

**STERLING RANCH DRAINAGE  
COST AND FEE ANALYSIS**

**Prepared For:**

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**January 18, 2021  
Project No. 25188.02  
SP-20-003**

**Prepared By:  
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Colorado Springs, CO 80919  
719-593-2593**



## STERLING RANCH DRAINAGE COST AND FEE ANALYSIS

### **ENGINEER'S STATEMENT:**

The attached drainage plan and report were prepared under my direction and supervision and are correct to the best of my knowledge and belief. Said drainage report has been prepared according to the criteria established by El Paso County for drainage reports and said report is in conformity with the master plan of the drainage basin. I accept responsibility for any liability caused by any negligent acts, errors, or omissions on my part in preparing this report.

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Mike Bramlett, Colorado P.E. 38861  
For and On Behalf of JR Engineering, LLC

### **DEVELOPER'S STATEMENT:**

I, the developer, have read and will comply with all of the requirements specified in this drainage report and plan.

Business Name: SR Land, LLC

By: \_\_\_\_\_

Title: \_\_\_\_\_

Address: 20 Boulder Crescent, Suite 200  
Colorado Springs, CO 80903

### **El Paso County:**

Filed in accordance with the requirements of the El Paso County Land Development Code, Drainage Criteria Manual, Volumes 1 and 2 and Engineering Criteria Manual, as amended.

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Jennifer Irvine, P.E.  
County Engineer/ ECM Administrator

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Date

Conditions:



**JR ENGINEERING**



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## **PURPOSE AND OBJECTIVE**

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The purpose of this report is to compare the anticipated cost of “Reimbursable” drainage improvements associated with the development of Sterling Ranch versus the estimate of Drainage Fees due.

This report updates previous studies prepared by M&S Consultants with current estimates for Cost and Fees due. This report summarizes the reimbursable improvements as identified in the Sand Creek Drainage Basin Planning Study (SCDBPS) related to Sterling Ranch, compares those improvements with improvements shown in the Sterling Ranch Master Development Drainage Plan (SRMDDP) and subsequent Final Drainage Reports. Cost Estimates of those reimbursable improvements are then compared against the estimate of Drainage Fees due.

This objective of this analysis is to assist El Paso County in determining if Drainage and Bridge Fees are due at time of platting or if the fees can be deferred given the amount of reimbursable improvements that will be completed by Sterling Ranch as it continues development.

## **SITE GENERAL LOCATION AND DESCRIPTION**

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### **GENERAL LOCATION**

Sterling Ranch is a 1444 acre parcel located in Sections 27, 28, 32, 33 & 34, Township 12 South, and Section 4, Township 13 South, Range 65 West of the 6th P.M., in El Paso County, Colorado.

### **DESCRIPTION OF PROPERTY**

The project is located east of Vollmer Road, west of the proposed extension of Banning Lewis Parkway. The southern boundary of Sterling Ranch is approximately 1 mile north of Woodmen Road.

A sketch plan for the development was approved in 2008 and envisions 1,181 acres of residential development, 56 acres of commercial, 57 acres of schools and 150 acres of parks and open space which includes Sand Creek which bisects the site from north to south. The Master Development Drainage Plan for the property was approved in 2018. Refer to the vicinity map in Appendix A for additional information.

## **STERLING RANCH STATUS OF DEVELOPMENT**

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To date, development has been focused on major infrastructure and residential development west of Sand Creek. Residential plats have been approved for;

- Branding Iron at Sterling Ranch Filing No. 1 – 51 Single Family Lots
- Branding Iron at Sterling Ranch Filing No. 2 – 66 Single Family Lots
- Homestead at Sterling Ranch Filing No. 1 – 72 Single Family Lots





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- Homestead at Sterling Ranch Filing No. 2 – 104 Single Family Lots

Residential Plats and Preliminary Plans are being reviewed for;

- Final Plat - Sterling Ranch Filing No. 2 – 49 Lots
- Preliminary Plan – Sterling Ranch Phase 2 – 212 Lots
- Preliminary Plan – Homestead North at Sterling Ranch – 147 Lots

A Preliminary Plan is being prepared for initial submittal to EPC for;

- Sterling Ranch Initial Phase East of Sand Creek 145 acres including 230 single family lots, 30 acres community park, 35 acre school site, Briargate Parkway (2,800 ft.) and Sterling Ranch Road (5,100 ft.) from their current terminus to their planned intersection.

Construction Drawings for Briargate Parkway have been approved from Vollmer to Dines. CD's are being reviewed for;

- Sand Creek Channel Improvements – channel improvements and bridges at Briargate and Sterling Ranch Road. – 2<sup>nd</sup> review underway.
- Marksheffel Road from Vollmer to Sterling Ranch Road – 3<sup>rd</sup> revisions underway.
- Sterling Ranch Road from Marksheffel to Dines – 3<sup>rd</sup> revision underway.
- Vollmer Road Improvements from south of Marksheffel to north boundary of Sterling Ranch Filing 2 – 3<sup>rd</sup> revision underway.

## REIMBURSABLE IMPROVEMENTS, SCDBPS vs. SRMDDP

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The “Sand Creek Drainage Basin Planning Study” (SCDBPS) was completed by Kiowa Engineering Corporation in January 1993 and revised March 1996. The Sand Creek Drainage Basin covers approximately 54 square miles and is divided into major sub-basins.

The “Master Development Drainage Plan” (SRMDDP) was completed by M&S Consultants in November 2018. The SRMDDP identified the existing and proposed runoff patterns and identified large scale drainage improvements needed to safely route stormwater to adequate outfall facilities.

Major differences between the SCDBPS and the approved MDDP are;

- Research Parkway has been relocated and renamed Sterling Ranch Road by the approved sketch plan for Sterling Ranch. Therefore, the bridges and culverts in the SCDBPS are no longer necessary and will be relocated to Sterling Ranch Road.
- A tributary crossing Banning Lewis Parkway (now Briargate Parkway) west of sand creek is no longer crossing Briargate Parkway, instead the flows from the tributary are being redirected to Sand Creek north of Briargate Parkway.

First bullet should be that urban development has been approved by the sketch plan and subsequent projects as mentioned above, as compared to rural assumed by the DBPS.





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- At the southeast corner of Sterling Ranch, Research Parkway has been relocated and now Banning Lewis Parkway will be constructed near this location.
- The SCDBPS calls out for grade control, channel bank linings, and check structures. the current EPC criteria and design for the sand creek channel will comprise of check structures, drops and channel bank linings protection.
- The SCDBPS does not consider all land and tributaries within Sterling Ranch. The SCDBPS limit of study stops short of the total length of the tributaries.
- The SCDBPS does not provide a reimbursable cost for the 100-year capacity outlet control structures for the existing ponds, nor does it allow for costs to improve and stabilize the existing embankments.
- The SCDBPS shows to improve the existing tributaries with rip rap lined channels. however, the approved MDDP shows to replace the tributaries with reinforced concrete pipe.
- The SCDBPS does not show historic flows crossing Vollmer Road from north to south in all locations as currently exists. **This will not apply unless the downstream ponds in the City have not been constructed.**
- The SCDBPS does not agree with current EPC standards, including but not limited to water quality. The approved MDDP requires full spectrum detention ponds in lieu of regional ponds for water quality and detention. Therefore, per current EPC criteria, full spectrum detention ponds can be considered 50% reimbursable, if they qualify per EPC requirements.

## SAND CREEK CHANNEL AND TRIBUTARY IMPROVEMENTS

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The following paragraphs in this section are quoted from the approved MDDP for Sterling Ranch, pages 25-28;

**restate as "include quotes"?**

SCDBPS Segment 159, & 164 (SCDBPS Pages 47-48, 50A) - Western Tributary to Sand Creek Channel

The existing swale is a western Tributary of the Sand Creek. The confluence of the tributary and the main stem exists within the Woodmen Heights master plan area, south of Sterling Ranch. These two existing channel segments are proposed in the SCDBPS as "Improved Riprap Channel, Bottom Width 25', Depth 3', Slope 1.2%, 3' Drops @ 270' intervals, Q100=600 cfs". The two segments are divided by "Proposed Research Parkway" (currently relocated, and known as Marksheffel Road & Sterling Ranch Road) The crossing is shown in the DPBS as; 2-8' High x 9' Wide Concrete Box Culverts. The MDDP does not propose a CBC crossing of the western tributary for Sterling Ranch Road at this location. The tributary will be crossed by Sterling Ranch Road using a ~66" RCP.

The SCDBPS does not continue the analysis northerly through the existing industrial property and does not account for flows from the west side of Vollmer Road. This MDDP, accounts for +300 acres of property on the west side of Vollmer Road that is tributary to Segment 159 & 164. The MDDP design uses RCP to convey the existing and developed storm water to Sand Creek, in lieu of Riprap channels. Furthermore, the MDDP proposes Pond W-5, at the southeast side of Segment 159, to provide detention and water quality prior to discharge in Sand Creek. (See Detention Section of this report for more information on Pond FSD6)





## STERLING RANCH DRAINAGE COST AND FEE ANALYSIS

and FSD?

*\*The facilities in this reach should be considered reimbursable since the proposed drainage improvements are to be constructed with RCP in lieu of an improved riprap channel. Also, the MDDP completes the tributary analysis after where the SCDBPS study terminated.*

### SCDBPS Segment 163, 187, 170 & 171 (SCDBPS Pages 49-53) - Mainstem Sand Creek Channel

The SCDBPS for Sand Creek channel within Sterling Ranch proposes check structures, select riprap linings and grade control structures to improve the existing channel. The DPBS also states; "Areas within the exiting floodplain or the low flow zone of the drainageway where riparian or wetland vegetation exists

shall be preserved in its existing cross section. Areas disturbed by the construction of drops, grade control, culverts, or channel bank linings shall be revegetated with native species." The SCDBPS proposes two crossings of major roadways within Sterling Ranch. The southerly one is at "Proposed Research Parkway" (currently relocated and known as Marksheffel Road & Research Parkway), which is now shown on the approved Sketch Plan for Sterling Ranch as "Sterling Ranch Road". The second major crossing is at "Proposed Banning-Lewis Parkway" (Which is now shown on the approved Sketch Plan for Sterling Ranch as "Briargate Parkway"). Per the SCDBPS the southerly crossing is proposed as; 4-10' wide x 8' High Concrete Box Culverts). The northerly crossing of Briargate Parkway is proposed

as; 4-10' wide x 8' High concrete box culverts. Both these proposed crossings are shown in the SCDBPS as reimbursable bridges. A second crossing of "Research Parkway is shown on the SCDBPS (6'H x 8'W CBC) east of Sand Creek along the southern boundary of Sterling Ranch (6'H x 8'W CBC). This MDDP does not propose a CBC crossing for the eastern tributary for Research Parkway at this location).

The MDDP proposes to construct the Sand Creek main stem channel improvements as suggested by the SCDBPS and per current EPC criteria. The MDDP also proposes to construct the CBC box culverts under Sterling Ranch Road and Briargate Parkway. The final design of the Sand Creek channel and crossings will determine the total number and size of structures, drops, box culverts, etc...Refer to the detailed drainage discussion for preliminary size of the two crossing based upon the MDDP hydrology

Calculations have been provided in the appendix. Additional Reimbursable improvements along the Sand Creek Channel include, as shown in the SCDBPS are; Pond Outlet Structures (Segment 170 & 163). These structures and all others along Sand Creek will be re-analyzed in the final design stage.

*\*The proposed channel improvements are considered reimbursable in the SCDBPS, however the final design and current EPC criteria will deviate from the proposed improvements in the SCDBPS. It is generally assumed that the proposed improvement costs will exceed the SCDBPS costs.*

### SCDBPS Segment 186 & 169 (SCDBPS Pages 51-52) - Western Tributary to Sand Creek Channel

The existing swale is a western Tributary of the Sand Creek. The confluence of the tributary and the main stem exists within the Sterling Ranch master plan area. These two existing channel segments are proposed in the SCDBPS as "Improved Riprap Channel, Bottom Width 20', Depth 3', Slope 1.3%, 3' Drops @ 450' intervals, Q100=500 cfs" (Segment 186) and Improved Riprap Channel, Bottom Width 20', Depth 2', Slope 1.8%, 3' Drops, Q100=325 cfs" (Segment 169). The two Segments are divided by "Proposed Banning-Lewis Parkway" (currently known as Briargate Parkway). The crossing is shown in the DPBS as a; 6'High x 10' Wide Concrete Box Culverts. The MDDP does not propose a CBC crossing of Briargate Parkway at this location. The SCDBPS also shows a 60" CMP culvert across Vollmer Road at the terminus of Segment 169. The SCDBPS does





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not continue the analysis northerly across Vollmer Road. This MDDP, accounts for +300 acres of property on the west side of Vollmer Road that is tributary to Segment 186 & 169. The MDDP design uses RCP to convey the existing and developed storm water to Sand Creek, in lieu of riprap channels. The flows north of Briargate Parkway (Segment 169) will be diverted along the northerly right-of-way of Briargate Parkway to Sand Creek. The flows south of Briargate Parkway (Segment 186) will be conveyed to Sand Creek through the proposed development. The MDDP proposes to install a 60" RCP culvert under Vollmer Road along with Headwalls and Wing Walls. The construction of these improvements will occur with the widening of Vollmer Road and the construction of the adjacent development at Sterling Ranch. Construction drawings for RCP to replace Segment 186 were approved as a part of Sterling Ranch Filing No. 1, approved, January, 2017.

*\* The facilities in this reach should be considered reimbursable since the proposed drainage improvements are to be constructed with RCP in lieu of an improved riprap channel. Also, the MDDP completes the tributary analysis after where the SCDBPS study terminated west of Vollmer Road.*

### SCDBPS Segment 92 (SCDBPS Page EF-34) - East Fork Tributary to Sand Creek Channel

The existing swale is a part of the Eastern Tributary of Sand Creek. The confluence of the tributary and the main stem exists several miles south of the Sterling Ranch master plan area. The existing channel segments are proposed in the SCDBPS as "Improved Riprap Channel, Bottom Width 15', Depth 3', select bank linings. (No other data was given) The Segment terminates at the southern boundary of Sterling Ranch at "Proposed Research Parkway", and continues southerly as Segment 84. These two Segments are divided by "Proposed Research Parkway" (currently shown on the approved Sketch Plan for Sterling Ranch as Banning-Lewis Parkway) The crossing is shown in the DPBS as a; 6'High x 10' Wide Concrete Box Culverts. The MDDP does not propose a CBC crossing of Banning-Lewis Parkway at this location.

The SCDBPS (Segment 92) does not continue the analysis more than a few thousand feet north of the south boundary of Sterling Ranch. This MDDP, accounts for +1,000 acres of property north of the SCDBPS studied area. The MDDP design uses RCP to convey the existing and developed storm water to the Eastern Tributary of Sand Creek, in lieu of Riprap channels. Furthermore, the MDDP proposes Pond FSD-E7, at the southeast corner of Sterling Ranch, to provide detention and water quality prior to discharge in Eastern Tributary Channel of Sand Creek. (See Detention Section of this report for more information on Pond FSDE6).

*\* The facilities in this reach should be considered reimbursable since the proposed drainage improvements are to be constructed with RCP in lieu of an improved riprap channel. Also, the MDDP completes the tributary analysis after where the SCDBPS study terminated.*

— and FSD?

### **PROPOSED MDDP VARIATIONS TO SCDBPS FOR REIMBURSEMENTS**

The MDDP identifies regional improvements for Sterling Ranch and for existing land outside the limits of Sterling Ranch to the west, north & east. The SCDBPS limited study did not address these areas. Therefore, the MDDP requests that these regional public infrastructure components be reimbursable.





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### Sand Creek Regional Pond W3 north of Sterling Ranch Road

(See Detention Pond Section of this report for more information regarding detention ponds). The purpose of this sub-regional on-line detention facility is to control storm water events to discharge at historic levels downstream of Sterling Ranch. Therefore, the storm water flows exiting Sterling Ranch and conveyed into the Woodmen Heights development (City of Colorado Springs) to the south are consistent. The MDDP requests that the construction of this online sub-regional pond is reimbursable.

### FSD Ponds

There will be multiple Full Spectrum Detention and Water Quality Ponds (FSD Ponds) located within the Sterling Ranch development. (One off-site pond is proposed west of Vollmer Road and north of Marksheffel Road) These ponds will control both existing off-site and on-site developed storm water. The MDDP requests that the Sterling Ranch FSD Ponds be reimbursable. These ponds will also control the discharge of storm water across the Sterling Ranch development which will reduce the size and cost of public storm pipe between the ponds and discharge into Sand Creek or the Eastern Tributary of Sand Creek.

### Additional Culvert crossings of Vollmer Road

Additional culverts across Vollmer Road are required to convey the storm water from the west side to the east side. The existing Vollmer Road and roadside swales are inadequate to convey the 100-year storm. The culverts and improvements to Vollmer Road will drastically improve the current storm water public infrastructure. The culverts, FSD's, and downstream storm water pipe to convey these flows to Sand Creek will be requested to be reimbursable.

### Un-named easterly tributary for the Sand Creek

A second crossing of "Research Parkway is shown on the SCDBPS east of Sand Creek along the southern boundary of Sterling Ranch (6'H x 8'W CBC). The MDDP does not propose a CBC crossing for the eastern tributary for Research Parkway at this location, because Research Parkway is no longer proposed along the southern boundary of Sterling Ranch. However, the tributary for this crossing was un-studied in the SCDBPS. The MDDP for Sterling proposed storm sewer pipe and open channel to convey the developed flows into the Sand Creek Channel. The existing flows rates will be reduced but remain present for the downstream properties. See Existing Basin section of this report. The MDDP request that this Un-named tributary be considered reimbursable.

provide key number  
or symbol on map

## **CHANNEL IMPROVEMENTS**

Per the Sand Creek SCDBPS, Sand Creek and connected tributaries in the area of the site will require improvements. The east and west tributary reaches within the site boundary will not require improvements because the tributaries will no longer be present, as development in the areas will eliminate them, and replace them with full spectrum detentions ponds and storm sewer systems which will collect and control the discharge into Sand Creek. The western tributary reach within the site boundary will require some improvements in some areas but will also be eliminated by development and replaced with large diameter storm sewer and Pond FSD6 (Pond W5 as an example), to control the discharge into Sand Creek. However, Sand Creek itself will continue to be routed through the development.

In the existing condition the main branch of Sand Creek Channel measures ~9,850 linear feet. The existing channel bed is heavily vegetated, with native grasses and slopes typically ranging from 0.50% - 4.0%, with an average slope of 1.6%. The existing side slopes typically range from 1:1 to





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10:1, and are composed of native grasses and exposed sand stone. The channel contains 3 existing stock ponds.

Per the SCDBPS, Reach SC-9, the recommended improvements to the channel include selective rip rap linings, grade control check structures, and drop structure improvements that are anticipated to stabilize the channel to prevent further degradation, scour and meandering. Offline Full Spectrum Detention will reduce peak flows within the channel thereby added to the integrity of the Sand Creek Channel. With stabilization and improvements to the outlet work and overflow routing paths, the existing stock ponds are proposed to be preserved as amenities for the adjacent development.

The concept design of the channel will initially be based upon the FEMA flow rate of 2,600 cfs. This is a conservative flow to allow for planning of trails and developed lots. The calculated max flow as determined with this report is ~ 2,200 cfs. This flow number will be used for the analysis of a CLOMR/LOMR for the design of the channel improvements and submittal to FEMA. Coordination with FEMA and the Army Corps of Engineers will occur prior to the submittal of the design drawings for the channel improvements. The FEMA flow rates, SCDBPS flow rates and those calculated by this analysis are provided in the appendix.

HEC-RAS input and output files that model the developed peak 100 year flows across the existing channel (LOMR X Sections) has been provided in the appendix as a cursory evaluation of some of the short comings of the existing channel that will need to be address with the future improvements. Based upon the model output velocities and shear in the 100 year developed condition range from 3.9 fps to 27.0 fps and 0.2 lbs/sf to 14.9 lbs/sf with depths between 0.7' and 8.0' in depth. The proposed channel improvements as shown in the SCDBPS will function to arrest erosion caused by the developed runoff while minimizing impacts to the existing vegetation. The above data is for information purposes only, the final design will provide actual data for the channel design.

Upstream and downstream channel improvements are proposed to be similar to what was anticipated in the SCDBPS. Check structures and rip-rap lining in some locations shall be installed to handle the increase in volume of flows from the full spectrum detention ponds. In the final design stage for the Sand Creek Channel, the channel will be analyzed to verify the amount of improvements necessary. The existing culverts under Mustang Place are currently inadequate. They are recommended by the SCDBPS to be enlarged to 6'Hx8'W CBC. These culverts will be analyzed at the time of final design to determine the correct size in order to accommodate the developed flows, which will be discharged from Sterling Ranch less than historic.

### **REGIONAL DETENTION FACILITIES (MDDP PAGE 29-30)**

A single regional online, onsite detention facility (Pond W3), upstream of Sterling Ranch Road (at DP68), is recommended to aid in the controlling of the total runoff leaving Sterling Ranch. Although the development of Sterling Ranch will require the implementation and construction of several FSD ponds to mitigate increase runoff and provide WQCV, the total amount of runoff reaching the Sand Creek Channel is greater than historic, due to the inter-basin transfer of drainage from East Fork of Sand Creek Watershed to Sand Creek Watershed. The roadway embankment, proximity to the southern boundary and the need for a culvert crossing at this location make the location practical. A separate design report for this facility will be necessary to verify the volumetric sizing requirements.

Prior to this analysis an online regional facility was also recommended within Sterling Ranch (on the Sand Creek Channel) upstream of Briargate Parkway at DP 69. The planned implementation of





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offline full spectrum detention for the developable ground upgradient of this location will alleviate the need for this facility. The culvert crossing at this location will be sized in a manner that allows for the free discharge of flow through the structure.

*\*For the following Ponds (W3, W4 & E7) The construction of the Regional Detention Pond should be considered reimbursable due to the regional nature of the facility controlling the developed drainage to historic levels at the City / EPC boundary. The purpose to control the flow to a known number is to be consistent with downstream facilities and previous drainage analysis.*

### POND W3

It should be noted that after the initial run of the Proposed Condition Model, it was determined that the peak developed 100-year flow reaching the subject reach were higher than the 100-year existing condition flow rates and higher than the 100-year peak flows anticipated by the Wilson Study. To reduce the runoff, a detention facility has been added to the model upstream of Sterling Ranch Road within the Sterling Ranch Development. The incorporation of this facility when coupled with multiple Full Spectrum Detention facilities will allow the development upstream of the City/County boundary to release developed discharge at a rate this is at or below the current existing flow rates. It should be noted that the location of the facility was previously planned as a regional pond /park site in the Sterling Ranch 2010 MDDP (Draft) and Sketch Plan. Stage storage and stage volume worksheets are included in the attachments for this pond. It is anticipated that this facility can be designed without having to be jurisdiction in nature. Based upon preliminary modeling the pond will reduce 100 year peak runoff rates from 2204 to less than 1400 cfs. The pond will detain a maximum of 78 acre feet at a depth of around 10 feet. The pond embankment containing the 100 year event will be separate from Sterling Ranch Road. An exhibit detailing the concept design is provided in the appendix of this report. It is important to note that this pond will allow for the free discharge of the 2 year storm and is not intended to provide water quality and will meet the state statute regarding the allowable release times.

Design point 61 is located on the maps between Sand Creek Regional Detention Pond 3 and south boundary of Sterling Ranch just upstream of Mustang Road. Future development in the watershed should attempt to mimic the flow rates provided within the report with special consideration given to the flow at the City/County boundary line at Design Point 61. It should be noted that the hydrologic calculations contained in this memorandum are intended to aid in the design of the crossing structure at Marksheffel Road north of City Pond 3 (DP 60A) and as a planning resource to limit the amount of developed runoff discharged into the Sand Creek Channel. This report is not intended to be utilized for final design of stormwater storage facilities and infrastructure. It should also be noted, that this report did not include City Pond 3 in any of its models and was only used as a comparison point.

### POND W4

Pond W4 is planned for the northwest corner of Marksheffel Road and Vollmer Road. The purpose of the pond is to provide some detention of stormwater flows for the land on the west side of Vollmer Road. Currently, no public stormwater improvements exist in the developments west of Vollmer Road. Therefore, Pond W4 will collect the flows on the west side, and convey to Sand Creek. These flows are discharged directly into sand creek, bypassing Pond W5. This facility does not provide water quality treatment for the existing developments. Pond W4 is sized to maximize the area located in a tract of Land dedicated by the Final Plat for Highland Park Filing No. 2 - Tract G. The detention area could potentially be enlarged in the future if more land is purchased, and available to enlarge the pond. The design of Pond W4 will accommodate the extension of Marksheffel Road / Research Parkway and will be furthered in subsequent drainage reports. The construction of Pond W4

— but it needs to for the Vollmer Road improvements





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facilitates "solves" an existing drainage problem in the existing right-of-way of Vollmer Road. Pond W4 and its downstream facilities will be requested to be a reimbursable facility.

*\*The construction of this pond solves existing EPC drainage deficiencies on the west side of Vollmer Road. Therefore this should be considered a reimbursable facility as approved by the City/EPC drainage board.*

### POND E7

Pond E7 will be required to at the southeast corner of Sterling Ranch to detain developed flows and release at or less than Historic. The pond is necessary and should be coordinated with downstream improvements accompanying the extension of Banning Lewis Parkway and property currently under the ownership of Norwood Development.

and the existing industrial  
area north of SR Filing 2?

### Pond W5

Pond W5 is located at the most southern end of Sterling Ranch west of Sand Creek. Pond W5 has a combined upstream developed runoff of Q5=217.4 cfs and Q100=517.9 cfs. The proposed Detention Pond functions to provide full spectrum detention and water quality for runoff calculated onsite. The pond is designed to treat approx 175.6 acres, and provide 2.97 ac-ft of water quality storage and 17.37 ac-ft of 100-year storage. The forebay, trickle channel micropool, outlet structure and pipe have been designed per the UDFCD manual and per the Detention Design-UD-Detention v3.05 workbook. See Sand Creek Channel Study-Future Hydrologic Conditions Map in the appendix. Impacts from the outfall into Sand Creek will be addressed in the revised TM-SCCS.

## DBPS IMPROVEMENTS ESTIMATED COST

The DPBS improvements estimated cost (2020 dollars) is summarized below;

### SAND CREEK DBPS COSTS RELATIVE TO STERLING RANCH - SUMMARY

DESCRIPTION OF DRAINAGE COSTS	DBPS COST (2020 Dollars)
1) West Side Tributarys 169, 186, 159, 164 Drainageway Conveyance Cost Estimate (pg. 73 DBPS)	\$4,488,227
2) Roadway Culvert Crossing Cost Estimate (pg. 77 DBPS)	\$210,478
3) East Side Sand Creek Tributary Drainageway Conveyance Cost Estimate (pg. 64 DBPS)	\$1,815,069
4) Sand Creek Mainstem Drainageway Conveyance Cost Estimate (pg. 64 DBPS)	\$1,651,767
5) Existing Pond Outlet Structures and Embankment Repairs Cost Estimate (pg. 50, 52, 53 DBPS)	\$0
<b>SUB-TOTAL DRAINAGE COSTS</b>	<b>\$8,165,540</b>
<b>DESCRIPTION OF BRIDGE COSTS</b>	
163 Research Pkwy - 4- 8'H x 10'W CBC	\$377,408
167 Ban'g Lewis Pkwy - 4- 8'H x 10'W CBC	\$377,408
<b>SUB-TOTAL BRIDGE COSTS</b>	<b>\$754,817</b>

Additional detail regarding the cost estimate can be found in Appendix A.

verify dollar amounts



## ESTIMATED COST OF REIMBURSABLE IMPROVEMENTS

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The Estimated Cost of Sterling Ranch Improvements (2020 dollars) is summarized below;

### ESTIMATED CONSTRUCTION COST OPINION - SUMMARY

DRAINAGE FEE IMPROVEMENTS	REIMBURSABLE COST
Sand Creek Channel	\$5,857,333
Seg 186 Tributary Replacement w/ Storm	\$294,500
Seg 169 Tributary Replacement w/ Storm	\$450,000
Seg 164 Tributary Replacement w/ Storm	\$633,866
Seg 159 Tributary Replacement w/ Storm	\$1,315,328
Seg 92 Tributary Replacement w/ Storm	\$1,815,069
Unnamed Tributary East of Sand Creek Diversior	<u>\$1,083,250</u>
SUB-TOTAL DRAINAGE FEE IMPROVEMENTS	\$11,449,346
 <u>BRIDGE FEE IMPROVEMENTS</u>	
BG PKWY and SR RD.	<u>\$2,635,282</u>
SUB-TOTAL BRIDGE FEE IMPROVEMENTS	\$2,635,282
TOTAL ESTIMATED REIMBURSABLE COST	\$14,084,628
NOTES	
1) See detail cost sheets that support these values	

Segment 186 and Segment 159 costs include additional Vollmer crossings and pipe not in DBPS. Items not in DBPS but in MDDP include Pond W-5, 4 & 3, Outlet control for existing stock pond and piping to divert the un-named easterly tributary to the Sand Creek mainstem. Additional detail regarding the cost estimate can be found in Appendix B.

## STERLING RANCH DRAINAGE FEE ESTIMATE

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The amount of Drainage and Bridge Fees associated with Sterling Ranch is summarized below;

	TOTAL DRAINAGE FEE ESTIMATE	TOTAL BRIDGE FEE ESTIMATE
Total Sterling Ranch Development	\$12,799,760	\$5,235,439

Additional detail regarding the cost estimate can be found in Appendix C.





## SUMMARY

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Per the analysis above and tables in the Appendix, the cost of the MDDP reimbursable improvements exceeds the improvement costs per the SCDBPS.

DBPS Drainage Improvement Estimate (2020 \$'s)	= \$ 8,165,540
Sterling Ranch Drainage Improvement Estimate (2020 \$'s)	= \$ 11,449,346

DBPS Bridge Improvement Estimate (2020 \$'s)	= \$ 754,817
Sterling Ranch Bridge Improvement Estimate (2020 \$'s)	= \$ 2,635,282

Based on the above, it is JR Engineering's recommendation that El Paso County allow Sterling Ranch to defer drainage and bridge fees at the time of platting for the foreseeable future.

Per the analysis above and tables in the Appendix, the total amount of Drainage and Bridge Fee's estimated to be due from Sterling Ranch development is;

Sterling Ranch Full Development Drainage Fee Estimate	= \$ 12,530,414
Sterling Ranch Full Development Bridge Fee Estimate	= \$ 5,235,439

Based on the above, it is JR Engineering's recommendation that each subsequent Sterling Ranch Final Drainage Report for plats within Sterling Ranch analyze the amount of deferred Drainage and Bridge fee's and once that total value reaches \$5,000,000 dollars in total deferred fees, a refresh of this analysis occur.

as the necessary replacement DBPS improvements are approved and financially guaranteed with each subdivision

The proposal to use a natural channel design with district maintenance may not allow for deferral of fees.



## REFERENCES

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1. "Sand Creek Drainage Basin Planning Study", prepared Kiowa Engineering Corporation, January 1993, revised March 1996.
  2. "Master Development Drainage Plan for Sterling Ranch", (MMDP) prepared by M&S Civil Consultants, Inc., approved November 18, 2018.
  3. "Master Development Drainage Report for Sterling Ranch Filing Nos. 1&2 and Final Drainage Report for Sterling Ranch Filing No. 1", prepared by M&S Civil Consultants, Inc., approved January 30, 2018.
  4. "Final Drainage Report for Branding Iron at Sterling Ranch Filing No 1", prepared by M&S Civil Consultants, Inc., approved November 21, 2018.
  5. "Final Drainage Report for Branding Iron at Sterling Ranch Filing No 2", prepared by M&S Civil Consultants, Inc., approved June 23, 2020.
  6. "Final Drainage Report for Homestead at Sterling Ranch Filing No 1", prepared by M&S Civil Consultants, Inc., dated November 21, 2018.
  7. "Final Drainage Report for Homestead at Sterling Ranch Filing No 2", prepared by M&S Civil Consultants, Inc., approved October, 2020.
  8. "Final Bridge and Channel Design Report CDR 20-204", prepared by Kiowa Engineering Corporation, October, 2020 (not yet approved)
  9. "Sterling Ranch Filing 2 Final Drainage Report", prepared by JR Engineering, dated September 2020 (not yet approved)
-



**Appendix A**  
**Sand Creek DBPS Costs for Sterling Ranch**





see separate redlines

## SAND CREEK DRAINAGE BASIN PLANNING STUDY COSTS RELATIVE TO STERLING RANCH

Bring DBPS Cost to 2020					
	1996 DBPS	2020 FEES	DIFFERENCE	% INCREASE	X MULTIPLIER
DRAINAGE FEE	\$4,895	\$19,698	\$14,803	302%	3.02
BRIDGE FEE	\$323	\$8,057	\$7,734	2394%	23.94

### CONSTRUCTION COST OPINION PER DBPS (For Information only)

#### 1) West Side Tributary Drainageway Conveyance Cost Estimate (pg. 73 DBPS)

\$841,200?

DBPS SEG/DESCRIPTION	UNIT	QUANTITY	UNIT COST	GRADE CONTROLS	LENGTH	DBPS REIMBURSABLE COST	X MULTIPLIER	2020 COST
SEGMENT 169 100 YR-RIPRAP	LF	650	\$175	1	40	\$120,950	3.02	\$365,765.65
SEGMENT 186 100 YR-RIPRAP	LF	2250	\$200	5	200	\$486,000	3.02	\$1,469,715.63
SEGMENT 159 100 YR-RIPRAP	LF	2100	\$200	14	840	\$571,200	3.02	\$1,727,369.48
SEGMENT 164 100 YR-RIPRAP	LF	1350	\$200	5	200	\$306,000	3.02	\$925,376.51
SUB-TOTAL (DBPS Dollars)						\$1,484,150		
* (2020 Dollars)								\$4,488,227.26

#### 2) Roadway Culvert Crossing Cost Estimate (pg. 77 DBPS)

76-

DBPS SEG/DESCRIPTION	UNIT	QUANTITY	UNIT COST	SEE FOOTNOTES	DBPS REIMBURSABLE COST	X MULTIPLIER	2020 COST
Vollmer Road - 60" CMP	LF	80	\$120	*2, 4, 5, 8	\$9,600	3.02	\$29,031.42
Ban'g Lewis Pkwy - 6'H x 10'W CBC	LF	120	\$390	*11	\$46,800	3.02	\$141,528.17
Research Pkwy - 6'H x 8'W CBC	LF	40	\$330		\$13,200	3.02	\$39,918.20
SUB-TOTAL (DBPS Dollars)						\$56,400	
* (2020 Dollars)							\$210,477.79

#### 3) East Side Sand Creek Tributary Drainageway Conveyance Cost Estimate (pg. 64 DBPS)

DBPS SEG/DESCRIPTION	UNIT	QUANTITY	UNIT COST	GRADE CONTROLS	LENGTH	DBPS REIMBURSABLE COST	X MULTIPLIER	2020 COST
SEGMENT 92 Selective Linings (1 side)	LF	5400	\$93	7	280	\$600,200	3.02	\$1,815,068.56
SUB-TOTAL (DBPS Dollars)						\$600,200		
* (2020 Dollars)								\$1,815,068.56

66?

