN POINT
- MAIN BASIN NAME — GN1 VIII — 245 ac — 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN
- 30" PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH	0 400' SCALE DRAWN NSTAR DATE 01/07	Sellards & Grigg, Inc. Consulting Engineers / Land Surveyors An SEH Company SEH	NORTHSTAR ENGINEERING AND SURVEYING, INC. 111 E. 5TH ST., PUEBLO, CO 81003 TELEPHONE: (719) 544-6823 FAX: (719) 544-6825 engineer@northstar-co.com	STORMWATER UTILITY 211 E "D" Street Pueblo, Colorado 81003 (719) 553-2299 Fax (719) 553-2294 CITY OF PUEBLO	PUEBLO STORMWATER MASTER BASIN PLANNING STUDY	PHASE 3 EAST FOUNTAIN CREEK BASINS 100% SUBMITTAL	D-8 SHT 12 OF 17

D-8

C-9

D-10

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 GN — PROPOSED DESIGN POINT

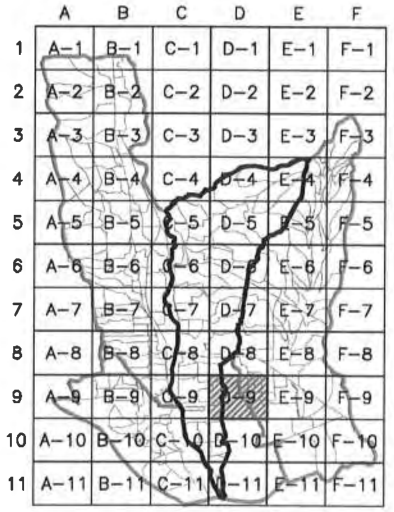
MAIN BASIN NAME

GN1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR–BASIN — SUB–BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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PHASE 3
EAST FOUNTAIN CREEK BASINS
100% SUBMITTAL

D-9

SHT 13 OF 17

D-9

D-11

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT 60 GN PROPOSED DESIGN POINT

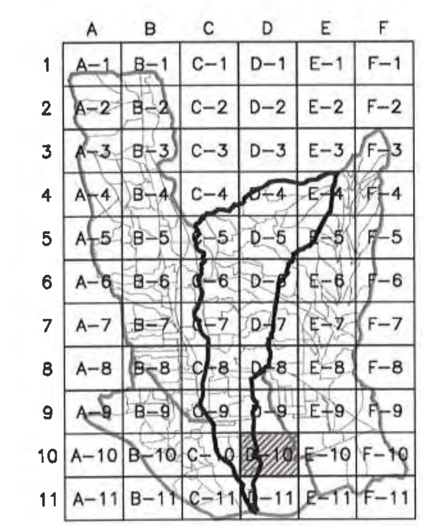
MAIN BASIN NAME

GN1 VIII 245 ac 38% — ACREAGE, DEVELOPED BASIN, PERCENT IMPERVIOUS, MINOR-BASIN, SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3
EAST FOUNTAIN CREEK BASINS
100% SUBMITTAL

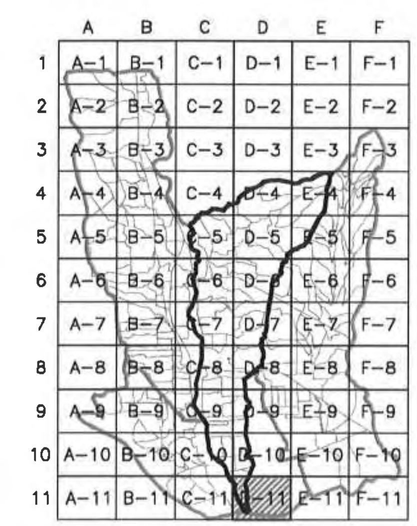
D-10

SHT 14 OF 17

D-10

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT — 60 GN — PROPOSED DESIGN POINT
- MAIN BASIN NAME
- GN1 VIII 245 ac 38% — ACREAGE, DEVELOPED BASIN, PERCENT IMPERVIOUS, MINOR-BASIN, SUB-BASIN
- 30" — PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

SCALE 0 400'

DRAWN NSTAR DATE 01/07

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An SEH Company
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PHASE 3
EAST FOUNTAIN CREEK BASINS
100% SUBMITTAL

D-11

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 GN — PROPOSED DESIGN POINT

MAIN BASIN NAME

GN1 VIII 245 ac 38% — DEVELOPED BASIN

ACREAGE

PERCENT IMPERVIOUS

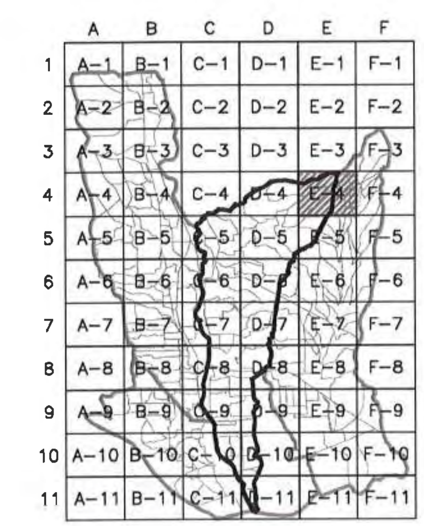
MINOR-BASIN

SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

0 400'
SCALE

DRAWN NSTAR DATE 01/07

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3
EAST FOUNTAIN CREEK BASINS
100% SUBMITTAL

E-4

SHT 16 OF 17

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 GN — PROPOSED DESIGN POINT

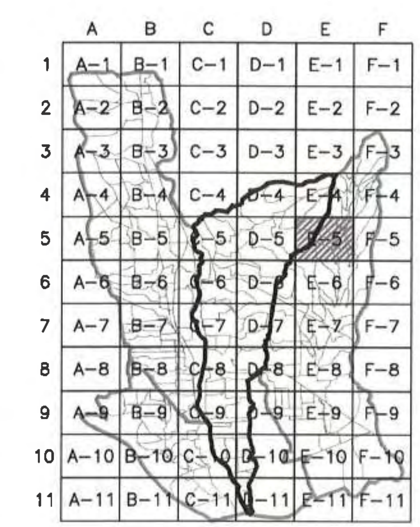
MAIN BASIN NAME

GN1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" — PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

0 400' SCALE

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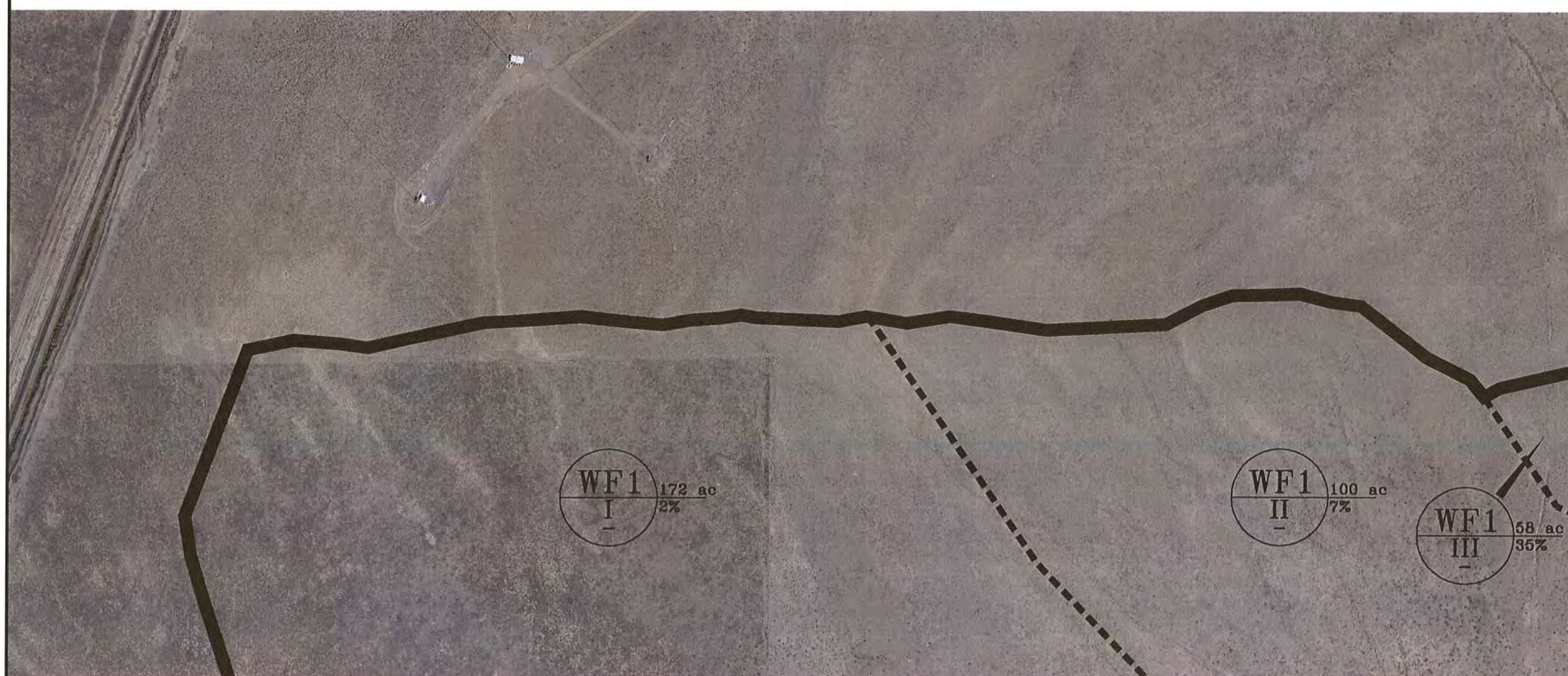
PHASE 3
EAST FOUNTAIN CREEK BASINS
100% SUBMITTAL

