



Final Plat - Comment Response Letter

Citizen on Constitution  
El Paso County, Colorado

Prepared for:  
**The Citizen on Constitution, LLC**  
**c/o: The Garrett Companies, Inc.**  
**Andrew White**  
**1051 Greenwood Springs Blvd,**  
**Suite 101**  
**Greenwood, IN 46143**  
**Contact: (317) 497-8275**

Prepared by:  
**Kimley-Horn and Associates, Inc.**  
**2 North Nevada Ave, Suite 300**  
**Colorado Springs, Colorado 80903**  
**(719) 284-7281**  
**Contact: Mitchell Hess, P.E.**

Project #: 096481004

Prepared: October 26th, 2022

PCD File Number: SF-226

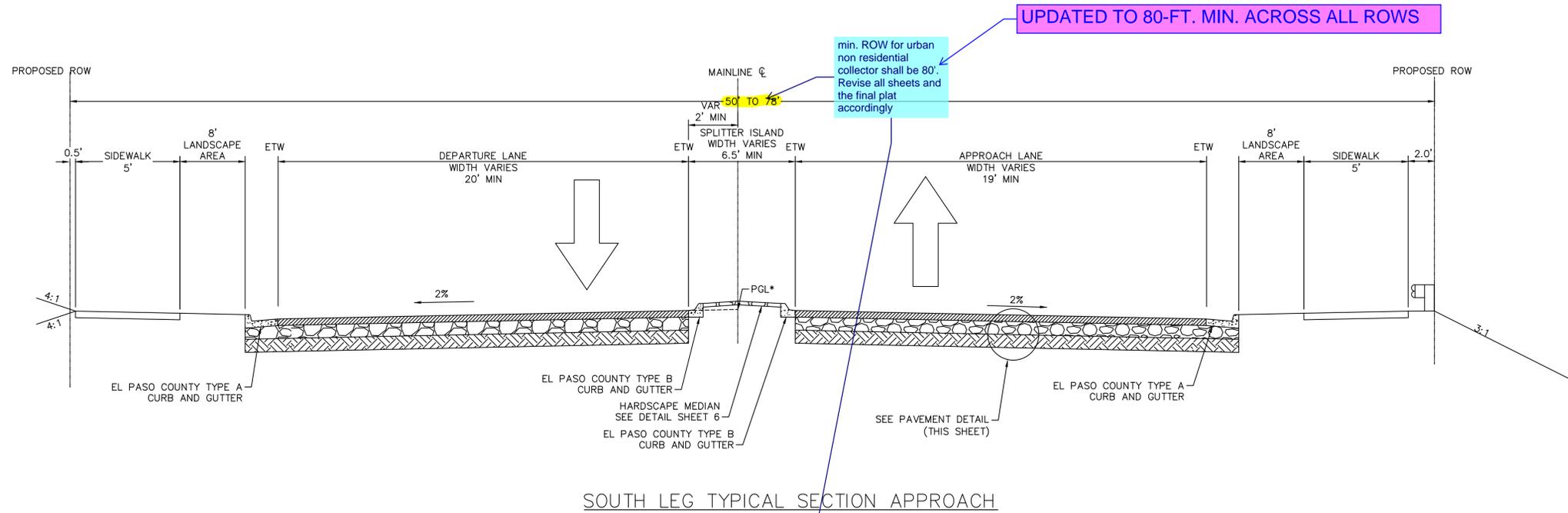
**Kimley»Horn**



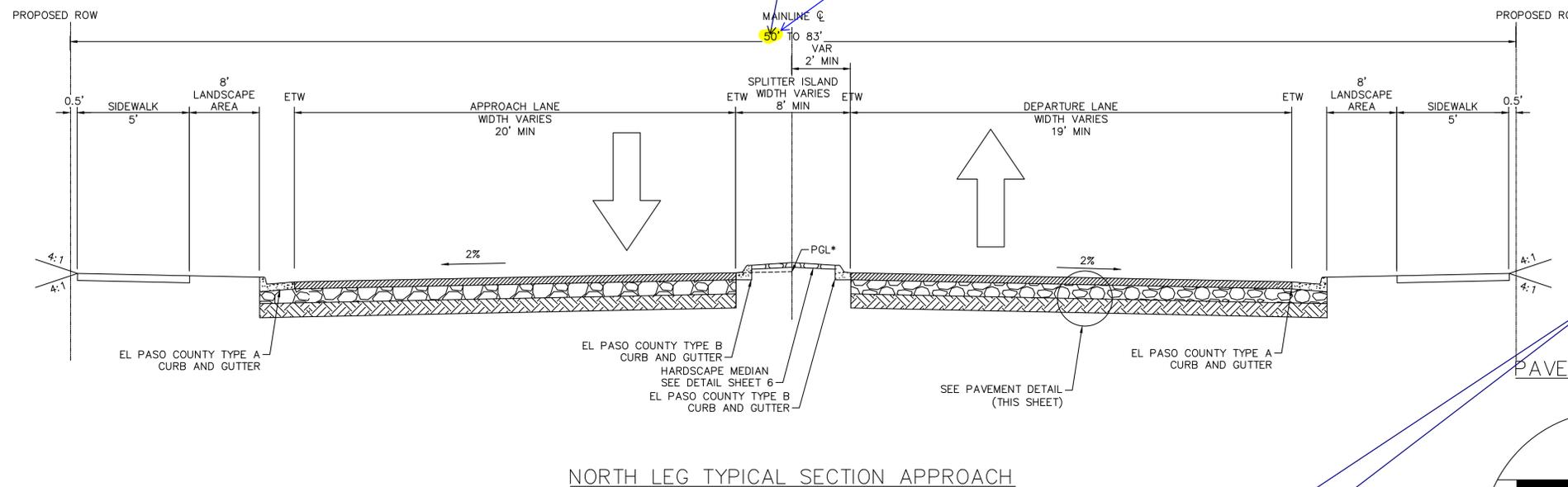
**AKERS DRIVE CD'S – PCD ENGINEERING  
COMMENT RESPONSE**



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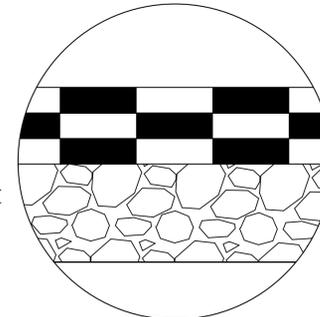
SOUTH LEG TYPICAL SECTION APPROACH



NORTH LEG TYPICAL SECTION APPROACH

**PAVEMENT DETAIL UPDATED.**

Please identify that these values are for bid purposes only and that a pavement report shall be submitted to the County for review and approval.



ABBREVIATIONS:  
ETW = EDGE OF TRAVELWAY  
ROW = RIGHT OF WAY

\* PGL IS A 2% PROJECT UP FROM THE ETW

NO.	REVISION	BY	DATE	APPR.

**Kimley»Horn**  
 2022 KIMLEY-HORN AND ASSOCIATES, INC.  
 4582 South Uteer Street, Suite 1500  
 Denver, CO 80237 (303) 228-2300