I would add a note on this page that you believe this should have been included in the DBPS reimbursable costs



# SAND CREEK DRAINAGE BASIN PLANNING STUDY COSTS RELATIVE TO STERLING RANCH

## 4) Sand Creek Mainstem Drainageway Conveyance Cost Estimate (pg. 64 DBPS)

DBPS SEG/DESCRIPTION	UNIT	QUANTITY	UNIT COST	GRADE CONTROLS	LENGTH	DBPS REIMBURSABLE COST	X MULTIPLIER	2020 COST
163 Selective Linings (1 side)	LF	2600	\$127	15	1200	\$546,200	3.02	\$1,651,766.82
187 Selective Linings (1 side)	LF	0	\$0	2	160	\$28,800	3.02	\$87,094.26
170 Selective Linings (1 side)	LF	0	\$0	3	240	\$43,200	3.02	\$130,641.39
SUB-TOTAL (DBPS Dollars)						\$618,200		
* (2020 Dollars)								\$1,651,766.82

## 5) Existing Pond Outlet Structures and Embankment Repairs Cost Estimate (pg. 50, 52, 53 DBPS)

DBPS SEG/DESCRIPTION	UNIT	QUANTITY	UNIT COST	SEE FOOTNOTES	PROPOSED REIMBURSABLE COST	DBPS REIMBURSABLE COST	X MULTIPLIER	2020 COST
SEG 170 - Pond Outlet	EA	1	\$20,000	*3, 10	\$20,000	\$0	3.02	\$0.00
Embankment	EA	1	\$35,000	*3, 10	\$35,000	\$0	3.02	\$0.00
SEG 170 - Pond Outlet	EA	1	\$20,000	*3, 10	\$20,000	\$0	3.02	\$0.00
Embankment	EA	1	\$35,000	*3, 10	\$35,000	\$0	3.02	\$0.00
SEG 163 - Pond Outlet	EA	1	\$20,000	*3, 10	\$20,000	\$0	3.02	\$0.00
Embankment	EA	1	\$35,000	*3, 10	\$35,000	\$0	3.02	\$0.00
SUB-TOTAL (DBPS Dollars)						\$0		
* (2020 Dollars)						\$165,000		\$0.00

TOTAL REIMBURSABLE DRAINAGE COSTS PER DBPS (2020 Dollars)

\$8,165,540.44

ESTIMATED ACTUAL COSTS FOR REIMBURSABLE DRAINAGE FACILITIES (See Estimated Construction Cost Opinion)

\$10,410,132.00

\* DIFFERENCE

\$2,244,591.56



## SAND CREEK DRAINAGE BASIN PLANNING STUDY COSTS RELATIVE TO STERLING RANCH

### 6) Sand Creek Bridge Crossing Cost Estimate (pg. 83 DBPS)

DBPS SEG/DESCRIPTION	UNIT	QUANTITY	UNIT COST	DBPS REIMBURSABLE COST	X MULTIPLIER	2020 COST
163 Research Pkwy - 4- 8'H x 10'W CBC	LF	80	\$1,560	\$124,800	3.02	\$377,408.46
167 Ban'g Lewis Pkwy - 4- 8'H x 10'W CBC	LF	80	\$1,560	\$124,800	3.02	\$377,408.46
SUB-TOTAL (DBPS Dollars)				\$249,600		
* (2020 Dollars)						\$754,816.92

TOTAL REIMBURSABLE BRIDGE COSTS PER DBPS (2020 Dollars)

\$754,816.92

ESTIMATED ACTUAL COSTS FOR REIMBURSABLE BRIDGE FACILITIES (See Estimated Construction Cost Opinion)

\$2,635,282.00

\* DIFFERENCE

\$1,880,465.08

#### \*Cost Difference Summary

1. The Sand Creek DBPS assumed a lower density of development for the proposed Sterling Ranch area.
2. Vollmer Road culverts are proposed as CMP in the SCDBPS, however RCP is the standard and therefore should be reimbursable.
3. No Costs for existing pond outlet structures or embankment repairs were given in the SCDBPS.
4. The Sand Creek bridge estimate is on 80 LF, however the Briargate ROW is 160 ft in width and including embankment the actual length will exceed 200 feet.
5. The Sand Creek roadway culvert estimate assumes CMP pipe, however RCP pipe is now the standard.
6. The Sand Creek drainageway estimate assumes grade control structures only, however drop structures will replace some of the check structures.
7. The Sand Creek drainageway assumes design for some 10-yr facilities, however 100-yr facilities will be constructed throughout the development.
8. The Sand Creek DBPS does not consider Vollmer Road as an improved arterial road, however, Vollmer Road drainage improvements will be necessary.
9. The Sand Creek DBPS (page 50) 100-yr outlet control structure for the existing pond was not included in the cost estimate for the Sand Creek improvements., however for the existing embankment to remain, a structure will be necessary.
10. Item Not included in Sand Creek DBPS Cost Estimate - But it should be included.
11. Banning Lewis Parkway actual costs will far exceed Sand Creek DBPS budget.



**Appendix B**  
**Sterling Ranch Estimated Reimbursable Cost Estimate**





## ESTIMATED CONSTRUCTION COST OPINION - SUMMARY

DRAINAGE FEE IMPROVEMENTS	REIMBURSABLE COST
Sand Creek Channel	\$5,857,333
Seg 186 Tributary Replacement w/ Storm	\$294,500
Seg 169 Tributary Replacement w/ Storm	\$450,000
Seg 164 Tributary Replacement w/ Storm	\$633,866
Seg 159 Tributary Replacement w/ Storm	\$1,315,328
Seg 92 Tributary Replacement w/ Storm	\$1,815,069
Unnamed Tributary East of Sand Creek Diversion	<u>\$1,083,250</u>
SUB-TOTAL DRAINAGE FEE IMPROVEMENTS	\$11,449,346
 <u>BRIDGE FEE IMPROVEMENTS</u>	
BG PKWY and SR RD.	<u>\$2,635,282</u>
SUB-TOTAL BRIDGE FEE IMPROVEMENTS	\$2,635,282
 TOTAL ESTIMATED REIMBURSABLE COST	 \$14,084,628

NOTES
1) See detail cost sheets that support these values



## ESTIMATED CONSTRUCTION COST OPINION - MAINSTEM SAND CREEK

### 1) Grading and Erosion Control

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST	REIMBURSABLE COST
Earthwork	CY	45000	\$3.50	\$157,500	\$157,500
Permanent Seeding	AC	22	\$800	\$17,600	\$17,600
Mulching	AC	11	\$750	\$8,250	\$8,250
Permanent Erosion Control Blanket	SY	6837	\$6	\$41,022	\$41,022
Temp. Erosion Control BMPS	Varies			\$123,293	\$123,293
Maintenance of Const. BMPs (35%)				\$43,153	\$43,153
SUB-TOTAL Grading and Erosion Control					\$390,818

### 2) Channel Improvements

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST	REIMBURSABLE COST
Gravel Maintenance Trail	CY	1709	\$15	\$25,635	\$25,635
MSE Walls	SF	250	\$35	\$8,750	\$8,750
Riprap for Channel Benches	CY	23932	\$80	\$1,914,560	\$1,914,560
Grouted Riprap Drops	CY	24540	\$95	\$2,331,300	\$2,331,300
Geotextile TRM	SY	50180	\$6	\$301,080	\$301,080
48" Grouted boulders	CY	1240	\$120	\$148,800	\$148,800
Sheet Piling	SF	18960	\$38	\$720,480	\$720,480
Misc (See FAE Estimate)	Varies			\$15,910	\$15,910
SUB-TOTAL Channel Improvements					\$5,466,515

TOTAL MAINSTEM SAND CREEK REIMBURSABLE COST	\$5,857,333
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### NOTES

1) Quantities and Unit Costs from Channel Improvement Plans FAE, 2nd EPC submittal not yet approved



## ESTIMATED CONSTRUCTION COST OPINION - TRIBUTARIES TO SAND CREEK

### 1) Drainage Improvements to Replace SCDBPS Tributary Segment 186 (South of Briargate Pkwy, West of Vollmer)

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST	REIMBURSABLE COST
<u>PIPE</u>					
24" RCP	LF	612	\$50	\$30,600	\$0
30" RCP	LF	1353	\$65	\$87,945	\$0
36" RCP	LF		\$75	\$0	\$0
42" RCP	LF		\$85	\$0	\$0
48" RCP	LF		\$150	\$0	\$0
54" RCP	LF	1130	\$200	\$226,000	\$226,000
60" RCP	LF	214	\$250	\$53,500	<u>\$53,500</u>
SUB-TOTAL PIPE					\$279,500
<u>HEADWALLS AND WINGWALLS</u>					
60" HW / WW	EA	1	\$15,000	\$15,000	<u>\$15,000</u>
SUB-TOTAL HW AND WW					\$15,000
TOTAL SEGMENT 186 REPLACEMENT REIMBURSABLE COST					\$294,500

#### NOTES

1) Quantities and Costs from Sterling Ranch F1 FDR, approved



## ESTIMATED CONSTRUCTION COST OPINION - TRIBUTARIES TO SAND CREEK

### 2) Drainage Improvements to Replace SCDBPS Tributary Segment 169 (North of Briargate Pkwy, West of Vollmer)

Segment 169 (north of Briargate Parkway) was redirected with a temporary swale parallel to BGP.

Once Homestead North constructs the temporary swale will be removed and flows will piped north of BGP to Sand Creek

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST	REIMBURSABLE COST
<u>PIPE</u>					
54" RCP	LF	2000	\$200	\$400,000	<u>\$400,000</u>
60" RCP	LF	80	\$250	\$20,000	<u>\$20,000</u>
SUB-TOTAL PIPE					\$420,000
<u>HEADWALLS AND WINGWALLS</u>					
60" HW / WW	EA	2	\$15,000	\$30,000	<u>\$30,000</u>
SUB-TOTAL HW AND WW					\$30,000
TOTAL SEGMENT 169 REPLACEMENT REIMBURSABLE COST					\$450,000



## ESTIMATED CONSTRUCTION COST OPINION - TRIBUTARIES TO SAND CREEK

### 3) Drainage Improvements to Replace SCDBPS Tributary Segment 164 (East of Sterling Ranch F2, South to Pond W-5)

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST	REIMBURSABLE COST
<u>PIPE</u>					
48" RCP	LF	750	\$195	\$146,250	\$146,250
66" RCP	LF	873	\$332	\$289,836	\$289,836
72" RCP	LF	203	\$380	\$77,140	\$77,140
84" RCP	LF	107	\$520	\$55,640	<u>\$55,640</u>
SUB-TOTAL PIPE					\$568,866

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST	REIMBURSABLE COST 50%
<u>Pond W-5 (W of Creek, South Boundary Sterling Ranch)</u>					
Pond Grading	LS	1	\$75,000	\$75,000	\$37,500
Forebay	EA	1	\$15,000	\$15,000	\$7,500
Outlet Structure	EA	1	\$15,000	\$15,000	\$7,500
Trickle Channel, Seeding, Misc	LS			\$25,000	\$12,500
SUB-TOTAL Pond W5					\$65,000

TOTAL SEGMENT 164 REPLACEMENT REIMBURSABLE COST      \$633,866

#### NOTES

- 1) Quantities from Sterling Ranch Phase 2 Preliminary Plan - Sht. 10 of 17, 1st EPC submittal not yet approved
- 2) Unit Costs from Sterling Ranch Filing 2 FDR, 2nd EPC submittal not yet approved



## ESTIMATED CONSTRUCTION COST OPINION - TRIBUTARIES TO SAND CREEK

### 4) Drainage Improvements to Replace SCDBPS Tributary Segment 159 (East of Vollmer, South of Sterling Ranch Rd)

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST	REIMBURSABLE COST
<u>PIPE</u>					
66" RCP	LF	1004	\$332	\$333,328	\$333,328
72" RCP	LF	2400	\$380	\$912,000	\$912,000
84" RCP	LF	222	\$520	\$115,440	<u>\$115,440</u>
SUB-TOTAL PIPE					\$1,245,328
<u>HEADWALLS AND WINGWALLS</u>					
84" HW / WW	EA	1	\$10,000	\$10,000	<u>\$10,000</u>
SUB-TOTAL HW AND WW					\$10,000
					REIMBURSABLE COST
					50%
<u>Pond W-4 (E of Creek, W of Vollmer)</u>					
Pond Grading	LS	1	\$65,000	\$65,000	\$32,500
Forebay	EA	1	\$15,000	\$15,000	\$7,500
Outlet Structure	EA	1	\$15,000	\$15,000	\$7,500
Trickle Channel, Seeding, Misc	LS			\$25,000	\$12,500
SUB-TOTAL Pond W4					\$60,000
TOTAL SEGMENT 159 REPLACEMENT REIMBURSABLE COST					\$1,315,328

#### NOTES

1) Quantities and costs from Sterling Ranch Filing 2 Storm plans and FDR, 2nd EPC submittal not yet approved



ESTIMATED CONSTRUCTION COST OPINION - TRIBUTARIES TO SAND CREEK

5) Drainage Improvements to Replace SCDBPS Tributary Segment 92 (East property line of Sterling Ranch)

Segment 92 is along the eastern boundary of Sterling Ranch property and is proposed to be replaced by storm sewer in the approved MDDP. The storm sewer sizing for this segment has not yet been designed, therefore the reimbursable cost estimate in the DBPS (2020 dollars) will be used to estimate the future improvements.

TOTAL SEGMENT 92 REPLACEMENT REIMBURSABLE COST	\$1,815,069
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## ESTIMATED CONSTRUCTION COST OPINION - Unnamed Tributary Diversion to Mainstem

2) Provide Existing Pond in Sand Creek with Outlet Structure and Embankment improvements

Outlet Structure	EA	1	\$15,000	\$15,000	\$7,500
Embankment Improvements	LS			\$35,000	\$17,500

TOTAL POND IN SAND CREEK IMPROVEMENTS REIMBURSABLE COST	\$25,000
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NOTES

1) Quantities and Costs assumed

3) Piping to divert the un-named easterly tributary to the Sand Creek mainstem

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST	REIMBURSABLE COST
<u>PIPE</u>					
48" RCP	LF	2350	\$195	\$458,250	\$458,250
54" RCP	LF	2300	\$200	\$460,000	\$460,000
SUB-TOTAL PIPE					\$918,250

HEADWALLS AND WINGWALLS

54" HW / WW	EA	1	\$10,000	\$10,000	<u>\$10,000</u>
SUB-TOTAL HW AND WW					\$10,000

TOTAL DIVERT THE UN-NAMED EASTERLY TRIBUTARY TO SAND CREEK RE	\$928,250
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NOTES

1) Quantities and Costs assumed

TOTAL ITEMS Unnamed Tributary Diversion REIMBURSABLE COST	\$1,083,250
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## ESTIMATED CONSTRUCTION COST OPINION - BRIDGES

### 1) Bridge Structures

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST	REIMBURSABLE COST
OS-535 Precast Bridge	EA	2		\$2,569,576	\$2,569,576
Guardrail Type 3	LF	910	\$49	\$44,590	\$44,590
Guardrail Anchorage	EA	4	\$2,098	\$8,392	\$8,392
Miscellaneous Cost				\$12,724	\$12,724
SUB-TOTAL Bridges					\$2,635,282
TOTAL BRIDGES REIMBURSABLE COST					\$2,635,282

### NOTES

1) Quantities and Unit Costs from Channel Improvement Plans FAE, 2nd EPC submittal not yet approved



**Appendix C**  
**Sterling Ranch Drainage and Bridge Fee Paid to Date**  
**And Total Estimate**





**STERLING RANCH ESTIMATE OF DRAINAGE AND BRIDGE FEE'S**

<b>1) DRAINAGE AND BRIDGE FEES PAID TO DATE</b>										
<b>SUBDIVISION</b>	<b># OF LOTS</b>	<b>FEE ACRES</b>	<b>FEE YEAR</b>	<b>% IMP.</b>	<b>DRAINAGE FEE / IMP. AC</b>	<b>BRIDGE FEE / IMP. AC</b>	<b>DRAINAGE FEE</b>	<b>BRIDGE FEE</b>	<b>DRAINAGE FEE PAID</b>	<b>BRIDGE FEE PAID</b>
Sterling Ranch Filing No. 1	0	134.379	2016	VARIED	\$15,720	\$4,762	\$232,075.77	\$70,301.83	Deferred	\$70,301.83
Branding Iron at Sterling Ranch Filing No. 1	51	10.545	2017	50%	\$16,270	\$4,929	\$85,783.58	\$25,988.15	Deferred	\$25,988.15
Homestead at Sterling Ranch Filing No. 1	72	19.574	2017	42%	\$16,270	\$4,929	\$133,756.97	\$40,521.70	Deferred	\$40,521.70
Branding Iron at Sterling Ranch Filing No. 2	75	10.545	2017	50%	\$16,270	\$4,929	\$85,783.58	\$25,988.15	\$85,783.58	\$25,988.15
Homestead at Sterling Ranch Filing No. 2	<u>104</u>	29.658	2019	46%	\$18,940	\$5,559	<u>\$258,392.36</u>	<u>\$75,839.66</u>	<u>\$258,392.36</u>	<u>\$75,839.66</u>
<b>SUB-TOTAL</b>	<b>302</b>						<b>\$795,792.25</b>	<b>\$238,639.50</b>	<b>\$344,175.93</b>	<b>\$238,639.50</b>
<b>2) ESCROW FOR SAND CREEK IMPROVEMENTS PAID TO DATE</b>										
	<b># OF LOTS</b>					<b>ESCROW PER LOT</b>	<b>ESCROW AMOUNT</b>		<b>ESCROW AMOUNT PAID</b>	
	302					\$1,000	\$302,000.00		<b>\$302,000.00</b>	
<b>3) TOTAL STERLING RANCH ESTIMATE OF DRAINAGE AND BRIDGE FEE'S</b>										
		<b>FEE ACRES</b>	<b>FEE YEAR</b>	<b>% IMP.</b>	<b>DRAINAGE FEE / IMP. AC</b>	<b>BRIDGE FEE / IMP. AC</b>	<b>DRAINAGE FEE</b>	<b>BRIDGE FEE</b>	<b>TOTAL DRAINAGE FEE ESTIMATE</b>	<b>TOTAL BRIDGE FEE ESTIMATE</b>
Total Sterling Ranch Development		1444	2020	45%	\$19,698	\$8,057	\$12,799,760.40	\$5,235,438.60	<b>\$12,799,760</b>	<b>\$5,235,439</b>
<b>FOOTNOTES</b>										
1. Fees paid to date are from recorded plats										
2. Escrow funding is a condition of the Subdvision Improvement Agreement established with Sterling Ranch Filing No. 1										
3. Total Sterling Ranch Estimate of Drainage and Bridge fees assumed 45% impervious based on prior recorded plats.										



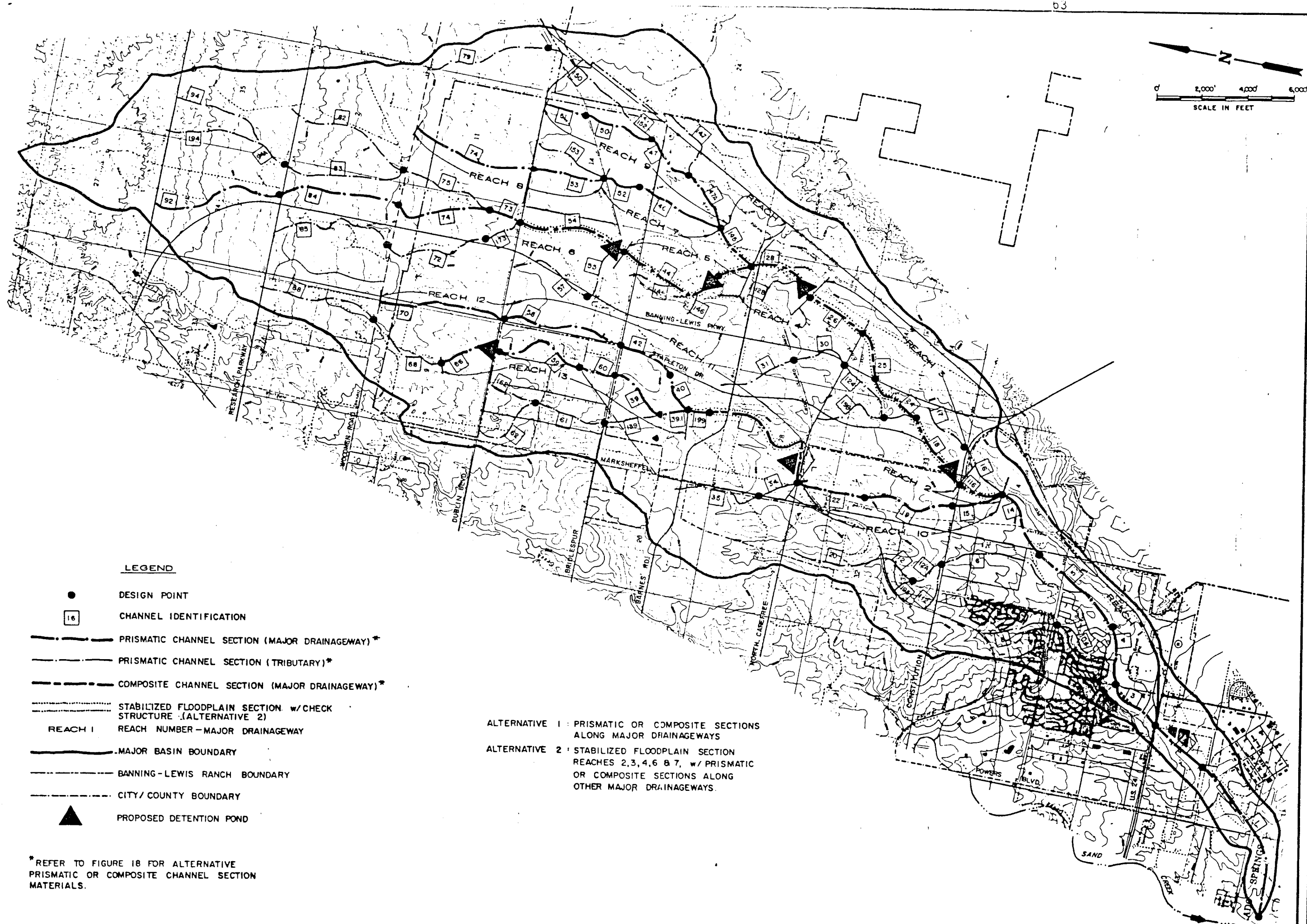
## **Appendix D**

### **SCDBPS Cost Estimate Excerpts**

Please provide all pages referenced  
in the Appendix A calculations







EAST FORK SAND CREEK  
DRAINAGE BASIN PLANNING STUDY  
ALTERNATIVE CHANNELIZATION PLANS

Kiowa Engineering Corporation  
419 W. Bijou Street  
Colorado Springs, Colorado  
80905-1308



## VII. PRELIMINARY DESIGN

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The results of the preliminary design analysis are summarized in this section. The alternative improvements have been quantitatively and qualitatively evaluated, and presented to the City of Colorado Springs and other interested agencies and individuals. Field review of specific areas of concern have been conducted in order to refine the channel treatments suggested for use along Sand Creek, East Fork Sand Creek and their major tributaries. The preliminary plan for the recommended alternative is shown on the drawings contained at the rear of this report.

### Criteria

The City of Colorado Springs, El Paso County Drainage Criteria Manual was used in the development of the typical sections and plans for the major drainageways within the Basin. The City/County manual was supplemented by various criteria manuals with more specific application. These were:

1. "Design Guidelines and Criteria for Channels and Hydraulic Structures on Sandy Soils," prepared by Simons, Li & Associates, Inc., 1981.
2. Urban Storm Drainage Criteria Manual, Volumes I, II, and III, prepared by the Urban Drainage and Flood Control District.

Various design plans for roadway and channel improvement projects, either proposed or already constructed were reviewed in order to prepare the preliminary design plans. Specifically, the project design plans for the Las Vegas Street and Galley Road bridge replacement projects were reviewed and the improvements incorporated in the preliminary design. The **proposed** Sand Creek Stabilization Project, AT&SF Railroad to Hancock Expressway and the **proposed** Sand Creek Stabilization Project at Fountain Boulevard design plans have been reviewed and incorporated into the preliminary design plan and profiles.

### Hydrology

Presented on Table VII-1 is selected hydrologic data to be used for the sizing of major drainageway improvements within the Basin. **Peak flow rates for the 10- and 100-year frequency incorporating and the selected detention alternatives for the Sand Creek and East Fork Sand Creek Basin are summarized for key points along the major drainageways.**

Contained within the The technical addenda of this report contains a complete listing of peak discharges for all the sub-basins, stream segments and design points shown on Exhibit 1.

The sizing the drainageway improvements for the tributaries will need to be verified during the final design and layout of the proposed drainageway facilities. Land development activities may alter the location of design points along the tributaries, and therefore slight alteration in a sub-basin's length, slope and area may occur. The methods outlined in the City/County Drainage Criteria Manual should be applied during final design analysis. The rational method should be used to check the peak flow rates for all tributary drainageways and storm sewers draining areas less than 100 acres in size.

### Channels

The recommended channel sections for each reach of drainageway has been outlined in Section VI of this report. In general, the banks of Sand Creek channel, from the confluence with Fountain Creek to the proposed Sand Creek Detention Basin No. 2 are to be lined, or in some cases relined, with riprap to either a 10-year or 100-year flow depth, as shown on the preliminary design plans. Above the Sand Creek Detention Basin No. 2, selectively located riprap bank protection such as at outside bends, at bridge or culvert outlets, and at confluences with side tributaries have been recommended. In conjunction with the selective improvement measures, and the 10-year low flow concept, the 100-year floodplain should be preserved and regulated. Wherever existing bank linings were judged to be adequate, no improvements have been recommended at this time.

For the West Fork Sand Creek, 100-year riprap bank linings have been recommended in order to address the 100-year flooding hazard which exists at numerous locations along the West Fork. The final design improvements shown in the Palmer Park Bridge Replacement project drawings have been incorporated into the preliminary design plans. In the uppermost reaches of the West Fork, a short segment of rectangular concrete channel has been recommended because of right-of-way constraints.

For the Center Tributary of Sand Creek, 100-year riprap lined channels have been recommended from the confluence with East Fork to Platte Avenue. Above Platte Avenue, the existing concrete channels have adequate capacity except where the drainageway channel has yet to be improved. The final design plans for the US 24 Bypass Project, Phase II have been incorporated into the plans. As part of the bypass construction, it is proposed to line the Center Tributary using riprap. The location of the proposed roadway, new crossings, drops and channel as shown on the Phase II Bypass plans have been reflected on the preliminary design drawings.



For the East Fork Sand Creek drainageway, riprap lined channel banks have been recommended for the majority of the reaches. This is mainly because of the high level of development predicted for the basin in the area known as the Banning-Lewis Ranch development. Open space to accommodate the 100-year floodplains should be allowed for as the East Fork Sand Creek drainageways develop. This is consistent with the Banning-Lewis Ranch master development plan which was approved at the time of annexation of this property. Above Woodmen Road, selective channel lining improvements and grade control structures have been recommended.

For the most part the side tributaries have been recommended to be lined with riprap, however there are some locations in the upper basin which have been proposed to be grasslined. The location of the side drainageways should be considered approximate and may very likely be modified in the future because of land development.

The primary criteria used when sizing the proposed channel sections has been velocity. For all riprap lined channels, the average design velocity should be no greater than 9 feet per second. This criteria allows for the use of Type H riprap within the main flow area of the drainageway. For the case of a 10-year channel with an overall floodplain section, limiting the main channel velocity to 9 feet per second will result in overbank velocities in the five feet per second range. At this level of overbank velocity, native vegetation will be able to withstand the erosive forces which might result in a 100-year flow event. Velocities approaching 10 feet per second could occur at constrictions such as at roadway crossings and at culvert outlets.

#### Drop Structures and Check Structures

Drop and check structures have been sited along Sand Creek in order to slow the channel velocity to the recommended 7 feet per second, and to prevent localized and long-term stream degradation from affecting channel linings and overbanks. In the reaches to be selectively lined, drops and check structures will protect the native vegetation from the detrimental effects of stream invert headcutting. Several types of structures could be considered for the Sand Creek Basin. For channel bottom widths in excess of fifty feet, soil cement or sheet piling drops/checks are feasible. For channels narrower than this, reinforced concrete structures are probably the best alternative. **A maximum drop height of three feet is recommended. The methodology recommended for use when designing vertical structures is contained with Volume II of the Urban Storm Drainage Criteria Manual.**

#### Detention

The recommended plan calls for the construction of six regional detention basins within the Sand Creek basin, and six regional basins within the East Fork Sand Creek basin. The

purpose of the Sand Creek detention basins is to limit peak discharges at Powers Boulevard to existing development condition levels. The detention basins in the upper portions of the Sand Creek basin will keep the majority of the existing channel sections and bridges below Powers Boulevard with adequate flow capacity in the future development condition. The detention basins within the East Fork Sand Creek basin have been sized to maintain the flow outfalling from the Banning-Lewis Ranch property at existing levels. This in turn will help to reduce flow to the mainstem of Sand Creek. The detention basins have been designed to accommodate the 100-year future condition volume without overtopping the overflow spillway. Sand Creek Basin Nos. 2 and 6, and East Fork Sand Creek Basin Nos. 1, 2, and 3 will be classified as jurisdictional structures, and their design and operation would be subject to State Engineer's office criteria. Sand Creek basins number 1 and 3 should be designed so as to take advantage of the adjacent roadway embankments, and therefore classifying as incidental storage and not subject State Engineer's regulations.

At Stetson Hills Boulevard, the roadway embankment has created a 2 acre open water wetland which was identified during the environmental review of the basin. It is recommended that this wetland be preserved. Accordingly, an outlet control structure will have to be constructed to pass the 100-year discharge to the downstream channel without overtopping the roadway. No floodwater storage or routing has been accounted for in the hydrology modelling at this roadway for the selected detention plan.

For the East Fork Sand Creek detention basin numbers 2, and 3, the existing embankment and outlet structure act to maintain a permanent pool at this time. It is recommended that the design of these detention basins be directed at maintaining the permanent pool when the flood control storage is to be added. The existence of a permanent pool may enhance the water quality aspects of these basins, and offer the opportunity of open space development conducive with open water.

#### Water Quality

Improvement of urban stormwater quality has become an important issue in drainage basin planning. Many pollutants are naturally associated with sediments that enter sensitive receiving waters. The pollutants are naturally occurring compounds that are carried to the drainageways in storm runoff. Other pollutants are the result of urbanization such as lawn chemicals, oil and grease, pet feces, lawn clippings and other items. Many pollutants can be limited by programs such as erosion control at construction sites, educational programs to inform the public as to the proper use of lawn chemicals, oil recycling programs and street sweeping programs. Even with these programs in place, erosion along the drainageways can generate large quantities of sediment that can settle out along the downstream channel bottoms.



Various methods of water quality enhancement have been identified for use in this preliminary design. One hundred year and 10-year flow channels are lined to prevent erosion, drop/check structures are used to control channel grade, and water quality pools within the detention basins have been proposed for sediment trapping. The water quality pools for the detention basins have been sized to store runoff generated by the 80th percentile storm. The 80th percentile storm was used as the criteria for this report because studies by the Urban Drainage and Flood Control District ("Sizing a Capture Volume for Stormwater Quality Enhancement", by Urbonas, Guo, and Tucker, published in the Flood Hazard News, December, 1989), shows a diminishing level of return for larger, scarcer storm events. The water quality pool within each detention basin is sized to retain the 80th percentile storm for 40-hours, assuming all of the detention basins will essentially have dry bottoms. This methodology has been shown graphically on Figure VII-1. Presented in Table VII-2 are the required water quality volumes for each of the regional detention basins.

The water quality measures for each regional detention basin includes an inlet forebay, a water quality storage area, a water quality outlet control structure and the introduction of water tolerant vegetation in the basin bottom. Permanent water quality pools may eventually form, however it has been assumed that the detention basins will remain dry.

#### Trails

As previously mentioned, Sand Creek has been identified as a primary trails corridor. Within the Banning Lewis Ranch, the major drainageway floodplains were designated for use as open space and trail corridors. Accordingly, a trail has been shown on the typical sections for the a majority of drainageways. The siting of a trail along a drainageway should be carried out taking into account hydraulic considerations, utilities in the area, access to dedicated parks and roadway crossings. Clear span bridges have been recommended for many of the major crossings over Sand Creek and East Fork Sand Creek which can be designed to accommodate a trail underpass. Maintenance access to the drainageway and to existing utilities within the drainageway corridor can offer a multiple use aspect to a trail project. Trails along the tributary drainageway will be required, however their size and location will be mostly dependent upon the type of development adjacent to the particular drainageway.

#### Maintenance and Revegetation

Maintenance of drainageway facilities is essential in preventing long term degradation of the creek and overbank areas. Along the drainageway, clearing of debris and dead vegetation

should be considered within the low flow area of the creek and its tributaries. Trimming and thinning of shrubs and trees should be carried out if greater visual and physical access to the creek is desired. On the overbanks, limited maintenance of the existing vegetative cover is recommended. Yearly clearing of trash and debris at roadway crossings is also recommended to ensure the design capacity of the crossing, and to enhance the crossings for trail users if a trail exists. Caution should be taken when clearing culverts of sediment since it has been noted that in the past the dredgings have been left on the overbank. This disturbs the native vegetation and creates a potential water quality concern if the dredgings are subsequently washed into the drainageway by natural erosion. In those reaches designated to be selectively lined and the floodplain preserved, maintenance activities should be carried out while minimizing the disturbances to native vegetation.

#### Right-of-Way

For the most part the main channels within the basin which pass through the developed portions of the basin are contained within previously dedicated drainage tracts, easements or right-of-ways. Where appropriate right-of-ways have not as yet been dedicated such as within the undeveloped portions of the basin, the required right-of-way can be obtained through the land development process. For those segments of the drainageway where floodplain preservation is the recommended plan, a combination of open space dedication (such as parklands and greenbelts), in combination with a more narrow dedicated right-of-way along the low flow area of the drainageway should be obtained through the land development process.

Land acquisition will be required for the regional detention basins. For the purposes of cost and fee estimation, the land subject to acquisition for the regional detention basins was calculated to be the required structure area, less the area within the 100-year pool covered by the existing condition 100-year floodplain.

#### Roadway Bridge and Culvert Replacements

Bridge and culvert replacements shown of the preliminary design drawings have been sized in accordance with the City/County Drainage Criteria Manual. Bridges are defined as those structures conveying at least 1500 cubic feet per second, having a flow area of at least 200 square feet, or having a span of 20-feet or greater. Road crossings conveying flows less than 1500 cubic feet per second, smaller than 200 square feet in flow area, or less than 20-feet in span have been included in the drainage basin fee calculation. Structures defined as bridges have been included into the City and County bridge fee calculations.



### Erosion and Sedimentation Control

Soils in the Sand Creek Basin vary widely and because of this, areas within the basin are subject to varying degrees of hazard resulting from sediment being transported to the drainageway(s). During the collection of field and drainage inventory data, numerous areas were noted which were being impacted by either erosion (of one form or another), or sediment deposition. The areas impacted ranged from localized bank failures to roadway embankments and slopes thousands of square feet in area. The soil make up of the basin is generally highly erodible, and this is particularly the case in the upper portions of the drainageway where the channel has a sand bottom and the watersheds have poor to fair vegetative cover. The disturbance of the native vegetation and failure to properly revegetate areas impacted by site development, utility, roadway and landscape construction activities has in some cases negatively affected downstream portions of the basin.