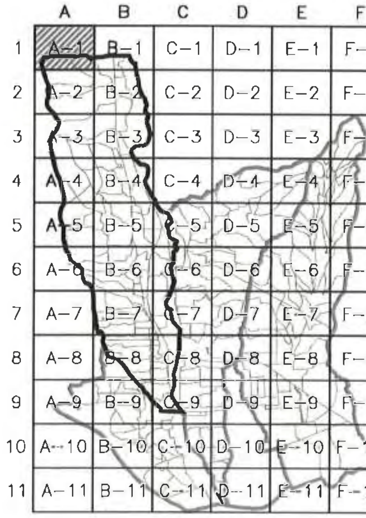
E-5

SHT 17 OF 17



LEGEND

EXISTING MAIN BASIN
EXISTING SUB BASIN
EXISTING MINOR BASIN
EXISTING 100 YEAR FLOODPLAIN LIMITS
EXISTING 500 YEAR FLOODPLAIN LIMITS
DESIGN POINT — 60 WF — PROPOSED DESIGN POINT
MAIN BASIN NAME
WF1 VIII 245 ac 38% — ACREAGE, PERCENT IMPERVIOUS — DEVELOPED BASIN
MINOR-BASIN
SUB-BASIN
30" PROPOSED STORM MAIN
PROPOSED MANHOLE
REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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3	A-3	B-3	C-3	D-3	E-3	F-3
4	A-4	B-4	C-4	D-4	E-4	F-4
5	A-5	B-5	C-5	D-5	E-5	F-5
6	A-6	B-6	C-6	D-6	E-6	F-6
7	A-7	B-7	C-7	D-7	E-7	F-7
8	A-8	B-8	C-8	D-8	E-8	F-8
9	A-9	B-9	C-9	D-9	E-9	F-9
10	A-10	B-10	C-10	D-10	E-10	F-10
11	A-11	B-11	C-11	D-11	E-11	F-11

NORTH

0 400'
SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3
WEST FOUNTAIN CREEK BASINS
100% SUBMITTAL

A-1

SHT 1 OF 20

A-1

B-2

A-3

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — PROPOSED DESIGN POINT (60 WF)

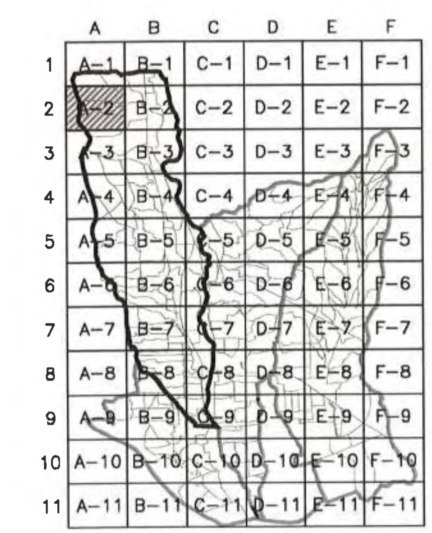
MAIN BASIN NAME

WF1 VIII 245 ac 38% — ACREAGE; DEVELOPED BASIN; PERCENT IMPERVIOUS; MINOR-BASIN; SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH	0 400' SCALE DRAWN NSTAR DATE 01/07	Sellards & Grigg, Inc. Consulting Engineers / Land Surveyors An SEH Company	NORTHSTAR ENGINEERING AND SURVEYING, INC. 111 E. 5TH ST., PUEBLO, CO 81003 TELEPHONE: (719) 544-6823 FAX: (719) 544-6826 engineer@northstar-co.com	STORMWATER UTILITY 211 E "D" Street Pueblo, Colorado 81003 (719) 553-2299 Fax (719) 553-2294 CITY OF PUEBLO	PUEBLO STORMWATER MASTER BASIN PLANNING STUDY	PHASE 3 WEST FOUNTAIN CREEK BASINS 100% SUBMITTAL

A-2

SHT 2 OF 20

A-2

A-4

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — PROPOSED DESIGN POINT

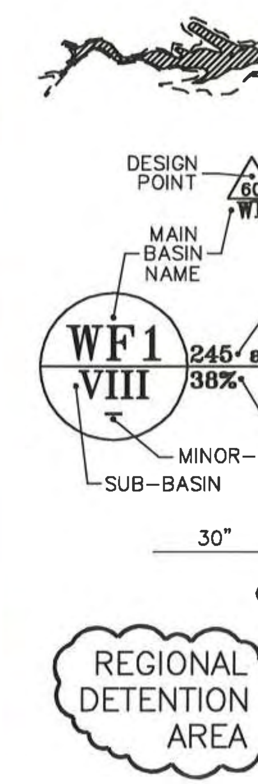
MAIN BASIN NAME

WF1 VIII 245 ac 38% — ACREAGE, DEVELOPED BASIN, PERCENT IMPERVIOUS, MINOR-BASIN, SUB-BASIN

30" — PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



	A	B	C	D	E	F
1	A-1	B-1	C-1	D-1	E-1	F-1
2	A-2	B-2	C-2	D-2	E-2	F-2
3	A-3	B-3	C-3	D-3	E-3	F-3
4	A-4	B-4	C-4	D-4	E-4	F-4
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6	A-6	B-6	C-6	D-6	E-6	F-6
7	A-7	B-7	C-7	D-7	E-7	F-7
8	A-8	B-8	C-8	D-8	E-8	F-8
9	A-9	B-9	C-9	D-9	E-9	F-9
10	A-10	B-10	C-10	D-10	E-10	F-10
11	A-11	B-11	C-11	D-11	E-11	F-11

NORTH

0 400'
SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3
WEST FOUNTAIN CREEK BASINS
100% SUBMITTAL

A-3

SHT 3 OF 20

A-3

A-5

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 WF — PROPOSED DESIGN POINT

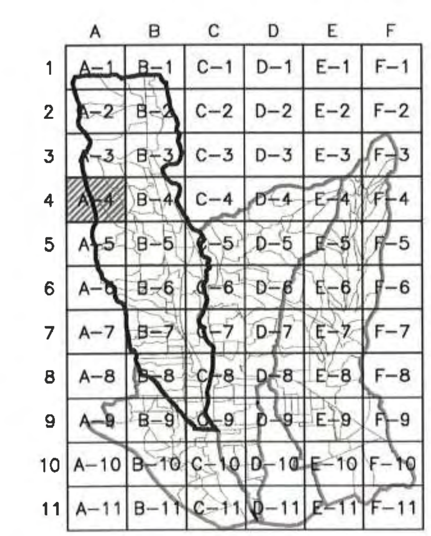
MAIN BASIN NAME — WF1 VIII — SUB-BASIN — MINOR-BASIN

245 ac ACREAGE — 38% PERCENT IMPERVIOUS — DEVELOPED BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

0 400'
SCALE

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3
WEST FOUNTAIN CREEK BASINS
100% SUBMITTAL

A-4

SHT 4 OF 20

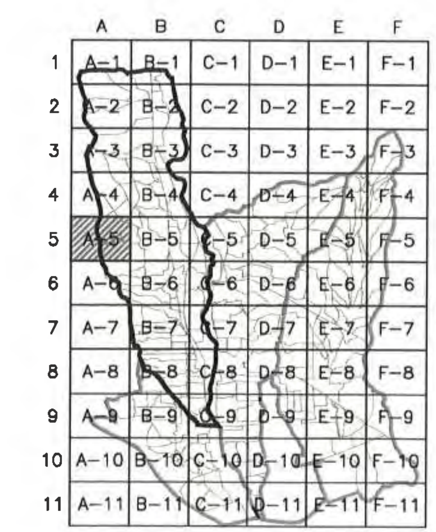
A-4

A-6

B-5

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT — PROPOSED DESIGN POINT (60 WF)
- MAIN BASIN NAME
- WF1 VIII 245 ac 38%: ACREAGE, DEVELOPED BASIN, PERCENT IMPERVIOUS, MINOR-BASIN, SUB-BASIN
- 30" PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

0 400'
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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3
WEST FOUNTAIN CREEK BASINS
100% SUBMITTAL

A-5

A-5

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT 60 WF — PROPOSED DESIGN POINT

MAIN BASIN NAME — WF1 VIII — ACREAGE 245 ac — PERCENT IMPERVIOUS 38% — MINOR-BASIN — SUB-BASIN — DEVELOPED BASIN

30" — PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F
1	A-1	B-1	C-1	D-1	E-1	F-1
2	A-2	B-2	C-2	D-2	E-2	F-2
3	A-3	B-3	C-3	D-3	E-3	F-3
4	A-4	B-4	C-4	D-4	E-4	F-4
5	A-5	B-5	C-5	D-5	E-5	F-5
6	A-6	B-6	C-6	D-6	E-6	F-6
7	A-7	B-7	C-7	D-7	E-7	F-7
8	A-8	B-8	C-8	D-8	E-8	F-8
9	A-9	B-9	C-9	D-9	E-9	F-9
10	A-10	B-10	C-10	D-10	E-10	F-10
11	A-11	B-11	C-11	D-11	E-11	F-11