DESIGNED BY: SMH  
 DRAWN BY: TL  
 CHECKED BY: CEH  
 DATE: 9/9/2022

AKERS DR & ACCESS ROAD ROUNDABOUT  
 EL PASO COUNTY, COLORADO  
 ROADWAY CONSTRUCTION DOCUMENTS  
**TYPICAL SECTIONS**

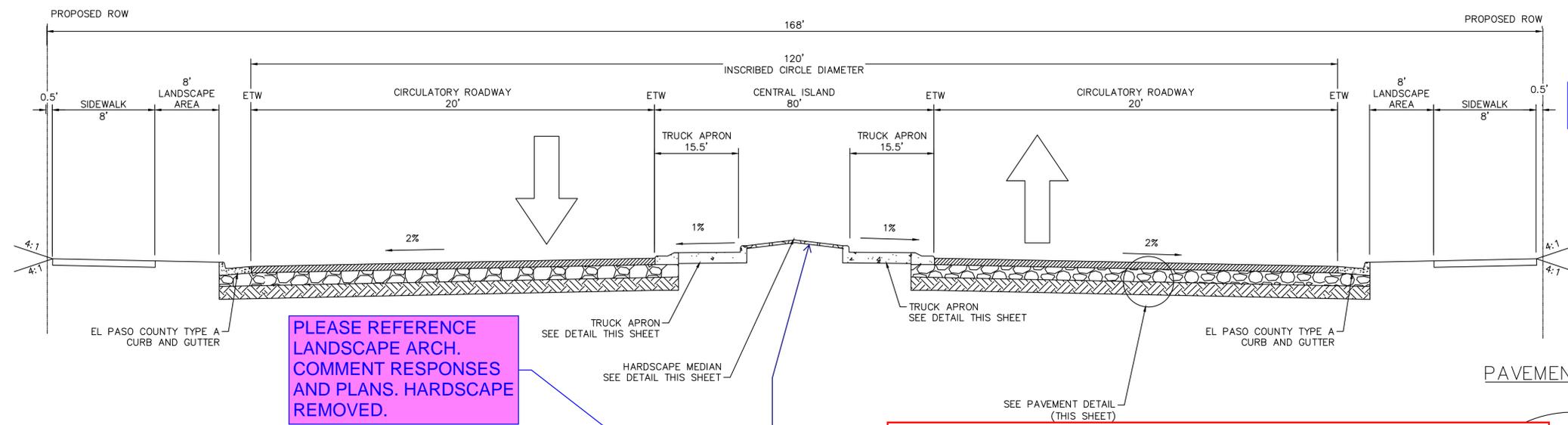
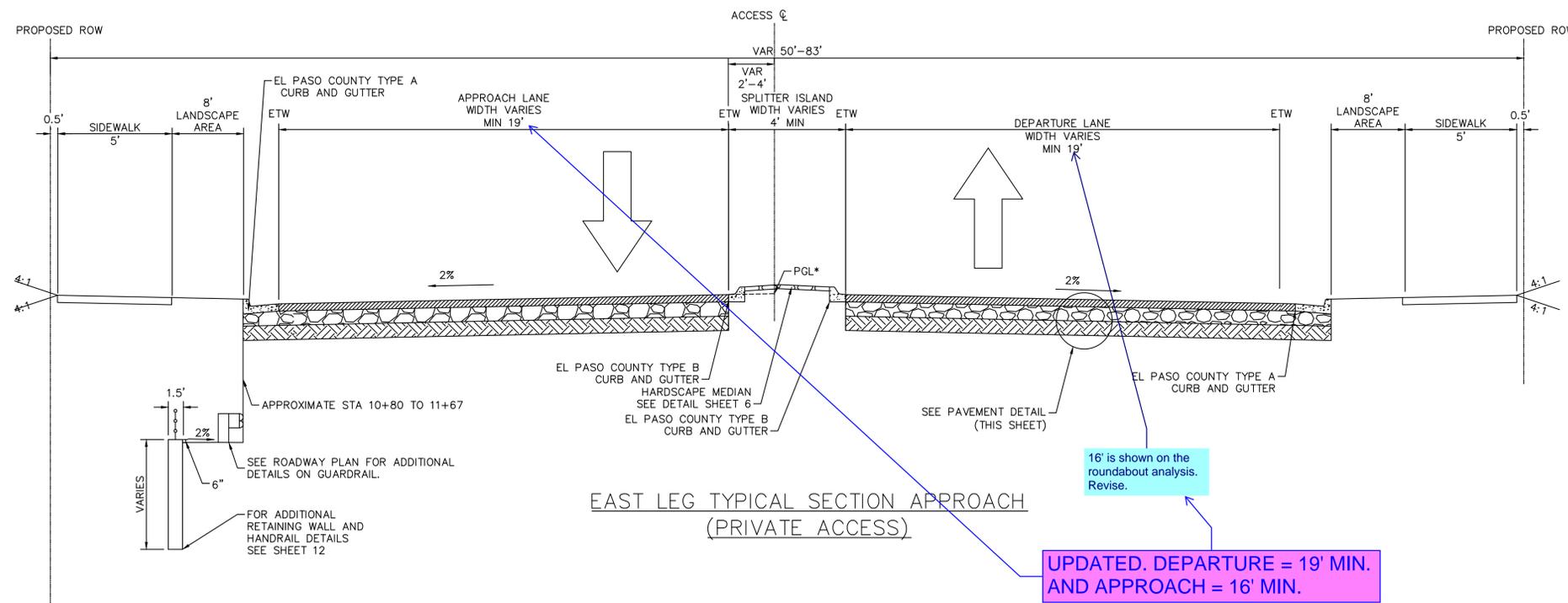
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**30.5.11 Central Island**

