



El Paso County MS4 Post Construction Detention / Water Quality Facility Documentation Form

This document **must be completed and submitted** with required attachments to the County for projects requiring a detention and/or a water quality facility. A separate completed form must be submitted for each facility.

Project name:

Owner name:

Location Address:

Latitude and Longitude:

Assessor's Parcel #: Section: Township: Range:

Expected Completion date:

Project acreage: Design Ponding Acres: Design Storm:

Design Engineer Email Address:

To ensure compliance with C.R.S. 37-92-602(8), the completed Stormwater Detention and Infiltration Design Data Sheet **must be attached**. The form can be found here: <https://maperture.digitaldataservices.com/gvh/?viewer=cswdif#> (click on Download SDI Design Data Sheet)

List all permanent water quality control measure(s) (EDBs, rain gardens, etc):

For all projects for which the constrained redevelopment sites standard is applied, provide an explanation of why it is not practicable to meet the full design standards.

Attach Operations and Maintenance (O&M) Plan describing the operation and maintenance procedures that ensure the long-term observation, maintenance, and operation of control measure(s), including routine inspection frequencies and maintenance activities. If multiple, different water quality control measures are used at the same location, a separate O & M Plan must be provided for each facility.

Attach Private Detention Basin / Stormwater Quality Best Management Practice Maintenance Agreement and Easement addressing maintenance of BMPs that shall be binding on all subsequent owners of the permanent BMPs.

Attachments:

- Stormwater Detention and Infiltration Design Data Sheet
- O & M Plan
- Maintenance and Access Agreement

Review Engineer

EPC Project File No.

STANDARD OPERATING PROCEDURES

FOR

INSPECTION AND MAINTENANCE

FOR

Outlook Powers & Grinnell Pond 1

*Northwest ¼ of Section 7, Township 15 South, and the Southwest ¼ of the Southwest ¼ of
Section 6, Township 15 South, Range 65 West of the 6th Principal Meridian,
County of El Paso, State of Colorado*

Prepared: May 8, 2023

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1. Brief Introduction

This Standard Operating Procedure Manual is intended to guide property owners and their maintenance personnel to understanding structure locations as well as inspection and maintenance frequencies and procedures for a properly functioning Extended Detention Basin (EDB).

*Note: Please contact the City's Stormwater Quality Specialist if you have any questions regarding this document. See **CONTACT INFORMATION, INSPECTION AND MAINTENANCE PROVIDERS** document in Appendix D.*

2. Background

Extended Detention Basins (EDB) are one of the most common types of Stormwater Management Facilities utilized within the Front Range of Colorado. EDBs are an adaptation of a detention basin used for flood control, with the primary difference in the difference in that EDBs use forebays, micro-pools, and a much smaller outlet that extends the emptying time of the more frequently occurring runoff events to facilitate pollutant removal. Forebays are shallow concrete "pans" located at the inflow point to the basin. These forebays collect and briefly hold stormwater runoff resulting in a process called sedimentation, dropping sediment out of the stormwater. The stormwater is then released into the trickle channel and upper basin, the large grassy portion of the basin. An EDB is a sedimentation basin designed to totally drain dry sometime after stormwater runoff ends. The EDB's drain time for the water quality portion of the facility is typically 40 hours. Soluble pollutant removal is enhanced by provided a small wetland marsh or "micro-pool" at the outlet to promote biological update. The basins are considered to be "dry" because the majority of the basin is designed not to have a significant permanent pool of water remaining between runoff events. (*Note: Pond 6 does not contain a forebay, trickle-channel, or micro-pool*).

3. Inspecting Extended Detention Basins (EDBs)

A. Location and Access

Inspection or maintenance personnel may utilize the Stormwater Facility Map, which shows the location(s) of the access point(s) and maintenance easement(s) of the EDB within this development.

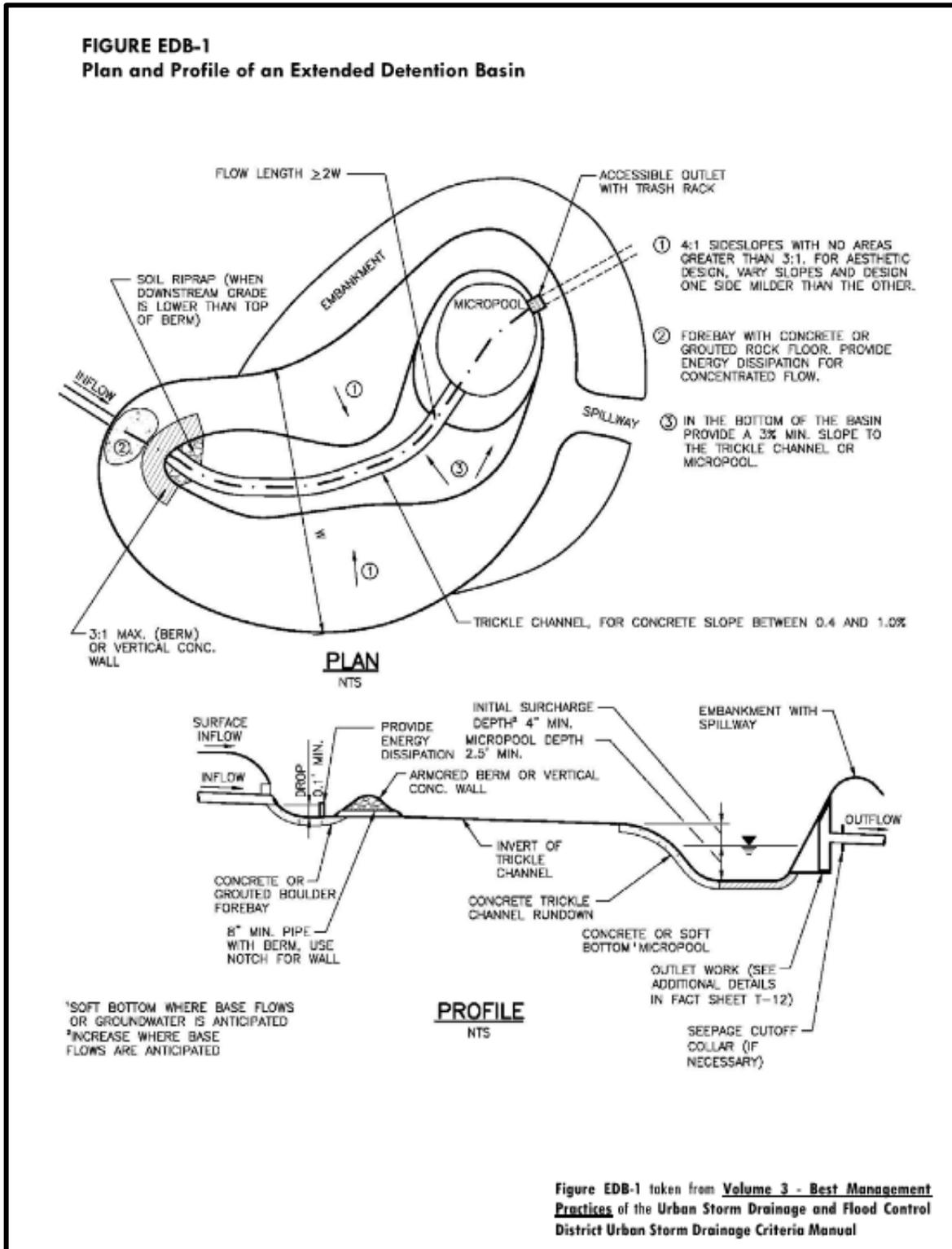
B. Stormwater Management Facilities Locations

Inspection or maintenance personnel may utilize the Stormwater Facility Map, which also contains the location of the EDB within this development.