NORTH

0 400'
SCALE

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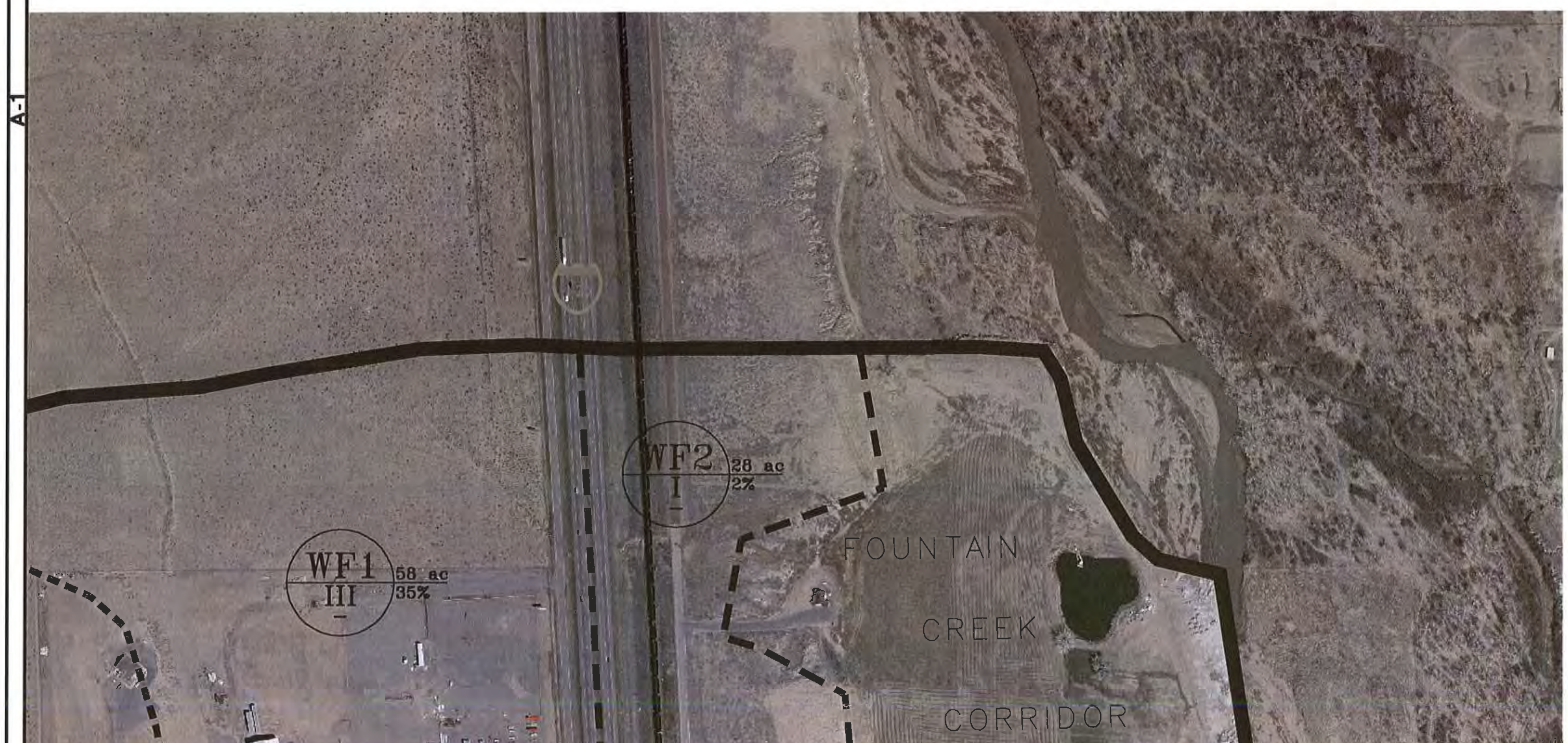
PHASE 3
WEST FOUNTAIN CREEK BASINS
100% SUBMITTAL

A-6

SHT 6 OF 20

A-1



B-2

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 WF — PROPOSED DESIGN POINT

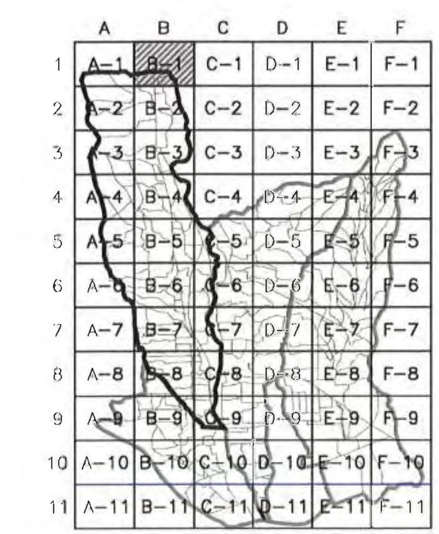
MAIN BASIN NAME

WF1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

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PHASE 3
WEST FOUNTAIN CREEK BASINS
100% SUBMITTAL

B-1

SHT 7 OF 20

B-1

B-3

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — PROPOSED DESIGN POINT (60 WF)

MAIN BASIN NAME

WF1 VIII 245 ac 38% — ACREAGE; DEVELOPED BASIN; PERCENT IMPERVIOUS; MINOR-BASIN; SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F
1	A-1	B-1	C-1	D-1	E-1	F-1
2	A-2	B-2	C-2	D-2	E-2	F-2
3	A-3	B-3	C-3	D-3	E-3	F-3
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7	A-7	B-7	C-7	D-7	E-7	F-7
8	A-8	B-8	C-8	D-8	E-8	F-8
9	A-9	B-9	C-9	D-9	E-9	F-9
10	A-10	B-10	C-10	D-10	E-10	F-10
11	A-11	B-11	C-11	D-11	E-11	F-11

NORTH

0 400' SCALE

DRAWN NSTAR DATE 01/07

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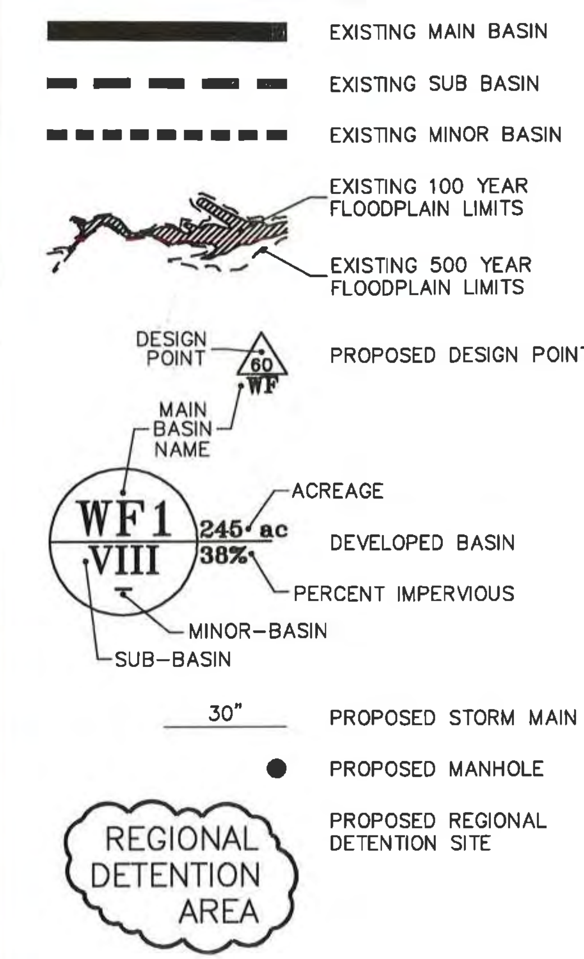
PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

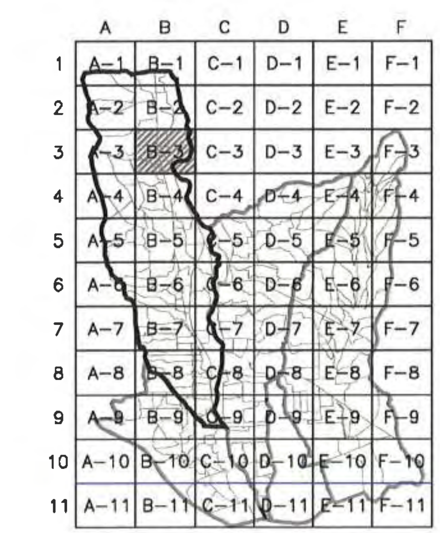
PHASE 3 WEST FOUNTAIN CREEK BASINS 100% SUBMITTAL

B-2

SHT 8 OF 20

LEGEND





	A	B	C	D	E	F
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4	A-4	B-4	C-4	D-4	E-4	F-4
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6	A-6	B-6	C-6	D-6	E-6	F-6
7	A-7	B-7	C-7	D-7	E-7	F-7
8	A-8	B-8	C-8	D-8	E-8	F-8
9	A-9	B-9	C-9	D-9	E-9	F-9
10	A-10	B-10	C-10	D-10	E-10	F-10
11	A-11	B-11	C-11	D-11	E-11	F-11

NORTH

0 400'
SCALE

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PHASE 3
WEST FOUNTAIN CREEK BASINS
100% SUBMITTAL

B-3

B-3

A-4

B-5

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 WF — PROPOSED DESIGN POINT

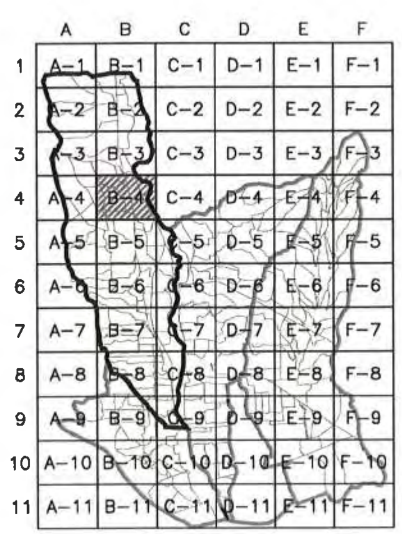
MAIN BASIN NAME

WF1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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0 400' SCALE

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CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3 WEST FOUNTAIN CREEK BASINS 100% SUBMITTAL

B-4

SHT 10 OF 20

B-4

A-5 C-5

B-6

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT 60 WF — PROPOSED DESIGN POINT

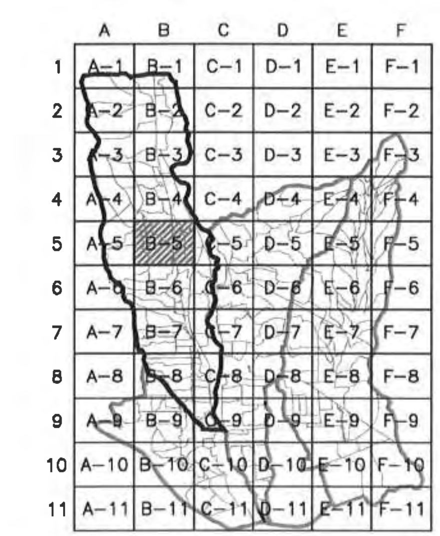
MAIN BASIN NAME

WF1 VIII 245 ac 38% — ACREAGE, DEVELOPED BASIN, PERCENT IMPERVIOUS, MINOR-BASIN, SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

0 400' SCALE

DRAWN NSTAR DATE 01/07

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Consulting Engineers / Land Surveyors
An SEH Company
SEH

NORTHSTAR ENGINEERING AND SURVEYING, INC.
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PHASE 3 WEST FOUNTAIN CREEK BASINS 100% SUBMITTAL

B-5

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — PROPOSED DESIGN POINT (60 WF)