The central island of a roundabout is always a raised, non-traversable area encircled by the roundabout circulatory roadway. The central island is stepped up from the traversable truck apron to the non-traversable island area. The central island is raised and landscaped to enhance driver recognition of the roundabout upon approach and to limit the ability of the approaching driver to see through to the other side. The inability to see through the roundabout reduces or eliminates headlight glare at night and driver distraction by other vehicles on the circulatory roadway.

The center or highest portion of the central island ground surface elevation should be raised a minimum of 3.5 feet and maximum of 6 feet from the circulatory roadway surface. The ground slope in the central island shall not exceed 6:1.

Concrete, stone, wood or other non-forgiving material used to make a wall within the central island is prohibited. Landscaping the central island and the roundabout area is further addressed in **FDM 11-26-40**.

The outside 6 feet of the central island should be a low mowed grass surface or low maintenance surface to maintain good visibility to the left upon entry as well as good forward and circulatory visibility on the circulatory roadway.

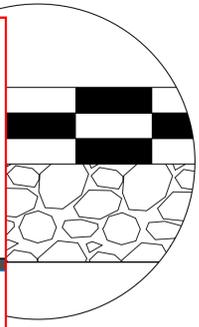
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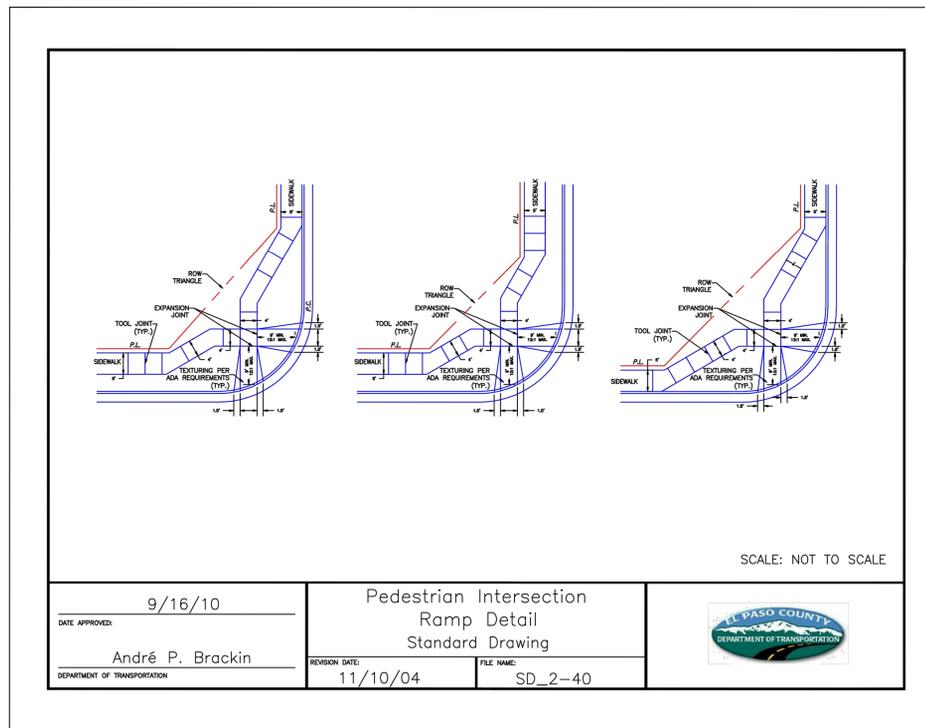
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AKERS DR & ACCESS ROAD ROUNDABOUT  
 EL PASO COUNTY, COLORADO  
 ROADWAY CONSTRUCTION DOCUMENTS  
**TYPICAL SECTIONS**