The City of Colorado Springs has enacted an erosion control ordinance to address these problems. In general, it is the responsibility of the entity conducting any land disturbance activity to properly control surface runoff, erosion and sedimentation during and after the activity. Technical criteria identifying measures which help mitigate the impacts of erosion and sedimentation is available and being used throughout the Front Range area. Minimum requirements must be developed to properly control erosion, as described in the following discussion.

### General

Erosion control is necessary to prevent environmental degradation caused by wind or water-borne soil. The following minimum criteria and standards are intended to prevent excessive erosion. The City of Colorado Springs as well as other effected agencies reserve the right to enforce the Clean Water Act standards if the planned erosion control measures fail to perform satisfactorily. Evidence of visual erosion will determine the effectiveness (or lack of) of erosion control measures. Proper installation and maintenance is necessary to achieve the desired function of erosion control measures. By paying attention to quality, reinstallation can be avoided. The general requirements for erosion control are as follows:

1. Any land disturbing activity shall be conducted so as to effectively reduce unacceptable erosion and resulting sedimentation.
2. All land disturbing activities shall be designed, constructed, and completed in such a manner that the exposure time of disturbed land shall be limited to the shortest possible period of time.
3. Sediment caused by accelerated soil erosion and runoff shall be intercepted by sediment traps and contained within the site.

4. Any facility designed and constructed to convey storm runoff shall be designed to be non-erosive.
5. Erosion control measures will be used prior to and during construction. Temporary erosion control measures are required during construction, and permanent erosion control measures are required for all developments. Maintenance of erosion control measures is the responsibility of the property owner.

Various structures have been proposed in this plan to control localized erosion and sedimentation problems. It is important that the erosion control plan for any land disturbing activity be strictly adhered to, and maintained so that the above minimum criteria can be achieved in the Sand Creek Basin.



Table VIII-1: Unit Construction Costs

Item	Unit	Unit Cost	Comments
CHANNEL AND HYDRAULIC STRUCTURES			
Channel earthwork	CY	\$8	
Filter material	Ton	\$25	
Structural concrete	CY	\$250	
Seeding and mulching	SF	\$0.15	
Riprap Type H	CY	\$30	
Riprap Type M	CY	\$24	
12 foot wide gravel trail	LF	\$15	Maintenance trail
Erosion netting	SY	\$1.75	
Topsoil	CY	\$12	
STORM SEWERS RCP/CMP			
18-inch	LF	\$20	
24-inch	LF	\$25	
30-inch	LF	\$42	
36-inch	LF	\$58	
42-inch	LF	\$75	
48-inch	LF	\$80	
60-inch	LF	\$120	
ROADWAY CROSSINGS			
Structural Concrete, in-place	CY	\$300	
Wingwalls/headwalls	EA	\$5,000	
Bridges	SF	\$80	Based on area of roadway deck.
4' high CBC, 4'-10' wide	LF	\$210-320	
6' high CBC, 8'-12' wide	LF	\$270-510	
7' x7' CBC	LF	\$300	
Twin 4' high CBC, 4'-10' wide	LF	\$480-650	
Twin 5'x 8' CBC	LF	\$540	
Twin 6' high CBC, 8'-15' wide	LF	\$600-1200	
Twin 8'x 10' CBC	LF	\$750	
Triple 5'x 8' CBC	LF	\$900	
Triple 6'x 14' CBC	LF	\$1410	
Triple 6'x 16' CBC	LF	\$1770	
Triple 8'x 10' CBC	LF	\$1110	
Triple 10'x 10' CBC	LF	\$1260	
4-bay 5' x 8' CBC	LF	\$1200	
4-bay 8' x 10' CBC	LF	\$1560	
DETENTION BASINS			
Outlet structures, non jurisdictional	EA	\$10,000	
Outlet structures, jurisdictional	EA	\$15,000	
Unit storage cost	AF	\$10,000	
MITIGATION	AC	\$4,000	
LAND ACQUISITION			
Detention basins	AC	\$15,900	Based on park land fee.



TABLE VIII-2: SAND CREEK DRAINAGE BASIN PLANNING STUDY  
DRAINAGEWAY CONVEYANCE COST ESTIMATE  
WITH SELECTED DETENTION ALTERNATIVES

SEGMENT NUMBER	REACH NUMBER	SEGMENT LENGTH (FT)	IMPROVEMENT TYPE	IMP. LENGTH (FT)	UNIT COST (\$/LF)	NUMBER OF GRADE CONTROLS	GRADE CONTROL LENGTH (FT)	TOTAL REIMBURSABL COSTS	TOTAL COST
148-2	"	2600	"	2150	127	5	620	\$384,650	\$384,650
151	SC-8	1700	10-YEAR RIPRAP	500	238	3	250	\$164,000	\$164,000
160	"	5100	SEL. LININGS (1 SIDE) 10-YR RIPRAP	4400 600	127 238	6 0	720 0	\$688,400 \$142,800	\$688,400 \$142,800
163	"	6300	SEL. LININGS (1 SIDE) 10-YR RIPRAP	2600 350	127 238	15 0	1200 0	\$546,200 \$83,300	\$546,200 \$83,300
187	"	1200	SEL. LININGS (1 SIDE)	0	0	2	160	\$28,800	\$28,800
170	SC-9	3200	"	0	0	4	320	\$57,600	\$57,600
171	"	5000	"	0	0	2	170	\$30,600	\$30,600
172	"	3650	"	0	0	2	150	\$27,000	\$27,000
TOTAL SAND CREEK DRAINAGEWAY								\$15,560,220	\$18,279,420



TABLE VIII-2: SAND CREEK DRAINAGE BASIN PLANNING STUDY  
DRAINAGEWAY CONVEYANCE COST ESTIMATE  
WITH SELECTED DETENTION ALTERNATIVES

SEGMENT NUMBER	REACH NUMBER	SEGMENT LENGTH (FT)	IMPROVEMENT TYPE	IMP. LENGTH (FT)	UNIT COST (\$/LF)	NUMBER OF GRADE CONTROLS	GRADE CONTROL LENGTH (FT)	TOTAL REIMBURSABL COSTS	TOTAL COST
28	EF-5	4200	"	3500	185	6	480	\$815,500	\$815,500
45	EF-6	1800	"	1400	185	6	480	\$427,000	\$427,000
44	"	4880	"	4080	185	11	990	\$1,101,300	\$1,101,300
54	EF-7	5070	"	4220	228	15	1950	\$1,644,660	\$1,644,660
73	"	1600	100-YEAR RIPRAP	1600	205	1	60	\$349,000	\$349,000
74A	"	950	"	950	268	3	120	\$296,600	\$296,600
74	"	3000	"	3000	234	8	400	\$842,000	\$842,000
84	EF-8	5400	SELECTIVE LININGS	5300	93	5	200	\$562,900	\$562,900
92	"	5450	"	5400	93	7	280	\$600,200	\$600,200
TOTAL EAST FORK SAND CREEK DRAINAGEWAY								\$15,674,470	\$17,106,670



TABLE VIII-3: SAND CREEK DRAINAGE BASIN PLANNING STUDY  
TRIBUTARY DRAINAGEWAY CONVEYANCE COST ESTIMATE  
SAND CREEK, CENTER TRIBUTARY AND WEST FORK SAND CREEK

SEGMENT NUMBER	REACH NUMBER	IMPROVEMENT TYPE	IMP. LENGTH (FT)	UNIT COST (\$/LF)	NUMBER OF GRADE CONTROLS	LENGTH OF GRADE CONTROL (FT)	TOTAL REIMBURSABLE COSTS	TOTAL COST
147-2	"	"	1150	200	1	30	\$235,400	\$235,400
153-1	"	"	600	150	0	0	\$90,000	\$90,000
153-2	"	"	450	150	0	0	\$67,500	\$67,500
152-1	SC-7	100-YEAR GRASSLINED	1650	150	0	0	\$247,500	\$247,500
152-2	"	"	800	150	2	100	\$138,000	\$138,000
150-1	"	100-YEAR STORM SEWER 36" RCP	800	58	0	0	\$46,400	\$46,400
150-2	"	100-YEAR RIPRAP	2400	200	0	0	\$480,000	\$480,000
161-1	"	100-YEAR GRASSLINED	550	150	0	0	\$82,500	\$82,500
154	SC-8	"	2100	200	10	600	\$528,000	\$528,000
157	"	"	2400	200	13	520	\$573,600	\$573,600
155-1	"	100-YEAR GRASSLINED	550	175	4	140	\$121,450	\$121,450
159	"	100-YEAR RIPRAP	3450	200	14	840	\$841,200	\$841,200
164	"	"	1350	200	5	200	\$306,000	\$306,000
186	"	"	2250	200	5	200	\$486,000	\$486,000
169	"	"	650	175	1	40	\$120,950	\$120,950
173	SC-9	"	950	175	8	320	\$223,850	\$223,850
WEST FORK SAND CREEK								
154-1	WF-1	100-YEAR RIPRAP	1550	223	2	100	\$0	\$363,650
161	"	"	600	223	2	80	\$0	\$148,200
164-2	"	100-YEAR GRASSLINED	500	150	0	0	\$0	\$75,000
164-4	"	100-YEAR RIPRAP	2500	175	9	280	\$0	\$487,900
165-1	"	"	1350	175	0	0	\$0	\$236,250
TOTAL SAND CREEK TRIBUTARY DRAINAGEWAYS							\$7,420,650	\$12,543,750



TABLE VII-4:  
SAND CREEK DRAINAGE BASIN PLANNING STUDY  
ROADWAY CULVERT CROSSING COST ESTIMATE

SAND CREEK BASINS								
ROADWAY	REACH NUMBER	DRAINAGEWAY SEGMENT	CROSSING TYPE	LENGTH	UNIT	UNIT COST	TOTAL COST	TOTAL REIMBURSABLE COST
SAND CREEK								
GRANADA DRIVE	SC-1	107	2-4'EL x 10"W CBC	60	LF	\$650	\$39,000	\$0
DELTA DRIVE	SC-1	"	"	80	LF	\$650	\$52,000	\$0
SONOMA DRIVE	SC-1	"	"	60	LF	\$688	\$41,280	\$0
SAN MARCOS ROAD	SC-1	"	"	80	LF	650	\$52,000	\$0
EL MORRO ROAD	SC-1	113	2-5'EL x 8"W CBC	60	LF	\$240	\$14,400	\$0
DELTA DRIVE	SC-1	"	"	90	LF	\$240	\$21,600	\$0
WAYNEKA ROAD	SC-4	135-2	50' BRIDGE	3200	SF	\$80	\$256,000	\$256,000
TUTT BLVD	SC-5	118	2-6'EL x 8"W CBC	80	LF	\$600	\$48,000	\$48,000
PETERSON ROAD	SC-6	127	2-6'EL x 12"W CBC	120	LF	\$870	\$104,400	\$104,400
JEDIDIAH SMITH RD.	SC-6	136	2-8'EL x 10"W CBC	120	LF	\$750	\$90,000	\$90,000
PETERSON ROAD	SC-6	140	6'EL x 7"W CBC	100	LF	\$270	\$27,000	\$27,000
DUBLIN BOULEVARD	SC-6	142	6'EL x 9"W CBC	100	LF	\$360	\$36,000	\$36,000
JEDIDIAH SMITH RD.	SC-6	143	6'EL x 10"W CBC	80	LF	\$390	\$31,200	\$31,200
DUBLIN BOULEVARD	SC-6	145	"	120	LF	\$390	\$46,800	\$46,800
PETERSON ROAD	SC-6	142	6'EL x 9"W CBC	200	LF	\$360	\$72,000	\$72,000
CALIFORNIA DRIVE	SC-6	152-1	4'EL x 8"W CBC	40	LF	\$270	\$10,800	\$0
"	SC-6	153	48-INCH RCP	40	LF	\$80	\$3,200	\$0
VOLLMER ROAD	SC-6	155-1	2-60-INCH RCP	60	LF	\$240	\$14,400	\$0
WOODMEN ROAD	SC-6	152-1	4'EL x 6"W CBC	300	LF	\$240	\$72,000	\$72,000
WOODMEN ROAD	SC-6	153-1	4'EL x 6"W CBC	400	LF	\$210	\$84,000	\$84,000
VOLLMER ROAD	SC-6	154	2-6'EL x 10"W CBC	80	LF	\$590	\$47,200	\$0
MUSTANG ROAD	SC-7	150-2	2-48-INCH CMP	60	LF	\$240	\$14,400	\$0
KINGSBA ROAD	SC-7	161-1	2-48-INCH CMP	120	LF	\$660	\$79,200	\$79,200
RESEARCH PARKWAY	SC-8	159	2-6'EL x 9"W CBC	120	LF	\$870	\$104,400	\$104,400
RESEARCH PARKWAY	SC-8	157	6'EL x 11"W CBC	40	LF	\$330	\$13,200	\$0
MUSTANG PLACE	SC-8	160	6'EL x 8"W CBC	40	LF	\$160	\$6,400	\$0
MUSTANG PLACE	SC-8	161-2	2-48-INCH CMP	40	LF	\$160	\$6,400	\$0
RESEARCH PARKWAY	SC-8	"	6'EL x 7"W CBC	40	LF	\$330	\$13,200	\$13,200

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\*\* RESEARCH PARKWAY HAS BEEN RELOCATED. THIS CULVERT IS NOT NECESSARY.  
 \* RESEARCH PARKWAY HAS BEEN RELOCATED. THIS CULVERT WILL CROSS STERLING RANCH ROAD.



TABLE VII-4 SAND CREEK DRAINAGE BASIN PLANNING STUDY  
ROADWAY CULVERT CROSSING COST ESTIMATE

SAND CREEK BASINS								
ROADWAY	REACH NUMBER	DRAINAGEWAY SEGMENT	CROSSING TYPE	LENGTH	UNIT	UNIT COST	TOTAL COST	TOTAL REIMBURSABLE COST
BANNING-LEWIS PREW	SC-8	186	6'Hx10'W CBC	120	LF	\$390	\$46,800	\$46,800
	SC-9	171	6'Hx12'W CBC	80	LF	\$510	\$40,800	\$0
	SC-8	169	60-INCH CMP	80	LF	\$120	\$9,600	\$0
	SC-9	173	"	80	LF	\$120	\$9,600	\$0
	SC-9	176	42-INCH CMP	80	LF	\$75	\$6,000	\$0
BURGESS ROAD	SC-9	178	2-42-INCH CMP	80	LF	\$150	\$12,000	\$0
CENTER TRIBUTARY								
TERMINAL AVENUE	CT-2	144	4-5'Hx6'W CBC	60	LF	\$1,200	\$72,000	\$0
OMAHA BOULEVARD	CT-2	146-2	3-4'Hx6'W CBC	80	LF	\$900	\$72,000	\$0
WEST FORK SAND CREEK								
WOOTEN ROAD	WF-1	153	2-4'Hx6'W CBC	100	LF	\$480	\$48,000	\$0
EDISON AVENUE	WF-1	153	2-4'Hx6'W CBC	60	LF	\$240	\$14,400	\$0
PALMER PARK BLVD.	WF-1	154-2	2-4'Hx10'W CBC	80	LF	\$540	\$43,200	\$0
CHICAGO RIVER	WF-1	165-1	4'Hx8'W CBC	220	LF	\$270	\$59,400	\$0
HALF MOON DRIVE	WF-1	165-2	4'Hx6'W CBC	60	LF	\$240	\$14,400	\$0

TOTAL CULVERT CONSTRUCTION COSTS SAND CREEK

\$1,902,600

\$1,111,000

Tributary

MAP SAYS;

4- 8H x 10W CBC  
FOR BRIDGE

- THIS SEG. 186

Tributary

- THIS Tributary

IS BEING REDIRE-

- CTED TO SAND

CREEK, NORTH OF

RESEARCH PARKWAY



TABLE VIII-4: SAND CREEK DRAINAGE BASIN PLANNING STUDY  
ROADWAY CULVERT CROSSING COST ESTIMATE

EAST FORK SAND CREEK BASINS									
ROADWAY	REACH NUMBER	DRAINAGE SEGMENT	CROSSING TYPE	LENGTH	UNIT	UNIT COST	TOTAL COST	TOTAL REIMBURSABLE COSTS	
EAST FORK SAND CREEK									
WESTERN DRIVE	EF-2	104	4'H x 7'W CBC	60	LF	\$280	\$16,800	\$0	\$0
PALMER PARK BLVD	EF-2	6	6'H x 12'W CBC	80	LF	\$380	\$30,400	\$30,400	\$30,400
FUTURE AKERS	EF-2	84	6'H x 10'W CBC	60	LF	\$350	\$21,000	\$21,000	\$21,000
CHICAGO & R.R.	EF-2	20	8'H x 12'W CBC	120	LF	\$800	\$96,000	\$96,000	\$96,000
BANNING LEWIS PKWY	EF-4	17	2-5'H x 8'W CBC	450	LF	650	\$292,500	\$292,500	\$292,500
STAPLETON DRIVE	EF-4	17	2-5'H x 6'W CBC	180	LF	\$500	\$90,000	\$90,000	\$90,000
STAPLETON DRIVE	EF-4	124A	2-6'H x 8'W CBC	200	LF	\$600	\$120,000	\$120,000	\$120,000
STAPLETON DRIVE	EF-4	124A	6'H x 8'W CBC	175	LF	\$270	\$47,250	\$47,250	\$47,250
STAPLETON DRIVE	EF-4	124A	6'H x 8'W CBC	175	LF	\$270	\$47,250	\$47,250	\$47,250
NORTH CAREFREE	EF-4	30	8'H x 8'W CBC	150	LF	\$400	\$60,000	\$60,000	\$60,000
BANNING-LEWIS PKWY	EF-4	30	8'H x 8'W CBC	195	LF	\$400	\$78,000	\$78,000	\$78,000
BARNES ROAD	EF-4	31	8'H x 8'W CBC	250	LF	\$400	\$100,000	\$100,000	\$100,000
BRIDLESPUR RD	EF-5	144	6'H x 5'W CBC	150	LF	\$250	\$37,500	\$37,500	\$37,500
BANNING-LEWIS PKWY	EF-7	55	6'H x 10'W CBC	300	LF	\$350	\$105,000	\$105,000	\$105,000
DUBLIN ROAD	EF-7	57	5'H x 10'W CBC	150	LF	\$320	\$48,000	\$48,000	\$48,000
BANNING-LEWIS PKWY	EF-7	173	8'H x 8'W CBC	350	LF	\$270	\$94,500	\$94,500	\$94,500
WOODMEN ROAD	EF-8	84	8'H x 15'W CBC	100	LF	\$750	\$75,000	\$75,000	\$75,000
RESEARCH PARKWAY	EF-7	83	8'H x 8'W CBC	180	LF	\$270	\$48,600	\$48,600	\$48,600
RESEARCH PARKWAY	EF-8	84	8'H x 10'W CBC	180	LF	\$350	\$63,000	\$63,000	\$63,000
EAST FORK SUB-TRIB									
STAPLETON DRIVE	EFST-2	42	8'H x 9'W CBC	180	LF	\$300	\$54,000	\$54,000	\$54,000
BRIDLESPUR RD	EFST-2	58	8'H x 9'W CBC	150	LF	\$270	\$40,500	\$40,500	\$40,500
DUBLIN ROAD	EFST-2	70	5'H x 8'W CBC	150	LF	\$250	\$37,500	\$37,500	\$37,500

\* →

\* RESEARCH PARKWAY HAS BEEN RELOCATED. THIS CULVERT MAY NOT BE NECESSARY. BANNING LEWIS PARKWAY WILL BE CONSTRUCTED NEAR THE SAME LOCATION.



# BRIDGES

Table VII-7:  
SAND CREEK DRAINAGE BASIN PLANNING STUDY  
BRIDGE CROSSING COST ESTIMATE  
SAND CREEK DRAINAGE BASINS

ROADWAY	BRIDGE NUMBER	DRAINAGEWAY SEGMENT	CROSSING TYPE	JURISDICTION CITY COUNTY	SIZE	UNIT	UNIT COST	TOTAL COST COUNTY	TOTAL COST CITY
SAND CREEK									
CHELTON ROAD	SC-1	115	210' TWO-SPAN BRIDGE	X	16000	SF	\$80	\$0	\$1,244,000
STETSON HILLS BLVD.	SC-6	130	3-6'x10'W CBC	X	200	LF	\$1,110	\$0	\$222,000
JENNIFER SMITH RD.	SC-6	137	3-6'x10'W CBC	X	60	LF	\$1,110	\$0	\$66,600
PETERSON ROAD	SC-6	141	80' CLEAR SPAN BRIDGE	X	6400	SF	\$80	\$0	\$512,000
DUBLIN BOULEVARD	SC-7	141	80' CLEAR SPAN BRIDGE	X	6400	SF	\$80	\$0	\$512,000
MARKSHERREL ROAD	SC-8	151	3-10'x10'W CBC	X	80	LF	\$1,260	\$0	\$100,800
RESEARCH PARKWAY	SC-8	163	4-6'x10'W CBC	X	80	LF	\$1,260	\$134,400	\$0
BANNING-LEWIS PKWY	SC-8	167	4-6'x10'W CBC	X	80	LF	\$1,260	\$134,400	\$0
CENTER TRIBUTARY									
W. FRONTAGE ROAD	CT-1	142	3-6'x16'W CBC	X	60	LF	\$6,770	\$1,062,200	\$0
US 24 BYPASS	CT-1	142	3-6'x16'W CBC	X	150	LF	\$1,410	\$211,500	\$0
E. FRONTAGE RD, US 24	CT-1	142	3-6'x16'W CBC	X	60	LF	\$1,410	\$84,600	\$0
BRIDG STREET, US 24	CT-1	142	3-6'x16'W CBC	X	60	LF	\$1,410	\$84,600	\$0
PLATTE AVENUE, US 24	CT-2	142	3-6'x16'W CBC	X	120	LF	\$1,410	\$169,200	\$0
GALLERY ROAD	CT-4	144	3-5'x16'W CBC	X	100	LF	\$800	\$80,000	\$0
WEST FORK SAND CREEK									
GALLERY ROAD	WF-2	155	54' CLEAR SPAN BRIDGE	X	5130	SF	\$80	\$0	\$410,400
PALMER PARK BLVD.	WF-2	156	54' CLEAR SPAN BRIDGE	X	5130	SF	\$80	\$0	\$410,400
CONSTITUTION AVE.	WF-3	159	40' CLEAR SPAN BRIDGE	X	3200	SF	\$80	\$0	\$256,000
MAZELAND ROAD	WF-3	170	30' CLEAR SPAN BRIDGE	X	2800	SF	\$80	\$0	\$224,000
SO. CAMERFEE	WF-3	170	2-6'x10'W CBC	X	80	LF	\$1,200	\$96,000	\$0
TOTAL BRIDGE CONSTRUCTION COSTS, SAND CREEK								\$1,096,500	\$4,021,400

BRIDGE  
= BRIDGE

\*\*\*

\* RESEARCH PARKWAY HAS BEEN RELOCATED. THIS BRIDGE WILL NOW BE LOCATED ON STERLING RANCH ROAD.

\*\* BANNING-LEWIS PARKWAY IS NOW KNOWN AS BRINGATE PARKWAY AT THIS LOCATION.



# BRIDGE FEE

Table VI-2  
SAND CREEK DRAINAGE BASIN PLANNING STUDY  
CITY BRIDGE FEE CALCULATION

ROADWAY	CROSSING TYPE	TOTAL COST	TOTAL CITY COST	TOTAL SHAREABLE COST
<b>SAND CREEK</b>				
CHRYSTON ROAD	219' TWO SPAN BRIDGE	\$1,344,000	\$206,400	\$1,137,600
STERNON HILLS	3 - 8'11" 14'W CIRC	\$250,200	\$24,300	\$225,900
RESEARCH PARKWAY	3 - 8'11" 14'W BOX CULVERT	\$48,000	\$9,900	\$38,100
PETERSON ROAD	60' CLEAR SPAN BRIDGE	\$510,000	\$134,500	\$375,500
DOUGLAS HILLS BLVD	80' CLEAR SPAN BRIDGE	\$570,000	\$134,500	\$435,500
<b>EAST FORK SAND CREEK</b>				
GALLERY ROAD	54' CLEAR SPAN BRIDGE	\$410,000	\$410,000	\$0
FALLS PARK BLVD.	54' CLEAR SPAN BRIDGE	\$410,000	\$410,000	\$0
CONSTITUTION AVE.	40' CLEAR SPAN BRIDGE	\$250,000	\$250,000	\$0
MAGNANO ROAD	30' CLEAR SPAN BRIDGE	\$170,000	\$170,000	\$0
SOUTH CAMPBELL CIRCLE	3 - 8'11" 14'W CIRC	\$80,000	\$80,000	\$0
EAST FORK SAND CREEK				
STATION PARKWAY	3 - 10'11" 14'W CIRC	\$210,000	\$134,500	\$75,500
RESEARCH PARKWAY	3 - 10'11" 14'W CIRC	\$270,000	\$24,300	\$245,700
NORTH CAMPBELL CIRCLE	2 - 8'11" 14'W CIRC	\$170,000	\$134,500	\$35,500
SANDS ROAD	120' TWO SPAN BRIDGE	\$720,000	\$175,500	\$544,500
WILLIAMS ROAD	2 - 8'11" 14'W CIRC	\$180,000	\$28,100	\$151,900
DOUGLAS ROAD	120' TWO SPAN BRIDGE	\$720,000	\$180,000	\$540,000
<b>EAST FORK SUBURBANY</b>				
BARNS ROADWAY	3 - 10'11" 14'W CIRC	\$250,000	\$134,500	\$115,500
NORTH CAMPBELL CIRCLE	3 - 8'11" 14'W CIRC	\$80,000	\$70,200	\$9,800
EAST SUBURBANY CREEK				
UNNAMED ROADWAY	3 - 30'11" 14'W CIRC	\$110,000	\$110,000	\$0
WEST SUBURBANY CREEK				
UNNAMED ROADWAY	3 - 10'11" 14'W CIRC	\$180,000	\$180,000	\$0
<b>TOTAL ROADWAY CONSTRUCTION COSTS</b>				
		\$7,340,000	\$4,077,200	\$3,262,800
10% ENGINEERING		\$734,000	\$407,720	\$326,280
5% CONTINGENCY		\$367,000	\$203,860	\$163,140
<b>TOTALS</b>				
		\$8,441,000	\$4,688,780	\$3,752,220
<b>TOTAL UNPLATTED ACREAGE IN CITY</b>				
			101.5	
<b>CITY BRIDGE FEE (\$/ACRE)</b>				
				\$36.9

(1) FEES HAVE BEEN CALCULATED PER CITY ORDINANCE US 24.001, ARTICLE 1, ROADWAY BRIDGE FEE. CITY IS RESPONSIBLE FOR COST OF BRIDGES IN EXCESS OF \$400,000 AS REQUESTED PER ORDINANCE TO THE ROADWAY CONTRIBUTION UP TO AND NOT EXCEED THE ROAD RIGHT-OF-WAY WIDTH.

Table VII-1a  
SAND CREEK DRAINAGE BASIN PLANNING STUDY  
CITY BRIDGE FEE CALCULATION

ROADWAY	CROSSING TYPE	TOTAL COST	TOTAL COUNTY COST	TOTAL SHAREABLE COST
<b>SAND CREEK</b>				
MARKSBERGEL ROAD	5 - 10'11" 14'W CIRC	\$100,000	\$0	\$100,000
RESEARCH PARKWAY	4 - 8'11" 14'W CIRC	\$124,000	\$0	\$124,000
BARTINGLEWIS PARKWAY	4 - 8'11" 14'W CIRC	\$124,000	\$0	\$124,000
<b>CENTER TRIBUTARY SAND CREEK</b>				
W. FRONTAGE US 24 (1)	3 - 8'11" 14'W CIRC	\$100,000	\$0	\$0
US 24 OVERPASS (1)	3 - 8'11" 14'W CIRC	\$211,200	\$0	\$0
E. FRONTAGE US 24 (1)	3 - 8'11" 14'W CIRC	\$84,000	\$0	\$0
REDD STREET (1)	3 - 8'11" 14'W CIRC	\$58,000	\$0	\$0
PLATTS AVENUE (1)	3 - 8'11" 14'W CIRC	\$100,000	\$0	\$0
GALLERY ROAD	3 - 8'11" 14'W CIRC	\$90,000	\$55,700	\$34,300
<b>EAST FORK SAND CREEK</b>				
UNNAMED ROAD, PETERSON AVE	140' TWO SPAN BRIDGE	\$136,000	\$0	\$0
PETERSON ROAD	3 - 8'11" 14'W CIRC	\$144,000	\$0	\$144,000
OMAHA BLVD EXTENDED	3 - 8'11" 14'W CIRC	\$144,000	\$0	\$144,000
MARKSBERGEL ROAD	120' TWO SPAN BRIDGE	\$572,000	\$0	\$572,000
<b>EAST FORK SUBURBANY</b>				
GENOA DRIVE	2 - 8'11" 14'W CIRC	\$80,000	\$0	\$80,000
<b>TOTAL ROADWAY CONSTRUCTION COSTS</b>				
		\$2,490,200	\$55,700	\$1,434,500
10% ENGINEERING		\$249,020	\$5,570	\$143,450
5% CONTINGENCY		\$124,510	\$2,785	\$71,725
<b>TOTALS</b>				
		\$2,863,730	\$63,255	\$1,649,675
<b>TOTAL UNPLATTED ACREAGE IN COUNTY</b>				
				7407
<b>COUNTY BRIDGE FEE (\$/ACRE)</b>				
				\$8.5

(1) BRIDGES ON CENTER TRIBUTARY FORNED THROUGH US 24 BY PHASE II PROJECT.



**Appendix E**  
**Back up to Sterling Ranch Reimbursable Cost Estimate**  
**Tables**



2019 Financial Assurance Estimate Form  
(with pre-plat construction)

Temporary BMPs  
shouldn't be included in  
this analysis

Updated: 7/16/2019

PROJECT INFORMATION		
Sand Creek at Sterling Ranch	11/20/2020	
Project Name	Date	PCD File No.