C. Extended Detention Basin (EDB) Features

EDBs have a number of features that are designed to serve a particular function, (see Fig. EDB-1 Plan and Profile of an Extended Detention Basin on page 2). (*Note: Pond 6 does not contain a forebay, trickle-channel, or micro-pool*).

Many times the proper function of one feature depends on another. For example, if a forebay is not properly maintained, it could negatively impact the performance of a feature downstream (trickle channel, micro-pool, etc.). Therefore, it is critical that each feature of the EDB is properly inspected and maintained to ensure that the overall facility functions as it was intended.



A list of the typical inspection and maintenance requirements for each component of an EDB are summarized in Table 1, and further described in the following sections:

Table 1
Typical Inspection & Maintenance Requirements Matrix

EDB Features	Sediment Removal	Mowing /Weed Control	Trash & Debris Removal	Erosion	Overgrown Vegetation Removal	Standing Water (mosquito/algae control)	Structure Repair
Inflow Points (Outfalls)	X		X				X
Forebay*	X		X	X			X
Low-flow channel*	X		X	X	X		X
Bottom Stage	X	X	X		X	X	
Micro-pool*	X		X		X	X	X
Outlet Works	X		X				X
Emergency Spillway			X	X	X		X
Upper Stage			X	X			
Embankment		X		X	X		

(*Note: Pond 6 does not contain a forebay, low-flow channel, or micro-pool)

a. Inflow Points (Outfalls)

Inflow points or outfalls into EDBs are the point source of the stormwater discharge into the facility. An inflow point is commonly a storm sewer pipe with a flared end section that discharges into the EDB. In some instances an inflow point could be a drainage channel or ditch that flows into the facility.

An energy dissipater (rip-rap or hard armor protection) is typically immediately downstream of the discharge point into the EDB to protect from erosion. In some cases, the storm sewer outfall can have a toe-wall or cut-off wall immediately below the structure to prevent undercutting of the outfall from erosion.

The most typical maintenance items that are found with inflow points are as follows:

- i. *Rip-rap Displaced* – Many times, because the repeated impact/force of water, the rip-rap can shift and settle. If any portion of the rip-rap apron appears to have settled, soil is present between the rip-rap, or the rip-rap has shifted, maintenance may be required to ensure future erosion is prevented.
- ii. *Erosion Present/ Outfall Undercut* – In some situations, the energy dissipater may not have been sized, constructed, or maintained appropriately and erosion has occurred. Any erosion within the vicinity of the inflow point will

require maintenance to prevent damage of the structure(s) and sediment transport within the facility.

- iii. *Sediment Accumulation* – Because of the turbulence in the water created by the energy dissipater, sediment often deposits immediately downstream of the inflow point. To prevent a loss in hydraulic performance of the upstream structure, sediment that accumulates in this area must be removed in a timely manner.
- iv. *Structural Damage* – Structural damage can occur anytime during the life of the facility. Typically for an inflow, the structural damage occurs to the pipe flared end section (concrete or steel). Structural damage can lead to additional operating problems with the facility, including loss of hydraulic performance.
- v. *Woody Growth/ Weeds Present* – Undesirable vegetation can grow in and around the inflow area to an EDB that can significantly impact the performance of the drainage facilities discharging into the facility. This type of vegetation includes trees (typically cottonwoods) and dense areas of shrubs (willows). If woody vegetation is not routinely mowed/removed, the growth can cause debris/sediment to accumulate, resulting in blockage of the discharge. Also, tree roots can cause damage to the structural components of the inflow. Routine maintenance is essential for trees (removing a small tree/ sapling is much cheaper and “quieter” than a mature tree). Also, noxious weeds growing in the facility can result in the loss of desirable native vegetation and impact adjacent open spaces/ land.

b. Forebay

A forebay is a solid surface (pad), typically constructed of concrete, immediately downstream of the inflow point.

c. Trickle Channel (Low-Flow)

The trickle channel conveys stormwater from the forebay to the micro-pool of the EDB.

d. Bottom Stage

The bottom stage is at least 1.0 to 2.0 feet deeper than the upper stage and is located in front of the outlet works structure. The bottom stage is designed to store the smaller runoff events and assists in keeping the majority of the basin bottom dry resulting in easier maintenance operations and enhances the facilities pollutant removal capabilities. The area of the EDB may develop wetland vegetation.

- i. *Sediment/ Debris Accumulation* – The micro-pool can frequently accumulate sediment and debris. This material must be removed to maintain pond volume and proper function of the outlet structure.
- ii. *Woody Growth/ Weeds Present* – Because of the constant moisture in the soil surrounding the micro-pool, woody growth (cottonwoods/willows) can create operational problems for the EDB. If woody vegetation is not routinely mowed/ removed, the growth can cause debris/sediment to accumulate outside of the micro-pool, which can cause problems with other EDB

features (Please note that Pond 6 does not include a micro-pool). Also, tree roots can cause damage to the structural components of the outlet works. Routine management is essential for trees (removing a small tree/sapling is much cheaper and “quieter” than a mature tree).

- iii. *Bank Erosion* – The micro-pool is usually a couple feet deeper than the other areas of the pond. Erosion can be caused by water dropping into the micro-pool if adequate protection/ armor is not present (Please note that Pond 6 does not include a micro-pool) Erosion in this area must be mitigated to prevent sediment transport and other EDB feature damage.
- iv. *Mosquitoes/ Algae Treatment* – Nuisance created by stagnant water can result from improper maintenance/treatment of the micro-pool. Mosquito larvae can be laid by adult mosquitoes within the permanent pool. Also, aquatic vegetation that grows in shallow pools of water can decompose causing foul odors. Chemical/mechanical treatment of the micro-pool may be necessary to reduce these impacts to adjacent homeowners.
- v. *Petroleum/ Chemical Sheen* – Many indicators of illicit discharges into the storm sewer systems will be present in the micro-pool area of the EDB (Please note that Pond 6 does not contain a micro-pool). These indicators can include sheens, odors, discolored soil, and dead vegetation. If it is suspected that an illicit discharge has occurred, contact your supervisor immediately.