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**Kimley»Horn**  
 Kimley-Horn and Associates, Inc.

PROJECT NO.  
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 SHEET  
**5**

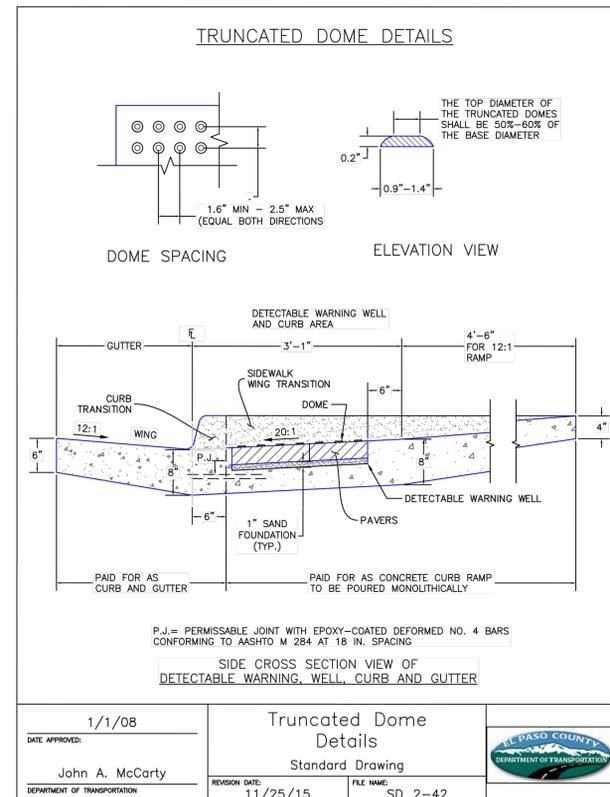
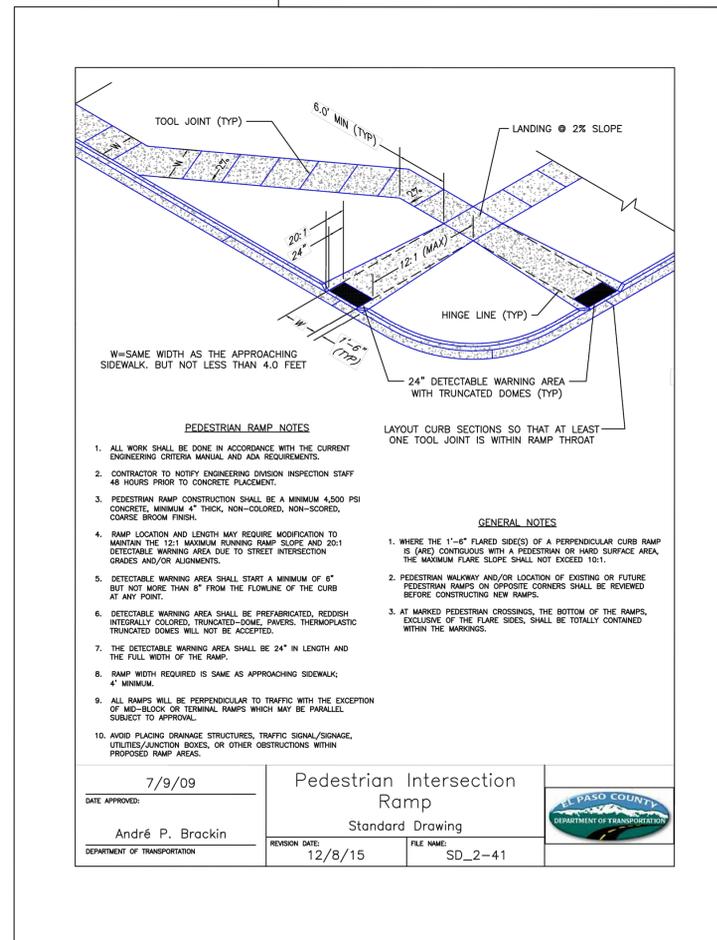
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**DETAILS UPDATED PER LINK**