Description	Quantity	Units	Unit Cost		Total	(with Pre-Plat Construction) % Complete	Remaining
<b>SECTION 1 - GRADING AND EROSION CONTROL (Construction and Permanent BMPs)</b>							
* Earthwork							
less than 1,000; \$5,300 min		CY	\$ 8.00	=	\$ -		\$ -
1,000-5,000; \$8,000 min		CY	\$ 6.00	=	\$ -		\$ -
5,001-20,000; \$30,000 min		CY	\$ 5.00	=	\$ -		\$ -
20,001-50,000; \$100,000 min	45,000	CY	\$ 3.50	=	\$ 157,500.00		\$ 157,500.00
50,001-200,000; \$175,000 min		CY	\$ 2.50	=	\$ -		\$ -
greater than 200,000; \$500,000 min		CY	\$ 2.00	=	\$ -		\$ -
* Permanent Seeding (inc. noxious weed mgmt.)	22.0	AC	\$ 800.00	=	\$ 17,600.00		\$ 17,600.00
* Mulching	11.0	AC	\$ 750.00	=	\$ 8,250.00		\$ 8,250.00
* Permanent Erosion Control Blanket	6,837.0	SY	\$ 6.00	=	\$ 41,022.00		\$ 41,022.00
* Permanent Pond/BMP Construction		CY	\$ 20.00	=	\$ -		\$ -
* Permanent Pond/BMP (Spillway)		EA		=	\$ -		\$ -
* Permanent Pond/BMP (Outlet Structure)		EA		=	\$ -		\$ -
Safety Fence		LF	\$ 3.00	=	\$ -		\$ -
Temporary Erosion Control Blanket	6,837	SY	\$ 3.00	=	\$ 20,511.00		\$ 20,511.00
Vehicle Tracking Control	2	EA	\$ 2,370.00	=	\$ 4,740.00		\$ 4,740.00
Silt Fence	0	LF	\$ 2.50	=	\$ -		\$ -
Temporary Seeding	11.0	AC	\$ 628.00	=	\$ 6,908.00		\$ 6,908.00
Temporary Mulch	11.0	AC	\$ 750.00	=	\$ 8,250.00		\$ 8,250.00
Erosion Bales		EA	\$ 25.00	=	\$ -		\$ -
Erosion Logs/Straw Waddle	12,080	LF	\$ 5.00	=	\$ 60,400.00		\$ 60,400.00
Rock Check Dams		EA	\$ 500.00	=	\$ -		\$ -
Inlet Protection	2	EA	\$ 167.00	=	\$ 334.00		\$ 334.00
Sediment Basin		EA	\$ 1,762.00	=	\$ -		\$ -
Concrete Washout Basin	2	EA	\$ 900.00	=	\$ 1,800.00		\$ 1,800.00
Stabilized staging area	2	EA	\$ 5,000.00	=	\$ 10,000.00		\$ 10,000.00
Topsoil	414	EA	\$ 25.00	=	\$ 10,350.00		\$ 10,350.00
[insert items not listed but part of construction plans]				=	\$ -		\$ -
MAINTENANCE (35% of Construction BMPs)					\$ 43,152.55		\$ 43,152.55
<b>Section 1 Subtotal</b>					\$ 390,817.55		\$ 390,817.55

<b>SECTION 2 - PUBLIC IMPROVEMENTS *</b>							
<b>ROADWAY IMPROVEMENTS</b>							
Construction Traffic Control		LS		=	\$ -		\$ -
Aggregate Base Course (135 lbs/cf)		Tons	\$ 28.00	=	\$ -		\$ -
Aggregate Base Course (135 lbs/cf)		CY	\$ 50.00	=	\$ -		\$ -
Asphalt Pavement (3" thick)		SY	\$ 14.00	=	\$ -		\$ -
Asphalt Pavement (4" thick)		SY	\$ 19.00	=	\$ -		\$ -
Asphalt Pavement (6" thick)		SY	\$ 29.00	=	\$ -		\$ -
Asphalt Pavement (147 lbs/cf) _" thick		Tons	\$ 88.00	=	\$ -		\$ -
Raised Median, Paved		SF	\$ 8.00	=	\$ -		\$ -
Regulatory Sign/Advisory Sign		EA	\$ 300.00	=	\$ -		\$ -
Guide/Street Name Sign		EA		=	\$ -		\$ -
Epoxy Pavement Marking		SF	\$ 13.00	=	\$ -		\$ -
Thermoplastic Pavement Marking		SF	\$ 23.00	=	\$ -		\$ -
Barricade - Type 3		EA	\$ 200.00	=	\$ -		\$ -
Delineator - Type I		EA	\$ 24.00	=	\$ -		\$ -
Curb and Gutter, Type A (6" Vertical)		LF	\$ 30.00	=	\$ -		\$ -
Curb and Gutter, Type B (Median)		LF	\$ 30.00	=	\$ -		\$ -
Curb and Gutter, Type C (Ramp)		LF	\$ 30.00	=	\$ -		\$ -
4" Sidewalk (common areas only)		SY	\$ 48.00	=	\$ -		\$ -
5" Sidewalk		SY	\$ 60.00	=	\$ -		\$ -
6" Sidewalk		SY	\$ 72.00	=	\$ -		\$ -
8" Sidewalk		SY	\$ 96.00	=	\$ -		\$ -
Pedestrian Ramp		EA	\$ 1,150.00	=	\$ -		\$ -
Cross Pan, local (8" thick, 6' wide to include return)	4	LF	\$ 61.00	=	\$ 244.00		\$ 244.00
Cross Pan, collector (9" thick, 8' wide to include return)		LF	\$ 92.00	=	\$ -		\$ -
Curb Chase		EA	\$ 1,480.00	=	\$ -		\$ -
Guardrail Type 3 (W-Beam)	910	LF	\$ 49.00	=	\$ 44,590.00		\$ 44,590.00
Guardrail Type 7 (Concrete)		LF	\$ 72.00	=	\$ -		\$ -
Guardrail End Anchorage	4	EA	\$ 2,098.00	=	\$ 8,392.00		\$ 8,392.00
Guardrail Impact Attenuator		EA	\$ 3,767.00	=	\$ -		\$ -
Sound Barrier Fence (CMU block, 6' high)		LF	\$ 78.00	=	\$ -		\$ -
Sound Barrier Fence (panels, 6' high)		LF	\$ 80.00	=	\$ -		\$ -
Electrical Conduit, Size =		LF	\$ 16.00	=	\$ -		\$ -
Traffic Signal, complete intersection		EA	\$ 425,000	=	\$ -		\$ -



PROJECT INFORMATION							
Sand Creek at Sterling Ranch		11/20/2020					
Project Name		Date		PCD File No.			
Description	Quantity	Units	Unit Cost		Total	(with Pre-Plat Construction) % Complete	Remaining
OS-535 Precast bridge (see attachment A)	1	EA	\$ 2,569,576	=	\$ 2,569,576.00		\$ 2,569,576.00
[insert items not listed but part of construction plans]				=	\$ -		\$ -
<b>STORM DRAIN IMPROVEMENTS</b>							
Concrete Box Culvert (M Standard), Size ( W x H )		LF		=	\$ -		\$ -
18" Reinforced Concrete Pipe	180	LF	\$ 65.00	=	\$ 11,700.00		\$ 11,700.00
24" Reinforced Concrete Pipe		LF	\$ 78.00	=	\$ -		\$ -
30" Reinforced Concrete Pipe		LF	\$ 97.00	=	\$ -		\$ -
36" Reinforced Concrete Pipe		LF	\$ 120.00	=	\$ -		\$ -
42" Reinforced Concrete Pipe		LF	\$ 160.00	=	\$ -		\$ -
48" Reinforced Concrete Pipe		LF	\$ 195.00	=	\$ -		\$ -
54" Reinforced Concrete Pipe		LF	\$ 245.00	=	\$ -		\$ -
60" Reinforced Concrete Pipe		LF	\$ 288.00	=	\$ -		\$ -
66" Reinforced Concrete Pipe		LF	\$ 332.00	=	\$ -		\$ -
72" Reinforced Concrete Pipe		LF	\$ 380.00	=	\$ -		\$ -
18" Corrugated Steel Pipe		LF	\$ 84.00	=	\$ -		\$ -
24" Corrugated Steel Pipe		LF	\$ 96.00	=	\$ -		\$ -
30" Corrugated Steel Pipe		LF	\$ 122.00	=	\$ -		\$ -
36" Corrugated Steel Pipe		LF	\$ 147.00	=	\$ -		\$ -
42" Corrugated Steel Pipe		LF	\$ 168.00	=	\$ -		\$ -
48" Corrugated Steel Pipe		LF	\$ 178.00	=	\$ -		\$ -
54" Corrugated Steel Pipe		LF	\$ 260.00	=	\$ -		\$ -
60" Corrugated Steel Pipe		LF	\$ 280.00	=	\$ -		\$ -
66" Corrugated Steel Pipe		LF	\$ 340.00	=	\$ -		\$ -
72" Corrugated Steel Pipe		LF	\$ 400.00	=	\$ -		\$ -
78" Corrugated Steel Pipe		LF	\$ 460.00	=	\$ -		\$ -
84" Corrugated Steel Pipe		LF	\$ 550.00	=	\$ -		\$ -
Flared End Section (FES) RCP Size = 18 (unit cost = 6x pipe unit cost)	2	EA	\$ 390.00	=	\$ 780.00		\$ 780.00
Flared End Section (FES) CSP Size = (unit cost = 6x pipe unit cost)		EA		=	\$ -		\$ -
End Treatment- Headwall		EA		=	\$ -		\$ -
End Treatment- Wingwall		EA		=	\$ -		\$ -
End Treatment - Cutoff Wall		EA		=	\$ -		\$ -
Curb Inlet (Type R) L=5', Depth < 5'		EA	\$ 5,542.00	=	\$ -		\$ -
Curb Inlet (Type R) L=5', 5' ≤ Depth < 10'		EA	\$ 7,188.00	=	\$ -		\$ -
Curb Inlet (Type R) L=5', 10' ≤ Depth < 15'		EA	\$ 8,345.00	=	\$ -		\$ -
Curb Inlet (Type R) L=10', Depth < 5'		EA	\$ 7,627.00	=	\$ -		\$ -
Curb Inlet (Type R) L=10', 5' ≤ Depth < 10'		EA	\$ 7,861.00	=	\$ -		\$ -
Curb Inlet (Type R) L=10', 10' ≤ Depth < 15'		EA	\$ 9,841.00	=	\$ -		\$ -
Curb Inlet (Type R) L=15', Depth < 5'		EA	\$ 9,918.00	=	\$ -		\$ -
Curb Inlet (Type R) L=15', 5' ≤ Depth < 10'		EA	\$ 10,633.00	=	\$ -		\$ -
Curb Inlet (Type R) L=15', 10' ≤ Depth < 15'		EA	\$ 11,627.00	=	\$ -		\$ -
Curb Inlet (Type R) L=20', Depth < 5'		EA	\$ 10,570.00	=	\$ -		\$ -
Curb Inlet (Type R) L=20', 5' ≤ Depth < 10'		EA	\$ 11,667.00	=	\$ -		\$ -
Grated Inlet (Type C), Depth < 5'	0	EA	\$ 4,640.00	=	\$ -		\$ -
Grated Inlet (Type D), Depth < 5'		EA	\$ 5,731.00	=	\$ -		\$ -
Storm Sewer Manhole, Box Base		EA	\$ 11,627.00	=	\$ -		\$ -
Storm Sewer Manhole, Slab Base		EA	\$ 6,395.00	=	\$ -		\$ -
Geotextile TRM	0	SY	\$ 6.00	=	\$ -		\$ -
Rip Rap, d50 size from 6" to 24"	0	Tons	\$ 80.00	=	\$ -		\$ -
Rip Rap, Grouted	0	Tons	\$ 95.00	=	\$ -		\$ -
Drainage Channel Construction, Size ( W x H )		LF		=	\$ -		\$ -
Drainage Channel Lining, Concrete		CY	\$ 570.00	=	\$ -		\$ -
Drainage Channel Lining, Rip Rap	0	CY	\$ 112.00	=	\$ -		\$ -
Drainage Channel Lining, Grass		AC	\$ 1,469.00	=	\$ -		\$ -
Drainage Channel Lining, Other Stabilization				=	\$ -		\$ -
	0	CY	\$ -	=	\$ -		\$ -
	0	SF	\$ -	=	\$ -		\$ -
[insert items not listed but part of construction plans]				=	\$ -		\$ -
Section 2 Subtotal				=	\$ 2,635,282.00		\$ 2,635,282.00

\* - Subject to defect warranty financial assurance. A minimum of 20% shall be retained until final acceptance (MAXIMUM OF 80% COMPLETE ALLOWED)



PROJECT INFORMATION							
Sand Creek at Sterling Ranch			11/20/2020				
Project Name			Date		PCD File No.		
Description	Quantity	Units	Unit Cost		Total	(with Pre-Plat Construction)	
						% Complete	Remaining
<b>SECTION 3 - COMMON DEVELOPMENT IMPROVEMENTS (Private or District and NOT Maintained by EPC) **</b>							
<b>ROADWAY IMPROVEMENTS</b>							
Gravel maintenance trail	1,709	CY	\$ 15.00	=	\$ 25,635.00		\$ 25,635.00
MSE Retaining wall	250	SF	\$ 35.00	=	\$ 8,750.00		\$ 8,750.00
				=	\$ -		\$ -
<b>STORM DRAIN IMPROVEMENTS</b> (Exception: Permanent Pond/BMP shall be itemized under Section 1)							
Rip Rap, d50 size from 6" to 24" Channel benches	23,932	CY	\$ 80.00	=	\$ 1,914,560.00		\$ 1,914,560.00
Grouted riprap drops	24,540	CY	\$ 95.00	=	\$ 2,331,300.00		\$ 2,331,300.00
Geotextile TRM	50,180	SY	\$ 6.00	=	\$ 301,080.00		\$ 301,080.00
48-inch grouted boulders	1,240	CY	\$ 120.00	=	\$ 148,800.00		\$ 148,800.00
Sheet piling PZ 22	18,960	SF	\$ 38.00	=	\$ 720,480.00		\$ 720,480.00
Grated Inlet (Type C), Depth < 5'	2	EA	\$ 4,640.00	=	\$ 9,280.00		\$ 9,280.00
18" Reinforced Concrete Pipe	90	LF	\$ 65.00	=	\$ 5,850.00		\$ 5,850.00
Flared End Section (FES) RCP Size = 18 (unit cost = 6x pipe unit cost)	2	EA	\$ 390.00	=	\$ 780.00		\$ 780.00
				=	\$ -		\$ -
<b>WATER SYSTEM IMPROVEMENTS</b>							
Water Main Pipe (PVC), Size 8"		LF	\$ 64.00	=	\$ -		\$ -
Water Main Pipe (Ductile Iron), Size 8"		LF	\$ 75.00	=	\$ -		\$ -
Gate Valves, 8"		EA	\$ 1,858.00	=	\$ -		\$ -
Fire Hydrant Assembly, w/ all valves		EA	\$ 6,597.00	=	\$ -		\$ -
Water Service Line Installation, inc. tap and valves		EA	\$ 1,324.00	=	\$ -		\$ -
Fire Cistern Installation, complete		EA		=	\$ -		\$ -
				=	\$ -		\$ -
[insert items not listed but part of construction plans]				=	\$ -		\$ -
<b>SANITARY SEWER IMPROVEMENTS</b>							
Sewer Main Pipe (PVC), Size 8"		LF	\$ 64.00	=	\$ -		\$ -
Sanitary Sewer Manhole, Depth < 15 feet		EA	\$ 4,386.00	=	\$ -		\$ -
Sanitary Service Line Installation, complete		EA	\$ 1,402.00	=	\$ -		\$ -
Sanitary Sewer Lift Station, complete		EA		=	\$ -		\$ -
				=	\$ -		\$ -
[insert items not listed but part of construction plans]				=	\$ -		\$ -
<b>LANDSCAPING IMPROVEMENTS</b> (For subdivision specific condition of approval, or PUD)							
		EA		=	\$ -		\$ -
		EA		=	\$ -		\$ -
		EA		=	\$ -		\$ -
		EA		=	\$ -		\$ -
		EA		=	\$ -		\$ -
<b>Section 3 Subtotal</b>				=	\$ 5,466,515.00		\$ 5,466,515.00

\*\* - Section 3 is not subject to defect warranty requirements



PROJECT INFORMATION		
Sand Creek at Sterling Ranch	11/20/2020	
Project Name	Date	PCD File No.

Description	Quantity	Units	Unit Cost		Total	(with Pre-Plat Construction)	
						% Complete	Remaining
AS-BUILT PLANS (Public Improvements inc. Permanent WQCV BMPs)		LS	\$ 7,500.00	=	\$ 7,500.00		\$ 7,500.00
POND/BMP CERTIFICATION (inc. elevations and volume calculations)		LS		=	\$ -		\$ -
						<b>Total Construction Financial Assurance</b>	
						\$ 8,500,114.55	
						(Sum of all section subtotals plus as-builts and pond/BMP certification)	
						<b>Total Remaining Construction Financial Assurance (with Pre-Plat Construction)</b>	
						\$ 8,500,114.55	
						(Sum of all section totals less credit for items complete plus as-builts and pond/BMP certification)	
						<b>Total Defect Warranty Financial Assurance</b>	
						\$ 571,930.80	
						(20% of all items identified as (*). To be collateralized at time of preliminary acceptance)	

<b>Approvals</b> I hereby certify that this is an accurate and complete estimate of costs for the work as shown on the Grading and Erosion Control Plan and Construction Drawings associated with the Project.	
Engineer: Richard N. Wray, PE (P.E. Seal Required) Kiowa Engineering Corporation	
Approved by Owner / Applicant	Date
Approved by El Paso County Engineer / ECM Administrator	Date



**Final Drainage Report  
Sterling Ranch Filing No. 2**

infrastructure in the future. The full spectrum detention ponds will be owned & maintained by Sterling Ranch Metro District.

***Sand Creek Drainageway Improvements***

Per the Sand Creek DBPS, Sand Creek and connected tributaries in the area of the site will require improvements. The east tributary reaches within the site boundary (DBPS SEG: 169, 186, 164, 159) will not require improvements because they will no longer be present, as development in the areas will eliminate them, and replace them with, a storm sewer system to discharge into Sand Creek. Sand Creek itself will continue to be routed through the development. Per the DBPS, selective rip rap linings, grade control check structures, and drop structure improvements are required to stabilize the channel to prevent further degradation, scour and meandering. Full spectrum detention will also be used on its benefits to the integrity of the Sand Creek Drainageway. A separate analysis with detailed alternative sections, HEC-RAS analyses, and proposed improvements is currently being conducted by Kiowa Engineering. This analysis will outline the channel improvements that will be necessary for the section of Sand Creek Drainageway that is adjacent to the site.

Per the DBPS, the recommended improvements to reach SC-9 are selective rip rap linings, grade control check structures, and drop structure improvements. The peak flows to the channel are reduced due to the Full Spectrum Detention adding to the integrity of the channel.

***Drainage & Bridge Fees***

The site lies within the Sand Creek Drainage Basin. An approximate estimate is presented below, exact fees to be determined at time of final plat. See full Drainage and Bridge fee worksheet in Appendix D for the fee calculation spreadsheet.

2020 DRAINAGE AND BRIDGE FEES – Sterling Ranch Filing No. 2				
Impervious Acres (ac)	Drainage Fee (Per Imp. Acre)	Bridge Fee (Per Imp. Acre)	Sterling Ranch Drainage Fee	Sterling Ranch Bridge Fee
33.905	\$19,698	\$8,057	\$667,871.33	\$273,176.94

***Construction Cost Opinion***

The City of Colorado Springs Drainage Criteria Manual specifies a Cost Estimate of proposed drainage facility improvements be submitted with the Final Drainage Report. A construction cost opinion has been provided below. The below cost opinion is only an estimate of facility and drainage infrastructure cost and may vary.

Item	Description	Quantity	Unit Cost	Cost
1	18"RCP	731	\$65 /LF	\$ 47,515.00
2	24" RCP	464	\$78 /LF	\$ 36,192.00
3	30" RCP	492	\$97 /LF	\$ 47,724.00



**Final Drainage Report  
Sterling Ranch Filing No. 2**

4	36" RCP	651	\$120	/LF	\$	78,120.00
5	42" RCP	598	\$160	/LF	\$	95,680.00
6	48" RCP	1266	\$195	/LF	\$	246,870.00
7	66" RCP	1915	\$332	/LF	\$	635,780.00
8	72" RCP	2738	\$380	/LF	\$	1,040,440.00
9	84" RCP	329	\$520	/LF	\$	171,080.00
10	18" FES	1	\$390	/LF	\$	390.00
11	24" FES	1	\$468	/EA	\$	468.00
12	30" FES	2	\$582	/EA	\$	1,164.00
13	36" FES	2	\$720	/EA	\$	1,440.00
14	42" FES	2	\$960	/EA	\$	1,920.00
15	66" FES (Temp.)	1	\$1992	/EA	\$	1,992.00
16	84" Headwall	2	\$10000	/EA	\$	20,000.00
17	15' CDOT Type R At-Grade	6	\$10633	/EA	\$	63,798.00
18	10' CDOT Type R At-Grade	10	\$7861	/EA	\$	78,610.00
19	2.9'x5.5' CDOT TYPE D	1	\$5731	/EA	\$	5,731.00
20	Storm Sewer MH, box base < 15 feet	24	\$11627	/EA	\$	279,048.00
21	Storm Sewer MH, slab base ~ 15 feet-20 feet	2	\$6395	/EA	\$	12,790.00
22	Storm Sewer MH, box base > 20 feet	1	\$20000	/EA	\$	20,000.00
23	*Detention Pond W5	1	\$75000	/EA	\$	75,000.00
24	*Detention Pond W4	1	\$65000	/EA	\$	65,000.00
25	Forebay Structure	1	\$15000	/EA	\$	15,000.00
26	Mod CDOT Outlet Structure	2	\$15000	/EA	\$	30,000.00
<b>Total</b>					<b>\$</b>	<b>3,071,752.00</b>

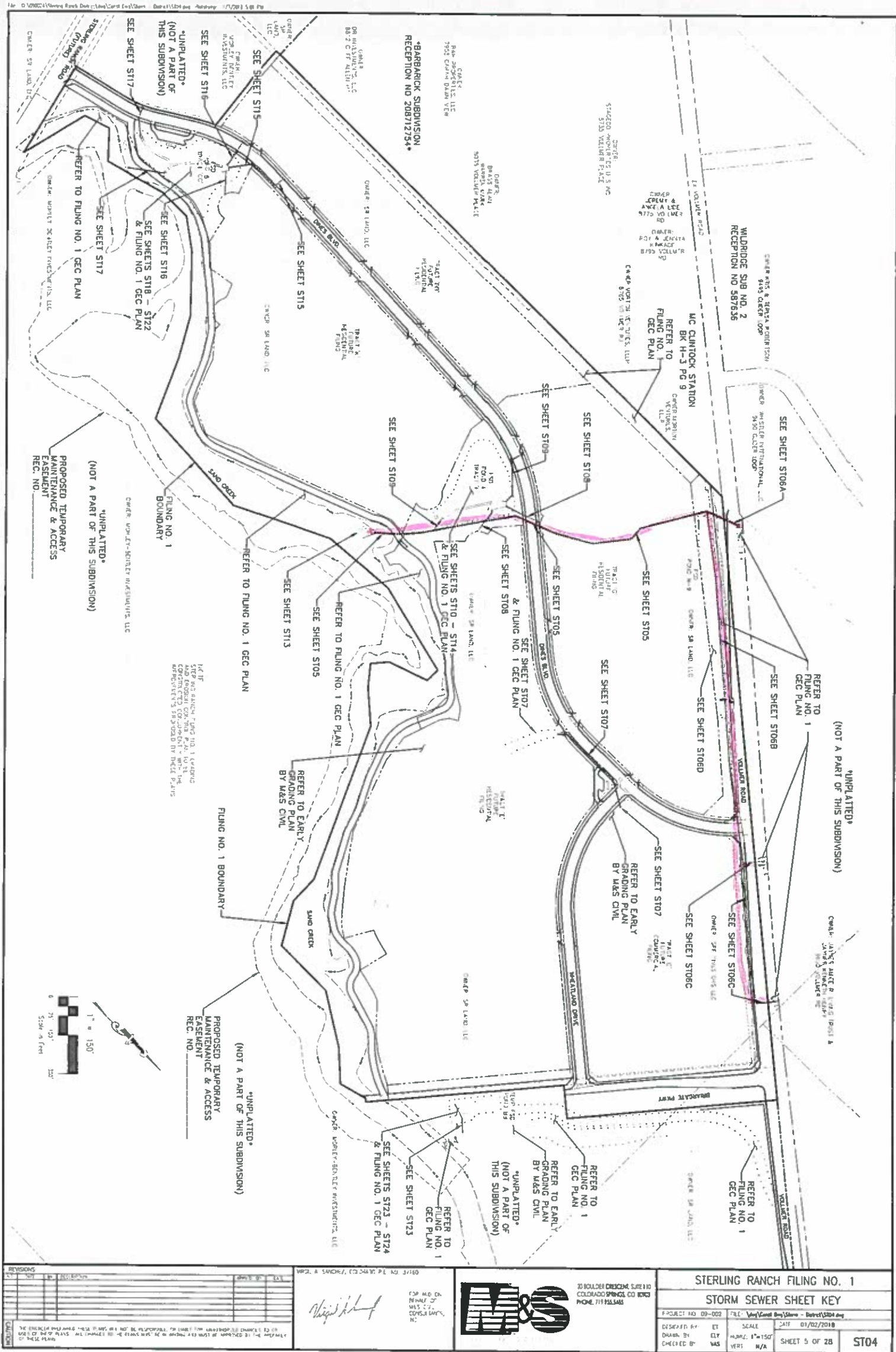
## SUMMARY

Development of this site will not adversely affect the surrounding development per this final drainage report and will have no negative impact of the neighboring developments. Assumptions were made for the offsite future developments that utilize the drainage infrastructure within this report. As the future sites develop, final drainage reports will be completed to confirm the assumptions made in this report. The proposed drainage facilities will adequately convey, detain and route runoff from the tributary and onsite flows to the Sand Creek Drainage channel. Full spectrum detention and water quality ponds W4 and W5 will be used to discharge developed flows into Sand Creek per the Urban Drainage criteria flow rates, which are at or less than the historic flow. Care will be taken during construction to accommodate overland flow routes onsite and temporary drainage conditions. The development of the Sterling Filing No. 2 project shall not adversely affect adjacent or downstream property.

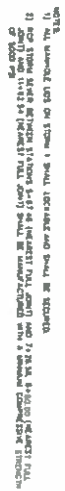












**STORM 1**  
**STA 1+80.21 TO STA 14+00.00**

MATCHLINE - STA 14+00.00  
SEE SHEET S106A



6+00 7+00 8+00  
**STORM 1 - STA 1+80.21 TO STA 14+00.00**

MATCHLINE - STA 14+00.00 - SEE SHEET ST06A

[illegible]

WOLFE & SANCHEZ, CREDITORS F.E. NO. 371160

*Wolfe & Sanchez*

PER AND ON  
BEHALF OF  
WAS CNU  
COUNCILMENTS  
PAC



26 BOULDER DESCENT. LIFE IN  
COLORADO SPRINGS, CO 80921  
PHONE 719 535-5455

STERLING RANCH FILING NO. 1

## STORM SEWER PLANS

PROJECT NO. 09-002		FILE Vinyland Hwy/Storm - District 5703	
DESIGNED BY: ET	SCALE:	DATE 01/10/2018	
DRAWN BY: EIT	HORIZ. 1"=50'	SHEET 6 OF 28	
CHECKED BY: WAS	VERT. 1"=5'		

ST05

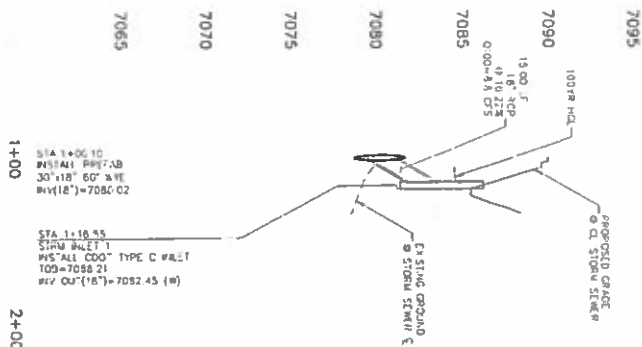
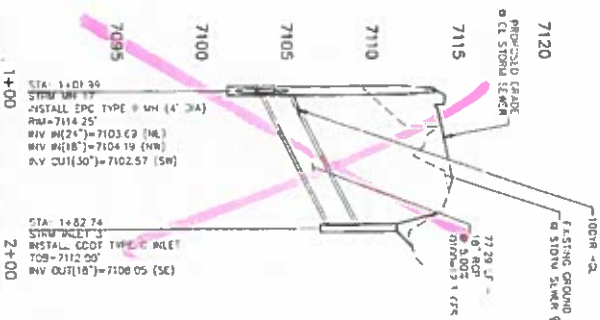
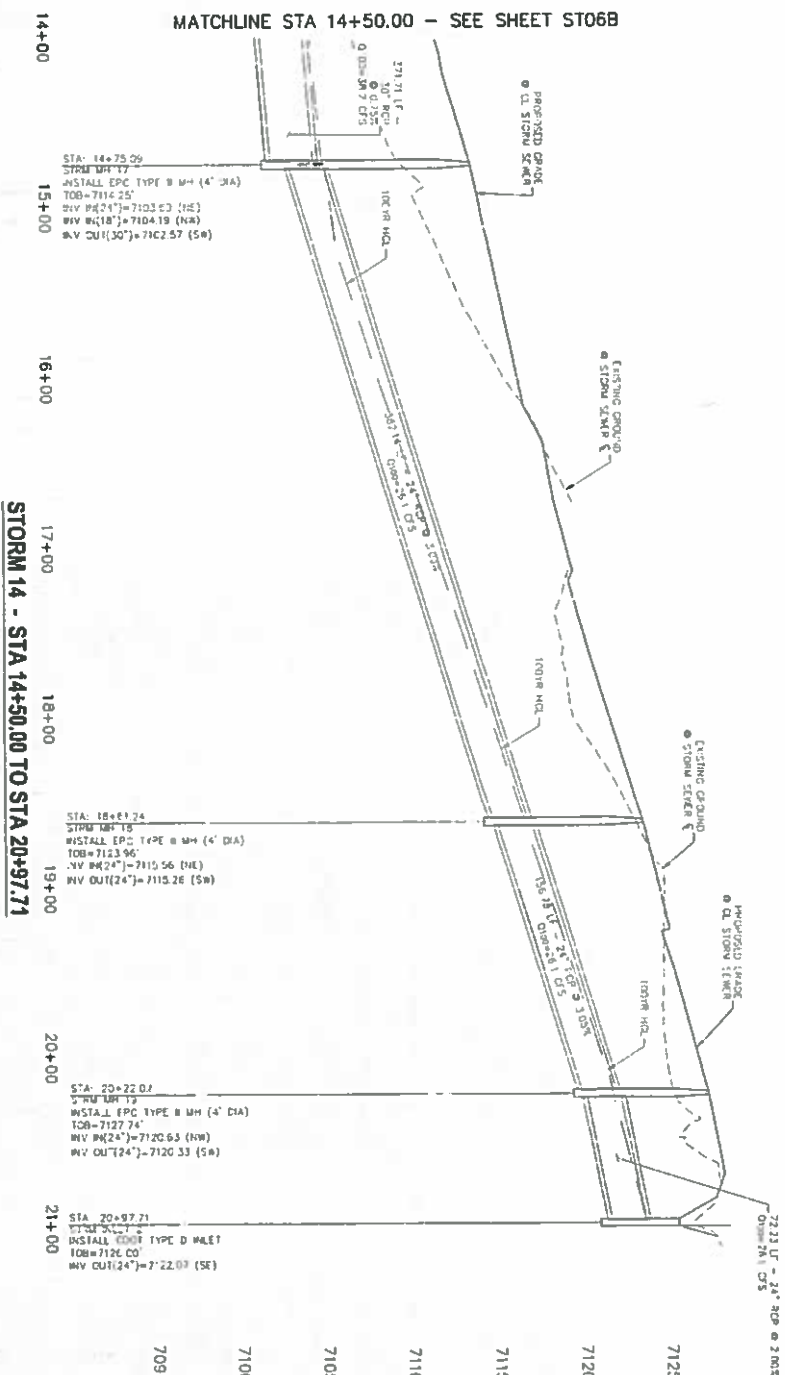
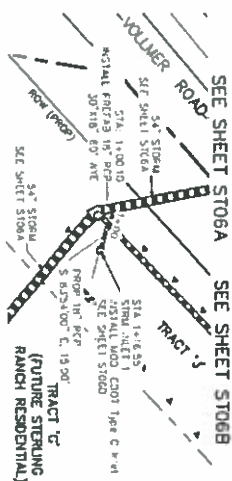
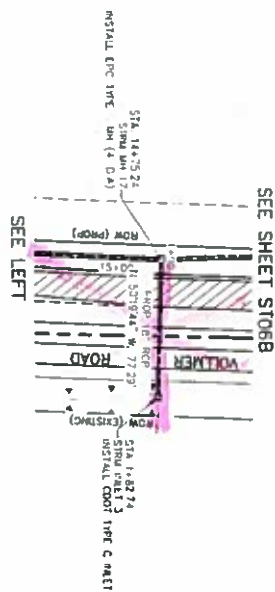
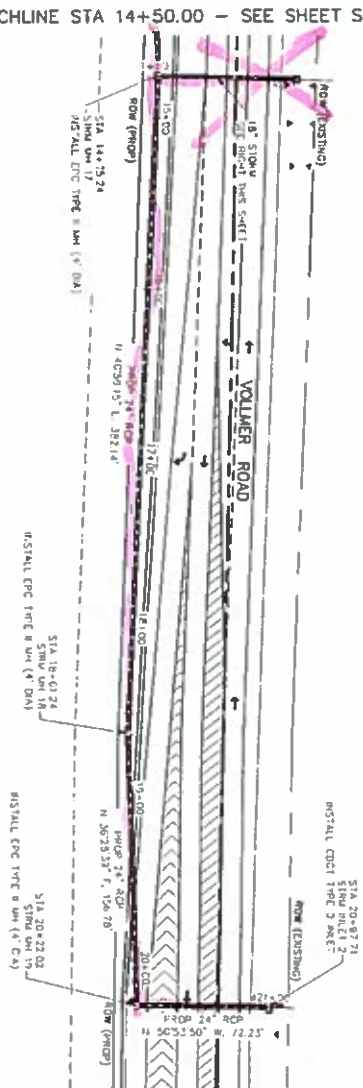










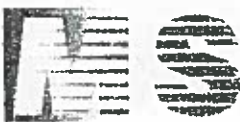


NOTE: ALL MANHOLE LIDS ON STORM 14 SHALL LOCKABLE AND SHALL BE SECURED.

[illegible]

VOLUME 4, NUMBER 4, DECEMBER 1960

FOR AND ON  
BEHALF OF  
VBS CIVIL  
CONSULTANTS,  
INC.



20 BOULDER CRESCENT, SUITE 110  
COLORADO SPRINGS, CO 80903  
PHONE: 719.955.5435

STERLING RANCH FILING NO. 1

## STORM SEWER PLANS

PROJECT NO. 09-002		FILE: <u>Weg/Coral Dwg/Storm - District</u> <u>STORC</u>	
DESIGNED BY: ET	SCALE	DATE: 01/02/2018	
DRAWN BY: ELY	HORIZ: 1"=50'	SHEET 9 OF 28	
CHECKED BY: VAS	VERT: 1"=5'		

ST06C

FOR BUSINESS UTILITY INFORMATION  
48 HRS BEFORE YOU DIG  
CALL 1-800-922-1987





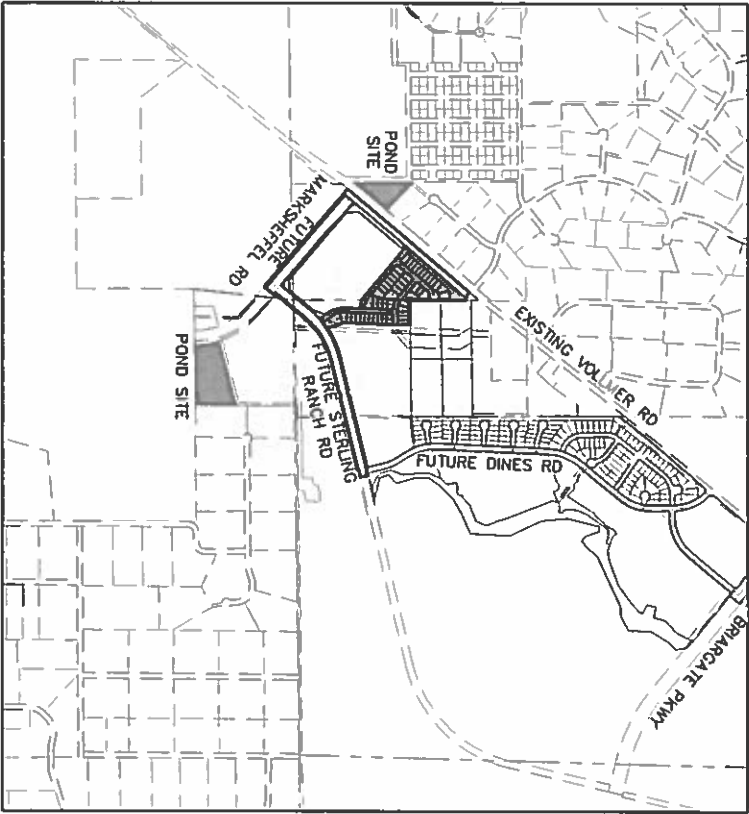
STERLING RANCH FILING NO.2  
COUNTY OF EL PASO, STATE OF COLORADO  
STORM SEWER PLANS  
SEPTEMBER 2020

AGENCIES

OWNER/DEVELOPER:	SR LAND, LLC 20 BOULDER CRESCENT, SUITE 201 COLORADO SPRINGS, CO 80903 JAMES F. MORLEY (719) 471-1742
CITY ENGINEER:	JR ENGINEERING, LLC 3425 TECH CENTER DRIVE COLORADO SPRINGS, CO 80919 WME BRADLETT P.E. (303) 267-6240
COUNTY ENGINEERING:	EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT 2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS, CO 80910 JEFF RICE, P.E. (719) 520-6300
TRAFFIC ENGINEERING:	EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS 32715 AKERS DRIVE COLORADO SPRINGS, CO 80922 JENNIFER IRVINE, P.E. (719) 520-6460
WATER RESOURCES:	STERLING RANCH METRO DISTRICT ENGINEERS JOS-HYDRO CONSULTANTS 543 E. PICES PEAK AVE., SUITE 300 COLORADO SPRINGS, CO 80903 JOHN MCCOY (719) 688-8789
PLUM DISTRICT:	BLACK FOREST FIRE PROTECTION DISTRICT 11443 TEACHOUT ROAD COLORADO SPRINGS, CO 80908 DAVE BRIAN JACK (719) 493-4300
GAS DEPARTMENT:	COLORADO SPRINGS UTILITIES 7710 DURANT DR. COLORADO SPRINGS, CO 80947 TOD WENOT (719) 688-3536
ELECTRIC DEPARTMENT:	MOUNTAIN VIEW ELECTRIC 11140 E. WOODBURN ROAD FALCON, CO 80831 (719) 493-2283
COMMUNICATIONS:	QUEST COMMUNICATIONS (UNION C. LOCATIONS) (800) 922-1887 A1A1 (LOCATIONS) (719) 635-3674
STORMWATER:	STORMWATER ENTERPRISE 30 S. NEWDA AVENUE, SUITE 401 COLORADO SPRINGS, CO 80903 QUEST COMMUNICATIONS (UNION C. LOCATIONS) (800) 922-1887 A1A1 (LOCATIONS) (719) 635-3674
HAZARD:	HAZARD AND TRANSPORTATION ENGINEERING 30 S. NEWDA AVENUE, SUITE 401 COLORADO SPRINGS, CO 80903 (719) 385-5988
GAS:	STEPHEN BLOOM 30 S. NEWDA AVENUE, SUITE 401 COLORADO SPRINGS, CO 80903 2. H. NEWDA, INC. COLORADO SPRINGS, CO 80903 719-639-5938
GAS:	CRANE KOSKEY REAL ESTATE   MCDILLIAN INDUSTRIAL PARTNERS, L.P. ONE WILLIAMS CENTER, ONE-8, IRLAND, OK 74172 918-574-7888

BENCHMARKS

1. THE TOP OF AN ALUMINUM SURVEYORS CAP, STAMPED "9853", AT THE SOUTHEAST BOUNDARY CORNER OF BARBARICK SUBDIVISION  
NORTHING = 411416.273  
EASTING = 235167.071  
ELEVATION = 7023.42
2. THE TOP OF A RED PLASTIC SURVEYORS CAP, ILLEGIBLE, AT THE NORTHWEST BOUNDARY CORNER OF PANNEY RANCHEROS SUBDIVISION  
NORTHING = 410095.404  
EASTING = 235052.131  
ELEVATION = 7000.40
3. THE TOP OF A RED PLASTIC SURVEYORS CAP, STAMPED "36141", AT THE SOUTHWEST BOUNDARY CORNER OF BARBARICK SUBDIVISION  
NORTHING = 411399.962  
EASTING = 233849.817  
ELEVATION = 7030.82

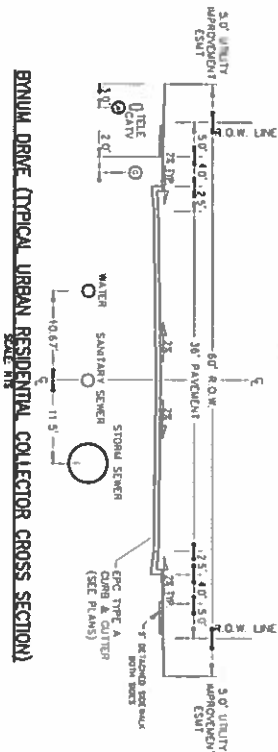
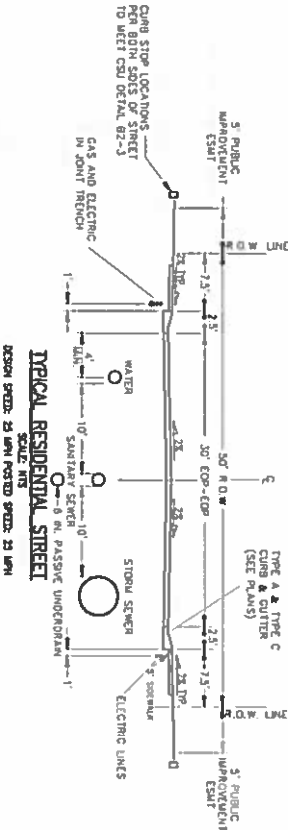


VICINITY MAP

SCALE: 1"=1,000'

SHEET INDEX

- |       |                      |
|-------|----------------------|
| 1     | COVER SHEET          |
| 2-12  | NOTES                |
| 13-17 | STORM SEWER PLANS    |
| 18-19 | STORM SEWER POND W-3 |
| 20    | POND DETAILS         |
| 21-22 | POND W-4             |
| 23-25 | POND DETAILS         |
| 26-27 | DETAIL SHEET         |



OWNER/DEVELOPER STATEMENT

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH ALL OF THE REQUIREMENTS SPECIFIED IN THESE DETAILED PLANS AND SPECIFICATIONS.