Proper removal/ mitigation of contaminated soils and water in the EDB is necessary to minimize any environmental impacts downstream.

e. Micro-pool

The micro-pool is a concrete or grouted boulder walled structure directly in front of the outlet works.

f. Outlet Structure

The outlet structure is the feature that drains the EDB in specified quantities and periods of time. The outlet structure is typically constructed of reinforced concrete into the embankment of the EDB. The concrete structure typically has steel orifice plates anchored/embedded into it to control stormwater release rates. The larger openings (flood control) on the outlet structure typically have trash racks over them to prevent clogging. The water quality orifice plate (smaller diameter holes) will typically have a well screen covering it to prevent smaller materials from clogging it. The outlet structure is the single most important feature in the EDB operation. Proper inspection and maintenance of the outlet structure is essential in ensuring the long-term operation of the EDB.

- i. *Trash Rack/ Well Screen Clogged* – Floatable material that enters the EDB will most likely make its way to the outlet structure. This material gets trapped against the trash racks and well screens on the outlet structure (which is why they are there). This material must be removed on a routine basis to ensure the outlet structure drains in the specified design period.

- ii. *Structural Damage* – The outlet structure is primarily constructed of concrete, which can crack, spall, and settle. The steel trash racks and well screens are also susceptible to damage.
- iii. *Orifice Plate Missing/ Not Secure* – Many times residents, property owners, or maintenance personnel will remove or loosen orifice plates if they believe the pond is not draining properly. Any modification to the orifice plate(s) will significantly impact the designed discharge rates for water quality and/or flood control.
Warning: Modification of the orifice plates is not allowed without written approval from the City. See Appendix D for Contact Information.
- iv. *Manhole Access* – Access to the outlet structure is necessary to properly and inspect and maintain the facility. If access is difficult or not available to inspect the structure, chances are it will be difficult to maintain as well.
Warning: To minimize risks involved when performing inspections and/or maintenance on EDBs all personnel should be well trained and have a Confined Space Certification before entering a Confined Space.
- v. *Woody Growth/ Weeds Present* – Because of the constant moisture in the soil surrounding the outlet works, woody growth (cottonwoods/willows) can create operational problems for the EDB. If woody vegetation is not routinely mowed/removed, the growth can cause debris/ sediment to accumulate around the outlet works, which can cause problems with other EDB features. Also, tree roots can cause damage to the structural components of the outlet works. Routine management is essential for trees (removing a small tree/sapling is much cheaper and “quieter” than a mature tree).

g. Emergency Spillway

An emergency spillway is typical of all EDBs and designed to serve as the overflow in the event the volume of the pond is exceeded. The emergency spillway is typically armored with rip-rap (or other hard armor) and is sometimes buried with soil. The emergency spillway is typically a weir (notch) in the pond embankment. Proper function of the emergency spillway is essential to ensure flooding does not impact adjacent properties.

- i. *Rip-rap Displaced* – As mentioned before, the emergency spillway is typically armored with rip-rap to provide erosion protection. Over the life of an EDB, the rip-rap may shift or become dislodged due to flow.
- ii. *Erosion Present* – Although the emergency spillway is typically armored, stormwater flowing through the emergency spillway can cause erosion damage. Erosion must be repaired to ensure the integrity of the basin, embankment, and proper function of the emergency spillway.
- iii. *Woody Growth/ Weeds Present* – Management of woody vegetation is essential in the proper long-term function of the spillway. Larger trees or dense shrubs can capture larger debris entering the EDB and reduce the capacity of the spillway.
- iv. *Obstruction Debris* – The spillway must be cleared of any obstruction (man-made or natural) to ensure the proper design capacity.

h. Upper Stage (Dry Storage)

The upper stage of the EDB provides the majority of the water quality flood detention volume. This area of the EDB is higher than the micro-pool and typically stays dry, except during storm events. The upper stage is the largest feature/ area of the basin. Sometimes, the upper stage can be utilized for park space and other uses in larger EDBs. With proper maintenance of the micro-pool and forebay(s), the upper stage should not experience much sedimentation; however, bottom elevations should be monitored to ensure adequate volume.

- i. *Vegetation Sparse* – The upper stage is the most visible part of the EDB and therefore aesthetics is important. Adequate and properly maintained vegetation can greatly increase the overall appearance and acceptance of the EDB by the public. Also, vegetation can reduce the potential for erosion and subsequent sediment transport to the other areas of the pond.
- ii. *Woody Growth/Undesirable Vegetation* – Although some trees and woody vegetation may be acceptable in the upper stage, some thinning of cottonwoods and willows may be necessary. Remember, the EDB will have to be dredged as to ensure volume, and large trees and shrubs will be difficult to protect during that operation (public perception).
- iii. *Standing Water/Boggy Areas* – Standing water or boggy areas in the upper stage is typically a sign that some other feature in the pond is not functioning properly. Routine maintenance (mowing, trash removal, etc) can be extremely difficult for the upper stage.

Following is a list of indicators:

1. Ground adjacent to the trickle channel appears to be several inches higher than concrete/riprap (Please note Pond 6 does not contain a trickle channel).
 2. Standing water or boggy areas in upper stage.
 3. Uneven grades or mounds
 4. Micro-pool and/or forebay have excessive amounts of sediment (Please note Pond 6 does not contain a trickle channel nor forebay)
- iv. *Erosion (banks and bottom)* – The bottom grades of the dry storage are typically flat enough that erosion should not occur. However, inadequate vegetative cover may result in erosion of the upper stage. Erosion that occurs in the upper stage can result in increased dredging/ maintenance of the micro-pool (Please note Pond 6 does not contain a micro-pool)
 - v. *Trash Debris* – Trash and debris can accumulate in the upper area after large events, or from illegal dumping. Over time, this material can accumulate and clog the EDB outlet structure.
 - vi. *Maintenance Access* – Most EDBs typically have a gravel/ concrete maintenance access path to either the upper stage or forebay. This access path should be inspected to ensure the surface is still drivable. Some of the smaller EDBs may not have maintenance access paths; however, the inspector should verify that access is available from adjacent properties.

i. Miscellaneous

There are a variety of inspection/maintenance issues that may not be attributed to a single feature within the EDB. This category on the inspection form is for maintenance items that are commonly found in the EDB, but may not be attributed to an individual feature.

- i. Encroachment in Easement Area* – Private lots/property can sometimes be located very close to the EDBs, even though the City requires that they be located in tracts with drainage easements. Property owners may place landscaping, trash, fencing, or other items within the easement area that may impact maintenance or the operation of the facility.
- ii. Graffiti/ Vandalism* – Damage to the EDB infrastructure can be caused by vandals. If criminal mischief is evident, the inspector should forward this information to the City of Loveland Police Department at 667-2151.
- iii. Public Hazards* – Public hazards include items such as: vertical drops of greater than 4-feet, containers of unknown/ suspicious substances, and exposed metal/jagged concrete on structures.
Warning: Contact the City of Loveland at 911 immediately if any containers of unknown/ suspicious substances are found within the facility area that poses an immediate threat to public safety! For other hazards contact the City of Loveland Dispatch at 667-2151.
- iv. Burrowing Animals/Pests* – Prairie dogs and other burrowing rodents may cause damage to the EDB features and negatively impact the vegetation within the EDB.
- v. Other* – Any miscellaneous inspection/ maintenance items not contained on the form should be entered here.