MAIN BASIN NAME — WF1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F
1	A-1	B-1	C-1	D-1	E-1	F-1
2	A-2	B-2	C-2	D-2	E-2	F-2
3	A-3	B-3	C-3	D-3	E-3	F-3
4	A-4	B-4	C-4	D-4	E-4	F-4
5	A-5	B-5	C-5	D-5	E-5	F-5
6	A-6	B-6	C-6	D-6	E-6	F-6
7	A-7	B-7	C-7	D-7	E-7	F-7
8	A-8	B-8	C-8	D-8	E-8	F-8
9	A-9	B-9	C-9	D-9	E-9	F-9
10	A-10	B-10	C-10	D-10	E-10	F-10
11	A-11	B-11	C-11	D-11	E-11	F-11

NORTH

0 400' SCALE

DRAWN NSTAR DATE 01/07

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PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3 WEST FOUNTAIN CREEK BASINS 100% SUBMITTAL

B-6

SHT 12 OF 20

B-6

C-7

B-8

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — PROPOSED DESIGN POINT (60 WF)

MAIN BASIN NAME — ACREAGE

WF1 VIII 245 ac 38% — DEVELOPED BASIN

PERCENT IMPERVIOUS

MINOR-BASIN

SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F
1	A-1	B-1	C-1	D-1	E-1	F-1
2	A-2	B-2	C-2	D-2	E-2	F-2
3	A-3	B-3	C-3	D-3	E-3	F-3
4	A-4	B-4	C-4	D-4	E-4	F-4
5	A-5	B-5	C-5	D-5	E-5	F-5
6	A-6	B-6	C-6	D-6	E-6	F-6
7	A-7	B-7	C-7	D-7	E-7	F-7
8	A-8	B-8	C-8	D-8	E-8	F-8
9	A-9	B-9	C-9	D-9	E-9	F-9
10	A-10	B-10	C-10	D-10	E-10	F-10
11	A-11	B-11	C-11	D-11	E-11	F-11

NORTH

0 400' SCALE

DRAWN NSTAR DATE 01/07

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PHASE 3
WEST FOUNTAIN CREEK BASINS
100% SUBMITTAL

B-7

SHT 13 OF 20

B-7

B-9

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — PROPOSED DESIGN POINT (60 WF)

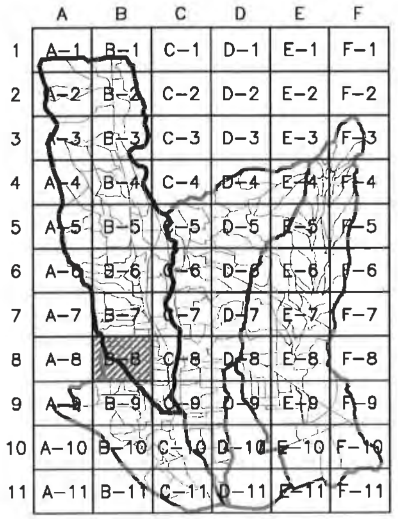
MAIN BASIN NAME

WF1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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PHASE 3 WEST FOUNTAIN CREEK BASINS 100% SUBMITTAL

B-8

SHT 14 OF 20

B-8

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — PROPOSED DESIGN POINT (60 WF)

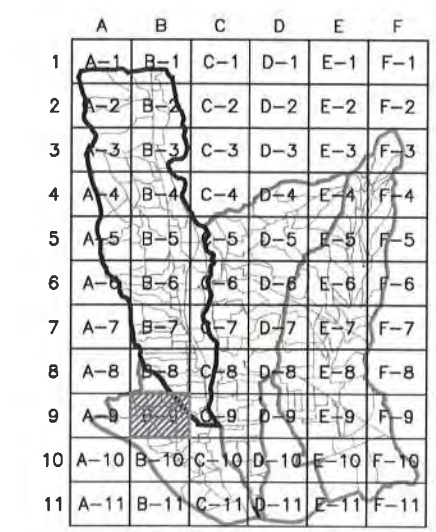
MAIN BASIN NAME

WF1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" — PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

0 400' SCALE

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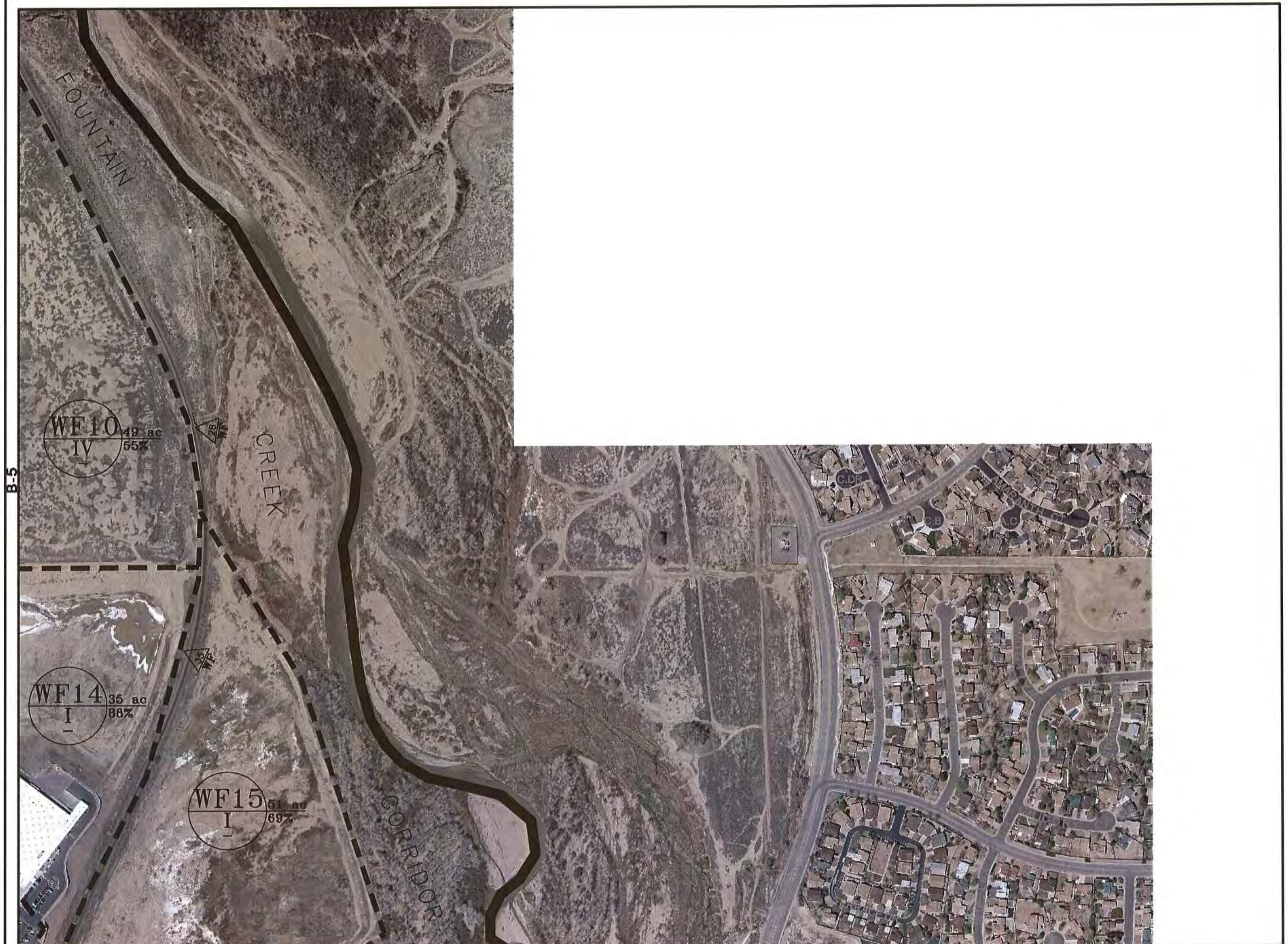
PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3
WEST FOUNTAIN CREEK BASINS
100% SUBMITTAL

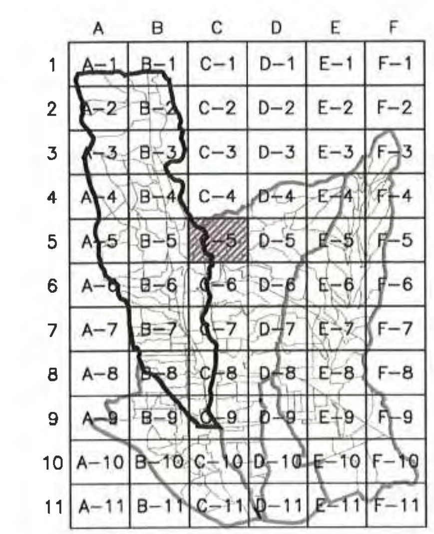
B-9

SHT 15 OF 20



LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT — 60 WF — PROPOSED DESIGN POINT
- MAIN BASIN NAME
- WF1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN
- 30" PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH	0 — 400' SCALE DRAWN NSTAR DATE 01/07	Sellards & Grigg, Inc. Consulting Engineers / Land Surveyors An SEH Company SEH	NORTHSTAR ENGINEERING AND SURVEYING, INC. 111 E. 5TH ST., PUEBLO, CO 81003 TELEPHONE: (719) 544-6823 FAX: (719) 544-6826 engineer@northstar-co.com	STORMWATER UTILITY 211 E "D" Street Pueblo, Colorado 81003 (719) 553-2299 Fax (719) 553-2294 CITY OF PUEBLO	PUEBLO STORMWATER MASTER BASIN PLANNING STUDY	PHASE 3 WEST FOUNTAIN CREEK BASINS 100% SUBMITTAL	C-5 SHT 16 OF 20

C-5

B-6

C-7

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — PROPOSED DESIGN POINT

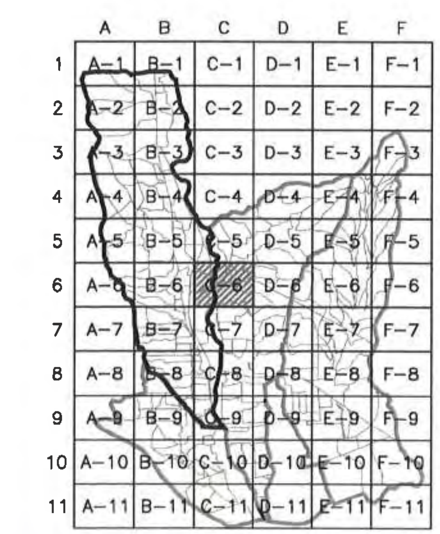
MAIN BASIN NAME

WF1 VIII 245 ac 38% — ACREAGE; DEVELOPED BASIN; PERCENT IMPERVIOUS; MINOR-BASIN; SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