JAMES F. MORLEY DATE

EL PASO COUNTY STATEMENT

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL COMPLIANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

IN ACCORDANCE WITH ECU SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR REVIEW AND APPROVAL BY THE EL PASO COUNTY ENGINEER.

JENNIFER IRVINE, P.E. DATE  
COUNTY ENGINEER/ECOA ADMINISTRATOR

ENGINEER'S STATEMENT

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECT SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL. I HAVE REVIEWED AND APPROVED THE PLANS AND SPECIFICATIONS IN CONFORMANCE WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLAN AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

JAMES A. BRADLETT, P.E.  
COLORADO P.E. #23314  
FOR AND ON BEHALF OF JR ENGINEERING, INC.

DISTRICT APPROVALS

THESE DOCUMENTS HAVE BEEN REVIEWED AND APPROVED FOR STORM DRAIN AND ASSOCIATED UTILITY SERVICE CONSTRUCTION.

FOR AND ON BEHALF OF THE STERLING RANCH METRO DISTRICT DATE

811  
Know what's below.  
Call before you dig.



STANDARD CONSTRUCTION NOTES:

1. ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING MANUAL.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD LOCATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
3. CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES INCLUDING THE FOLLOWING:
  - 3.1 EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
  - 3.2 CITY OF COLORADO SPRINGS/EL PASO COUNTY ENGINEERING CRITERIA MANUAL VOLUMES 1 AND 2
  - 3.3 COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARDS SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION
  - 3.4 CDOT MASS STANDARDS
4. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURACY SHOW EXISTING CONDITION BOTH ON-SITE AND OFF-SITE ON THE CONSTRUCTION PLANS. ANY MODIFICATION NECESSARY DUE TO CONFLICT OMISSIONS OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORM WATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, US ARMY CORPS OF ENGINEER ISSUED 401 AND/OR 404 PERMITS AND COUNTY AND STATE FLOODING DUST PERMITS.
6. ANY TEMPORARY STORAGE AND STIRRING SHALL COMPLY WITH EL PASO COUNTY PCD AND MUTCD CRITERIA.
7. CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DOT INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
8. THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFFSITE DISTURBANCE GRADING, OR CONSTRUCTION.

STORM SEWER GENERAL NOTES:

1. ALL STATIONING IS ALONG STORM SEWER CENTERLINE UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE INVERT UNLESS OTHERWISE INDICATED.
2. ALL STORM SEWER BEDS AND WYES SHOWN ON THE PLAN SHALL BE PREFABRICATED.
3. HORIZONTAL AND VERTICAL BENDS ARE INDICATED ON THE PLANS.
4. JOINTS SHALL BE IN ACCORDANCE WITH ASTM C443 "STANDARD SPECIFICATIONS FOR JOINTS FOR CIRCULAR CONCRETE SEWER AND CULVERT PIPE USING RUBBER GASKET". IN NO CASE SHALL THE MAXIMUM JOINT OPENING FOR STRAIGHT ALIGNMENT EXCEED 1 INCH OR ONE AND ONE-HALF INCH ON CURVED ALIGNMENT.
5. INLET DIMENSIONS SHOWN ON PLANS REFER TO DISTANCES FROM INSIDE FACES OF BOX BETWEEN THE WIDTHS AND LENGTHS.
6. MANHOLE WIDTHS AND LENGTHS SHOWN ON PLANS REFER TO THE EXTERIOR WALL DIMENSIONS.
7. ALL STORM SEWER SHALL BE A MINIMUM OF CLASS II REINFORCED CONCRETE PIPE. SPECIFIC SECTIONS OF STORM SEWER SHALL BE REQUIRED TO BE CONSTRUCTED OF A MINIMUM OF 5000 PSI CONCRETE DUE TO EXCESSIVE VELOCITIES. REFER TO ADDITIONAL NOTES WITHIN CONSTRUCTION PLANS.
8. SINCE ALL PIPE ENTRIES INTO THE BASE ARE VARIABLE, THE DIMENSIONS SHOWN ARE TYPICAL. ACTUAL DIMENSIONS AND QUANTITIES FOR CONCRETE AND REINFORCEMENT SHALL BE AS REQUIRED IN THE WORK.
9. THE 48" RING (FRAME) SHALL BE SET IN A BED OF GROUT. THE FRAME SHALL BE SURROUNDED WITH A GROUT IN UNPAVED AREA, OR A CONCRETE COLLAR IN PAVED AREA.
10. PRECAST MANHOLES AND REINFORCEMENT SHALL CONFORM TO ASTM C 478 (ASPHALT M 199).
11. CAST IN PLACE MANHOLES SHALL BE CLASS B CONCRETE.
12. STEPS SHALL BE REQUIRED WHEN THE MANHOLE DEPTH EXCEEDS 3'-6" AND SHALL BE IN ACCORDANCE WITH AASHTO M 199.
13. ALL REINFORCING STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 60,000 PSI. VERTICAL STEEL SHALL BE PLACED AT 6" OF WALL. ALL BARS SHALL HAVE A 2" MINIMUM CLEARANCE.
14. FLOW CHANNELS AND INVERTS SHALL BE FORMED BY SHAPING WITH CLASS B CONCRETE OR APPROVED GROUT.
15. STUB-OUTS SHALL EXTEND 4 FT MINIMUM BEYOND OUTSIDE WALL SURFACE OF MANHOLE AND BE SATISFACTORILY PLUGGED.
16. CHECK WITH THE LOCAL GOVERNMENT AUTHORITY FOR ANY ADDITIONAL STORM SEWER SPECIFICATIONS, DETAILS, OR REGULATIONS.
17. THE SLOPE OF THE MANHOLE COVER SHALL MATCH THE ROADWAY PROFILE AND CROSS SLOPE.
18. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF ALL PREFABRICATED STRUCTURES TO THE ENGINEER FOR REVIEW PRIOR TO INSTALLATION.

SOIL RIPRAP NOTES:

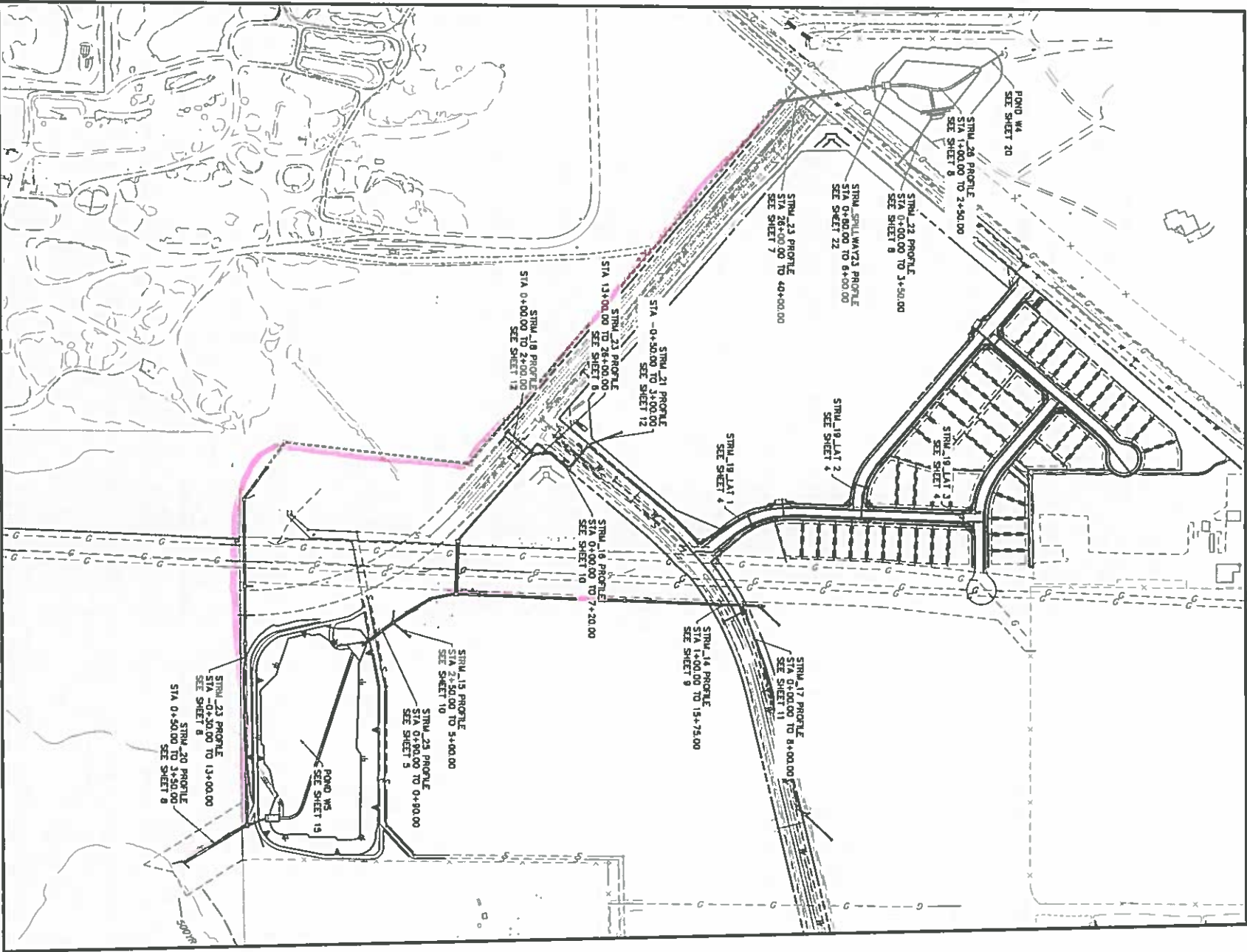
1. THE SOIL MATERIAL SHALL BE NATIVE OR TOPSOIL AND MIXED WITH SIXTY FIVE PERCENT (65%) RIPRAP AND THIRTY FIVE PERCENT (35%) SOIL BY VOLUME.
2. SOIL RIPRAP SHALL CONSIST OF A UNIFORM MIXTURE OF SOIL AND RIPRAP WITHOUT VOID.
3. CONTRACTOR SHALL COOPERATE WITH ENGINEER IN OBTAINING AND PROVIDING SAMPLES OF ALL SPECIFIED MATERIALS.
4. CONTRACTOR SHALL SUBMIT CERTIFIED LABORATORY TEST CERTIFICATES FOR ALL ITEMS REQUIRED FOR SOIL RIPRAP.
5. RIPRAP USED SHALL BE THE TYPE DESIGNATED ON THE DRAWINGS AND SHALL CONFORM TO TABLE SHOWN TO THE RIGHT.
6. THE RIPRAP DESIGNATION AND TOTAL THICKNESS OF RIPRAP SHALL BE AS SHOWN ON THE DRAWINGS. THE MAXIMUM STONE SIZE SHALL NOT LARGER THAN THE THICKNESS OF THE RIPRAP.
7. NEITHER WIDTH NOR THICKNESS OF A SINGLE STONE OF RIPRAP SHALL BE LESS THAN ONE-THIRD (1/3) OF ITS LENGTH.
8. THE SPECIFIC GRAVITY OF THE RIPRAP SHALL BE TWO AND ONE-HALF (2.5) OR GREATER.
9. MINIMUM DENSITY FOR ACCEPTABLE RIPRAP SHALL BE ONE HUNDRED AND SIXTY FIVE (165) POUNDS PER CUBIC FOOT.
10. RIPRAP SPECIFIC GRAVITY SHALL BE ACCORDING TO THE BULK-SATURATED, SURFACE-DRY BASIS, IN ACCORDANCE WITH AASHTO T65.
11. BROKEN CONCRETE OR ASPHALT PAVEMENT SHALL NOT BE ACCEPTABLE FOR USE IN THE WORK.
12. ROUNDED RIPRAP (RIVER ROCK) IS NOT ACCEPTABLE, UNLESS SPECIFICALLY DESIGNATED ON THE DRAWINGS.

STRUCTURAL CONCRETE NOTES:

1. ALL CONSTRUCTION INVOLVING THE PLACEMENT OF STRUCTURAL CONCRETE SHALL BE COMPLETED IN ACCORDANCE WITH STANDARD SPECIFICATIONS, AND AS SUPPLEMENTED BY THE COLORADO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION.
  2. STEEL REINFORCING SHALL BE GRADE 60 FOR ALL REINFORCING STEEL GREATER THAN #4. SPACING, LAP SPACING SHALL BE MINIMUM IN THE FOLLOWING TABLE UNLESS OTHERWISE SPECIFIED.

BAR SIZE	#4	#5	#6	#7	#8
SPACING	1'-9"	2'-2"	2'-0"	3'-0"	4'-0"

ALL REINFORCING SHALL HAVE A 2-INCH MINIMUM COVER UNLESS OTHERWISE SPECIFIED. ALL REINFORCED STEEL TO BE EPOXY COATED.
  3. CAST-IN-PLACE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 4,000 PSI AT 28 DAYS. ALL CONCRETE PLACED AGAINST SOIL SHALL BE TYPE II PORTLAND CEMENT. ALL EXPOSED CORNERS SHALL BE FORMED WITH A 3/4" CHAMFER UNLESS OTHERWISE SPECIFIED.
  4. EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M-213.
  5. BACKFILL AGAINST STRUCTURES SHALL NOT COME INTO CONTACT UNTIL ALL SUPPORTING DISPARASCS ARE IN PLACE AND CONCRETE HAS OBTAINED ITS FULL SEVEN DAY STRENGTH. BACKFILL SHALL BE PLACED EQUALLY ON EACH SIDE OF RETAINING WALL STRUCTURES AND CUTOFF WALLS UNTIL THE FINAL GRADE IS REACHED.
  6. FOOTING EXCAVATIONS SHALL BE EXAMINED BY THE GEOTECHNICAL ENGINEER WITH A 24-HOUR MINIMUM NOTIFICATION FOR SOIL AND/OR CONCRETE TESTING. PLACEMENT OF CONCRETE IN THE ABSENCE OF TESTING SHALL BE COMPLETED AT THE SOLE RISK OF THE CONTRACTOR.
  7. PRIOR TO THE PLACEMENT OF CONCRETE IN AREAS WHERE SOIL IS PRESENT, THE SOIL SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 6-INCHES. THE MOISTURE CONTENT SHALL BE ADJUSTED TO WITHIN PLUS OR MINUS 2 PERCENT OF THE OPTIMUM MOISTURE CONTENT AND RECOMPACTED TO AT LEAST 95 PERCENT RELATIVE COMPACTION (AASHTO-T-180).
- ABBREVIATIONS  
O.F. -- OUTSIDE FACE   E.F. -- EACH FACE   C.W. -- EACH WAY   I.F. -- INSIDE FACE   N.F. -- NEAR FACE  
T.O.C. -- TOP OF CONCRETE   B.O.C. -- BOTTOM OF CONCRETE   CONT. -- CONTINUOUS



ENGINEER'S STATEMENT

STANDARD DETAILS SHOWN WERE REVIEWED AND FOUND TO BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION, AND AS SUPPLEMENTED BY THE COLORADO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION.

MADE A. BRAUETT, P.E.  
COLORADO P.E. 32314  
FOR AND ON BEHALF OF JR ENGINEERING, INC.

SHEET 2 OF 25 25188.01	STERLING RANCH FILING NO.2		H-SCALE	N/A	No.	REVISION	BY	DATE
			V-SCALE	N/A				
	FUTURE STORM SEWER PLAN		DATE	09/01/20				
			DESIGNED BY	RAB				
			DRAWN BY	KRW				
			CHECKED BY					

 **JR ENGINEERING**  
A Westrim Company  
Central 303-740-9360 • Colorado Springs 719-593-2565  
Fort Collins 970-491-9888 • [www.jrengineering.com](http://www.jrengineering.com)

PREPARED FOR  
**SR LAND, LLC**  
20 BOULDER CRESCENT  
SUITE 201  
COLORADO SPRINGS, CO 80903  
JAMES F. MORLEY  
(719) 471-1742

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.







JOB NO. **25188-01**







**NOTE**  
WATER TIGHT JOINTS  
REQUIRED WHERE HCL  
OUTSIDE OF THE PIPE.

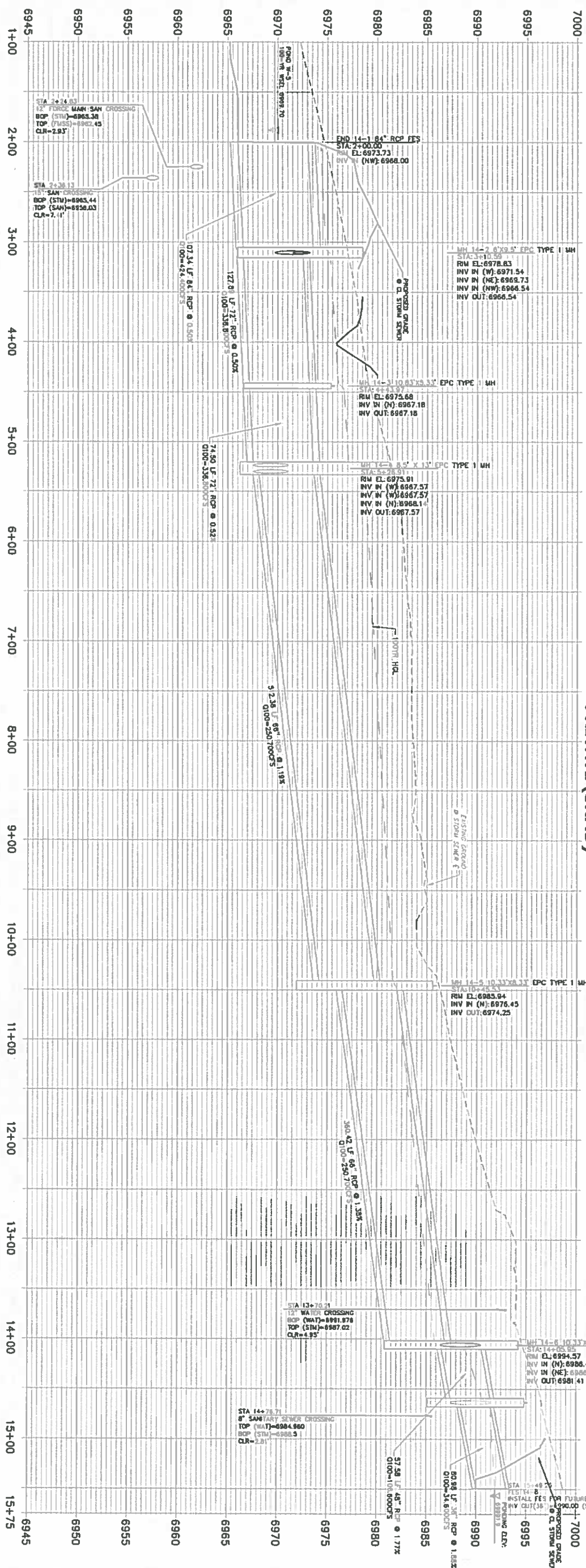


**Know what's below.  
Call before you dig.**



PREPARED FOR  
**SR LAND, LLC**  
 20 BOULDER CRESCENT  
 SUITE 201  
 COLORADO SPRINGS, CO 80903  
 JAMES F MORLEY  
 (719) 471-1742

UNTIL SUCH TIME AS  
THESE DRAWINGS ARE  
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APPROPRIATE REVIEWING  
AGENCIES, JR ENGINEERING  
APPROVES THEIR USE  
ONLY FOR THE PURPOSES  
DESIGNATED BY WRITTEN  
AUTHORIZATION.



**ENGINEER'S STATEMENT**  
PREPARED UNDER MY DIRECT SUPERVISION  
BY  
MIKE A. BRAULETT, P.E.  
COLORADO P.E. 12314  
FOR AND ON BEHALF OF JR ENGINEERING

MIKE A. BRAULETT, P.E.  
COLORADO P.E. 32314  
FOR AND ON BEHALF OF JR ENGINEERING

JOB NO. 22	SHEET 9	STERLING RANCH FILING NO.2
		FUTURE STORM SEWER PLAN

H-SCALE	1"=50'	No.	REVISION	BY	DATE
V-SCALE	1"=5'				
DATE	09/01/20				
DESIGNED BY	RAB				
DRAWN BY	KRW				
CHECKED BY					

**J-R ENGINEERING**  
A Westrian Company

Centennial 303-740-9393 • Colorado Springs 719-593-2569  
Fort Collins 970-491-9888 • [www7engineering.com](http://www7engineering.com)





**KEY MAP**  
SCALE: 1:125



50 25 0 50 100  
ORIGINAL SCALE: 1" = 50'

PREPARED FOR

**SR LAND, LLC**  
20 BOULDER CRESCENT  
SUITE 201  
COLORADO SPRINGS, CO 80903  
JAMES F. MORLEY  
(719) 471-1742

UNTIL SUCH TIME AS  
THESE DRAWINGS ARE  
APPROVED BY THE  
APPROPRIATE REVIEWING  
AGENCIES, JR ENGINEERING  
APPROVES THEIR USE  
ONLY FOR THE PURPOSES  
DESIGNATED BY WRITTEN  
AUTHORIZATION.



**J-R ENGINEERING**  
A Westbrian Company

Centennial 303-740-9393 • Colorado Springs 719-593-2593  
Fort Collins 970-491-9888 • [www.jengineering.com](http://www.jengineering.com)

H-SCALE	1" = 50'	No.	REVISION	BY	DATE
V-SCALE	N/A				
DATE	10/01/20				
DESIGNED BY	JRM				
DRAWN BY	JRM				
CHECKED BY					

STERLING RANCH PHASE 2  
PRELIMINARY UTILITY PLAN

SHEET 10 OF 17  
JOB NO. 25188.02



**Know what's below.  
Call before you dig.**



**Appendix F**  
**Back up to Sterling Ranch Drainage and Bridge Fees Paid to**  
**Date Estimate**





STERLING RANCH FILING NO. 1 - TRACTS AND RIGHT-OF-WAY - DRAINAGE & BRIDGE FEES

TRACT	SIZE/ACRE	USE	MAINTENANCE	OWNERSHIP	% Impervious	DRAINAGE FEE	FEE	BRIDGE FEE	FEE
A	0.112	LANDSCAPE/PUB. IMPROVEMENTS/PUB. UTILITY	SRMD #1	SRMD #1	2.0%	\$ 15,720	\$	35.21	\$ 4,762 \$ 10.67
B	0.987	LANDSCAPE/PUB. IMPROVEMENTS/PUB. UTILITY/TIER IV TRAIL	SRMD #1	SRMD #1	2.0%	\$ 15,720	\$	310.31	\$ 4,762 \$ 94.00
C	14.816	FUTURE COMMERCIAL PAD SITES/TIER IV TRAIL	SR LAND, LLC	SR LAND, LLC	N/A				
D	14.785	OPEN SPACE/FLOODPLAIN/TIER 1 TRAIL	SRMD #1/EPC	SRMD #1/EPC	5.0%	\$ 15,720	\$	11,621.01	\$ 4,762 \$ 3,520.31
E	29.658	FUTURE SINGLE FAMILY LOTS	SR LAND, LLC	SR LAND, LLC	N/A				
F	3.987	OPEN SPACE/DRAINAGE POND/FLOODPLAIN/PUB. IMPROVEMENTS/PUB. UTILITY/TIER 1 TRAIL	SRMD #1	SRMD #1	50.0%	\$ 15,720	\$	31,357.82	\$ 4,762 \$ 9,493.05
G	19.607	FUTURE SINGLE FAMILY LOTS	SR LAND, LLC	SR LAND, LLC	N/A				
H	0.329	LANDSCAPE/PUB. IMPROVEMENTS/PUB. UTILITY	SRMD #1	SRMD #1	35.0%	\$ 15,720	\$	1,810.16	\$ 4,762 \$ 548.34
I	0.063	LANDSCAPE/PUB. IMPROVEMENTS/PUB. UTILITY	SRMD #1	SRMD #1	2.0%	\$ 15,720	\$	19.81	\$ 4,762 \$ 6.00
J	1.727	LANDSCAPE/PUB. IMPROVEMENTS/PUB. UTILITY	SRMD #1	SRMD #1	2.0%	\$ 15,720	\$	542.97	\$ 4,762 \$ 164.48
K	18.887	FUTURE SINGLE FAMILY LOTS	SR LAND, LLC	SR LAND, LLC	N/A				
L	2.734	LANDSCAPE/PUB. IMPROVEMENTS/PUB. UTILITY/TRAIL	SRMD #1	SRMD #1	2.0%	\$ 15,720	\$	859.57	\$ 4,762 \$ 260.39
M	0.168	LANDSCAPE/PUB. IMPROVEMENTS/PUB. UTILITY/TRAIL	SRMD #1	SRMD #1	2.0%	\$ 15,720	\$	52.82	\$ 4,762 \$ 16.00
N	0.075	LANDSCAPE/PUB. IMPROVEMENTS/PUB. UTILITY	SRMD #1	SRMD #1	2.0%	\$ 15,720	\$	23.58	\$ 4,762 \$ 7.14
O	0.153	LANDSCAPE/PUB. IMPROVEMENTS/PUB. UTILITY	SRMD #1	SRMD #1	2.0%	\$ 15,720	\$	48.10	\$ 4,762 \$ 14.57
P	0.057	LANDSCAPE/PUB. IMPROVEMENTS/PUB. UTILITY	SRMD #1	SRMD #1	2.0%	\$ 15,720	\$	17.92	\$ 4,762 \$ 5.43
Q	0.051	LANDSCAPE/PUB. IMPROVEMENTS/PUB. UTILITY	SRMD #1	SRMD #1	2.0%	\$ 15,720	\$	16.03	\$ 4,762 \$ 4.86
R	0.064	LANDSCAPE/PUB. IMPROVEMENTS/PUB. UTILITY	SRMD #1	SRMD #1	2.0%	\$ 15,720	\$	20.12	\$ 4,762 \$ 6.10
S	0.064	LANDSCAPE/PUB. IMPROVEMENTS/PUB. UTILITY	SRMD #1	SRMD #1	2.0%	\$ 15,720	\$	20.12	\$ 4,762 \$ 6.10
T	0.057	LANDSCAPE/PUB. IMPROVEMENTS/PUB. UTILITY	SRMD #1	SRMD #1	2.0%	\$ 15,720	\$	17.92	\$ 4,762 \$ 5.43
U	0.031	LANDSCAPE/PUB. IMPROVEMENTS/PUB. UTILITY	SRMD #1	SRMD #1	2.0%	\$ 15,720	\$	9.75	\$ 4,762 \$ 2.95
V	0.052	LANDSCAPE/PUB. IMPROVEMENTS/PUB. UTILITY	SRMD #1	SRMD #1	2.0%	\$ 15,720	\$	16.35	\$ 4,762 \$ 4.95
W	0.064	LANDSCAPE/PUB. IMPROVEMENTS/PUB. UTILITY	SRMD #1	SRMD #1	2.0%	\$ 15,720	\$	20.12	\$ 4,762 \$ 6.10
X	0.064	LANDSCAPE/PUB. IMPROVEMENTS/PUB. UTILITY	SRMD #1	SRMD #1	2.0%	\$ 15,720	\$	20.12	\$ 4,762 \$ 6.10
Y	0.051	LANDSCAPE/PUB. IMPROVEMENTS/PUB. UTILITY	SRMD #1	SRMD #1	2.0%	\$ 15,720	\$	16.03	\$ 4,762 \$ 4.86
Z	0.027	LANDSCAPE/PUB. IMPROVEMENTS/PUB. UTILITY	SRMD #1	SRMD #1	2.0%	\$ 15,720	\$	8.49	\$ 4,762 \$ 2.57
AA	0.181	LANDSCAPE/PUB. IMPROVEMENTS/PUB. UTILITY	SRMD #1	SRMD #1	2.0%	\$ 15,720	\$	56.91	\$ 4,762 \$ 17.24
BB	10.545	FUTURE SINGLE FAMILY LOTS	SR LAND, LLC	SR LAND, LLC	N/A				
CC	2.727	OPEN SPACE/DRAINAGE POND/PARK/PUB. IMPROVEMENTS/PUB. UTILITY/T	SRMD #1	SRMD #1	5.0%	\$ 15,720	\$	2,143.42	\$ 4,762 \$ 649.30
R.O.W.	12.256	ROAD RIGHTS OF WAY	EPC	EPC	95.0%	\$ 15,720	\$	183,031.10	\$ 4,762 \$ 55,444.92
	134.379	TOTAL AREA			TOTAL FEES		\$ 232,075.77		\$ 70,301.83



# STERLING RANCH FILING NO. 1

A PORTION OF THE SOUTH ONE-HALF OF SECTION 28 AND A PORTION OF SECTION 33,  
TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN,  
COUNTY OF EL PASO, STATE OF COLORADO

14151

## BE IT KNOWN BY THESE PRESENTS:

THAT SR LAND, LLC, AND SR COMMERCIAL, LLC, BEING THE OWNERS OF THE FOLLOWING DESCRIBED TRACT OF LAND TO WIT:

## LEGAL DESCRIPTION:

A TRACT OF LAND LOCATED IN A PORTION OF THE SOUTH ONE-HALF (S1/2) OF SECTION 28 AND A PORTION OF SECTION 33, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M., EL PASO COUNTY, STATE OF COLORADO, AND BEING MORE PARTICULAR DESCRIBED AS FOLLOWS:

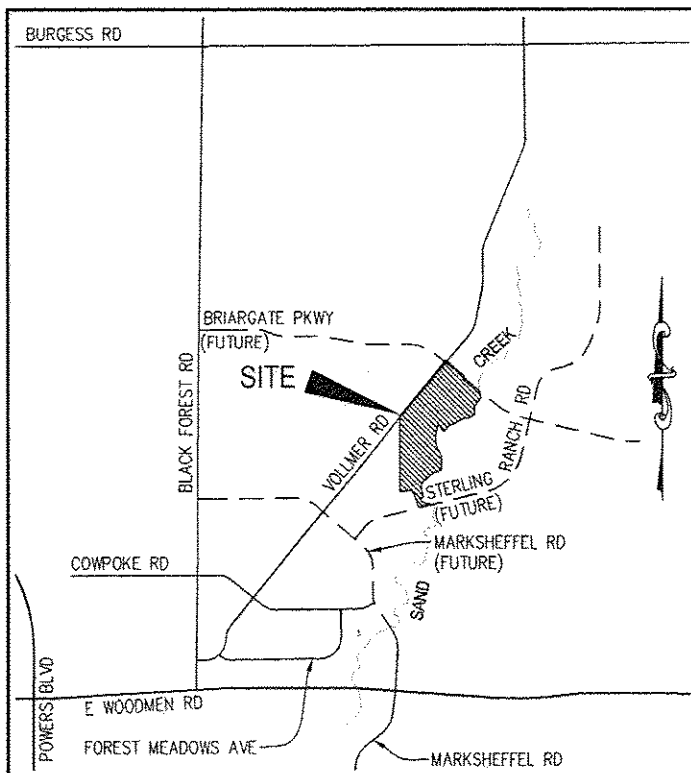
BASIS OF BEARINGS: THE SOUTH LINE OF THE SOUTHWEST QUARTER (SW1/4) OF SECTION 34, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M. AS MONUMENTED AT THE SOUTHWEST CORNER OF SAID SOUTHWEST QUARTER (SW1/4) BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624" AND AT THE SOUTHEAST CORNER OF SAID SOUTHWEST QUARTER (SW1/4) BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624", SAID LINE BEARS N 89°14'14" E, A DISTANCE OF 2,722.56 FEET.