4. Maintaining Extended Detention Basins (EDBs)

a. Maintenance Personnel

Maintenance personnel must be familiar with each of the components that comprise an EDB so they are qualified to properly maintain them. Inadequately trained personnel can cause additional problems that could result in additional maintenance costs.

b. Equipment

It is imperative that the appropriate equipment and tools are taken to the field with the operations crew. The types of equipment/ tools will vary depending on the task at hand. Below is a list of tools, equipment, and material(s) that may be necessary to perform maintenance on an EDB:

- 1) Loppers/Tree Trimming Tools
- 2) Mowing Tractors
- 3) Trimmers (extra string)
- 4) Shovels
- 5) Rakes
- 6) All Surface Vehicle (ASVs)

- 7) Skid Steer
- 8) Back Hoe
- 9) Track Hoe/ Long Reach Excavator
- 10) Dump Truck
- 11) Jet-Vac Machine
- 12) Engineers Level (laser)
- 13) Rip-rap (Minimum – Type M)
- 14) Filter Fabric
- 15) Erosion Control Blanket(s)
- 16) Seed Mix (Native – Foothills)
- 17) Illicit Discharge Cleanup Kits
- 18) Trash Bags
- 19) Tools (wrenches, screw drivers, hammers, etc)
- 20) Chain Saw
- 21) Confined Space Entry Equipment
- 22) Approved Stormwater Facility Operation and Maintenance Manual

Some of the items identified above may not be needed for every maintenance operation. However, this equipment should be available to the maintenance operations crews should the need arise.

c. Safety

Vertical drops may be encountered in areas located within and around the facility. Avoid walking on top of retaining walls or other structures that have a significant vertical drop. If a vertical drop is identified within the EDB that is greater than 48” in height, make the appropriate note/comment on the maintenance inspection form.

d. EDB Maintenance Categories and Activities

A typical EDB Maintenance Program will consist of three broad categories of work. Within each category of work, a variety of maintenance activities can be performed on an EDB. A maintenance activity can be specific to each feature within the EDB, or general to the overall facility. This section of the SOP explains each of the categories and briefly describes the typical maintenance activities for an EDB.

El Paso County has identified a variety of maintenance activities that are typical of EDBs. The maintenance activities range in magnitude from routine trash pickup to the reconstruction of drainage infrastructure. Below is a description of each maintenance activity, the objectives, and frequency of actions:

e. Routine Inspection/Maintenance Activities

The majority of this work consists of regularly scheduled mowing and trash and debris pickups for stormwater management facilities during the growing season. This includes items such as the removal of debris/material that may

be clogging the outlet structure well screens and trash racks. It also includes normally will be performed numerous times during the year. These items can be completed without any prior correspondence with El Paso County; however, completed inspection and maintenance forms shall be submitted to the County for each inspection and maintenance period.

The Maintenance Activities are summarized in Table 2, and further described in the following sections.

**Table 2
Summary of Routine Inspection/ Maintenance Activities**

Maintenance Activity	Minimum Frequency	Look For	Maintenance Action
Mowing	Twice annually.	Excessive vegetation height; Aesthetics.	Mow vegetation.
Trash/Debris Removal	Twice annually.	Trash & debris in EDB.	Remove and properly dispose of trash and debris.
Outlet Works Cleaning	As needed; After significant storm events; Minimum twice annually.	Clogged outlet structure; Ponding water.	Remove and dispose of debris, trash, and/or sediment to allow outlet to function properly.
Weed Control/ Plant Management	Minimum twice annually.	Noxious weeds; Unwanted vegetation.	Treat with herbicide or hand pull; Consult weed specialist.
Mosquito Treatment	As needed.	Stagnant/standing water; mosquito habitat.	Treat w/ EPA approved chemicals.
Algae Treatment	As needed.	Standing water; Algal growth; Green color.	Treat w/ EPA approved chemicals

f. Mowing

Occasional mowing is necessary to limit unwanted vegetation and to improve the overall appearance of the EDB. Native vegetation should be mowed to a height of 4-to-6 inches tall.

Frequency – Routine – At a minimum of twice annually or depending on aesthetics.

g. Trash/Debris Removal

Trash and debris must be removed from the entire EDB area to minimize outlet clogging and to improve aesthetics. This activity must be performed prior to mowing operations.

Frequency – Routine – Prior to mowing operations and at a minimum of twice annually.

h. Our Structure Cleaning

Debris and other materials can clog the outlet structure’s well screen, orifice plate(s) and trash rack. This activity must be performed anytime other maintenance activities are conducted to ensure proper operation.

Frequency – Routine – After a significant storm event or concurrently with other maintenance activities.

i. Weed Control/ Plant Management

Noxious weeds and other unwanted vegetation must be treated as needed throughout the EDB. This activity can be performed either through mechanical means (mowing/pulling) or with herbicide.

Frequency – Routine – As needed based on inspections.

j. Mosquito/Algae Treatment

Treatment of permanent pools is necessary to control mosquitoes and undesirable aquatic vegetation that can create nuisances. Please Note that only US EPA approved chemicals/materials can be used in areas that are warranted. See **CONTACT INFORMATION, INSPECTION & MAINTENANCE PROVIDERS** document.

Frequency – As needed.

k. Minor Maintenance Activities

This work consists of a variety of isolated or small-scale maintenance/operational problems. Most of this work can be completed by a small crew, tools, and small equipment.

The Minor Maintenance Activities are summarized in Table 3, and further described in the following sections.

**Table 3
Summary of Minor Maintenance Activities**

Maintenance Activity	Minimum Frequency	Look For	Maintenance Action
Minor Sediment Removal	As needed; typically every 1-2 years.	Sediment build-up; decrease in pond volume.	Remove and properly dispose of sediment.

Minor Erosion Repair	As needed, based upon inspection.	Rillying/gullying of side slopes; trickle channel*; other areas	Repair eroded areas; vegetate; stabilize, and address cause.
Woody Vegetation: Removal and/or Thinning	As needed, based upon inspection.	Woody vegetation comprised of large trees/ shrubs in lower chamber of pond.	Remove and/or thin out woody vegetation; restore grade and surface.
Aquatic Plant Harvesting	As needed, based upon inspection.	Loss of volume; nuisances related to overgrowth of vegetation.	Perform during the dry season (November to February).
Drain Cleaning/ Jet Vac	As needed, based upon inspection.	Sediment build-up/ non-draining system.	Clean drains; Jet Vac if needed.