0 400'
SCALE

DRAWN NSTAR DATE 01/07

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PHASE 3
WEST FOUNTAIN CREEK BASINS
100% SUBMITTAL

C-6

SHT 17 OF 20

C-6

C-8

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

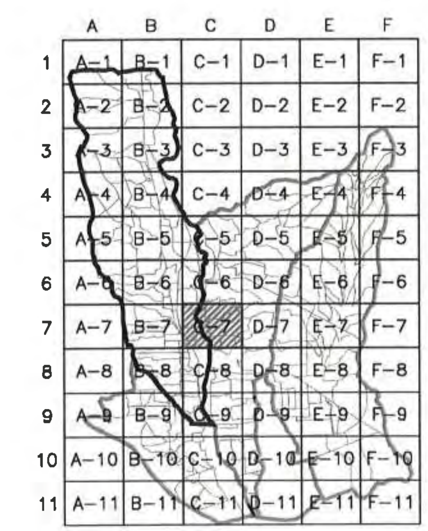
DESIGN POINT — 60 WF — PROPOSED DESIGN POINT

MAIN BASIN NAME — WF1 VIII — ACREAGE 245 ac — DEVELOPED BASIN — PERCENT IMPERVIOUS 38% — MINOR–BASIN — SUB–BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

0 400'
SCALE

DRAWN NSTAR DATE 01/07

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PHASE 3
WEST FOUNTAIN CREEK BASINS
100% SUBMITTAL

C-7

SHT 18 OF 20

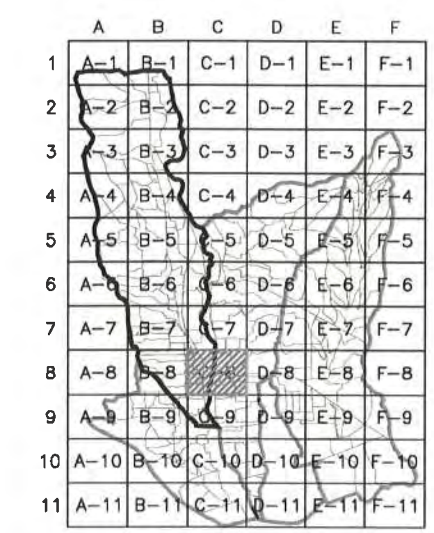
C-7

B-8

C-9

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT (60 WF) — PROPOSED DESIGN POINT
- MAIN BASIN NAME; WF1 VIII 245 ac 38% — ACREAGE; DEVELOPED BASIN; PERCENT IMPERVIOUS; MINOR-BASIN; SUB-BASIN
- 30" — PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

0 400' SCALE

DRAWN NSTAR DATE 01/07

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PHASE 3
WEST FOUNTAIN CREEK BASINS
100% SUBMITTAL

C-8

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — PROPOSED DESIGN POINT (60 WF)

MAIN BASIN NAME, ACREAGE, DEVELOPED BASIN, PERCENT IMPERVIOUS, MINOR-BASIN, SUB-BASIN (WF1 VIII 245 ac 38%)

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F
1	A-1	B-1	C-1	D-1	E-1	F-1
2	A-2	B-2	C-2	D-2	E-2	F-2
3	A-3	B-3	C-3	D-3	E-3	F-3
4	A-4	B-4	C-4	D-4	E-4	F-4
5	A-5	B-5	C-5	D-5	E-5	F-5
6	A-6	B-6	C-6	D-6	E-6	F-6
7	A-7	B-7	C-7	D-7	E-7	F-7
8	A-8	B-8	C-8	D-8	E-8	F-8
9	A-9	B-9	C-9	D-9	E-9	F-9
10	A-10	B-10	C-10	D-10	E-10	F-10
11	A-11	B-11	C-11	D-11	E-11	F-11

NORTH

0 400' SCALE

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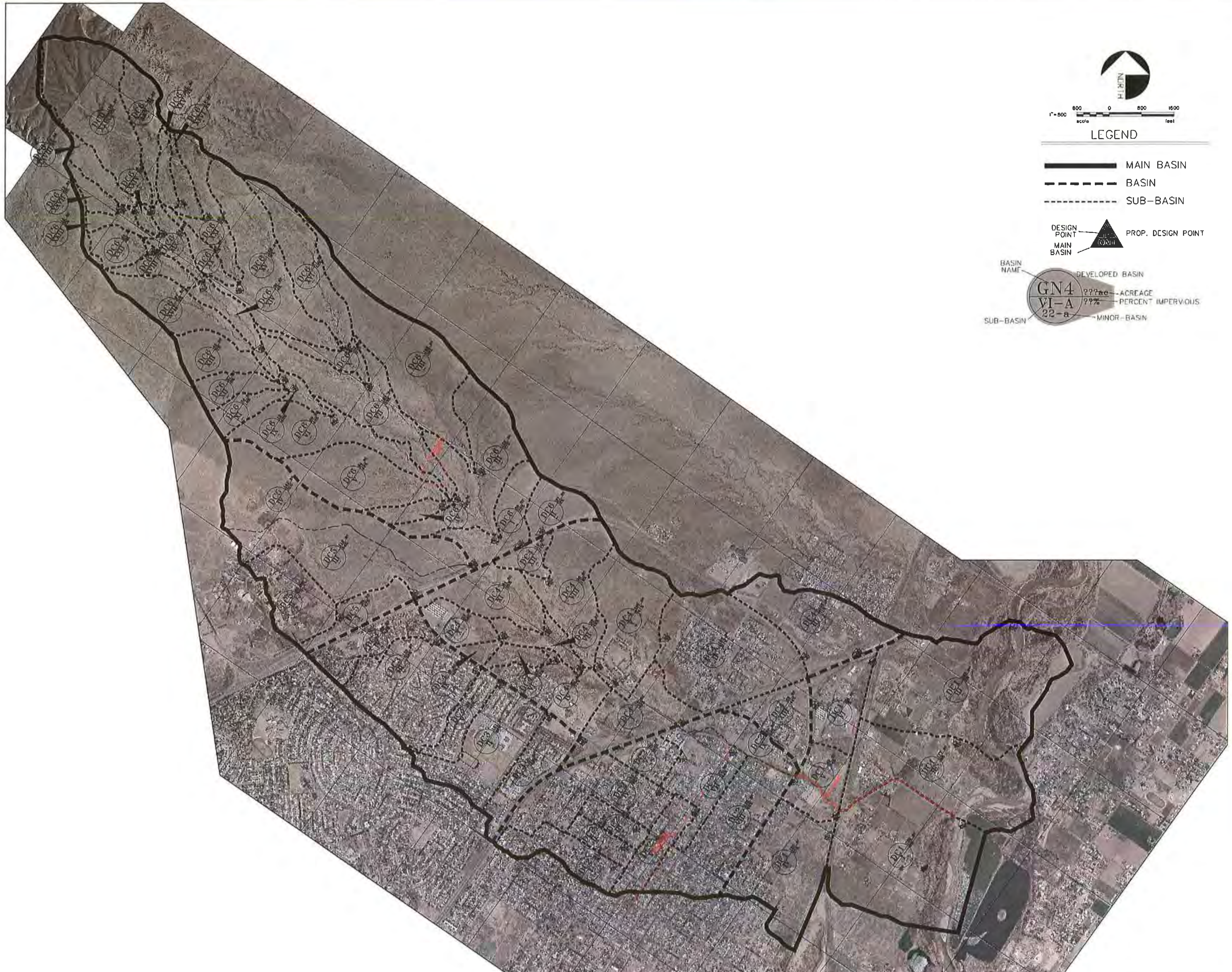
PHASE 3 WEST FOUNTAIN CREEK BASINS 100% SUBMITTAL

C-9

SHT 20 OF 20



DATE: 01/24/07
FILE NAME: DC BASIN.DWG

EAST DRY CREEK
EXISTING CONDITIONS

CITY OF PUEBLO
MASTER BASIN PLANNING STUDY

Sellards & Grigg, Inc.
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LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 DC — PROPOSED DESIGN POINT

MAIN BASIN NAME — DC1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F
1	A-1	B-1	C-1	D-1	E-1	F-1
2	A-2	B-2	C-2	D-2	E-2	F-2
3	A-3	B-3	C-3	D-3	E-3	F-3
4	A-4	B-4	C-4	D-4	E-4	F-4
5	A-5	B-5	C-5	D-5	E-5	F-5
6	A-6	B-6	C-6	D-6	E-6	F-6
7	A-7	B-7	C-7	D-7	E-7	F-7
8	A-8	B-8	C-8	D-8	E-8	F-8
9	A-9	B-9	C-9	D-9	E-9	F-9
10	A-10	B-10	C-10	D-10	E-10	F-10
11	A-11	B-11	C-11	D-11	E-11	F-11

NORTH

0 400'
SCALE

DRAWN NSTAR DATE 11/06

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PHASE 3
DRY CREEK BASINS
100% SUBMITTAL

D-6

SHT 1 OF 22

D-5

D-8

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 DC — PROPOSED DESIGN POINT

MAIN BASIN NAME

DC1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR–BASIN — SUB–BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F
1	A–1	B–1	C–1	D–1	E–1	F–1
2	A–2	B–2	C–2	D–2	E–2	F–2
3	A–3	B–3	C–3	D–3	E–3	F–3
4	A–4	B–4	C–4	D–4	E–4	F–4
5	A–5	B–5	C–5	D–5	E–5	F–5
6	A–6	B–6	C–6	D–6	E–6	F–6
7	A–7	B–7	C–7	D–7	E–7	F–7
8	A–8	B–8	C–8	D–8	E–8	F–8
9	A–9	B–9	C–9	D–9	E–9	F–9
10	A–10	B–10	C–10	D–10	E–10	F–10
11	A–11	B–11	C–11	D–11	E–11	F–11

NORTH

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PHASE 3
DRY CREEK BASINS
100% SUBMITTAL