COMMENCING AT SAID SOUTHWEST CORNER OF SAID SOUTHWEST QUARTER (SW1/4) OF SAID SECTION 34; THENCE N 46°19'08" W, A DISTANCE OF 5321.79 FEET TO THE POINT OF INTERSECTION OF THE SOUTHEASTERLY RIGHT-OF-WAY LINE OF VOLLMER ROAD WITH THE WEST LINE OF THE EAST ONE-HALF OF THE NORTHWEST ONE-QUARTER OF SAID SECTION 33 SAID POINT BEING THE POINT OF BEGINNING OF THE TRACT OF LAND HEREIN DESCRIBED;

THENCE N 39°33'48" E ON SAID SOUTHEASTERLY RIGHT-OF-WAY LINE OF VOLLMER ROAD, A DISTANCE OF 2355.81 FEET;

THENCE S 50°26'12" E, A DISTANCE OF 810.00 FEET;  
THENCE S 39°33'48" W, A DISTANCE OF 130.00 FEET;  
THENCE S 50°26'12" E, A DISTANCE OF 766.13 FEET;  
THENCE S 39°33'48" W, A DISTANCE OF 15.00 FEET;  
THENCE S 14°40'14" E, A DISTANCE OF 112.26 FEET;  
THENCE S 42°37'17" W, A DISTANCE OF 138.57 FEET;  
THENCE S 31°50'18" W, A DISTANCE OF 229.19 FEET;  
THENCE S 00°14'13" W, A DISTANCE OF 243.48 FEET;  
THENCE S 59°31'52" W, A DISTANCE OF 178.71 FEET;  
THENCE S 87°30'37" W, A DISTANCE OF 117.08 FEET;  
THENCE S 65°02'48" W, A DISTANCE OF 632.56 FEET;  
THENCE S 40°27'16" W, A DISTANCE OF 150.60 FEET;  
THENCE S 50°58'40" W, A DISTANCE OF 94.24 FEET;  
THENCE N 50°40'25" W, A DISTANCE OF 72.52 FEET;  
THENCE N 19°39'33" W, A DISTANCE OF 163.51 FEET;  
THENCE N 88°53'18" W, A DISTANCE OF 56.14 FEET;  
THENCE S 13°28'59" W, A DISTANCE OF 371.46 FEET;  
THENCE S 04°22'24" E, A DISTANCE OF 296.69 FEET;  
THENCE S 26°06'12" E, A DISTANCE OF 393.42 FEET;  
THENCE S 02°44'27" W, A DISTANCE OF 452.46 FEET;  
THENCE S 65°39'18" W, A DISTANCE OF 252.42 FEET;  
THENCE S 60°18'33" W, A DISTANCE OF 166.84 FEET;  
THENCE S 46°04'45" W, A DISTANCE OF 252.38 FEET;  
THENCE S 35°47'33" W, A DISTANCE OF 139.61 FEET;  
THENCE S 00°53'19" E, A DISTANCE OF 131.63 FEET;  
THENCE S 15°27'56" E, A DISTANCE OF 241.77 FEET;  
THENCE S 46°52'24" W, A DISTANCE OF 128.28 FEET;  
THENCE S 17°53'47" E, A DISTANCE OF 105.91 FEET;  
THENCE S 76°13'42" E, A DISTANCE OF 278.31 FEET;  
THENCE S 76°19'20" W, A DISTANCE OF 391.51 FEET;  
THENCE N 13°40'40" W, A DISTANCE OF 218.90 FEET TO A POINT OF CURVE;  
THENCE ALONG THE ARC OF A 420.00 FOOT RADIUS CURVE TO THE LEFT, THROUGH A CENTRAL ANGLE OF 18°23'00", AN ARC LENGTH OF 134.76 FEET (THE LONG CHORD OF WHICH BEARS N 22°52'10" W, A LONG CHORD DISTANCE OF 134.18 FEET);  
THENCE N 32°03'40" W, 152.06 FEET TO A POINT OF CURVE;  
THENCE ALONG THE ARC OF A 595.00 FOOT RADIUS CURVE TO THE RIGHT, THROUGH A CENTRAL ANGLE OF 8°11'54" (THE LONG CHORD OF WHICH BEARS N 27°57'43", A LONG CHORD DISTANCE OF 85.07 FEET);  
THENCE S 83°22'30" W, A DISTANCE OF 194.64 FEET;  
THENCE S 80°21'06" W, A DISTANCE OF 59.99 FEET;  
THENCE S 85°53'10" W, A DISTANCE OF 59.92 FEET;  
THENCE S 85°09'36" W, A DISTANCE OF 54.23 FEET;  
THENCE N 04°50'24" W, A DISTANCE OF 20.00 FEET TO A POINT ON SAID WEST LINE OF THE EAST ONE-HALF OF THE WEST ONE-HALF OF SAID SECTION 33;  
THENCE N 00°07'25" W ALONG SAID WEST LINE, A DISTANCE OF 2414.11 FEET TO THE POINT OF BEGINNING;

SAID TRACT OF LAND CONTAINS A CALCULATED AREA OF 5,853,541 SQUARE FEET (134.379 ACRES) MORE OR LESS.



VICINITY MAP  
N.T.S.

## OWNERS CERTIFICATE / DEDICATION STATEMENT:

THE ABOVE OWNERS HAVE CAUSED SAID TRACT OF LAND TO BE SURVEYED AND PLATTED INTO TRACTS, STREETS, AND EASEMENTS AS SHOWN ON THE ACCOMPANYING PLAT, WHICH PLAT IS DRAWN TO A FIXED SCALE AS INDICATED THEREON AND ACCURATELY SETS FORTH THE BOUNDARIES AND DIMENSIONS OF SAID TRACT AND LOCATIONS OF SAID EASEMENTS, AND WHICH TRACT SO PLATTED SHALL BE KNOWN AS STERLING RANCH FILING NO. 1, EL PASO COUNTY, COLORADO.

ALL STREETS HEREBY PLATTED ARE HEREBY DEDICATED TO PUBLIC USE AND SAID OWNER DOES HEREBY PERSONALLY COVENANT AND AGREE THAT ALL PLATTED STREETS WILL BE CONSTRUCTED TO EL PASO COUNTY STANDARDS, AND THAT PROPER DRAINAGE FOR SAME WILL BE PROVIDED AT HIS OWN EXPENSE, ALL TO THE SATISFACTION OF THE BOARD OF COUNTY COMMISSIONERS OF EL PASO COUNTY, COLORADO, AND UPON ACCEPTANCE BY RESOLUTION, ALL STREETS SO DEDICATED WILL BECOME MATTERS OF MAINTENANCE BY EL PASO COUNTY, COLORADO.

THE AFOREMENTIONED, SR LAND, LLC HAS EXECUTED THIS INSTRUMENT THIS 21<sup>st</sup> DAY OF MAY, 2018, A.D.

BY: James F. Morley

PRINTED NAME: JAMES F. MORLEY

AS: Manager OF SR LAND, LLC

STATE OF COLORADO }  
COUNTY OF EL PASO } SS

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS 21<sup>st</sup> DAY OF MAY, 2018, A.D. BY JAMES F. MORLEY AS Manager OF SR LAND, LLC.

WITNESS MY HAND AND OFFICIAL SEAL: Eric S. Howard  
MY COMMISSION EXPIRES: 05-30-2022  
NOTARY PUBLIC

THE AFOREMENTIONED, SR COMMERCIAL, LLC HAS EXECUTED THIS INSTRUMENT THIS 21<sup>st</sup> DAY OF MAY, 2018, A.D.

BY: James F. Morley

PRINTED NAME: JAMES F. MORLEY

AS: Manager OF SR COMMERCIAL, LLC

STATE OF COLORADO }  
COUNTY OF EL PASO } SS

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS 21<sup>st</sup> DAY OF MAY, 2018, A.D. BY JAMES F. MORLEY AS Manager OF SR COMMERCIAL, LLC.

WITNESS MY HAND AND OFFICIAL SEAL: Eric S. Howard  
MY COMMISSION EXPIRES: 05-30-2022  
NOTARY PUBLIC

## ACCEPTANCE CERTIFICATE FOR TRACTS:

THE DEDICATION OF TRACTS A, B, D, F, H, I, J, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AND CC ARE FOR LANDSCAPE PURPOSES, DRAINAGE, FLOODPLAIN, PEDESTRIAN ACCESS, OPEN SPACE, AND UTILITIES PURPOSES AND ARE HEREBY ACCEPTED FOR OWNERSHIP AND MAINTENANCE BY STERLING RANCH METROPOLITAN DISTRICT NO. 1.

BY: James F. Morley

PRINTED NAME: JAMES F. MORLEY

AS: Manager OF STERLING RANCH METROPOLITAN DISTRICT NO. 1

STATE OF COLORADO }  
COUNTY OF EL PASO } SS

ACKNOWLEDGED BEFORE ME THIS 21<sup>st</sup> DAY OF MAY, 2018, A.D.

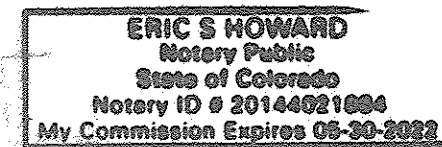
BY: James F. Morley

PRINTED NAME: JAMES F. MORLEY

AS: Manager OF STERLING RANCH METROPOLITAN DISTRICT NO. 1

WITNESS MY HAND AND OFFICIAL SEAL:

MY COMMISSION EXPIRES: MAY 30, 2022  
NOTARY PUBLIC Eric S. Howard



## ACCEPTANCE CERTIFICATE FOR TRACTS:

THE DEDICATION OF TRACT C IS FOR FUTURE COMMERCIAL DEVELOPMENT PURPOSES AND ARE HEREBY ACCEPTED FOR OWNERSHIP AND MAINTENANCE BY SR COMMERCIAL, LLC.

BY: James F. Morley

PRINTED NAME: JAMES F. MORLEY

AS: Manager OF SR COMMERCIAL, LLC

STATE OF COLORADO }  
COUNTY OF EL PASO } SS

ACKNOWLEDGED BEFORE ME THIS 21<sup>st</sup> DAY OF MAY, 2018, A.D.

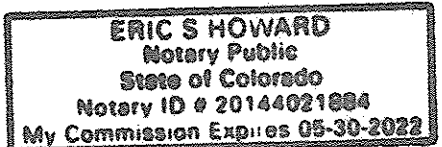
BY: James F. Morley

PRINTED NAME: JAMES F. MORLEY

AS: Manager OF SR COMMERCIAL, LLC

WITNESS MY HAND AND OFFICIAL SEAL:

MY COMMISSION EXPIRES: MAY 30, 2022  
NOTARY PUBLIC Eric S. Howard



## ACCEPTANCE CERTIFICATE FOR TRACTS:

THE DEDICATION OF TRACTS E, G, K, AND BB ARE FOR FUTURE RESIDENTIAL DEVELOPMENT PURPOSES AND ARE HEREBY ACCEPTED FOR OWNERSHIP AND MAINTENANCE BY SR LAND, LLC.

BY: James F. Morley

PRINTED NAME: JAMES F. MORLEY

AS: Manager OF SR LAND, LLC

STATE OF COLORADO }  
COUNTY OF EL PASO } SS

ACKNOWLEDGED BEFORE ME THIS 21<sup>st</sup> DAY OF MAY, 2018, A.D.

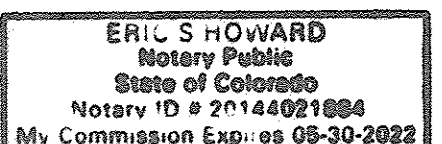
BY: James F. Morley

PRINTED NAME: JAMES F. MORLEY

AS: Manager OF SR LAND, LLC

WITNESS MY HAND AND OFFICIAL SEAL:

MY COMMISSION EXPIRES: MAY 30, 2022  
NOTARY PUBLIC Eric S. Howard



## SURVEYOR'S CERTIFICATION:

I, VERNON P. TAYLOR, A DULY LICENSED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THIS PLAT TRULY AND CORRECTLY REPRESENTS THE RESULTS OF A SURVEY MADE ON DATE OF SURVEY, BY ME OR UNDER MY DIRECT SUPERVISION AND THAT ALL MONUMENTS EXIST AS SHOWN HEREON. THAT MATHEMATICAL CLOSURE ERRORS ARE LESS THAN 1:10,000; AND THAT SAID PLAT HAS BEEN PREPARED IN FULL COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO DEALING WITH MONUMENTS, SUBDIVISION, OR SURVEYING OF LAND AND ALL APPLICABLE PROVISION OF THE EL PASO COUNTY LAND DEVELOPMENT CODE.

I ATTEST THE ABOVE ON THE 21<sup>st</sup> DAY OF MAY, 2018.

Vernon P. Taylor  
VERNON P. TAYLOR  
PLS NO. 25966  
FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC.  
20 BOULDER CRESCENT, SUITE 110  
COLORADO SPRINGS, CO 80903



## NOTICE:

ACCORDING TO COLORADO LAW, YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT, MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

## PCD DIRECTOR CERTIFICATE:

THIS PLAT FOR "STERLING RANCH FILING NO. 1" WAS APPROVED FOR FILING BY THE EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT DIRECTOR ON THIS 21 DAY OF MAY, 2018, SUBJECT TO ANY NOTES OR CONDITIONS SPECIFIED HEREON.

C. J. Taylor  
DIRECTOR, PLANNING AND COMMUNITY  
DEVELOPMENT DEPARTMENT

5/21/18  
DATE

## BOARD OF COUNTY COMMISSIONERS CERTIFICATE:

THIS PLAT FOR "STERLING RANCH FILING NO. 1" WAS APPROVED FOR FILING BY THE EL PASO COUNTY, COLORADO BOARD OF COUNTY COMMISSIONERS ON THIS 13 DAY OF February, 2018. SUBJECT TO ANY NOTES SPECIFIED HEREON AND ANY CONDITIONS INCLUDED IN THE RESOLUTION OF APPROVAL. THE DEDICATIONS OF LAND TO THE PUBLIC (STREETS AND EASEMENTS) ARE ACCEPTED, BUT PUBLIC IMPROVEMENTS THEREON WILL NOT BECOME MAINTENANCE RESPONSIBILITY OF EL PASO COUNTY UNTIL PRELIMINARY ACCEPTANCE OF THE PUBLIC IMPROVEMENTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE AND ENGINEERING CRITERIA MANUAL AND THE SUBDIVISION IMPROVEMENTS AGREEMENT.

Dan R. Brown  
PRESIDENT, BOARD OF COUNTY COMMISSIONERS

DATE

## CLERK AND RECORDER:

STATE OF COLORADO }  
COUNTY OF EL PASO } SS

I HEREBY CERTIFY THAT THIS INSTRUMENT WAS FILED FOR RECORD IN MY OFFICE AT 11:51 O'CLOCK A.M., THIS 30<sup>th</sup> DAY OF May, 2018, A.D., AND DULY RECORDED UNDER RECEPTION NO. 28714151 OF THE RECORDS OF EL PASO COUNTY, COLORADO.

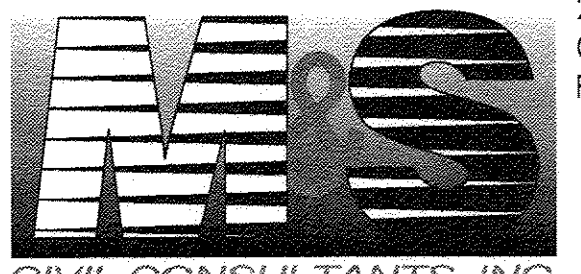
BY: Charles D. Broerman  
CHUCK BROERMAN, EL PASO COUNTY CLERK AND RECORDER

## FEES:

Sm DRAINAGE FEE: \$232,075.77 Pre-Credit used prior to Drainage Bar  
BRIDGE FEE: \$70,301.83 Sand Creek  
SCHOOL FEE: NONE (No Lots)  
PARK FEE: NONE (No Lots)

SUMMARY:  
TRACTS 122.020 ACRES 90.80%  
RIGHTS-OF-WAY 12.359 ACRES 9.20%  
TOTAL 134.379 ACRES 100.00%

FINAL PLAT  
STERLING RANCH FILING NO. 1  
JOB NO. 09-002  
DATE PREPARED: 12/7/2016  
DATE REVISED: 05/17/2018



20 BOULDER CRESCENT, SUITE 110  
COLORADO SPRINGS, CO 80903  
PHONE: 719.955.5485



BE IT KNOWN BY THESE PRESENTS:

THAT SR LAND, LLC, BEING THE OWNER OF THE FOLLOWING DESCRIBED TRACT OF LAND TO WIT:

LEGAL DESCRIPTION:

A REPLAT OF TRACT BB, "STERLING RANCH FILING NO. 1", AS RECORDED UNDER RECEPTION NO. 218714151 IN THE EL PASO COUNTY RECORDS,

SAID TRACT BEING A PORTION OF THE E ½ W ½ OF SECTION 33, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN, EL PASO COUNTY, COLORADO;

CONTAINING A CALCULATED AREA OF 459,341 SQUARE FEET (10.545 ACRES) MORE OR LESS.

ACCEPTANCE CERTIFICATE FOR TRACTS:

THE DEDICATION OF TRACTS A, B, C, D, E, F, G, H, I, AND J ARE FOR LANDSCAPE PURPOSES, DRAINAGE, PEDESTRIAN ACCESS, OPEN SPACE, AND UTILITIES PURPOSES AND ARE HEREBY ACCEPTED FOR OWNERSHIP AND MAINTENANCE BY STERLING RANCH METROPOLITAN DISTRICT NO. 1.

BY James F. Morley  
AS PRESIDENT OF STERLING RANCH METROPOLITAN DISTRICT NO. 1

STATE OF COLORADO )  
                                  ) SS  
COUNTY OF EL PASO )

ACKNOWLEDGED BEFORE ME THIS 12<sup>th</sup> DAY OF December, 2018, A.D.

BY James F. Morley  
AS PRESIDENT OF STERLING RANCH METROPOLITAN DISTRICT NO. 1

WITNESS MY HAND AND OFFICIAL SEAL:

MY COMMISSION EXPIRES: MAY 30, 2022  
NOTARY PUBLIC Eric S. Howard

OWNERS CERTIFICATE/DEDICATION STATEMENT:

THE UNDERSIGNED, BEING ALL THE OWNERS, MORTGAGEES, BENEFICIARIES OF DEEDS OF TRUST AND HOLDERS OF OTHER INTERESTS IN THE LAND DESCRIBED HEREIN, HAVE LAID OUT, SUBDIVIDED, AND PLATTED SAID LANDS INTO LOTS, TRACTS, STREETS, AND EASEMENTS AS SHOWN HEREON UNDER THE NAME AND SUBDIVISION OF "BRANDING IRON AT STERLING RANCH FILING NO. 1". ALL PUBLIC IMPROVEMENTS SO PLATTED ARE HEREBY DEDICATED TO PUBLIC USE AND SAID OWNER DOES HEREBY COVENANT AND AGREE THAT THE PUBLIC IMPROVEMENTS WILL BE CONSTRUCTED TO EL PASO COUNTY STANDARDS AND THAT PROPER DRAINAGE AND EROSION CONTROL FOR SAME WILL BE PROVIDED AT SAID OWNER'S EXPENSE, ALL TO THE SATISFACTION OF THE BOARD OF COUNTY COMMISSIONERS OF EL PASO COUNTY, COLORADO. UPON ACCEPTANCE BY RESOLUTION, ALL PUBLIC IMPROVEMENTS SO DEDICATED WILL BECOME MATTERS OF MAINTENANCE BY EL PASO COUNTY, COLORADO. THE UTILITY EASEMENTS SHOWN HEREON ARE HEREBY DEDICATED FOR PUBLIC UTILITIES AND COMMUNICATION SYSTEMS AND OTHER PURPOSES AS SHOWN HEREON. THE ENTITIES RESPONSIBLE FOR PROVIDING THE SERVICES FOR WHICH THE EASEMENTS ARE ESTABLISHED ARE HEREBY GRANTED THE PERPETUAL RIGHT OF INGRESS AND EGRESS FROM AND TO ADJACENT PROPERTIES FOR INSTALLATION, MAINTENANCE AND REPLACEMENT OF UTILITY LINES AND RELATED FACILITIES.

THE AFOREMENTIONED, SR LAND, LLC HAS EXECUTED THIS INSTRUMENT THIS 12<sup>th</sup> DAY OF December, 2018, A.D.

BY: James F. Morley

PRINTED NAME: JAMES F. MORLEY

AS: MANAGER OF SR LAND, LLC

STATE OF COLORADO )  
                                  ) SS  
COUNTY OF EL PASO )

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS 12<sup>th</sup> DAY

OF December, 2018, A.D. BY James F. Morley  
AS MANAGER OF SR LAND, LLC.

WITNESS MY HAND AND OFFICIAL SEAL:

MY COMMISSION EXPIRES: May 30, 2022  
NOTARY PUBLIC Eric S. Howard

PLAT NOTES:

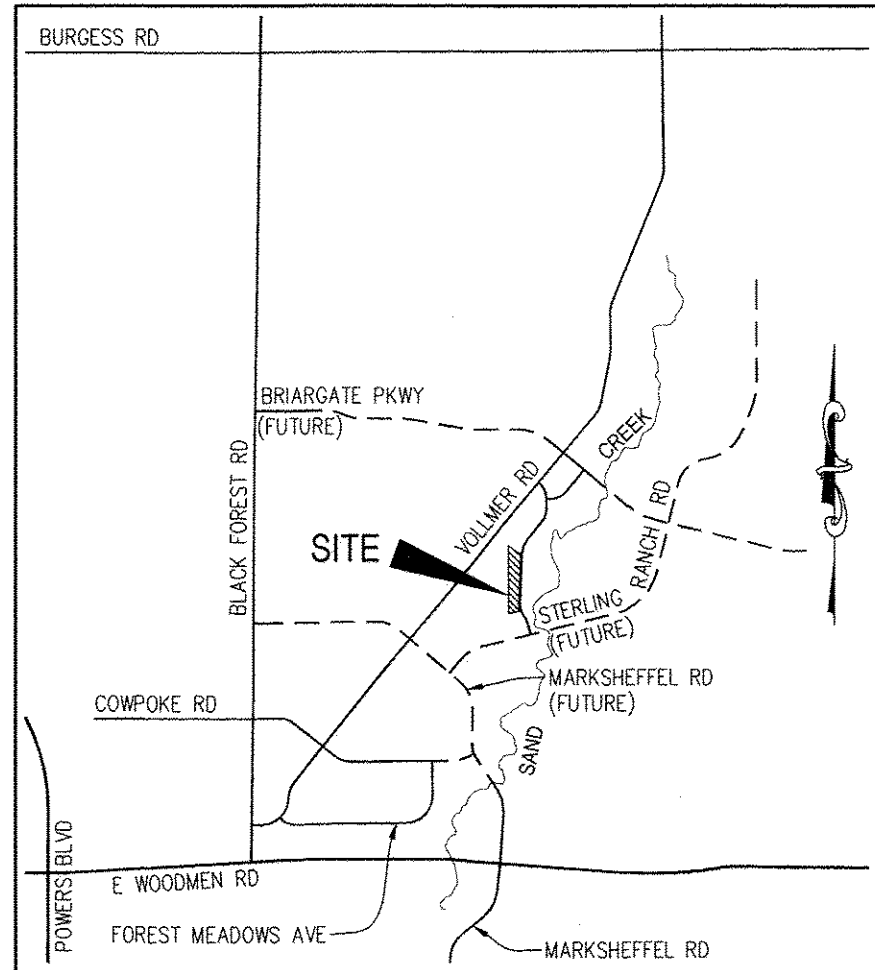
- BASIS OF BEARINGS:**  
BEARINGS ARE BASED ON THE SOUTH LINE OF THE SOUTHWEST QUARTER (SW1/4) OF SECTION 34, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M. AS MONUMENTED AT THE SOUTHWEST CORNER OF SAID SOUTHWEST QUARTER (SW1/4) BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624" AND AT THE SOUTHEAST CORNER OF SAID SOUTHWEST QUARTER (SW1/4) BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624", SAID LINE BEARS N89°14'14"E, A DISTANCE OF 2,722.56 FEET. THE UNITS OF MEASUREMENT IS U.S. SURVEY FEET.
- FLOODPLAIN STATEMENT:**  
NO PORTION OF THIS SITE IS LOCATED WITHIN A DESIGNATED FEMA FLOODPLAIN AS DETERMINED BY THE FLOOD INSURANCE RATE MAP, COMMUNITY MAP NUMBER 08041C0535F, EFFECTIVE DATE MARCH 17, 1997.
- TITLE COMMITMENT:**  
THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY M&S CIVIL CONSULTANTS, INC., TO DETERMINE THE COMPATIBILITY OF THIS DESCRIPTION WITH THAT OF ADJACENT TRACTS OF LAND, OWNERSHIP OR EASEMENTS OF RECORD. FOR ALL INFORMATION REGARDING EASEMENTS, RIGHT-OF-WAY OR TITLE OF RECORD, M&S CIVIL CONSULTANTS, INC., RELIED UPON TITLE COMMITMENT FILE NO. SC55074007, PREPARED BY LAND TITLE GUARANTEE COMPANY, REPRESENTING OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY, DATED NOVEMBER 30, 2018 AT 5:00 P.M.
- WATER SERVICE** SHALL BE SUPPLIED BY STERLING RANCH METROPOLITAN DISTRICT NO. 1. (RESOLUTION RECORDED UNDER RECEPTION NO. 218134276 OF THE RECORDS OF EL PASO COUNTY.
- SEWER SERVICE** SHALL BE SUPPLIED BY STERLING RANCH METROPOLITAN DISTRICT NO. 1. (RESOLUTION RECORDED UNDER RECEPTION NO. 218134277 OF THE RECORDS OF EL PASO COUNTY.

BRANDING IRON AT STERLING RANCH FILING NO. 1

A REPLAT OF TRACT BB, "STERLING RANCH FILING NO. 1", SAID TRACT BEING A PORTION OF THE E ½ W ½ OF SECTION 33, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN, EL PASO COUNTY, COLORADO

PLAT NOTES: (CONTINUED)

- ELECTRIC SERVICE SHAL BE PROVIDED BY MOUNTAIN VIEW ELECTRIC ASSOCIATION.
- NATURAL GAS SERVICE SHALL BE PROVIDED BY COLORADO SPRINGS UTILITIES.
- FIRE PROTECTION BY THE BLACK FOREST FIRE PROTECTION DISTRICT.
- ALL STRUCTURAL FOUNDATIONS SHALL BE LOCATED AND DESIGNED BY A PROFESSIONAL ENGINEER, CURRENTLY LICENSED IN THE STATE OF COLORADO.
- THE FOLLOWING REPORTS HAVE BEEN SUBMITTED IN ASSOCIATION WITH THE PRELIMINARY PLAN OR FINAL PLAT FOR THIS SUBDIVISION AND ARE ON FILE AT THE COUNTY DEVELOPMENT SERVICES DEPARTMENT: TRANSPORTATION IMPACT STUDY; DRAINAGE REPORT; WATER RESOURCES REPORT; WASTEWATER DISPOSAL REPORT; NATURAL HAZARDS REPORT; GEOLOGY AND SOILS REPORT; WETLAND STUDY/404 PERMIT.
- ALL PROPERTY OWNERS ARE RESPONSIBLE FOR MAINTAINING PROPER STORM WATER DRAINAGE IN AND THROUGH THEIR PROPERTY. PUBLIC DRAINAGE EASEMENTS AS SPECIFICALLY NOTED ON THE PLAT SHALL BE MAINTAINED BY THE INDIVIDUAL LOT OWNERS UNLESS OTHERWISE INDICATED. STRUCTURES, FENCES, MATERIALS OR LANDSCAPING THAT COULD IMPEDE THE FLOW OF RUNOFF SHALL NOT BE PLACED IN DRAINAGE EASEMENTS.
- UNLESS OTHERWISE INDICATED, ALL SIDE LOT LINES ARE HEREBY PLATTED ON EITHER SIDE WITH A 5 FOOT PUBLIC UTILITY AND DRAINAGE EASEMENT, EXCEPT WHEN THE SIDE YARD IS ADJACENT TO A PUBLIC STREET AND THEREFORE A 10 FOOT SIDE YARD SHALL BE PLATTED AS A PUBLIC IMPROVEMENT, PUBLIC UTILITY AND DRAINAGE EASEMENT. ALL FRONT LOT LINES ARE HEREBY PLATTED WITH A 10 FOOT PUBLIC IMPROVEMENT, PUBLIC UTILITY AND DRAINAGE EASEMENT, AND ALL REAR LOT LINES ARE HEREBY PLATTED WITH A 10 FOOT PUBLIC UTILITY AND DRAINAGE EASEMENT. ALL EXTERIOR SUBDIVISION BOUNDARIES ARE HEREBY PLATTED WITH A 7 FOOT PUBLIC IMPROVEMENT, PUBLIC UTILITY AND DRAINAGE EASEMENT. EASEMENTS ARE HEREBY PLATTED IN THE LOCATIONS ON SHEET 3 OF THIS PLAT. THE SOLE RESPONSIBILITY FOR THE SURFACE MAINTENANCE OF EASEMENTS IS HEREBY VESTED WITH THE INDIVIDUAL PROPERTY OWNER UNLESS OTHERWISE NOTED.
- SIDE-LOT DRAINAGE SWALES SHALL BE CONSTRUCTED WHERE NECESSARY AT THE TIME OF HOME CONSTRUCTION.
- DEVELOPER SHALL COMPLY WITH FEDERAL AND STATE LAWS, REGULATIONS, ORDINANCES, REVIEW AND PERMIT REQUIREMENTS, AND OTHER AGENCY REQUIREMENTS, IF ANY, OF APPLICABLE AGENCIES INCLUDING, BUT NOT LIMITED TO, THE COLORADO DIVISION OF WILDLIFE, COLORADO DEPARTMENT OF TRANSPORTATION, U.S. ARMY CORPS OF ENGINEERS AND THE U.S. FISH AND WILDLIFE SERVICE REGARDING THE ENDANGERED SPECIES ACT, PARTICULARLY AS IT RELATES TO THE LISTED SPECIES.
- THE ADDRESSES EXHIBITED ON THIS PLAT ARE FOR INFORMATIONAL PURPOSES ONLY. THEY ARE NOT THE LEGAL DESCRIPTION AND ARE SUBJECT TO CHANGE.
- NO DRIVEWAY SHALL BE ESTABLISHED UNLESS AN ACCESS PERMIT HAS BEEN GRANTED BY EL PASO COUNTY.
- NO LOT OR INTEREST THEREIN, SHALL BE SOLD, CONVEYED, OR TRANSFERRED WHETHER BY DEED OR BY CONTRACT, NOR SHALL BUILDING PERMITS BE ISSUED, UNTIL AND UNLESS EITHER THE REQUIRED PUBLIC AND COMMON DEVELOPMENT IMPROVEMENTS HAVE BEEN CONSTRUCTED AND COMPLETED AND PRELIMINARILY ACCEPTED IN ACCORDANCE WITH THE SUBDIVISION IMPROVEMENTS AGREEMENT BETWEEN THE APPLICANT/OWNER AND EL PASO COUNTY AS RECORDED UNDER RECEPTION NUMBER 218145998 IN THE OFFICE OF THE CLERK AND RECORDER OF EL PASO COUNTY, COLORADO OR, IN THE ALTERNATIVE, OTHER COLLATERAL MAKE PROVISION FOR THE COMPLETION OF SAID IMPROVEMENTS IN ACCORDANCE WITH THE EL PASO COUNTY LAND DEVELOPMENT CODE AND ENGINEERING CRITERIA MANUAL, ANY SUCH ALTERNATIVE COLLATERAL MUST BE APPROVED BY THE BOARD OF COUNTY COMMISSIONERS OR, IF PERMITTED BY THE SUBDIVISION IMPROVEMENTS AGREEMENT, BY THE PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT DIRECTOR AND MEET THE POLICY AND PROCEDURE REQUIREMENTS OF EL PASO COUNTY PRIOR TO THE RELEASE BY THE COUNTY OF ANY LOTS FOR SALE, CONVEYANCE OR TRANSFER.
- THIS PLAT RESTRICTION MAY BE REMOVED OR RESCINDED BY THE BOARD OF COUNTY COMMISSIONERS OR, IF PERMITTED BY THE SUBDIVISION IMPROVEMENTS AGREEMENT, BY THE PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT DIRECTOR UPON EITHER APPROVAL OF AN ALTERNATIVE FORM OF COLLATERAL OR COMPLETION AND PRELIMINARY ACCEPTANCE BY THE EL PASO BOARD OF COUNTY COMMISSIONERS OF ALL IMPROVEMENTS REQUIRED TO BE CONSTRUCTED AND COMPLETED IN ACCORDANCE WITH SAID SUBDIVISION IMPROVEMENTS AGREEMENT. THE PARTIAL RELEASE OF LOTS FOR SALE, CONVEYANCE OR TRANSFER MAY ONLY BE GRANTED IN ACCORDANCE WITH ANY PLANNED PARTIAL RELEASE OF LOTS AUTHORIZED BY THE SUBDIVISION IMPROVEMENTS AGREEMENT.
- NOTICE: THIS PROPERTY MAY BE ADVERSELY IMPACTED BY NOISE, DUST, FUMES, AND LIGHT POLLUTION CAUSED BY ADJACENT INDUSTRIAL PROPERTIES AND ACTIVITIES. THE BUYER SHOULD RESEARCH AND BE AWARE OF THIS POTENTIALITY AND THE RAMIFICATIONS THEREOF.
- ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT OR LAND BOUNDARY MONUMENT OR ACCESSORY, COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO CRS 18-4-508.
- ALL PROPERTY WITHIN THIS SUBDIVISION IS INCLUDED IN STERLING RANCH METROPOLITAN DISTRICT NO. 2. [TC#11]
- THE STERLING RANCH METROPOLITAN DISTRICT NO. 1 WILL BE RESPONSIBLE FOR MAINTENANCE OF THE ROADS UNTIL PRELIMINARY ACCEPTANCE OF THE PUBLIC IMPROVEMENTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, AND THE SUBDIVISION IMPROVEMENTS AGREEMENT.
- ALL PROPERTY WITHIN THIS SUBDIVISION IS SUBJECT TO A DECLARATION OF COVENANT AS RECORDED AT RECEPTION NO. 218146000 OF THE RECORDS OF THE EL PASO COUNTY CLERK AND RECORDER.
- SPECIAL DISTRICT DISCLOSURE:  
A TITLE 32 SPECIAL DISTRICT ANNUAL REPORT AND DISCLOSURE FORM SATISFACTORY TO THE DEVELOPMENT SERVICES DEPARTMENT SHALL BE RECORDED WITH EACH PLAT.
- MAILBOXES SHALL BE INSTALLED IN ACCORDANCE WITH ALL EL PASO COUNTY AND UNITED STATES POSTAL SERVICE REGULATION.
- THE SUBDIVIDER(S) AGREES ON BEHALF OF HIM/HERSELF AND ANY DEVELOPER OR BUILDER SUCCESSORS AND ASSIGNEES THAT SUBDIVIDER AND/OR SAID SUCCESSORS AND ASSIGNS SHALL BE REQUIRED TO PAY TRAFFIC IMPACT FEES IN ACCORDANCE WITH THE EL PASO COUNTY ROAD IMPACT FEE PROGRAM RESOLUTION (RESOLUTION NO. 16-454), OR ANY AMENDMENTS THERETO, AT OR PRIOR TO THE TIME OF BUILDING PERMIT SUBMITTALS. THE FEE OBLIGATION, IF NOT PAID AT FINAL PLAT RECORDING, SHALL BE DOCUMENTED ON ALL SALES DOCUMENTS AND ON PLAT NOTES TO ENSURE THAT A TITLE SEARCH WOULD FIND THE FEE OBLIGATION BEFORE SALE OF THE PROPERTY. TRANSPORTATION IMPACT FEES ARE TO BE PAID AT BUILDING PERMIT. This property is included in The PID No. 2 as recorded at Reception No. 218145999.
- THE FOLLOWING LOTS HAVE BEEN FOUND TO BE IMPACTED BY GEOLOGIC HAZARDS. MITIGATION MEASURES AND A MAP OF THE HAZARD AREA CAN BE FOUND IN THE REPORT GEOLOGIC HAZARD REPORT BY ENTECH ENGINEERING, INC. DATED JANUARY 2009, IN FILE SP-14-015 AVAILABLE AT THE EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT. THE FOLLOWING LOTS ARE IMPACTED: POTENTIALLY SEASONAL SHALLOW GROUNDWATER: LOTS 25, 32, 33, 34, 37, 38, 41, 42, 48, 49, AND 50
- THERE SHALL BE NO DIRECT RESIDENTIAL LOT ACCESS TO DINES BOULEVARD.
- A PRIVATE DETENTION POND MAINTENANCE AGREEMENT FOR PONDS, W9, 4 & 8 IS RECORDED UNDER RECEPTION NO. 218061178, RECEPTION NO. 218061179, & RECEPTION NO. 218061180, OF THE RECORDS OF EL PASO COUNTY. [TC#24, TC#25, TC#26]



VICINITY MAP  
N.T.S.