(*Note: Pond 6 does not contain a trickle channel.)

i. Minor Sediment Removal

Sediment removal is necessary to maintain the original design volume of the EDB and to ensure proper function of the infrastructure. Regular sediment removal (minor) from the forebay* (*Please Note Pond 6 does not contain a forebay*), inflow(s), and trickle channel* (*Please Note Pond 6 does not contain a trickle channel*) can significantly reduce the frequency of major sediment removal activities (dredging) in the upper and lower stages. The minor sediment removal activities can typically be addressed with shovels and smaller equipment. Major sediment removal activities will require larger and more specialized equipment. The major sediment activities will also require surveying with an engineer’s level, and consultation with the El Paso County Engineering Staff to ensure design volumes/ grades are achieved.

Stormwater sediments removed from EDBs do not meet the criteria of “hazardous waste”. However, these sediments are contaminated with a wide array of organic and inorganic pollutants and handling must be done with care. Sediments from permanent pools must be carefully removed to minimize turbidity, further sedimentation, or other adverse water quality impacts. Sediments should be transported by motor vehicle only after they are dewatered. All sediments must be taken to a landfill for proper disposal. Should a spill occur during transportation, prompt and thorough cleanup is important. See **CONTACT INFORMATION, INSPECTION & MAINTENANCE PROVIDERS** document.

Frequency – Nonroutine – As necessary based upon inspections. Sediment removal in the forebay and trickle channel may be necessary as frequently as every 1-2 years.

ii. **Woody Vegetation: Removal and/or Thinning**

Dense stands of woody vegetation (willows, shrubs, etc.) or trees can create maintenance problems for the infrastructure within an EDB. Tree roots can damage structures and invade pipes/ channels thereby blocking flows. Also, trees growing in the upper and lower stages of the EDB will most likely have to be removed when sediment/ dredging operations occur. A small tree is easier to remove than a large tree, therefore, regular removal/thinning is imperative. All trees and woody vegetation should be removed that is growing in the bottom of the EDB or near structures (inflows, trickle channels* (*Please note Pond 6 does not contain any trickle channels*), outlet structure, emergency spillways, etc.). Any trees or woody vegetation in the EDB should be limited to the upper portions of the pond banks.

Frequency – Nonroutine – As necessary based on inspections.

iii. **Aquatic Plant Harvesting**

Harvesting of vegetation may also be desirable for nutrient removal. When removing vegetation from the pond. Care should be taken so as not to leave areas of disturbed soil susceptible to erosion. Proper erosion and sediment controls should be implemented until vegetative cover is established if removal of vegetation results in disturbed soils.

Frequency – Nonroutine – As necessary based upon inspections.

iv. **Clearing Drains/Jet-Vac**

An EDB contains many structures, openings, and pipes that can be frequently clogged with debris. These blockages can result in a decrease of hydraulic capacity and also create standing water (nuisances) in areas outside of the micro-pool* (**Please note that Pond 6 does not contain a micro-pool*). Many times the blockage to this infrastructure can be difficult to access and/or clean. Specialized equipment (jet-vac machines) may be necessary to clear debris from these difficult areas. See **CONTACT INFORMATION, INSPECTION & MAINTENANCE PROVIDERS** document.

Frequency – Nonroutine – As necessary based upon inspections.

I. **Major Maintenance Activities**

This work consists of larger maintenance/operational problems and failures within the stormwater management facilities. All this work requires consultation with the El Paso County to ensure the proper maintenance is performed. This

work requires that the Public Works – Stormwater engineering staff review the original design and construction drawings to access the situation and assign the necessary maintenance. See **CONTACT INFORMATION, INSPECTION & MAINTENANCE PROVIDERS** document. This work may also require more specialized maintenance equipment, design/details, surveying, or assistance through private contractors and consultants.

The Major Maintenance Activities are summarized in Table 4, and further described in the following sections.

Table 4
Summary of Major Maintenance Activities

Maintenance Activity	Minimum Frequency	Look For	Maintenance Action
Major Sediment Removal	As needed – based upon scheduled inspections.	Large quantities of sediment; reduced pond capacity	Remove and dispose of sediment. Repair vegetation as needed.
Major Erosion Repair	As needed – based upon scheduled inspections.	Severe erosion including: gullying; excessive soil displacement; areas of settlement; holes.	Repair erosion – find cause of problem and address to avoid future erosion.
Structural Repair	As needed – based upon scheduled inspections.	Deterioration and/or damage to structural components, i.e. broken concrete, damaged pipes, outlet works.	Structural repair to restore the structure to its original design.

i. Major Sediment Removal

Major sediment removal consists of removal of large quantities of sediment or removal of sediment from vegetated areas. Care shall be given when removing large quantities of sediment and sediment deposited in vegetated areas. Large quantities of sediment and sediment deposited in vegetated areas. Large quantities of sediment need to be carefully removed, transported and disposed of. Vegetated areas need special care to ensure design volumes and grades are preserved.

Frequency – Nonroutine – Repair as needed based upon inspections and approval from the El Paso County Public Works – Stormwater engineering staff.

ii. Major Erosion Repair

Major erosion repair consists of filling and revegetating areas of severe erosion. Determining the cause of the erosion as well as correcting the

condition that caused the erosion should also be part of the erosion repair. Care should be given to ensure design grades and volumes are preserved.

Frequency – Nonroutine – Repair as needed based upon inspections.

iii. Structural Repair

An EDB includes a variety of structures that can deteriorate or be damaged during the course of routine maintenance. These structures include items like outlet works, trickle channels*, forebays*, inflows and other features (*Please note that Pond 6 does not contain trickle channels or forebays). Some of the minor structural repairs can be performed by your in-house operations staff. Major repairs to structures may require input from a structural engineer and specialized contractors. Consultation with the El Paso County Stormwater Engineering Staff should take place prior to all structural repairs.

Frequency – Nonroutine – Repair as needed based upon inspections.

**PRIVATE DETENTION BASIN /
STORMWATER QUALITY BEST MANAGEMENT PRACTICE
MAINTENANCE AGREEMENT AND EASEMENT**

This PRIVATE DETENTION BASIN / STORMWATER QUALITY BEST MANAGEMENT PRACTICE MAINTENANCE AGREEMENT AND EASEMENT (Agreement) is made by and between EL PASO COUNTY by and through THE BOARD OF COUNTY COMMISSIONERS OF EL PASO COUNTY, COLORADO (Board or County) and Insert Company Name (Owner or Developer). The above may occasionally be referred to herein singularly as “Party” and collectively as “Parties.”