D-7
SHT 2 OF 22

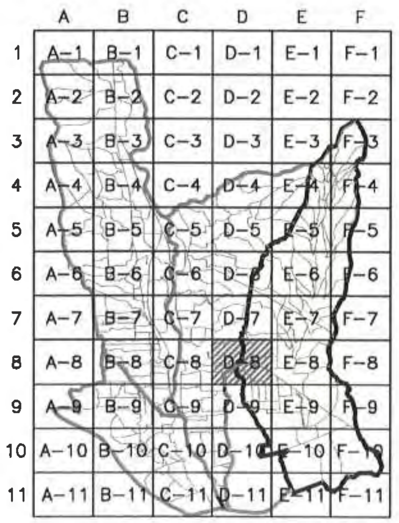
D-7

E-8

D-9

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT — 60 DC — PROPOSED DESIGN POINT
- MAIN BASIN NAME — DC1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN
- 30" — PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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100% SUBMITTAL

D-8

SHT 3 OF 22

D-8

D-10

E-9

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 DC — PROPOSED DESIGN POINT

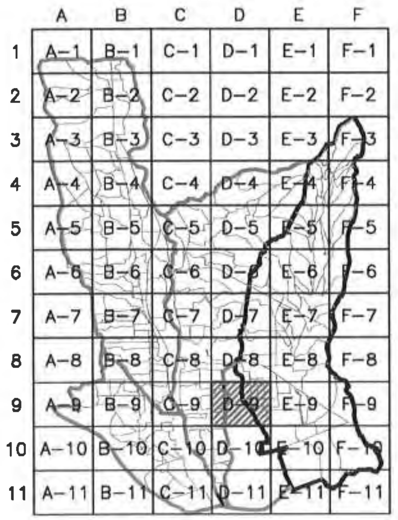
MAIN BASIN NAME

DC1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" — PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH	0 400' SCALE DRAWN NSTAR DATE 11/06	Sellards & Grigg, Inc. Consulting Engineers / Land Surveyors An SEH Company SEH	NORTHSTAR ENGINEERING AND SURVEYING, INC. 111 E. 5TH ST., PUEBLO, CO 81003 TELEPHONE: (719) 544-6823 FAX: (719) 544-6825 engineer@northstar-co.com	STORMWATER UTILITY 211 E "D" Street Pueblo, Colorado 81003 (719) 553-2299 Fax (719) 553-2294 CITY OF PUEBLO	PUEBLO STORMWATER MASTER BASIN PLANNING STUDY	PHASE 3 DRY CREEK BASINS 100% SUBMITTAL	D-9 SHT 4 OF 22

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

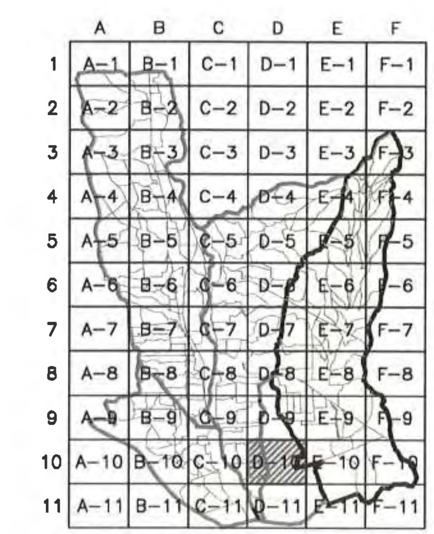
DESIGN POINT — 60 DC — PROPOSED DESIGN POINT

MAIN BASIN NAME — DC1 VIII — 245 ac (ACREAGE), 38% (PERCENT IMPERVIOUS) — DEVELOPED BASIN — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



NORTH

0 400' SCALE

DRAWN NSTAR DATE 11/06

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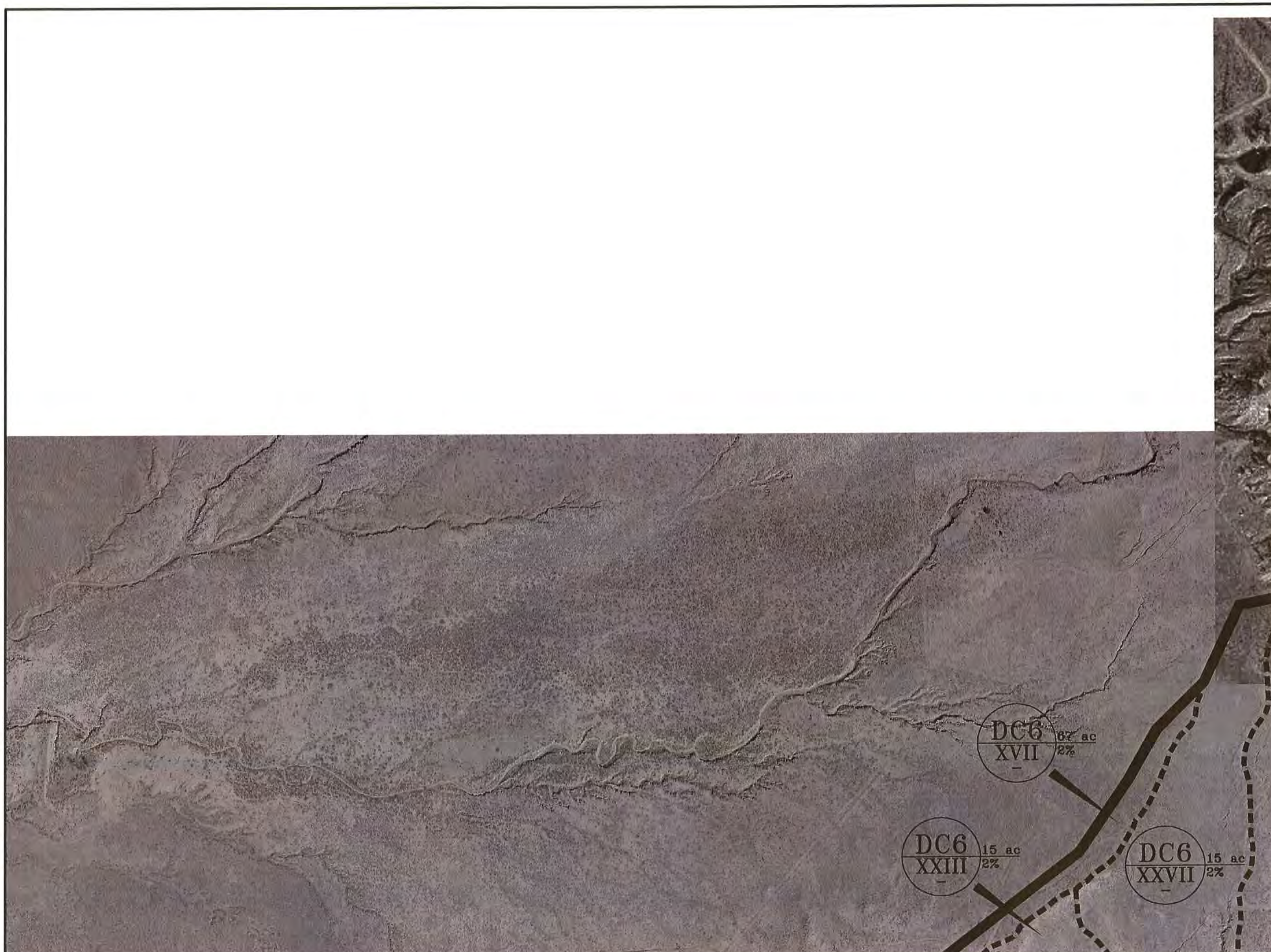
PHASE 3
DRY CREEK BASINS
100% SUBMITTAL

D-10

SHT 5 OF 22



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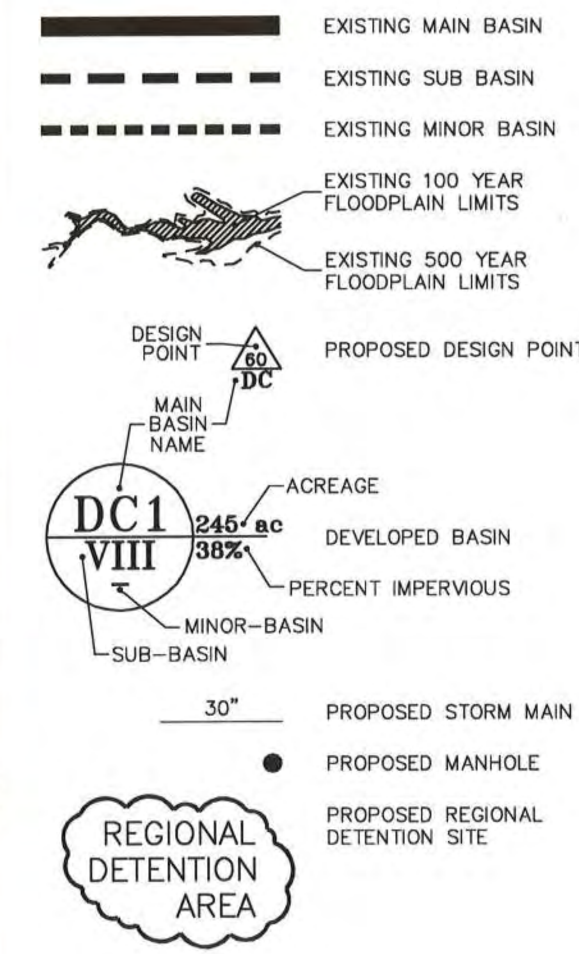

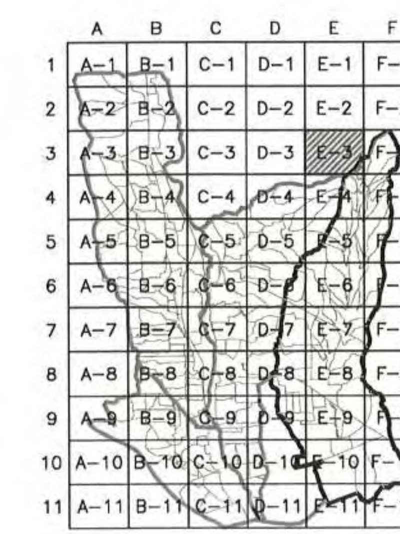

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PHASE 3
DRY CREEK BASINS
100% SUBMITTAL