PLAT NOTES: (CONTINUED)

- A RIGHT-OF-WAY LANDSCAPE LICENSE AGREEMENT IS RECORDED UNDER RECEPTION NO. 218061176, OF THE RECORDS OF EL PASO COUNTY. [TC#23]
- A LANDSCAPE EXHIBIT IS RECORDED UNDER RECEPTION NO. 218061176, OF THE RECORDS OF EL PASO COUNTY. [TC#23]
- A MOUNTAIN VIEW ELECTRIC ASSOCIATION GRANT OF RIGHT-OF-WAY EASEMENT IS RECORDED UNDER RECEPTION NO. 218054783, OF THE RECORDS OF EL PASO COUNTY. [TC#21]
- A RIGHT OF WAY AGREEMENT IS RECORDED UNDER RECEPTION NO. 205161563, OF THE RECORDS OF EL PASO COUNTY.
- A PERMANENT EASEMENT AGREEMENT IS RECORDED UNDER RECEPTION NO. 201034022, OF THE RECORDS OF EL PASO COUNTY. [TC#7]
- AN AGREEMENT TO GRANT ACCESS AND UTILITY EASEMENTS IS RECORDED UNDER RECEPTION NO. 214100440, OF THE RECORDS OF EL PASO COUNTY. [TC#12]
- AN AGREEMENT TO GRANT ACCESS AND UTILITY EASEMENTS IS RECORDED UNDER RECEPTION NO. 214100441, AND AMENDED UNDER RECEPTION NO. 216043584, OF THE RECORDS OF EL PASO COUNTY. [TC#13]
- AN AGREEMENT TO GRANT OF EASEMENTS IS RECORDED UNDER RECEPTION NO. 214100442, AND AMENDED UNDER RECEPTION NO. 216043585, OF THE RECORDS OF EL PASO COUNTY. [TC#16]
- A CONSOLIDATED SERVICE PLAN FOR STERLING RANCH METROPOLITAN DISTRICTS 1, 2 AND 3 IS RECORDED UNDER RECEPTION NO. 214042782, OF THE RECORDS OF EL PASO COUNTY. [TC#11]
- THE PROPERTY IS SUBJECT TO RESTRICTIONS AS DEFINED BY TRUSTEE'S SPECIAL WARRANTY DEED UNDER RECEPTION NO. 206045408, OF THE RECORDS OF EL PASO COUNTY. [TC#8]
- AN OFFSITE EMERGENCY ACCESS EASEMENT IS RECORDED UNDER RECEPTION NO. 218146001, OF THE RECORDS OF EL PASO COUNTY.
- TO FULFILL BCC Condition of Approval No. 13, Owner/Developer agrees that the El Paso County Road Impact Fee amount effective January 1, 2019 shall apply to all building permits obtained prior to January 1, 2019.
- AN OFFSITE PRIVATE DETENTION POND MAINTENANCE AGREEMENT IS RECORDED UNDER RECEPTION NO. 218145999, OF THE RECORDS OF EL PASO COUNTY. THIS POND MAY BE REMOVED WHEN THE DOWNSTREAM PONDS ARE CONSTRUCTED.

TRACT TABLE				
TRACT	SIZE (ACRES)	USE	MAINTENANCE	OWNERSHIP
A	0.005	LANDSCAPE/PUBLIC IMPROVEMENTS/PUBLIC UTILITY/TRAIL	SRMD#1	SRMD#1
B	0.005	LANDSCAPE/PUBLIC IMPROVEMENTS/PUBLIC UTILITY/TRAIL	SRMD#1	SRMD#1
C	0.005	LANDSCAPE/PUBLIC IMPROVEMENTS/PUBLIC UTILITY/TRAIL	SRMD#1	SRMD#1
D	0.005	LANDSCAPE/PUBLIC IMPROVEMENTS/PUBLIC UTILITY/TRAIL	SRMD#1	SRMD#1
E	0.005	LANDSCAPE/PUBLIC IMPROVEMENTS/PUBLIC UTILITY/TRAIL	SRMD#1	SRMD#1
F	0.005	LANDSCAPE/PUBLIC IMPROVEMENTS/PUBLIC UTILITY/TRAIL	SRMD#1	SRMD#1
G	0.005	LANDSCAPE/PUBLIC IMPROVEMENTS/PUBLIC UTILITY/TRAIL	SRMD#1	SRMD#1
H	0.005	LANDSCAPE/PUBLIC IMPROVEMENTS/PUBLIC UTILITY/TRAIL	SRMD#1	SRMD#1
I	0.005	LANDSCAPE/PUBLIC IMPROVEMENTS/PUBLIC UTILITY/TRAIL	SRMD#1	SRMD#1
J	0.005	LANDSCAPE/PUBLIC IMPROVEMENTS/PUBLIC UTILITY/TRAIL	SRMD#1	SRMD#1
*SRMD#1 = STERLING RANCH METROPOLITAN DISTRICT NO. 1				

SURVEYORS CERTIFICATE

14262

I VERNON P. TAYLOR, A DULY REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT TRULY AND CORRECTLY REPRESENTS THE RESULTS OF A SURVEY MADE ON DATE OF SURVEY, BY ME OR UNDER MY DIRECT SUPERVISION AND THAT ALL MONUMENTS EXIST AS SHOWN HEREON; THAT MATHEMATICAL CLOSURE ERRORS ARE LESS THAN 1:10,000 ; AND THAT SAID PLAT HAS BEEN PREPARED IN FULL COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO DEALING WITH MONUMENTS, SUBDIVISION, OR SURVEYING OF LAND AND ALL APPLICABLE PROVISIONS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE.

I ATTEST THE ABOVE ON THIS 12<sup>th</sup> DAY OF December, 2018.

Vernon P. Taylor  
VERNON P. TAYLOR  
COLORADO PLS NO. 25966, FOR AND  
ON BEHALF OF M&S CIVIL CONSULTANTS, INC  
20 BOULDER CRESCENT, SUITE 110  
COLORADO SPRINGS, COLORADO 80903



NOTICE:

ACCORDING TO COLORADO LAW, YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT, MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT  
DIRECTOR CERTIFICATE:

THIS PLAT FOR "HOMESTEAD AT STERLING RANCH FILING NO. 1" WAS APPROVED FOR FILING BY THE EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT DIRECTOR ON THIS 11<sup>th</sup> DAY OF December, 2018, SUBJECT TO ANY NOTES OR CONDITIONS SPECIFIED HEREON.

Mark Sheehan  
DIRECTOR, PLANNING AND COMMUNITY  
DEVELOPMENT DEPARTMENT

12/12/18  
DATE

BOARD OF COUNTY COMMISSIONERS CERTIFICATE:

THIS PLAT FOR "BRANDING IRON AT STERLING RANCH FILING NO. 1" WAS APPROVED FOR FILING BY THE EL PASO COUNTY, COLORADO BOARD OF COUNTY COMMISSIONERS ON THIS 11<sup>th</sup> DAY OF December, 2018. SUBJECT TO ANY NOTES SPECIFIED HEREON AND ANY CONDITIONS INCLUDED IN THE RESOLUTION OF APPROVAL, THE DEDICATIONS OF LAND TO THE PUBLIC (STREETS AND EASEMENTS) ARE ACCEPTED, BUT PUBLIC IMPROVEMENTS THEREON WILL NOT BECOME MAINTENANCE RESPONSIBILITY OF EL PASO COUNTY UNTIL PRELIMINARY ACCEPTANCE OF THE PUBLIC IMPROVEMENTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE AND ENGINEERING CRITERIA MANUAL AND THE SUBDIVISION IMPROVEMENTS AGREEMENT.

James F. Morley  
PRESIDENT, BOARD OF COUNTY COMMISSIONERS

DATE

CLERK AND RECORDER:

STATE OF COLORADO )  
                                  ) SS  
COUNTY OF EL PASO )

Assessor  
El Paso County Assessor

I HEREBY CERTIFY THAT THIS INSTRUMENT WAS FILED FOR RECORD IN MY OFFICE AT 3:30 O'CLOCK P.M., THIS 20 DAY OF Dec, 2018, A.D., AND DULY RECORDED UNDER RECEPTION NO. 218714262 OF THE RECORDS OF EL PASO COUNTY, COLORADO.

BY: Chuck Broerman  
CHUCK BROERMAN, EL PASO COUNTY CLERK AND RECORDER

FEES: pre credit Deferral to Drainage fees Bridge fees paid.  
SUMMARY:

DRAINAGE FEE: \$25,988.15 51 LOTS 8.334 ACRES 79.03%  
BRIDGE FEE: \$85,783.58 10 TRACTS 0.050 ACRES 0.47%  
RIGHTS-OF-WAY 2.161 ACRES 20.50%  
SCHOOL FEE: \$12,140.00 DIST 20 TOTAL 10.545 ACRES 100.00%  
PARK FEE: Assigned \$21,932 - Area 2  
Urban \$13,872 - Area 3

FINAL PLAT  
BRANDING IRON AT  
STERLING RANCH FILING NO. 1  
JOB NO. 09-006  
DATE PREPARED: 10/30/2017  
DATE REVISED: 12/12/2018



20 BOULDER CRESCENT, SUITE 110  
COLORADO SPRINGS, CO 80903  
PHONE: 719.955.5485



BE IT KNOWN BY THESE PRESENTS:

THAT SR LAND, LLC, BEING THE OWNER OF THE FOLLOWING DESCRIBED TRACT OF LAND TO WIT:

LEGAL DESCRIPTION:

A REPLAT OF TRACT G, "STERLING RANCH FILING NO. 1", AS RECORDED UNDER RECEPTION NO. 218714151 IN THE EL PASO COUNTY RECORDS,

SAID TRACT BEING A PORTION OF THE E ½ NW ¼ OF SECTION 33, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN, EL PASO COUNTY, COLORADO;

CONTAINING A CALCULATED AREA OF 852,634 SQUARE FEET (19.574 ACRES) MORE OR LESS

ACCEPTANCE CERTIFICATE FOR TRACTS:

THE DEDICATION OF TRACTS A IS FOR LANDSCAPE PURPOSES, DRAINAGE, PEDESTRIAN ACCESS, OPEN SPACE, AND UTILITIES PURPOSES AND ARE HEREBY ACCEPTED FOR OWNERSHIP AND MAINTENANCE BY STERLING RANCH METROPOLITAN DISTRICT NO. 1.

By James F. Moley  
AS PRESIDENT OF STERLING RANCH METROPOLITAN DISTRICT NO. 1

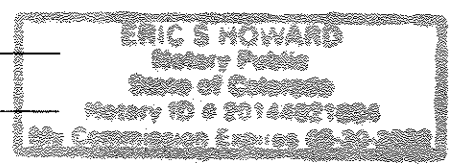
STATE OF COLORADO )  
COUNTY OF EL PASO ) SS

ACKNOWLEDGED BEFORE ME THIS 12<sup>TH</sup> DAY OF December, 2018, A.D.

By James F. Moley  
AS PRESIDENT OF STERLING RANCH METROPOLITAN DISTRICT NO. 1

WITNESS MY HAND AND OFFICIAL SEAL:

MY COMMISSION EXPIRES: MAY 30, 2022  
NOTARY PUBLIC Eric S. Howard



OWNERS CERTIFICATE/DEDICATION STATEMENT:

THE UNDERSIGNED, BEING ALL THE OWNERS, MORTGAGEES, BENEFICIARIES OF DEEDS OF TRUST AND HOLDERS OF OTHER INTERESTS IN THE LAND DESCRIBED HEREIN, HAVE LAID OUT, SUBDIVIDED, AND PLATTED SAID LANDS INTO LOTS, TRACTS, STREETS, AND EASEMENTS AS SHOWN HEREON UNDER THE NAME AND SUBDIVISION OF "HOMESTEAD AT STERLING RANCH FILING NO. 1". ALL PUBLIC IMPROVEMENTS SO PLATTED ARE HEREBY DEDICATED TO PUBLIC USE AND SAID OWNER DOES HEREBY COVENANT AND AGREE THAT THE PUBLIC IMPROVEMENTS WILL BE CONSTRUCTED TO EL PASO COUNTY STANDARDS AND THAT PROPER DRAINAGE AND EROSION CONTROL FOR SAME WILL BE PROVIDED AT SAID OWNER'S EXPENSE, ALL TO THE SATISFACTION OF THE BOARD OF COUNTY COMMISSIONERS OF EL PASO COUNTY, COLORADO. UPON ACCEPTANCE BY RESOLUTION, ALL PUBLIC IMPROVEMENTS SO DEDICATED WILL BECOME MATTERS OF MAINTENANCE BY EL PASO COUNTY, COLORADO. THE UTILITY EASEMENTS SHOWN HEREON ARE HEREBY DEDICATED FOR PUBLIC UTILITIES AND COMMUNICATION SYSTEMS AND OTHER PURPOSES AS SHOWN HEREON. THE ENTITIES RESPONSIBLE FOR PROVIDING THE SERVICES FOR WHICH THE EASEMENTS ARE ESTABLISHED ARE HEREBY GRANTED THE PERPETUAL RIGHT OF INGRESS AND EGRESS FROM AND TO ADJACENT PROPERTIES FOR INSTALLATION, MAINTENANCE AND REPLACEMENT OF UTILITY LINES AND RELATED FACILITIES.

THE AFOREMENTIONED, SR LAND, LLC HAS EXECUTED THIS INSTRUMENT THIS 12<sup>TH</sup> DAY OF December, 2018, A.D.

By: James F. Moley

PRINTED NAME: James F. Moley

AS: MANAGER OF SR LAND, LLC

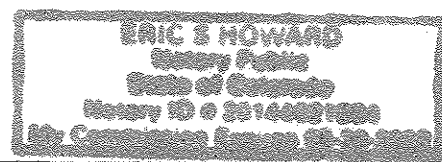
STATE OF COLORADO )  
COUNTY OF EL PASO ) SS

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS 12<sup>TH</sup> DAY OF December, 2018, A.D. BY James F. Moley

AS MANAGER OF SR LAND, LLC.

WITNESS MY HAND AND OFFICIAL SEAL:

My Commission Expires: May 30, 2022  
NOTARY PUBLIC Eric S. Howard



PLAT NOTES:

- BASIS OF BEARINGS:**  
BEARINGS ARE BASED ON THE SOUTH LINE OF THE SOUTHWEST QUARTER (SW1/4) OF SECTION 34, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M. AS MONUMENTED AT THE SOUTHWEST CORNER OF SAID SOUTHWEST QUARTER (SW1/4) BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624" AND AT THE SOUTHEAST CORNER OF SAID SOUTHWEST QUARTER (SW1/4) BY A 2-1/2" ALUMINUM CAP STAMPED "LS 11624". SAID LINE BEARS N89°14'14"E, A DISTANCE OF 2,722.56 FEET. THE UNITS OF MEASUREMENT IS U.S. SURVEY FEET.
- FLOODPLAIN STATEMENT:**  
NO PORTION OF THIS SITE IS LOCATED WITHIN A DESIGNATED FEMA FLOODPLAIN AS DETERMINED BY THE FLOOD INSURANCE RATE MAP, COMMUNITY MAP NUMBER 08041C0535F, EFFECTIVE DATE MARCH 17, 1997.
- TITLE COMMITMENT:**  
THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY M&S CIVIL CONSULTANTS, INC., TO DETERMINE THE COMPATIBILITY OF THIS DESCRIPTION WITH THAT OF ADJACENT TRACTS OF LAND, OWNERSHIP OR EASEMENTS OF RECORD. FOR ALL INFORMATION REGARDING EASEMENTS, RIGHT-OF-WAY OR TITLE OF RECORD, M&S CIVIL CONSULTANTS, INC., RELIED UPON TITLE COMMITMENT FILE NO. SC55074009, PREPARED BY LAND TITLE GUARANTEE COMPANY, REPRESENTING OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY, DATED DECEMBER 2, 2018 AT 5:00 P.M.
- WATER SERVICE SHALL BE SUPPLIED BY STERLING RANCH METROPOLITAN DISTRICT NO. 1.** (RESOLUTION RECORDED UNDER REC. NO. 218134276 OF THE RECORDS OF EL PASO COUNTY.)

HOMESTEAD AT STERLING RANCH FILING NO. 1

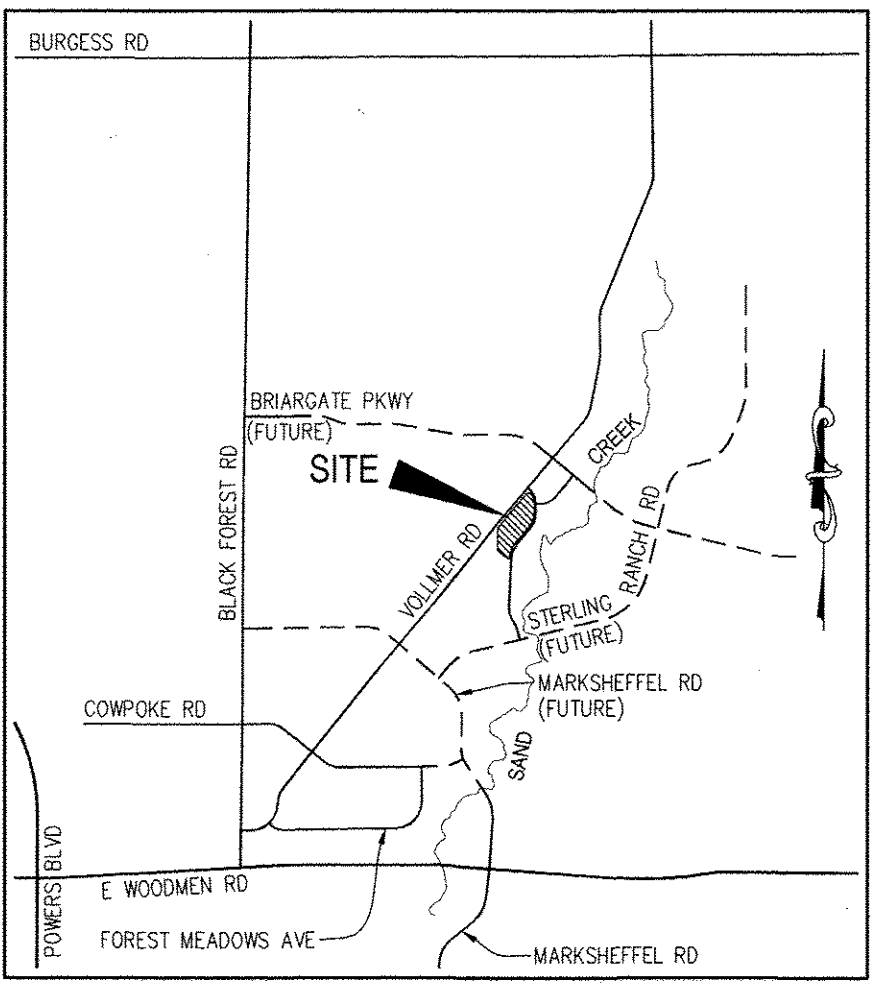
A REPLAT OF TRACT G, "STERLING RANCH FILING NO. 1", SAID TRACT BEING A PORTION OF THE E ½ NW ¼ OF SECTION 33, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN, EL PASO COUNTY, COLORADO

PLAT NOTES: (CONTINUED)

- SEWER SERVICE SHALL BE SUPPLIED BY STERLING RANCH METROPOLITAN DISTRICT NO. 1. (RESOLUTION RECORDED UNDER REC. NO. 218134277 OF THE RECORDS OF EL PASO COUNTY.)
- ELECTRIC SERVICE SHALL BE PROVIDED BY MOUNTAIN VIEW ELECTRIC ASSOCIATION.
- NATURAL GAS SERVICE SHALL BE PROVIDED BY COLORADO SPRINGS UTILITIES.
- FIRE PROTECTION BY THE BLACK FOREST FIRE PROTECTION DISTRICT.
- ALL STRUCTURAL FOUNDATIONS SHALL BE LOCATED AND DESIGNED BY A PROFESSIONAL ENGINEER, CURRENTLY LICENSED IN THE STATE OF COLORADO.
- THE FOLLOWING REPORTS HAVE BEEN SUBMITTED IN ASSOCIATION WITH THE PRELIMINARY PLAN OR FINAL PLAT FOR THIS SUBDIVISION AND ARE ON FILE AT THE COUNTY DEVELOPMENT SERVICES DEPARTMENT: TRANSPORTATION IMPACT STUDY; DRAINAGE REPORT; WATER RESOURCES REPORT; WASTEWATER DISPOSAL REPORT; NATURAL HAZARDS REPORT; GEOLOGY AND SOILS REPORT; WETLAND STUDY/404 PERMIT.
- ALL PROPERTY OWNERS ARE RESPONSIBLE FOR MAINTAINING PROPER STORM WATER DRAINAGE IN AND THROUGH THEIR PROPERTY. PUBLIC DRAINAGE EASEMENTS AS SPECIFICALLY NOTED ON THE PLAT SHALL BE MAINTAINED BY THE INDIVIDUAL LOT OWNERS UNLESS OTHERWISE INDICATED. STRUCTURES, FENCES, MATERIALS OR LANDSCAPING THAT COULD IMPEDE THE FLOW OF RUNOFF SHALL NOT BE PLACED IN DRAINAGE EASEMENTS.
- UNLESS OTHERWISE INDICATED, ALL SIDE LOT LINES ARE HEREBY PLATTED ON EITHER SIDE WITH A 5 FOOT PUBLIC UTILITY AND DRAINAGE EASEMENT, EXCEPT WHEN THE SIDE YARD IS ADJACENT TO A PUBLIC STREET AND THEREFORE A 10 FOOT SIDE YARD SHALL BE PLATTED AS A PUBLIC IMPROVEMENT, PUBLIC UTILITY AND DRAINAGE EASEMENT. ALL FRONT LOT LINES ARE HEREBY PLATTED WITH A 10 FOOT PUBLIC IMPROVEMENT, PUBLIC UTILITY AND DRAINAGE EASEMENT, AND ALL REAR LOT LINES ARE HEREBY PLATTED WITH A 10 FOOT PUBLIC UTILITY AND DRAINAGE EASEMENT. ALL EXTERIOR SUBDIVISION BOUNDARIES ARE HEREBY PLATTED WITH A 7 FOOT PUBLIC IMPROVEMENT, PUBLIC UTILITY AND DRAINAGE EASEMENT. EASEMENTS ARE HEREBY PLATTED IN THE LOCATIONS ON SHEETS 3 AND 4 OF THIS PLAT. THE SOLE RESPONSIBILITY FOR THE SURFACE MAINTENANCE OF EASEMENTS IS HEREBY VESTED WITH THE INDIVIDUAL PROPERTY OWNER UNLESS OTHERWISE NOTED.
- SIDE-LOT DRAINAGE SWALES SHALL BE CONSTRUCTED WHERE NECESSARY AT THE TIME OF HOME CONSTRUCTION.
- DEVELOPER SHALL COMPLY WITH FEDERAL AND STATE LAWS, REGULATIONS, ORDINANCES, REVIEW AND PERMIT REQUIREMENTS, AND OTHER AGENCY REQUIREMENTS, IF ANY, OF APPLICABLE AGENCIES INCLUDING, BUT NOT LIMITED TO, THE COLORADO DIVISION OF WILDLIFE, COLORADO DEPARTMENT OF TRANSPORTATION, U.S. ARMY CORPS OF ENGINEERS AND THE U.S. FISH AND WILDLIFE SERVICE REGARDING THE ENDANGERED SPECIES ACT, PARTICULARLY AS IT RELATES TO THE LISTED SPECIES.
- THE ADDRESSES EXHIBITED ON THIS PLAT ARE FOR INFORMATIONAL PURPOSES ONLY. THEY ARE NOT THE LEGAL DESCRIPTION AND ARE SUBJECT TO CHANGE.
- NO DRIVEWAY SHALL BE ESTABLISHED UNLESS AN ACCESS PERMIT HAS BEEN GRANTED BY EL PASO COUNTY.
- NO LOT OR INTEREST THEREIN, SHALL BE SOLD, CONVEYED, OR TRANSFERRED WHETHER BY DEED OR BY CONTRACT, NOR SHALL BUILDING PERMITS BE ISSUED, UNTIL AND UNLESS EITHER THE REQUIRED PUBLIC AND COMMON DEVELOPMENT IMPROVEMENTS HAVE BEEN CONSTRUCTED AND COMPLETED AND PRELIMINARILY ACCEPTED IN ACCORDANCE WITH THE SUBDIVISION IMPROVEMENTS AGREEMENT BETWEEN THE APPLICANT/OWNER AND EL PASO COUNTY AS RECORDED UNDER RECEPTION NUMBER 219019374 IN THE OFFICE OF THE CLERK AND RECORDER OF EL PASO COUNTY, COLORADO OR, IN THE ALTERNATIVE, OTHER COLLATERAL IS PROVIDED TO MAKE PROVISION FOR THE COMPLETION OF SAID IMPROVEMENTS IN ACCORDANCE WITH THE EL PASO COUNTY LAND DEVELOPMENT CODE AND ENGINEERING CRITERIA MANUAL. ANY SUCH ALTERNATIVE COLLATERAL MUST BE APPROVED BY THE BOARD OF COUNTY COMMISSIONERS OR, IF PERMITTED BY THE SUBDIVISION IMPROVEMENTS AGREEMENT, BY THE PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT DIRECTOR AND MEET THE POLICY AND PROCEDURE REQUIREMENTS OF EL PASO COUNTY PRIOR TO THE RELEASE BY THE COUNTY OF ANY LOTS FOR SALE, CONVEYANCE OR TRANSFER.

THIS PLAT RESTRICTION MAY BE REMOVED OR RESCINDED BY THE BOARD OF COUNTY COMMISSIONERS OR, IF PERMITTED BY THE SUBDIVISION IMPROVEMENTS AGREEMENT, BY THE PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT DIRECTOR UPON EITHER APPROVAL OF AN ALTERNATIVE FORM OF COLLATERAL OR COMPLETION AND PRELIMINARY ACCEPTANCE BY THE EL PASO BOARD OF COUNTY COMMISSIONERS OF ALL IMPROVEMENTS REQUIRED TO BE CONSTRUCTED AND COMPLETED IN ACCORDANCE WITH SAID SUBDIVISION IMPROVEMENTS AGREEMENT. THE PARTIAL RELEASE OF LOTS FOR SALE, CONVEYANCE OR TRANSFER MAY ONLY BE GRANTED IN ACCORDANCE WITH ANY PLANNED PARTIAL RELEASE OF LOTS AUTHORIZED BY THE SUBDIVISION IMPROVEMENTS AGREEMENT.

- NOTICE: THIS PROPERTY MAY BE ADVERSELY IMPACTED BY NOISE, DUST, FUMES, AND LIGHT POLLUTION CAUSED BY ADJACENT INDUSTRIAL PROPERTIES AND ACTIVITIES. THE BUYER SHOULD RESEARCH AND BE AWARE OF THIS POTENTIALITY AND THE RAMIFICATIONS THEREOF. (USE WHEN RESIDENTIAL IS ADJACENT TO INDUSTRIAL)
- ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT OR LAND BOUNDARY MONUMENT OR ACCESSORY, COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO CRS 18-4-508.
- ALL PROPERTY WITHIN THIS SUBDIVISION IS INCLUDED IN STERLING RANCH METROPOLITAN DISTRICT NO. 2. [TC#8].
- THE STERLING RANCH METROPOLITAN DISTRICT NO. 1 WILL BE RESPONSIBLE FOR MAINTENANCE OF THE ROADS UNTIL PRELIMINARY ACCEPTANCE OF THE PUBLIC IMPROVEMENTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, AND THE SUBDIVISION IMPROVEMENTS AGREEMENT.
- ALL PROPERTY WITHIN THIS SUBDIVISION IS SUBJECT TO A DECLARATION OF COVENANT AS RECORDED AT RECEPTION NO. 218146000 OF THE RECORDS OF THE EL PASO COUNTY CLERK AND RECORDER.
- SPECIAL DISTRICT DISCLOSURE:  
A TITLE 32 SPECIAL DISTRICT ANNUAL REPORT AND DISCLOSURE FORM SATISFACTORY TO THE DEVELOPMENT SERVICES DEPARTMENT SHALL BE RECORDED WITH EACH PLAT.
- MAILBOXES SHALL BE INSTALLED IN ACCORDANCE WITH ALL EL PASO COUNTY AND UNITED STATES POSTAL SERVICE REGULATION.
- THE SUBDIVIDER(S) AGREES ON BEHALF OF HIM/HERSELF AND ANY DEVELOPER OR BUILDER SUCCESSORS AND ASSIGNEES THAT SUBDIVIDER AND/OR SAID SUCCESSORS AND ASSIGNS SHALL BE REQUIRED TO PAY TRAFFIC IMPACT FEES IN ACCORDANCE WITH THE EL PASO COUNTY ROAD IMPACT FEE PROGRAM RESOLUTION (RESOLUTION NO. 16-454), OR ANY AMENDMENTS THERETO, AT OR PRIOR TO THE TIME OF BUILDING PERMIT SUBMITTALS. THE FEE OBLIGATION, IF NOT PAID AT FINAL PLAT RECORDING, SHALL BE DOCUMENTED ON ALL SALES DOCUMENTS AND ON PLAT NOTES TO ENSURE THAT A TITLE SEARCH WOULD FIND THE FEE OBLIGATION BEFORE SALE OF THE PROPERTY. TRANSPORTATION IMPACT FEES ARE TO BE PAID AT BUILDING PERMIT. This property is included in the PLO No. 2 as recorded at reception No. \_\_\_\_\_.



VICINITY MAP  
N.T.S.

PLAT NOTES: (CONTINUED)

- THE FOLLOWING TRACT AND LOTS HAVE BEEN FOUND TO BE IMPACTED BY GEOLOGIC HAZARDS. MITIGATION MEASURES AND A MAP OF THE HAZARD AREA CAN BE FOUND IN THE REPORT GEOLOGIC HAZARD REPORT BY ENTECH ENGINEERING, INC, DATED JANUARY 2009, IN FILE SP-14-015 AVAILABLE AT THE EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT. THE FOLLOWING TRACT AND LOTS ARE IMPACTED: POTENTIALLY SEASONAL SHALLOW GROUNDWATER: TRACT A, LOTS 1, 2, 3, 15-27, 64, 65, 66, AND 72
- THERE SHALL BE NO DIRECT RESIDENTIAL LOT ACCESS TO DINES BOULEVARD.
- A PRIVATE DETENTION POND MAINTENANCE AGREEMENT FOR PONDS, W9, 4 & 8 IS RECORDED UNDER REC. NO. 218061178, REC. NO. 218061179, & REC. NO. 218061180, OF THE RECORDS OF EL PASO COUNTY. [TC#23, TC#24, TC#25]
- A RIGHT-OF-WAY LANDSCAPE LICENSE AGREEMENT IS RECORDED UNDER REC. NO. 218061176, OF THE RECORDS OF EL PASO COUNTY. [TC#21]
- A LANDSCAPE EXHIBIT IS RECORDED UNDER REC. NO. 218061176, OF THE RECORDS OF EL PASO COUNTY. [TC#21]
- A NON-EXCLUSIVE STORM BYPASS SYSTEM EASEMENT IS RECORDED UNDER REC. NO. 218054785 AND REC. NO. 218061177, OF THE RECORDS OF EL PASO COUNTY. [TC#18, TC#22]
- A MOUNTAIN VIEW ELECTRIC ASSOCIATION GRANT OF RIGHT-OF-WAY EASEMENT IS RECORDED UNDER REC. NO. 218054783, OF THE RECORDS OF EL PASO COUNTY. [TC#18]
- AN AGREEMENT TO GRANT ACCESS AND UTILITY EASEMENTS IS RECORDED UNDER REC. NO. 214100440, OF THE RECORDS OF EL PASO COUNTY. [TC#9]
- AN AGREEMENT TO GRANT ACCESS AND UTILITY EASEMENTS IS RECORDED UNDER REC. NO. 214100441, AND AMENDED UNDER REC. NO. 216043584, OF THE RECORDS OF EL PASO COUNTY. [TC#10]
- AN AGREEMENT TO GRANT OF EASEMENTS IS RECORDED UNDER REC. NO. 214100442, AND AMENDED UNDER REC. NO. 216043585, OF THE RECORDS OF EL PASO COUNTY. [TC#13]
- A CONSOLIDATED SERVICE PLAN FOR STERLING RANCH METROPOLITAN DISTRICTS 1, 2 AND 3 IS RECORDED UNDER REC. NO. 214042782, OF THE RECORDS OF EL PASO COUNTY. [TC#8]
- THE PROPERTY IS SUBJECT TO RESTRICTIONS AS DEFINED BY TRUSTEE'S SPECIAL WARRANTY DEED UNDER REC. NO. 206045408, OF THE RECORDS OF EL PASO COUNTY. [TC#5]
- AN OFFSITE EMERGENCY ACCESS EASEMENT IS RECORDED UNDER RECEPTION NO. 219019375, OF THE RECORDS OF EL PASO COUNTY.

TRACT TABLE				
TRACT	SIZE (ACRES)	USE	MAINTENANCE	OWNERSHIP
A	0.067	LANDSCAPE/PUBLIC IMPROVEMENTS/ PUBLIC UTILITY	SRDM#1	SRDM#1
*SRMD#1 = STERLING RANCH METROPOLITAN DISTRICT NO. 1				

SURVEYORS CERTIFICATE

I VERNON P. TAYLOR, A DULY REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT TRULY AND CORRECTLY REPRESENTS THE RESULTS OF A SURVEY MADE ON DATE OF SURVEY, BY ME OR UNDER MY DIRECT SUPERVISION AND THAT ALL MONUMENTS EXIST AS SHOWN HEREON; THAT MATHEMATICAL CLOSURE ERRORS ARE LESS THAN 1:10,000 ; AND THAT SAID PLAT HAS BEEN PREPARED IN FULL COMPLIANCE WITH ALL APPLICABLE LAWS OF THE STATE OF COLORADO DEALING WITH MONUMENTS, SUBDIVISION, OR SURVEYING OF LAND AND ALL APPLICABLE PROVISIONS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE.

I ATTEST THE ABOVE ON THIS 12<sup>TH</sup> DAY OF December, 2018.