Recitals

A. WHEREAS, Developer is the owner of certain real estate (the Property or Subdivision) in El Paso County, Colorado, which Property is legally described in Exhibit A attached hereto and incorporated herein by this reference; and

B. WHEREAS, Developer desires to plat and develop on the Property a subdivision/land use to be known as Outlook Powers; and

C. WHEREAS, the development of this Property will substantially increase the volume of water runoff and will decrease the quality of the stormwater runoff from the Property, and, therefore, it is in the best interest of public health, safety and welfare for the County to condition approval of this subdivision/land use on Developer’s promise to construct adequate drainage, water runoff control facilities, and stormwater quality structural Best Management Practices (“BMPs”) for the subdivision/land use; and

D. WHEREAS, Chapter 8, Section 8.4.5 of the El Paso County Land Development Code, as periodically amended, promulgated pursuant to Section 30-28-133(1), Colorado Revised Statutes (C.R.S.), requires the County to condition approval of all subdivisions on a developer’s promise to so construct adequate drainage, water runoff control facilities, and BMPs in subdivisions; and

E. WHEREAS, the Drainage Criteria Manual, Volume 2, as amended by Appendix I of the El Paso County Engineering Criteria Manual (ECM), as each may be periodically amended, promulgated pursuant to the County’s Colorado Discharge Permit System General Permit (MS4 Permit) as required by Phase II of the National Pollutant Discharge Elimination System (NPDES), which MS4 Permit requires that the County take measures to protect the quality of stormwater from sediment and other contaminants, requires subdividers, developers, landowners, and owners of facilities located in the County’s rights-of-way or easements to provide adequate permanent stormwater quality BMPs with new development or significant redevelopment; and

F. WHEREAS, Section 2.9 of the El Paso County Drainage Criteria Manual provides for a developer’s promise to maintain a subdivision’s drainage facilities in the event the County does not assume such responsibility; and

G. WHEREAS, developers in El Paso County have historically chosen water runoff detention basins as a means to provide adequate drainage and water runoff control in subdivisions,

which basins, while effective, are less expensive for developers to construct than other methods of providing drainage and water runoff control; and

H. WHEREAS, Developer desires to construct for the subdivision/land use 1 detention basin/stormwater quality BMP(s) (“detention basin/BMP(s)”) as the means for providing adequate drainage and stormwater runoff control and to meet requirements of the County’s MS4 Permit, and to operate, clean, maintain and repair such detention basin/BMP(s); and

I. WHEREAS, Developer desires to construct the detention basin/BMP(s) on property that is or will be platted as Lot 1 as indicated on the final plat of the subdivision, and as set forth on Exhibit B attached hereto; and

J. WHEREAS, Developer shall be charged with the duties of constructing, operating, maintaining and repairing the detention basin/BMP(s) on the Property described in Exhibit B; and

K. WHEREAS, it is the County’s experience that subdivision developers and property owners historically have not properly cleaned and otherwise not properly maintained and repaired these detention basins/BMPs, and that these detention basins/BMPs, when not so properly cleaned, maintained, and repaired, threaten the public health, safety and welfare; and

L. WHEREAS, the County, in order to protect the public health, safety and welfare, has historically expended valuable and limited public resources to so properly clean, maintain, and repair these detention basins/BMPs when developers and property owners have failed in their responsibilities, and therefore, the County desires the means to recover its costs incurred in the event the burden falls on the County to so clean, maintain and repair the detention basin/BMP(s) serving this subdivision/land use due to the Developer/Owner’s failure to meet its obligations to do the same; and

M. WHEREAS, the County conditions approval of this subdivision/land use on the Developer’s promise to so construct the detention basin/BMP(s), and conditions approval on the Owner’s promise to reimburse the County in the event the burden falls upon the County to so clean, maintain and/or repair the detention basin/BMP(s) serving this Subdivision; and

N. WHEREAS, the County could condition subdivision/land use approval on the Developer’s promise to construct a different and more expensive drainage, water runoff control system and BMPs than those proposed herein, which more expensive system would not create the possibility of the burden of cleaning, maintenance and repair expenses falling on the County; however, the County is willing to forego such right upon the performance of Developer/Owner’s promises contained herein; and

O. WHEREAS, the County, in order to secure performance of the promises contained herein, conditions approval of this subdivision/land use upon the Developer’s grant herein of a perpetual Easement over a portion of the Property for the purpose of allowing the County to periodically access, inspect, and, when so necessary, to clean, maintain and/or repair the detention basin/BMP(s); and

Agreement

NOW, THEREFORE, in consideration of the mutual Promises contained herein, the sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. Incorporation of Recitals: The Parties incorporate the Recitals above into this Agreement.
2. Covenants Running with the Land: Developer/Owner agrees that this entire Agreement and the performance thereof shall become a covenant running with the land, which land is legally described in [Exhibit A](#) attached hereto, and that this entire Agreement and the performance thereof shall be binding upon itself, its successors and assigns.
3. Construction: Developer shall construct on that portion of the Property described in [Exhibit B](#) attached hereto and incorporated herein by this reference, **1** detention basin/BMP(s). Developer shall not commence construction of the detention basin/BMP(s) until the El Paso County Planning and Community Development Department (PCD) has approved in writing the plans and specifications for the detention basin/BMP(s) and this Agreement has been signed by all Parties and returned to the PCD. Developer shall complete construction of the detention basin/BMP(s) in substantial compliance with the County-approved plans and specifications for the detention basin/BMP(s). Failure to meet these requirements shall be a material breach of this Agreement, and shall entitle the County to pursue any remedies available to it at law or in equity to enforce the same. Construction of the detention basin/BMP(s) shall be substantially completed within one (1) year (defined as 365 days), which one year period will commence to run on the date the approved plat of this Subdivision is recorded in the records of the El Paso County Clerk and Recorder. In cases where a subdivision is not required, the one year period will commence to run on the date the Erosion and Stormwater Quality Control Permit (ESQCP) is issued. Rough grading of the detention basin/BMP(s) must be completed and inspected by the El Paso County Planning and Community Development Department prior to commencing road construction.

In the event construction is not substantially completed within the one (1) year period, then the County may exercise its discretion to complete the project, and shall have the right to seek reimbursement from the Developer/Owner and its successors and assigns, for its actual costs and expenses incurred in the process of completing construction. The term actual costs and expenses shall be liberally construed in favor of the County, and shall include, but shall not be limited to, labor costs, tool and equipment costs, supply costs, and engineering and design costs, regardless of whether the County uses its own personnel, tools, equipment and supplies, etc. to correct the matter. In the event the County initiates any litigation or engages the services of legal counsel in order to enforce the Provisions arising herein, the County shall be entitled to its damages and costs, including reasonable attorney fees, regardless of whether the County contracts with outside legal counsel or utilizes in-house legal counsel for the same.