E-3

SHT 6 OF 22

E-3

E-5

F-4

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 DC — PROPOSED DESIGN POINT

MAIN BASIN NAME

DC1 VIII 245 ac 38% — DEVELOPED BASIN

ACREAGE

PERCENT IMPERVIOUS

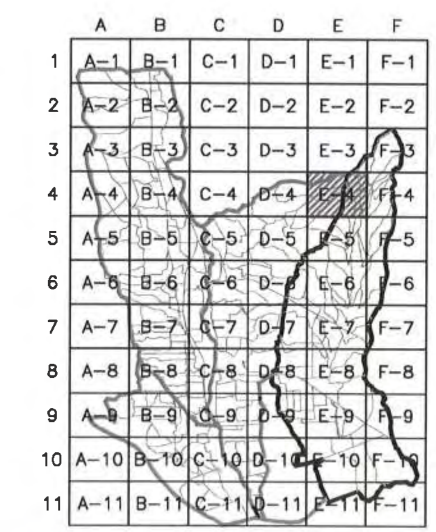
MINOR–BASIN

SUB–BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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PHASE 3
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100% SUBMITTAL

E-4

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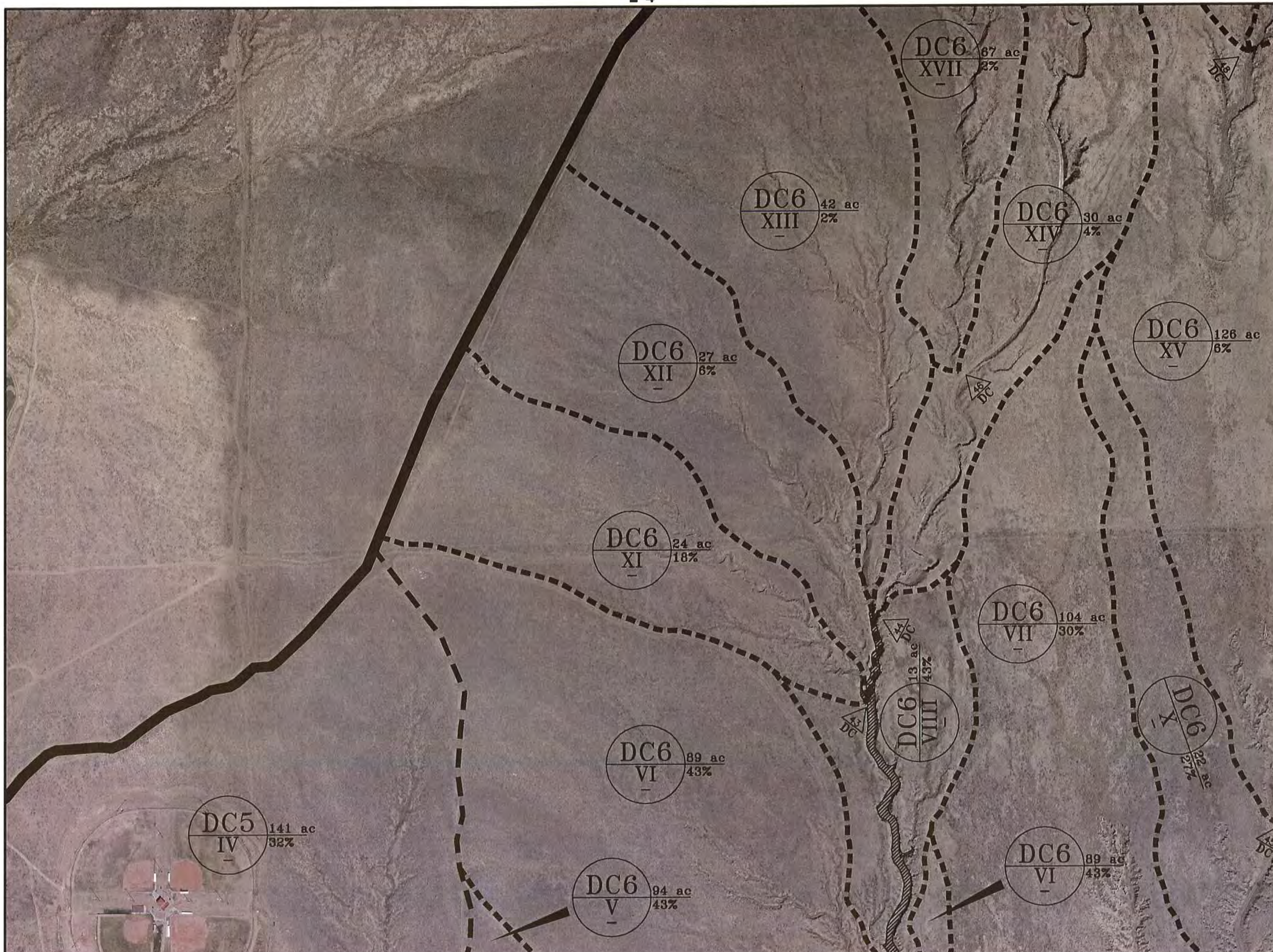
E-4



E-5

E-6

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 DC — PROPOSED DESIGN POINT

MAIN BASIN NAME

DC1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F
1	A-1	B-1	C-1	D-1	E-1	F-1
2	A-2	B-2	C-2	D-2	E-2	F-2
3	A-3	B-3	C-3	D-3	E-3	F-3
4	A-4	B-4	C-4	D-4	E-4	F-4
5	A-5	B-5	C-5	D-5	E-5	F-5
6	A-6	B-6	C-6	D-6	E-6	F-6
7	A-7	B-7	C-7	D-7	E-7	F-7
8	A-8	B-8	C-8	D-8	E-8	F-8
9	A-9	B-9	C-9	D-9	E-9	F-9
10	A-10	B-10	C-10	D-10	E-10	F-10
11	A-11	B-11	C-11	D-11	E-11	F-11

NORTH

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PHASE 3
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100% SUBMITTAL

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E-6

E-7

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT 60 DC — PROPOSED DESIGN POINT

MAIN BASIN NAME — DC1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F
1	A-1	B-1	C-1	D-1	E-1	F-1
2	A-2	B-2	C-2	D-2	E-2	F-2
3	A-3	B-3	C-3	D-3	E-3	F-3
4	A-4	B-4	C-4	D-4	E-4	F-4
5	A-5	B-5	C-5	D-5	E-5	F-5
6	A-6	B-6	C-6	D-6	E-6	F-6
7	A-7	B-7	C-7	D-7	E-7	F-7
8	A-8	B-8	C-8	D-8	E-8	F-8
9	A-9	B-9	C-9	D-9	E-9	F-9
10	A-10	B-10	C-10	D-10	E-10	F-10
11	A-11	B-11	C-11	D-11	E-11	F-11

NORTH

0 400' SCALE

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PHASE 3
DRY CREEK BASINS
100% SUBMITTAL

E-6

SHT 9 OF 22

E-6

E-8

D-7

E-7

LEGEND

EXISTING MAIN BASIN
EXISTING SUB BASIN
EXISTING MINOR BASIN
EXISTING 100 YEAR FLOODPLAIN LIMITS
EXISTING 500 YEAR FLOODPLAIN LIMITS
DESIGN POINT — 60 DC — PROPOSED DESIGN POINT
MAIN BASIN NAME
DC1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN
30" PROPOSED STORM MAIN
PROPOSED MANHOLE
REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F
1	A-1	B-1	C-1	D-1	E-1	F-1
2	A-2	B-2	C-2	D-2	E-2	F-2
3	A-3	B-3	C-3	D-3	E-3	F-3
4	A-4	B-4	C-4	D-4	E-4	F-4
5	A-5	B-5	C-5	D-5	E-5	F-5
6	A-6	B-6	C-6	D-6	E-6	F-6
7	A-7	B-7	C-7	D-7	E-7	F-7
8	A-8	B-8	C-8	D-8	E-8	F-8
9	A-9	B-9	C-9	D-9	E-9	F-9
10	A-10	B-10	C-10	D-10	E-10	F-10
11	A-11	B-11	C-11	D-11	E-11	F-11

NORTH

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PHASE 3
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100% SUBMITTAL

E-7

E-7

D-8

E-9

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 DC — PROPOSED DESIGN POINT

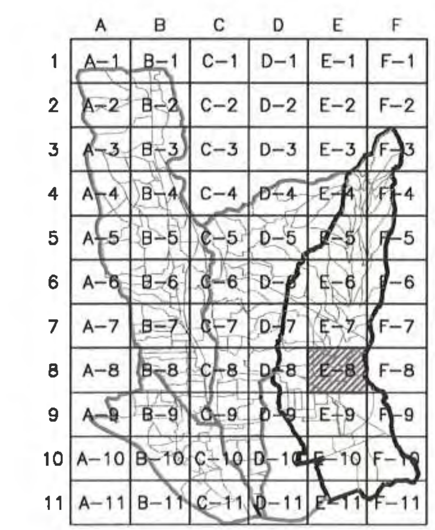
MAIN BASIN NAME

DC1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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PHASE 3
DRY CREEK BASINS
100% SUBMITTAL

E-8

SHT 11 OF 22

E-8

E-9 | E-9 | E-10

LEGEND

- EXISTING MAIN BASIN
- EXISTING SUB BASIN
- EXISTING MINOR BASIN
- EXISTING 100 YEAR FLOODPLAIN LIMITS
- EXISTING 500 YEAR FLOODPLAIN LIMITS
- DESIGN POINT 60 DC — PROPOSED DESIGN POINT
- MAIN BASIN NAME — DC1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN
- 30" — PROPOSED STORM MAIN
- PROPOSED MANHOLE
- REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F
1	A-1	B-1	C-1	D-1	E-1	F-1
2	A-2	B-2	C-2	D-2	E-2	F-2
3	A-3	B-3	C-3	D-3	E-3	F-3
4	A-4	B-4	C-4	D-4	E-4	F-4
5	A-5	B-5	C-5	D-5	E-5	F-5
6	A-6	B-6	C-6	D-6	E-6	F-6
7	A-7	B-7	C-7	D-7	E-7	F-7
8	A-8	B-8	C-8	D-8	E-8	F-8
9	A-9	B-9	C-9	D-9	E-9	F-9
10	A-10	B-10	C-10	D-10	E-10	F-10
11	A-11	B-11	C-11	D-11	E-11	F-11