By Vernon P. Taylor  
VERNON P. TAYLOR  
COLORADO PLS NO. 25966, FOR AND ON BEHALF OF M&S CIVIL CONSULTANTS, INC  
20 BOULDER CRESCENT, SUITE 110  
COLORADO SPRINGS, COLORADO 80903



NOTICE:

ACCORDING TO COLORADO LAW, YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT, MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT  
DIRECTOR CERTIFICATE:

THIS PLAT FOR "HOMESTEAD AT STERLING RANCH FILING NO. 1" WAS APPROVED FOR FILING BY THE EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT DIRECTOR ON THIS 11<sup>TH</sup> DAY OF December 2018, SUBJECT TO ANY NOTES OR CONDITIONS SPECIFIED HEREON.

By Mark G. Miller  
DIRECTOR, PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT

DATE 12/11/18

BOARD OF COUNTY COMMISSIONERS CERTIFICATE:

THIS PLAT FOR "HOMESTEAD AT STERLING RANCH FILING NO. 1" WAS APPROVED FOR FILING BY THE EL PASO COUNTY, COLORADO BOARD OF COUNTY COMMISSIONERS ON THIS 11<sup>TH</sup> DAY OF December 2018. SUBJECT TO ANY NOTES SPECIFIED HEREON AND ANY CONDITIONS INCLUDED IN THE RESOLUTION OF APPROVAL. THE DEDICATIONS OF LAND TO THE PUBLIC (STREETS AND EASEMENTS) ARE ACCEPTED, BUT PUBLIC IMPROVEMENTS THEREON WILL NOT BECOME MAINTENANCE RESPONSIBILITY OF EL PASO COUNTY UNTIL PRELIMINARY ACCEPTANCE OF THE PUBLIC IMPROVEMENTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE LAND DEVELOPMENT CODE AND ENGINEERING CRITERIA MANUAL AND THE SUBDIVISION IMPROVEMENTS AGREEMENT.

By Chuck Broerman  
PRESIDENT, BOARD OF COUNTY COMMISSIONERS

DATE \_\_\_\_\_

CLERK AND RECORDER:

STATE OF COLORADO )  
COUNTY OF EL PASO ) SS

By Assessor  
El Paso County Assessor

I HEREBY CERTIFY THAT THIS INSTRUMENT WAS FILED FOR RECORD IN MY OFFICE AT 3:40 O'CLOCK P.M. THIS 25<sup>TH</sup> DAY OF February, 2019, A.D., AND DULY RECORDED UNDER RECEPTION NO. 219714279 OF THE RECORDS OF EL PASO COUNTY, COLORADO.

By: Chuck Broerman  
CHUCK BROERMAN, EL PASO COUNTY CLERK AND RECORDER

FEES: Pre Credit  
Refund of Drange fees Bndg fees paid.  
SUMMARY:

DRAINAGE FEE: <u>\$133,756.97</u>	22 LOTS	15.871 ACRES	81.08%
BRIDGE FEE: <u>\$40,621.70</u>	1 TRACT	0.067 ACRES	0.34%
SCHOOL FEE: <u>\$17,280</u>	RIGHTS-OF-WAY	3.636 ACRES	18.58%
PARK FEE: <u>Regional Area \$309,400.00</u>	TOTAL	19.574 ACRES	100.00%
	Urban Area 3	519,594.00	

Fee: 40.00  
GC: 3.00

FINAL PLAT  
HOMESTEAD AT STERLING RANCH  
FILING NO. 1  
JOB NO. 09-005  
DATE PREPARED: 10/30/2017  
DATE REVISED: 12/12/2018



20 BOULDER CRESCENT, SUITE 110  
COLORADO SPRINGS, CO 80903  
PHONE: 719.955.5485



## **Appendix G**

### **Maps**



LEGEND

- REACH IDENTIFIER
- DBPS CHANNEL IMPROVEMENTS SEGMENT NO.
- PROPERTY BNDRY
- PROPOSED STORM SEWER
- DETENTION POND
- DBPS IMPROVEMENTS NOT PROPOSED FOR CONSTRUCTION IN STERLING RANCH

NOTE:

\* CHECK STRUCTURES MAY BE RELOCATED THROUGHOUT SAND CREEK CHANNEL UPON FINAL ENGINEERING DESIGN

CHANNEL IMPROVEMENTS SEGMENT NO.	BOTTOM WIDTH (FT)	CHANNEL TYPE
187	N/A	SELECTIVE RIPRAP LININGS AND GRADE CONTROL
170	N/A	

CHANNEL IMPROVEMENTS SEGMENT NO.	Q10 Q100	CHANNEL TYPE
170	670 2260	SELECTIVE RIPRAP LININGS AND GRADE CONTROL
171	630 2170	

CHANNEL IMPROVEMENTS SEGMENT NO.	Q10 Q100	CHANNEL TYPE
170	570 2280	SELECTIVE RIPRAP LININGS AND GRADE CONTROL

CHANNEL IMPROVEMENTS SEGMENT NO.	BOTTOM WIDTH (FT)	CHANNEL TYPE
163	N/A	SELECTIVE RIPRAP LININGS AND GRADE CONTROL
187	N/A	

CHANNEL IMPROVEMENTS SEGMENT NO.	BOTTOM WIDTH (FT)	CHANNEL TYPE
163	N/A	SELECTIVE RIPRAP LININGS AND GRADE CONTROL

CHANNEL IMPROVEMENTS SEGMENT NO.	BOTTOM WIDTH (FT)	CHANNEL TYPE
160	N/A	SELECTIVE RIPRAP LININGS AND GRADE CONTROL
163		

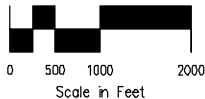
CHANNEL IMPROVEMENTS SEGMENT NO.	BOTTOM WIDTH (FT)	CHANNEL TYPE
160	N/A	SELECTIVE RIPRAP LININGS AND GRADE CONTROL

DBPS MAP OVERLAY  
STERLING RANCH  
JOB NO. 25188.00  
12-29-2020  
SHEET 1 OF 1

**J-R ENGINEERING**  
A Westrian Company

Centennial 303-740-9393 • Colorado Springs 719-593-2593  
Fort Collins 970-491-9888 • www.jrengineering.com





LEGEND

REACH IDENTIFIER



REACH IDENTIFIER



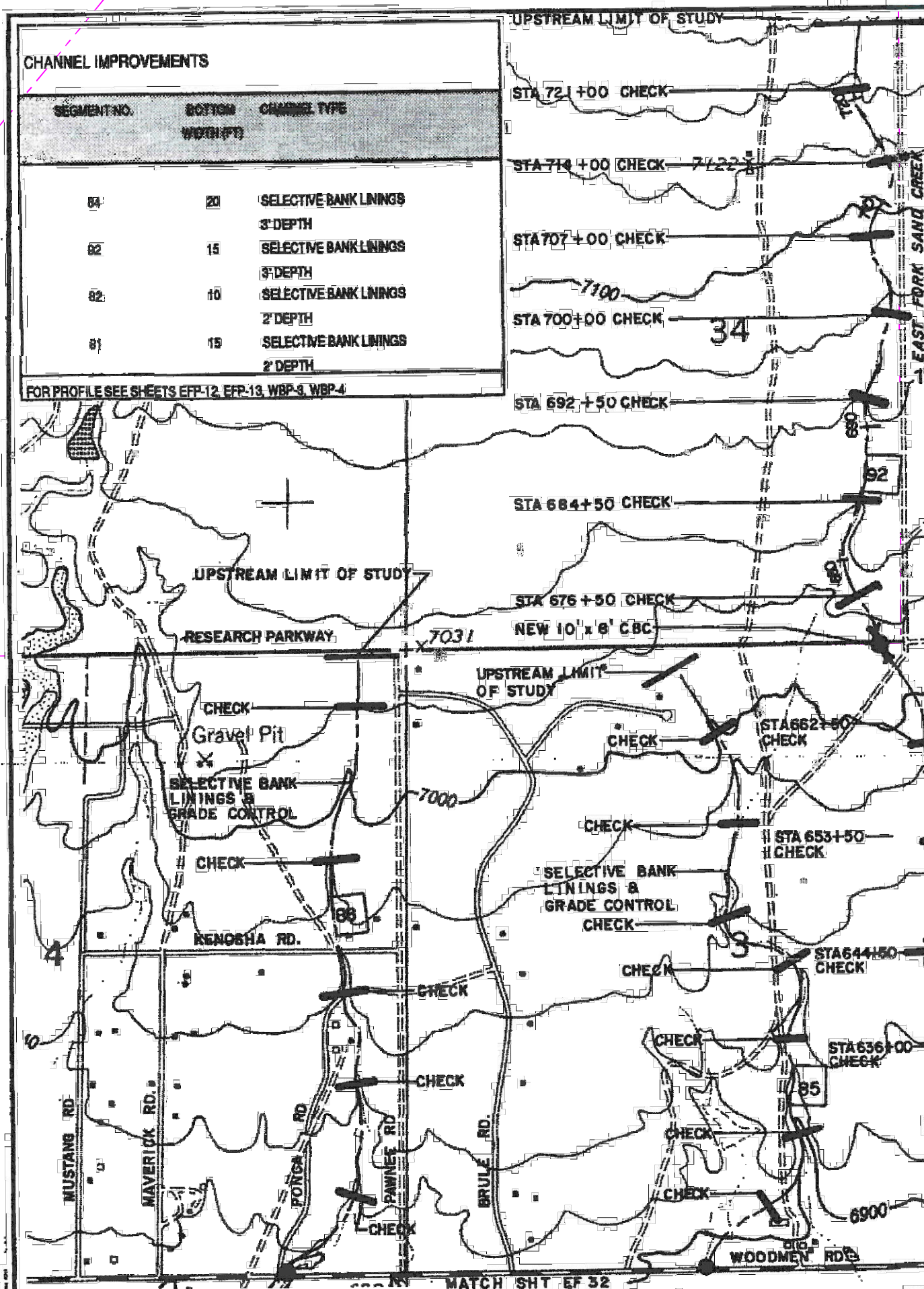
PROPERTY BNDRY



CHANNEL IMPROVEMENTS

SEGMENT NO.	SECTION WIDTH (FT)	CHANNEL TYPE
84	20	SELECTIVE BANK LININGS 3' DEPTH
82	15	SELECTIVE BANK LININGS 3' DEPTH
82	10	SELECTIVE BANK LININGS 2' DEPTH
81	15	SELECTIVE BANK LININGS 2' DEPTH

FOR PROFILE SEE SHEETS EFP-12, EFP-13, WBP-3, WBP-4



20 BOUNDARY CRISCHII, S.11-110  
COLORADO SPRINGS, CO 80903  
PHONE 719-555-5455

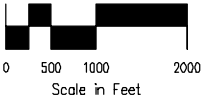
2018 STERLING RANCH MDDP

DBPS MAP OVERLAY

PROJECT NO. 08-035		FILE: \\dmg\Eng Exhibits\2018-MDDP-PROPCOND.dwg	
DESIGNED BY: JD	SCALE	DATE: 06-26-2018	
DRAWN BY: JD	HORIZ: 1"=2400'		
CHECKED BY: VAS	VERT: 1"=2400'		

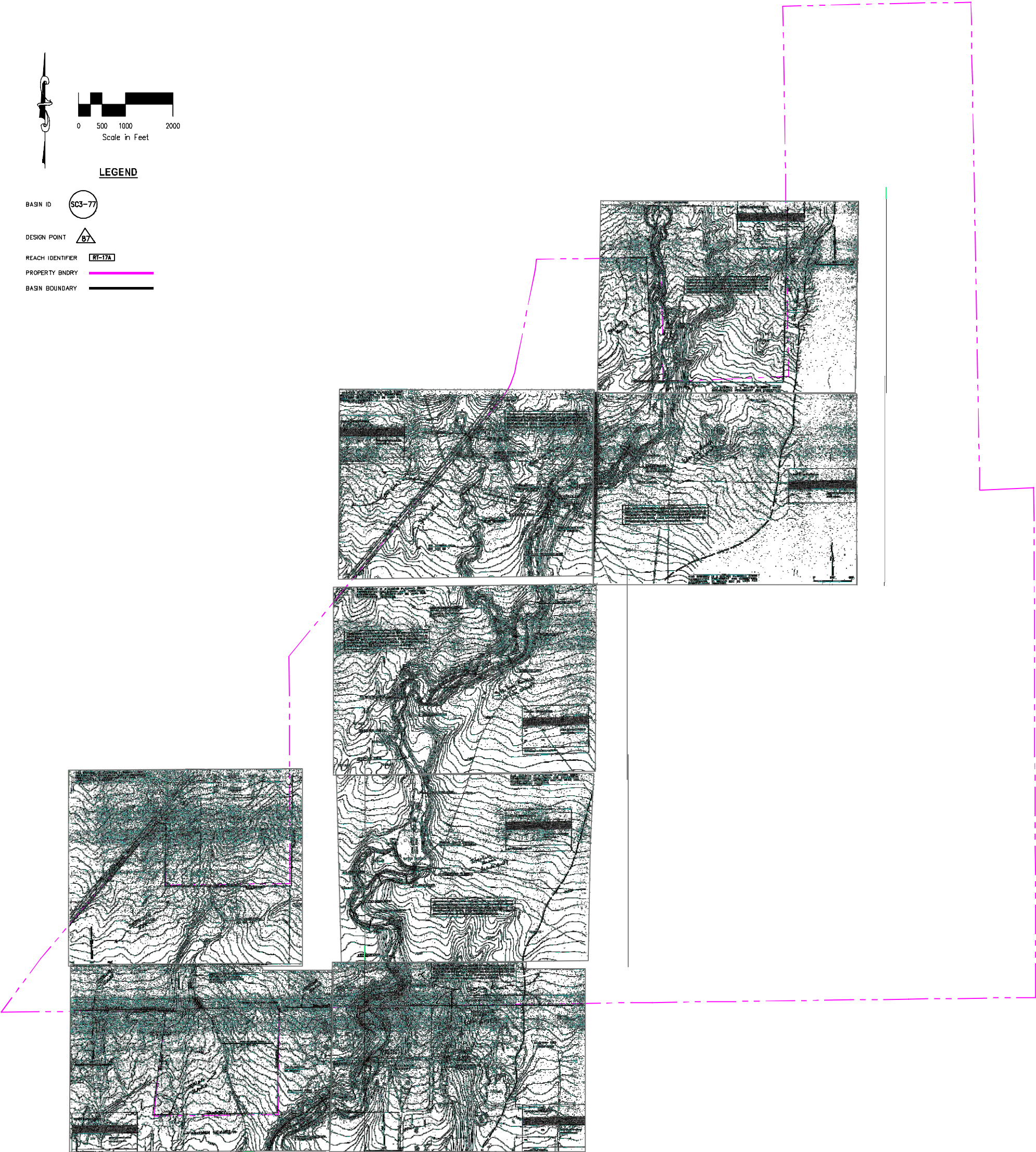
DBPS-1





LEGEND

- BASIN ID SC3-77
- DESIGN POINT B7
- REACH IDENTIFIER RT-17A
- PROPERTY BNDRY
- BASIN BOUNDARY



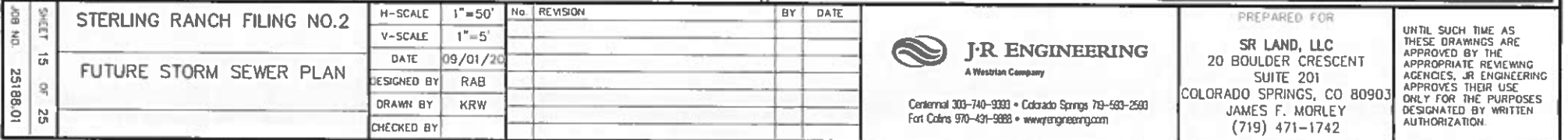
20 BOUNDARY CRESCHII, S.11-110  
COLORADO SPRINGS, CO 80903  
PHONE 719-555-5455

2018 STERLING RANCH MDDP

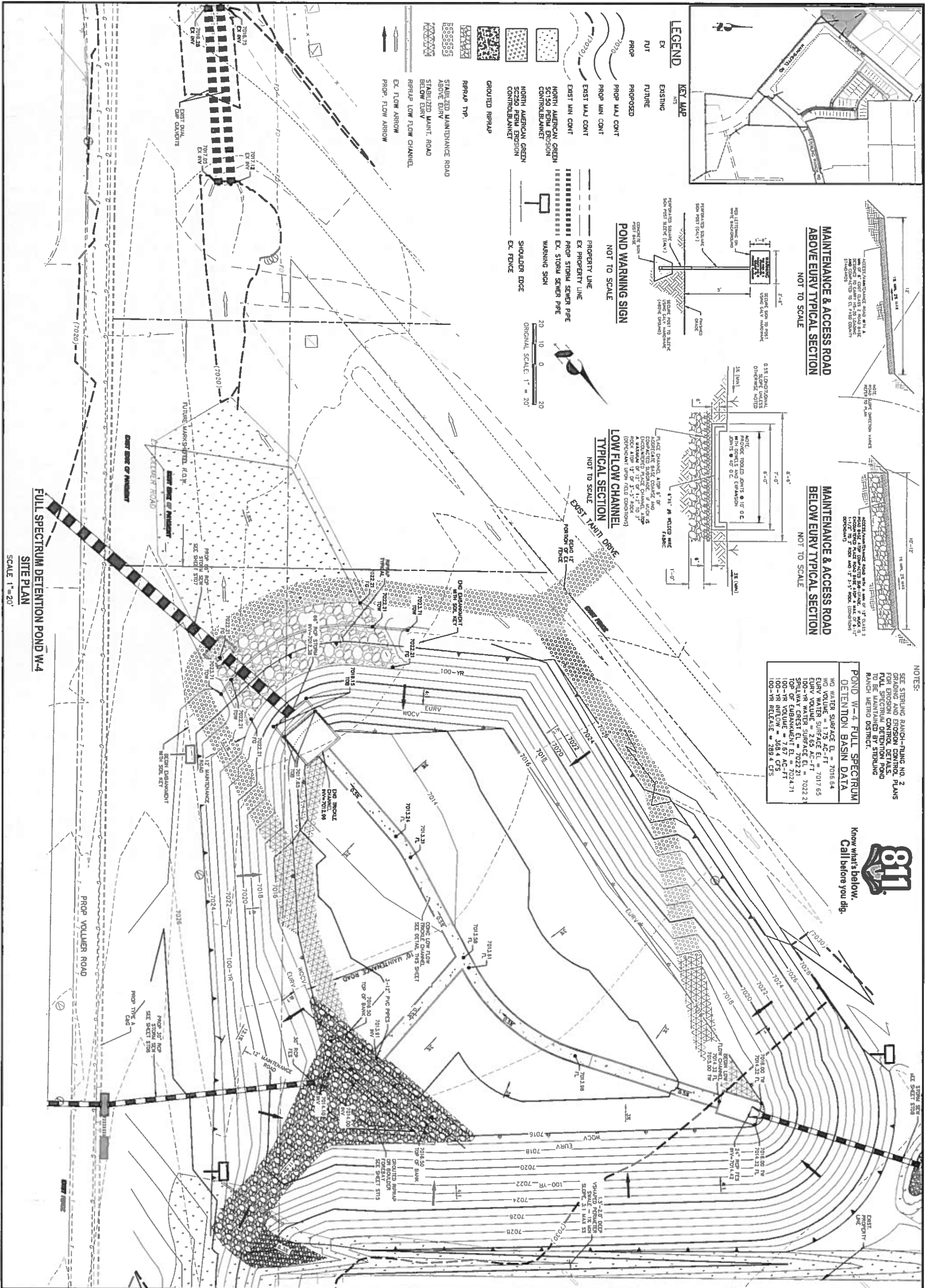
DBPS MAP OVERLAY

PROJECT NO. 09-002		FILE: \eng\Eng Exhibits\DPBS overlay.dwg	
DESIGNED BY: DLM	SCALE	DATE: 08-26-2018	
DRAWN BY: DLM	HORIZ: 1"=1000'	DPBS-2	
CHECKED BY: VAS	VERT: N/A		









MAINTENANCE & ACCESS ROAD  
 ABOVE EURV TYPICAL SECTION  
 NOT TO SCALE

MAINTENANCE & ACCESS ROAD  
 BELOW EURV TYPICAL SECTION  
 NOT TO SCALE

POND WARNING SIGN  
 NOT TO SCALE

LOW FLOW CHANNEL  
 TYPICAL SECTION  
 NOT TO SCALE

**NOTES:**

SEE STERLING RANCH FILING NO. 2 FOR EROSION CONTROL PLANS FOR EROSION CONTROL DETAILS TO BE MAINTAINED BY STERLING RANCH METRO DISTRICT.

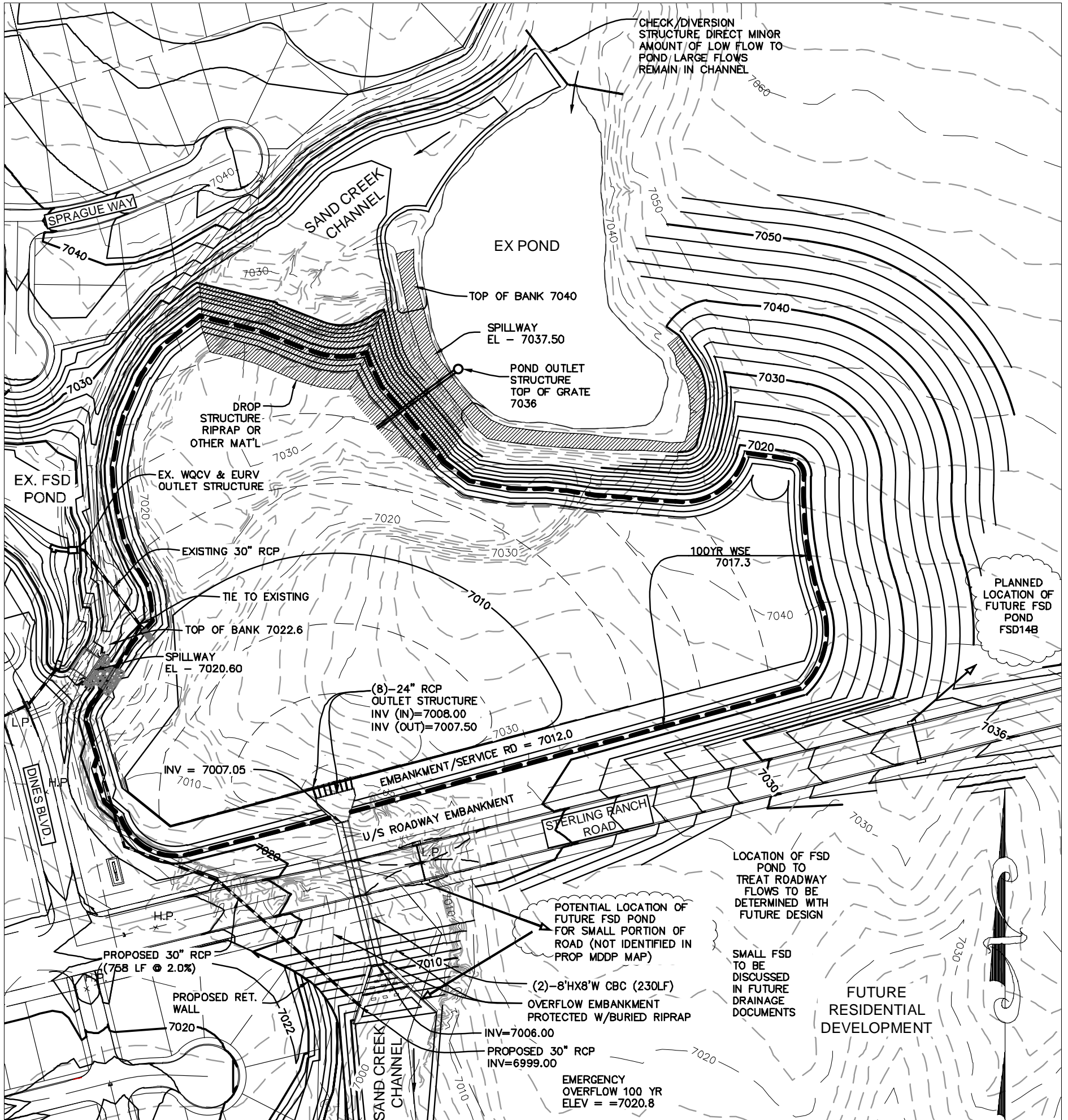
**POND W-4 FULL SPECTRUM DETENTION BASIN DATA**

NO WATER SURFACE EL. = 7016.84
EURV SURFACE EL. = 7017.65
EURV VOLUME = 2.65 AC-FT
100-YR WATER SURFACE EL. = 7022.21
SPILLWAY CREST EL. = 7022.21
TOP OF EMBANKMENT EL. = 7024.71
100-YR FLOW = 368.4 CFS
100-YR RELEASE = 289.4 CFS



SHEET 20 OF 25 JOB NO. 25188.01		STERLING RANCH FILING NO. 2 FUTURE STORM SEWER PLAN		H-SCALE 1"=50' V-SCALE 1"=5' DATE 09/01/2025 DESIGNED BY RAB DRAWN BY KRW CHECKED BY	No. REVISION BY DATE	J-R ENGINEERING A Westcon Company Centennial 303-740-9999 • Colorado Springs 719-593-2593 Fort Collins 970-491-9888 • www.jrengineering.com	PREPARED FOR SR LAND, LLC 20 BOULDER CRESCENT SUITE 201 COLORADO SPRINGS, CO 80903 JAMES F. MORLEY (719) 471-1742	UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.
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Q<sub>100</sub>= 2204.1 CFS (IN)  
 Q<sub>100</sub>= 1350.6 CFS (OUT)  
 100YR= 78.2 AC-FT

# STERLING RANCH POND PNDW3

## CONCEPT

SCALE 1"=200'

100YR WSE= 7017.3  
 TOP OF EMBANKMENT = 7019 US / 7018.5 DS  
 100 YR OVERFLOW WSE= 7021.3 US / 7020.8 DS (2.3\*)

\*BASED UPON REVISED FEMA  
 FLOW RATE TO ~ 2200 CFS



15 NORTH NEVADA AVENUE  
 CO. GRADG SPRINGS,  
 COLORADO 80903

v 719.755.5485  
 f 719.444.3427



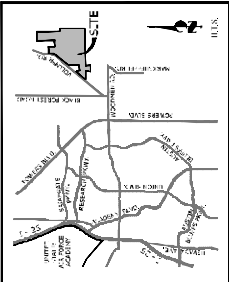
LAND USE LEGEND:

44 AC. RESIDENTIAL: 0.2 DU/AC	9 D.U.
33 AC. RESIDENTIAL: 0.4 DU/AC	13 D.U.
35 AC. RESIDENTIAL: 1 DU/AC	35 D.U.
163 AC. RESIDENTIAL: 2 DU/AC	326 D.U.
551 AC. RESIDENTIAL: 3-5 DU/AC	2,580 D.U.
20 AC. RESIDENTIAL: 6-8 DU/AC	100 D.U.
257 AC. RESIDENTIAL: 5-8 DU/AC ACTIVE ADULT	1,235 D.U.
32 AC. RESIDENTIAL: 8-12 DU/AC	302 D.U.
41 AC. RESIDENTIAL: 12-20 DU/AC	576 D.U.
58 AC. COMMERCIAL	
57 AC. ELEMENTARY: K-8 SCHOOL	
16 AC. NEIGHBORHOOD PARK	
30 AC. COMMUNITY PARK	
57 AC. OPEN SPACE / PARK / GREENWAY	
43 AC. OPEN SPACE / BUFFER	
7 AC. UTILITY PARCEL	
TOTAL: 5,225 D.U. Max	

SYMBOL LEGEND:

- ROAD
- FULL MOVEMENT ACCESS POINT
- 100-YEAR FLOODPLAIN
- TRAIL
- BUFFER / OS TRAIL CORRIDOR / EASEMENT
- NEIGHBORHOOD PARK
- ACCESS SPACING (FEET)

VICINITY MAP:



LEGAL DESCRIPTION:

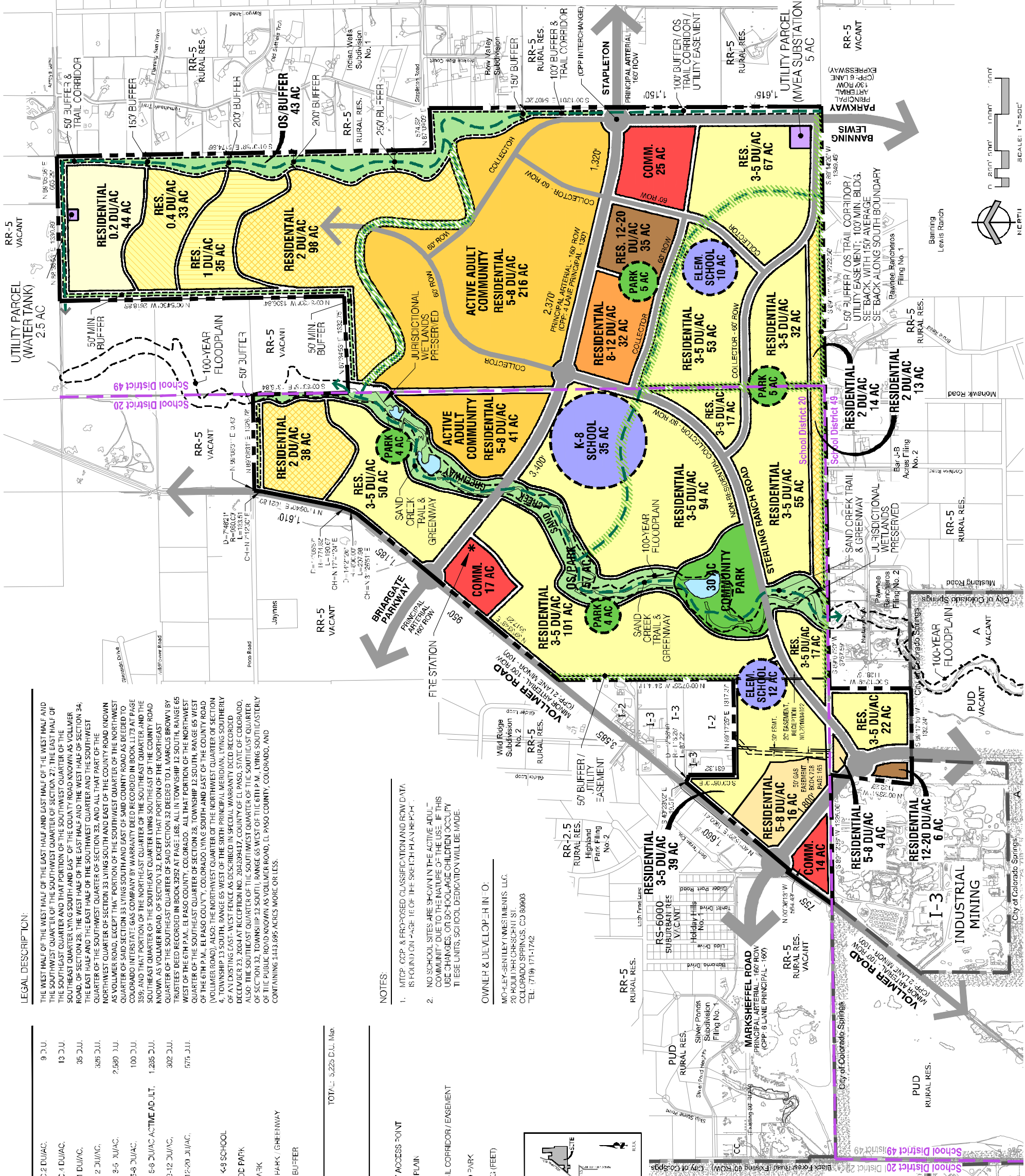
THE WEST HALF OF THE WEST HALF OF THE EAST HALF AND EAST HALF OF T-1E WEST HALF AND THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 27; THE EAST HALF OF THE SOUTHWEST QUARTER AND THAT PORTION OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER LIVING SOUTH AND EAST OF THE COUNTY ROAD KNOWN AS VOLLMER ROAD, OF SECTION 28; THE WEST HALF OF THE EAST HALF AND THE WEST HALF OF SECTION 34; THE EAST HALF AND THE EAST HALF OF THE SOUTHWEST QUARTER AND THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 33; AND ALL THAT PART OF THE NORTHWEST QUARTER OF SECTION 33 LIVING SOUTH AND EAST OF THE COUNTY ROAD KNOWN AS VOLLMER ROAD, EXCEPT THAT PORTION OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 33 LIVING SOUTH AND EAST OF SAID COUNTY ROAD AS DECEDED TO COLORADO INTERSTATE GAS COMPANY BY WARRANTY DEED RECORDED IN BOOK 1173 AT PAGE 359; AND THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER, AND THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER LIVING SOUTHEAST OF THE COUNTY ROAD KNOWN AS VOLLMER ROAD, OF SECTION 32, EXCEPT THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 32 DECEDED TO J. MARCUS BROWN BY TRUSTEES DEED RECORDED IN BOOK 3292 AT PAGE 168; ALL IN TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M., EL PASO COUNTY, COLORADO. ALL THAT PORTION OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 28, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M., EL PASO COUNTY, COLORADO LIVING SOUTH AND EAST OF THE COUNTY ROAD (VOLLMER ROAD); ALSO, THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 4, TOWNSHIP 13 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN, LIVING SOUTHERLY OF A LIXISTING EAST-WEST FENCE AS DESCRIBED IN SPECIAL WARRANTY DEED RECORDED IN BOOK 23,264 AT RECEPTION NO. 204,209,437, COUNTY OF EL PASO, STATE OF COLORADO, ALSO, THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 32, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M., LIVING SOUTHWESTERLY OF THE PUBLIC ROAD KNOWN AS VOLLMER ROAD, EL PASO COUNTY, COLORADO, AND CONTAINING 1443.695 ACRES MORE OR LESS.

NOTES:

1. MTCF, CCP & PROPOSED CLASSIFICATION AND ROW DATA IS FOUND ON PAGE 16 OF THE SKETCH PLAN REPORT.
2. NO SCHOOL SITES ARE SHOWN IN THE ACTIVE ADULT COMMUNITY DUE TO THE NATURE OF THE USE. IF THIS USE CHANGES OR SCHOOL-AGE CHILDREN OCCUPY THESE UNITS, SCHOOL DEDICATION WILL BE MADE.

OWNER & DEVELOPER IN CHARGE:

MO-LEY-BENTLEY INVESTMENTS, LLC.  
20 ROLLING CREEK DRIVE, SUITE 100  
COLORADO SPRINGS, CO 80903  
TEL: (719) 171-1742



STERLING RANCH

SKETCH PLAN

MO-LEY-BENTLEY INVESTMENTS, LLC.  
DATE: OCTOBER 29, 2007  
PROJECT NAME: STERLING RANCH  
SUBDIVISION: STERLING RANCH

AMENDMENT

DATE	BY	PROJECT NAME	COMMENTS
01-15-2003	JLS	STERLING RANCH	INITIAL CONCEPTS
02-15-2003	JLS	STERLING RANCH	INITIAL CONCEPTS
10-12-2006	JLS	STERLING RANCH	REVISIONS TO PLAN
10-12-2006	JLS	STERLING RANCH	REVISIONS TO PLAN
07-12-2007	JLS	STERLING RANCH	REVISIONS TO PLAN

1 OF 1

SKP 07-007



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