4. Maintenance: The Developer/Owner agrees for itself and its successors and assigns, that it will regularly and routinely inspect, clean and maintain the detention basin/BMP(s), and otherwise keep the same in good repair, all at its own cost and expense. No trees or shrubs that will impair the structural integrity of the detention basin/BMP(s) shall be planted or allowed to grow on the detention basin/BMP(s).
5. Creation of Easement: Developer/Owner hereby grants the County a non-exclusive perpetual easement upon and across that portion of the Property described in [Exhibit B](#). The purpose of the easement is to allow the County to access, inspect, clean, repair and maintain the detention

basin/BMP(s); however, the creation of the easement does not expressly or implicitly impose on the County a duty to so inspect, clean, repair or maintain the detention basin/BMP(s).

6. County's Rights and Obligations: Any time the County determines, in the sole exercise of its discretion, that the detention basin/BMP(s) is not properly cleaned, maintained and/or otherwise kept in good repair, the County shall give reasonable notice to the Developer/Owner and its successors and assigns, that the detention basin/BMP(s) needs to be cleaned, maintained and/or otherwise repaired. The notice shall provide a reasonable time to correct the problem(s). Should the responsible parties fail to correct the specified problem(s), the County may enter upon the Property to so correct the specified problem(s). Notice shall be effective to the above by the County's deposit of the same into the regular United States mail, postage pre-paid. Notwithstanding the foregoing, this Agreement does not expressly or implicitly impose on the County a duty to so inspect, clean, repair or maintain the detention basin/BMP(s).

7. Reimbursement of County's Costs / Covenant Running With the Land: The Developer/Owner agrees and covenants, for itself, its successors and assigns, that it will reimburse the County for its costs and expenses incurred in the process of completing construction of, cleaning, maintaining, and/or repairing the detention basin/BMP(s) pursuant to the provisions of this Agreement.

The term "actual costs and expenses" shall be liberally construed in favor of the County, and shall include, but shall not be limited to, labor costs, tools and equipment costs, supply costs, and engineering and design costs, regardless of whether the County uses its own personnel, tools, equipment and supplies, etc. to correct the matter. In the event the County initiates any litigation or engages the services of legal counsel in order to enforce the provisions arising herein, the County shall be entitled to its damages and costs, including reasonable attorney's fees, regardless of whether the County contracts with outside legal counsel or utilizes in-house legal counsel for the same.

8. Contingencies of Land Use/Land Disturbance Approval: Developer/Owner's execution of this Agreement is a condition of land use/land disturbance approval.

The County shall have the right, in the sole exercise of its discretion, to approve or disapprove any documentation submitted to it under the conditions of this Paragraph, including but not limited to, any separate agreement or amendment, if applicable, identifying any specific maintenance responsibilities not addressed herein. The County's rejection of any documentation submitted hereunder shall mean that the appropriate condition of this Agreement has not been fulfilled.

9. Agreement Monitored by El Paso County Planning and Community Development Department and/or El Paso County Department of Public Works: Any and all actions and decisions to be made hereunder by the County shall be made by the Director of the El Paso County Planning and Community Development Department and/or the Director of the El Paso County Department of Public Works. Accordingly, any and all documents, submissions, plan approvals, inspections, etc. shall be submitted to and shall be made by the Director of the Planning and Community Development Department and/or the Director of the El Paso County Department of Public Works.

10. Indemnification and Hold Harmless: To the extent authorized by law, Developer/Owner agrees, for itself, its successors and assigns, that it will indemnify, defend, and hold the County harmless from any and all loss, costs, damage, injury, liability, claim, lien, demand, action and causes of action whatsoever, whether at law or in equity, arising from or related to its intentional or negligent acts, errors

or omissions or that of its agents, officers, servants, employees, invitees and licensees in the construction, operation, inspection, cleaning (including analyzing and disposing of any solid or hazardous wastes as defined by State and/or Federal environmental laws and regulations), maintenance, and repair of the detention basin/BMP(s), and such obligation arising under this Paragraph shall be joint and several. Nothing in this Paragraph shall be deemed to waive or otherwise limit the defense available to the County pursuant to the Colorado Governmental Immunity Act, Sections 24-10-101, *et seq.* C.R.S., or as otherwise provided by law.

11. Severability: In the event any Court of competent jurisdiction declares any part of this Agreement to be unenforceable, such declaration shall not affect the enforceability of the remaining parts of this Agreement.

12. Third Parties: This Agreement does not and shall not be deemed to confer upon or grant to any third party any right to claim damages or to bring any lawsuit, action or other proceeding against either the County, the Developer/Owner, or their respective successors and assigns, because of any breach hereof or because of any terms, covenants, agreements or conditions contained herein.

13. Solid Waste or Hazardous Materials: Should any refuse from the detention basin/BMP(s) be suspected or identified as solid waste or petroleum products, hazardous substances or hazardous materials (collectively referred to herein as “hazardous materials”), the Developer/Owner shall take all necessary and proper steps to characterize the solid waste or hazardous materials and properly dispose of it in accordance with applicable State and/or Federal environmental laws and regulations, including, but not limited to, the following: Solid Wastes Disposal Sites and Facilities Acts, §§ 30-20-100.5 – 30-20-119, C.R.S., Colorado Regulations Pertaining to Solid Waste Disposal Sites and Facilities, 6 C.C.R. 1007-2, *et seq.*, Solid Waste Disposal Act, 42 U.S.C. §§ 6901-6992k, and Federal Solid Waste Regulations 40 CFR Ch. I. The County shall not be responsible or liable for identifying, characterizing, cleaning up, or disposing of such solid waste or hazardous materials. Notwithstanding the previous sentence, should any refuse cleaned up and disposed of by the County be determined to be solid waste or hazardous materials, the Developer/Owner, but not the County, shall be responsible and liable as the owner, generator, and/or transporter of said solid waste or hazardous materials.

14. Applicable Law and Venue: The laws, rules, and regulations of the State of Colorado and El Paso County shall be applicable in the enforcement, interpretation, and execution of this Agreement, except that Federal law may be applicable regarding solid waste or hazardous materials. Venue shall be in the El Paso County District Court.

IN WITNESS WHEREOF, the Parties affix their signatures below.

Executed this _____ day of _____, 20____, by:

[Insert Company Name]

By: _____

[Insert name], [Insert title(President/Manager)]

The foregoing instrument was acknowledged before me this _____ day of _____, 20____, by [Insert name], [Insert title(President/Manager)], [Insert Company Name]

Witness my hand and official seal.

My commission expires: _____

Notary Public

Executed this _____ day of _____, 20____, by:

BOARD OF COUNTY COMMISSIONERS
OF EL PASO COUNTY, COLORADO

By: _____
Craig Dossey, Executive Director
Planning and Community Development Department
Authorized signatory pursuant to LDC

The foregoing instrument was acknowledged before me this _____ day of _____, 2018, by _____, Executive Director of El Paso County Planning and Community Development Department.

Witness my hand and official seal.