NORTH

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PHASE 3
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100% SUBMITTAL

E-9

SHT 12 OF 22

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F-10

E-11

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 DC — PROPOSED DESIGN POINT

MAIN BASIN NAME

ACREAGE

DC1 VIII 245 ac 38% — DEVELOPED BASIN

PERCENT IMPERVIOUS

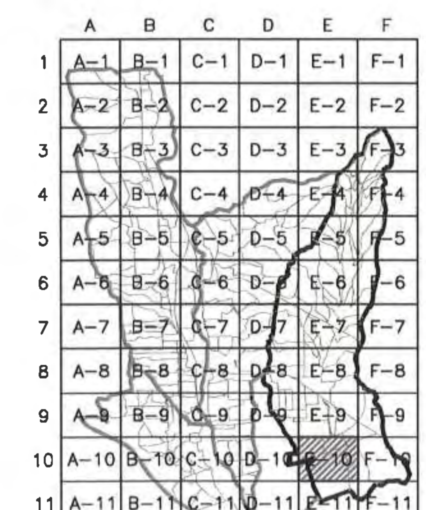
MINOR-BASIN

SUB-BASIN

30" — PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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PHASE 3
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100% SUBMITTAL

E-10

E-10

E-11

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

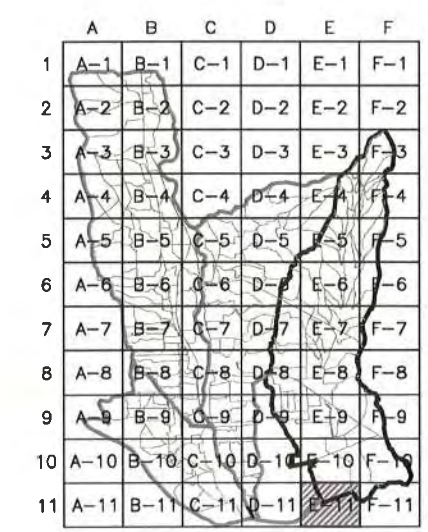
DESIGN POINT — 60 DC — PROPOSED DESIGN POINT

MAIN BASIN NAME — DC1 VIII — 245 ac — 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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PHASE 3
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100% SUBMITTAL

E-11

SHT 14 OF 22

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 DC — PROPOSED DESIGN POINT

MAIN BASIN NAME

DC1 VIII 245 ac 38%

ACREAGE

DEVELOPED BASIN

PERCENT IMPERVIOUS

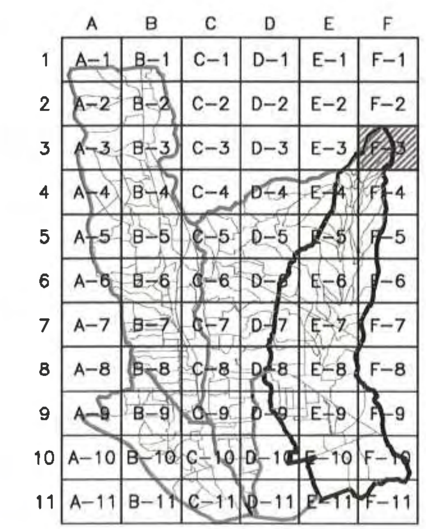
MINOR-BASIN

SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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PHASE 3
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100% SUBMITTAL

F-3

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F-5

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT 60 DC — PROPOSED DESIGN POINT

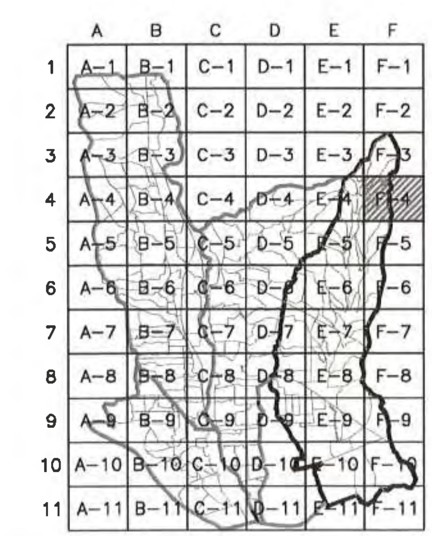
MAIN BASIN NAME

DC1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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PHASE 3
DRY CREEK BASINS
100% SUBMITTAL

F-4

SHT 16 OF 22

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LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

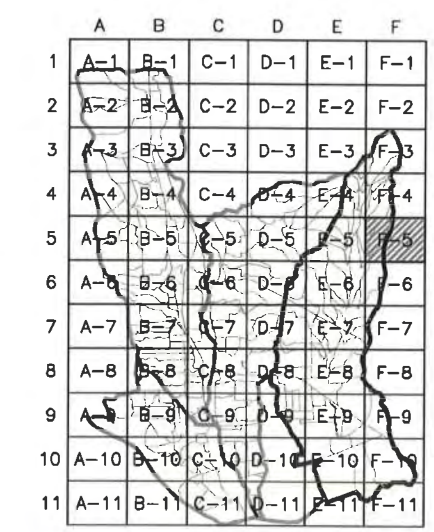
DESIGN POINT — 60 DC — PROPOSED DESIGN POINT

MAIN BASIN NAME — DC1 VIII 245 ac 36% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT 60 DC PROPOSED DESIGN POINT

MAIN BASIN NAME

DC1 VIII 245 ac 38% ACREAGE DEVELOPED BASIN PERCENT IMPERVIOUS

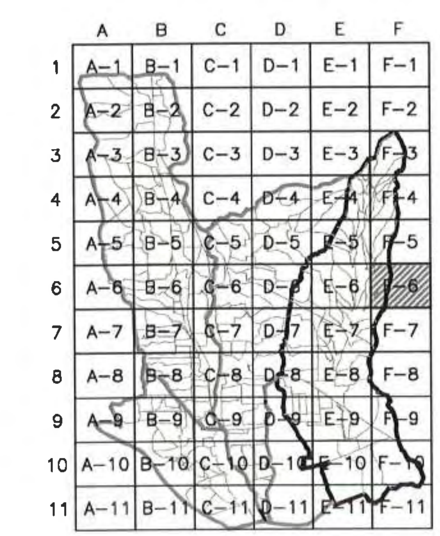
MINOR-BASIN

SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA PROPOSED REGIONAL DETENTION SITE



NORTH

0 400'
SCALE

DRAWN NSTAR DATE 11/06

Sellards & Grigg, Inc.
Consulting Engineers / Land Surveyors
An SEH Company
SEH

NORTHSTAR ENGINEERING AND SURVEYING, INC.
111 E. 5TH ST., PUEBLO, CO 81003
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(719) 553-2299 Fax (719) 553-2294
CITY OF PUEBLO

PUEBLO STORMWATER MASTER BASIN PLANNING STUDY

PHASE 3
DRY CREEK BASINS
100% SUBMITTAL

F-6

SHT 18 OF 22

E-7

LEGEND

EXISTING MAIN BASIN

EXISTING SUB BASIN

EXISTING MINOR BASIN

EXISTING 100 YEAR FLOODPLAIN LIMITS

EXISTING 500 YEAR FLOODPLAIN LIMITS

DESIGN POINT — 60 DC — PROPOSED DESIGN POINT

MAIN BASIN NAME

DC1 VIII 245 ac 38% — ACREAGE — DEVELOPED BASIN — PERCENT IMPERVIOUS — MINOR-BASIN — SUB-BASIN

30" PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE

	A	B	C	D	E	F
1	A-1	B-1	C-1	D-1	E-1	F-1
2	A-2	B-2	C-2	D-2	E-2	F-2
3	A-3	B-3	C-3	D-3	E-3	F-3
4	A-4	B-4	C-4	D-4	E-4	F-4
5	A-5	B-5	C-5	D-5	E-5	F-5
6	A-6	B-6	C-6	D-6	E-6	F-6
7	A-7	B-7	C-7	D-7	E-7	F-7
8	A-8	B-8	C-8	D-8	E-8	F-8
9	A-9	B-9	C-9	D-9	E-9	F-9
10	A-10	B-10	C-10	D-10	E-10	F-10
11	A-11	B-11	C-11	D-11	E-11	F-11

NORTH

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E-9

F-10

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EXISTING SUB BASIN

EXISTING MINOR BASIN

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DESIGN POINT 60 DC — PROPOSED DESIGN POINT

MAIN BASIN NAME

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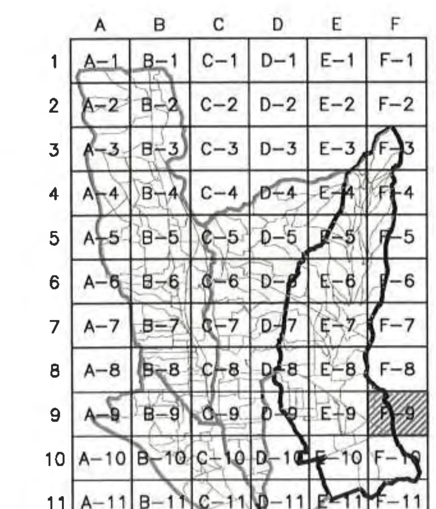
30" — PROPOSED STORM MAIN

PROPOSED MANHOLE

REGIONAL DETENTION AREA — PROPOSED REGIONAL DETENTION SITE



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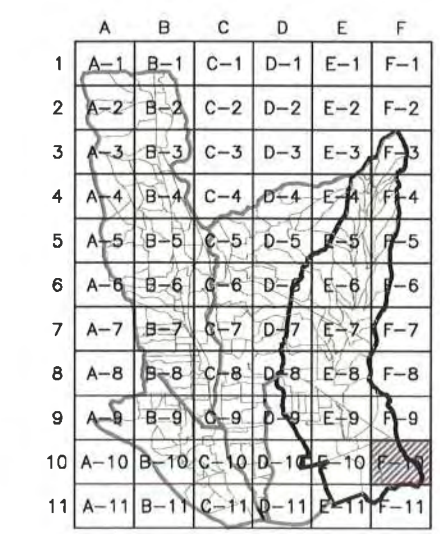

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