My commission expires: _____

Notary Public

Approved as to Content and Form:

Exhibit A

A PARCEL OF LAND IN THE SOUTHWEST QUARTER OF SECTION 6 AND THE NORTHWEST QUARTER OF SECTION 7, TOWNSHIP 15 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF SAID SECTION 7;

THENCE SOUTH 21°16'15" EAST, A DISTANCE OF 1,234.30 FEET TO THE SOUTHEAST CORNER OF THE SAID PARCEL WHICH IS ALSO THE INTERSECTION OF THE EAST RIGHT-OF-WAY OF GRINNELL BOULEVARD AS DENOTED UNDER RECEPTION NUMBER 09080408 AND THE NORTH RIGHT-OF-WAY OF GOLDFIELD DRIVE AS DENOTED UNDER RECEPTION NUMBER 207712585 BOTH WITH THE CLERK AND RECORDER OF EL PASO COUNTY AND THE **POINT OF BEGINNING**;

THENCE DEPARTING THE SAID NORTH RIGHT-OF-WAY OF GOLDFIELD DRIVE AND CONTINUING NORTHERLY ALONG THE SAID EAST RIGHT-OF-WAY OF GRINNELL BOULEVARD THE FOLLOWING SIX (6) COURSES:

1. NORTH 08°19'24" WEST, A DISTANCE OF 695.98 FEET TO A POINT OF CURVATURE;
2. ALONG THE ARC OF SAID CURVE TO THE RIGHT AN ARC LENGTH OF 190.45 FEET, SAID CURVE HAVING A RADIUS OF 890.00 FEET, A CENTRAL ANGLE OF 12°15'39", AND A CHORD WHICH BEARS NORTH 02°15'50" WEST, A CHORD DISTANCE OF 190.09 FEET TO A POINT OF NON-TANGENT;
3. ALONG THE ARC OF SAID CURVE TO THE RIGHT AN ARC LENGTH OF 209.47 FEET, SAID CURVE HAVING A RADIUS OF 856.07 FEET, A CENTRAL ANGLE OF 14°01'11", AND A CHORD WHICH BEARS NORTH 12°14'55" EAST, A CHORD DISTANCE OF 208.95 FEET;
4. NORTH 27°27'34" EAST, A DISTANCE OF 142.19 FEET TO A POINT OF CURVATURE;
5. ALONG THE ARC OF SAID CURVE TO THE RIGHT AN ARC LENGTH OF 143.22 FEET, SAID CURVE HAVING A RADIUS OF 844.07 FEET, A CENTRAL ANGLE OF 09°43'19", AND A CHORD WHICH BEARS NORTH 32°16'35" EAST, A CHORD DISTANCE OF 143.05 FEET TO A POINT OF NON-TANGENT;
6. ALONG THE ARC OF SAID CURVE TO THE RIGHT AN ARC LENGTH OF 122.20 FEET, SAID CURVE HAVING A RADIUS OF 110.01 FEET, A CENTRAL ANGLE OF 63°38'34", AND A CHORD WHICH BEARS NORTH 68°57'28" EAST, A CHORD DISTANCE OF 116.01 FEET TO A POINT OF NON TANGENT ON THE SOUTH RIGHT-OF-WAY OF POWERS BOULEVARD AS RECORDED UNDER BOOK 5307, PAGE 1472 WITH THE EL PASO CLERK AND RECORDER;

THENCE EASTERLY ALONG THE SAID SOUTH RIGHT-OF-WAY OF POWERS BOULEVARD ALONG THE ARC OF SAID CURVE TO THE LEFT AN ARC LENGTH OF 488.21 FEET, SAID CURVE HAVING A RADIUS OF 2105.00 FEET, A CENTRAL ANGLE OF 13°17'19", AND A CHORD WHICH BEARS SOUTH 60°44'03" EAST A CHORD DISTANCE OF 487.12 FEET TO THE INTERSECTION WITH THE WEST BOUNDARY OF LOT 1, PAINTED SKY AT WATERVIEW FILING NO.3 AS RECORDED UNDER RECEPTION NUMBER 21271398 WITH THE EL PASO CLERK AND RECORDER;

THENCE DEPARTING THE SAID SOUTH RIGHT-OF-WAY OF POWERS BOULEVARD AND CONTINUING SOUTHERLY ALONG THE SAID WEST PROPERTY LINE OF LOT 1 SOUTH 15°45'42" WEST, A DISTANCE OF 150.36 FEET TO THE INTERSECTION OF THE NORTH RIGHT-OF-WAY OF DANCING SUN WAY AND THE WEST RIGHT-OF-WAY OF CUDAHY DRIVE, BOTH RECORDED UNDER SAID RECEPTION NUMBER 212713198;

THENCE CONTINUING SOUTHERLY ALONG THE SAID WEST RIGHT-OF-WAY OF CUDAHY DRIVE THE FOLLOWING THREE (3) COURSES:

1. SOUTH 15°45'42" WEST, A DISTANCE OF 201.74 FEET TO A POINT OF CURVATURE;
2. ALONG THE SAID WEST RIGHT-OF-WAY OF CUDAHY DRIVE ALONG THE ARC OF SAID CURVE TO THE LEFT AN ARC LENGTH OF 610.02 FEET, SAID CURVE HAVING A RADIUS OF 925.00

FEET, A CENTRAL ANGLE OF 37°47'09", AND A CHORD WHICH BEARS SOUTH 03°10'04" EAST, A CHORD DISTANCE OF 599.03 FEET;

3. SOUTH 22°03'38" EAST, A DISTANCE OF 12.90 FEET TO A POINT OF CURVATURE ON THE SAID NORTH RIGHT-OF-WAY OF GOLDFIELD DRIVE;

THENCE WESTERLY ALONG THE SAID NORTH RIGHT-OF-WAY OF GOLDFIELD DRIVE THE FOLLOWING FIVE (5) COURSES:

1. ALONG THE ARC OF SAID CURVE TO THE LEFT AN ARC LENGTH OF 91.01 FEET, SAID CURVE HAVING A RADIUS OF 736.00 FEET, A CENTRAL ANGLE OF 07°05'04", AND A CHORD WHICH BEARS SOUTH 62°27'39" EAST, A CHORD DISTANCE OF 90.95 FEET;

2. SOUTH 58°55'08" WEST, A DISTANCE OF 114.02 FEET TO A POINT OF CURVATURE;

3. ALONG THE ARC OF SAID CURVE TO THE RIGHT AN ARC LENGTH OF 110.36 FEET, SAID CURVE HAVING A RADIUS OF 519.00 FEET, A CENTRAL ANGLE OF 12°11'02", AND A CHORD WHICH BEARS SOUTH 65°00'36" WEST, A CHORD DISTANCE OF 110.16 FEET;

4. SOUTH 83°24'45" WEST, A DISTANCE OF 105.09 FEET;

5. SOUTH 81°41'14" WEST, A DISTANCE OF 172.84 FEET TO THE **POINT OF BEGINNING**: SAID PARCEL CONTAINS 721,650 SQUARE FEET OR 16.567 ACRES, MORE OR LESS.

Exhibit B

(will be provided with future submittals)