Review 3 comment:  
 Update to the latest standard County details

Review 4 Unresolved. The latest County details can be found in the following link:  
[https://library.municode.com/co/el\\_paso\\_county/codes/eng\\_ineering\\_criteria\\_manual\\_?nodeId=ENCRMA\\_APFSTDR](https://library.municode.com/co/el_paso_county/codes/eng_ineering_criteria_manual_?nodeId=ENCRMA_APFSTDR)



AKERS DR & ACCESS ROAD ROUNDABOUT  
 EL PASO COUNTY, COLORADO  
 ROADWAY CONSTRUCTION DOCUMENTS  
 ROADWAY DETAILS

DESIGNED BY: SMH  
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PRELIMINARY  
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PROJECT NO. 096481004  
 SHEET 7

Kimley-Horn and Associates, Inc.  
 2022 KIMLEY-HORN AND ASSOCIATES, INC.  
 4582 South Ulster Street, Suite 1500  
 Denver, CO 80237 (303) 228-2300

NO.	REVISION	BY	DATE	APPR.

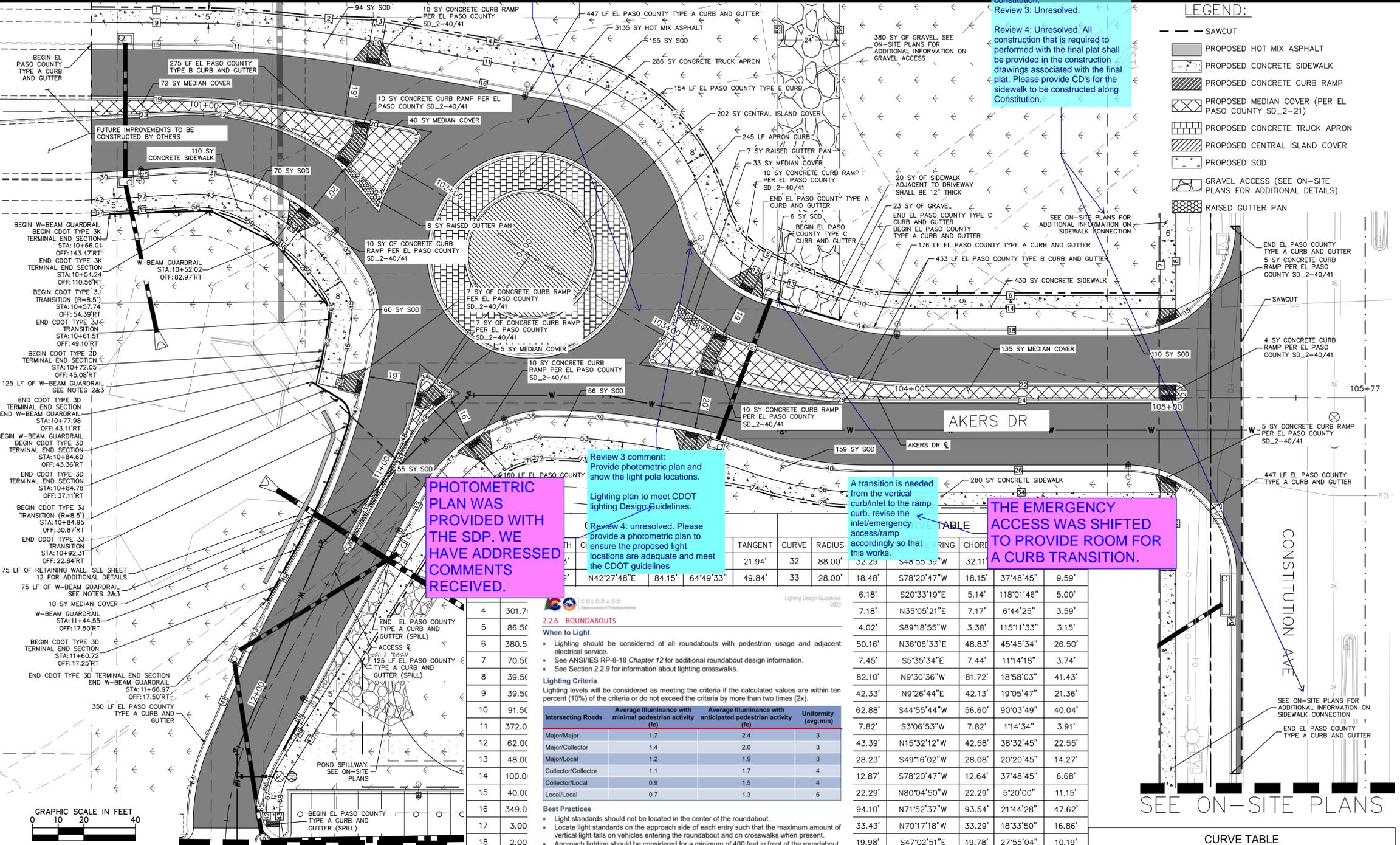
**SHEET ADDED ROADWAY PLAN 2 (11) TO COVER SIDEWALK EXTENSIONS TO THE WEST AND EAST. LINE TABLES UPDATED ACCORDINGLY.**

**DIMENSION ADDED TO THRU LANES**

Review 3 comment: provide lane widths at entry and exit of roundabout and at travel lane around the roundabout.  
Review 4: Please provide the width of the travel lane at the roundabout

Review 2 comment: Please extend construction drawings to where the sidewalk will tie into the adjacent properties sidewalk along constitution.  
Review 3: Unresolved.  
Review 4: Unresolved. All construction that is required to be performed with the final plat shall be provided in the construction drawings associated with the final plat. Please provide CD's for the sidewalk to be constructed along Constitution.

LINE	LENGTH	BEARING
1	39.21	N0°17'22.43"E
2	26.62	N2°14'16.02"E
3	5.00	N10°03'01.81"E
4	70.86	N10°03'01.81"E
5	5.00	S28°13'12.01"W
6	103.56	N0°06'09.96"W
7	46.32	N89°53'50.00"E
8	43.75	N89°53'50.00"E
9	39.18	N0°17'22.43"E
10	5.05	N10°03'01.81"E
11	70.86	N10°03'01.81"E
12	4.98	N28°14'14.24"E
13	27.43	N16°06'46.96"E
14	103.56	N0°06'09.96"W
15	39.13	N0°17'22.43"E
16	80.40	N10°03'01.81"E
17	27.43	N16°06'46.96"E
18	84.66	N0°06'09.96"W
19	27.37	N0°17'22.43"E
20	38.08	S10°03'01.81"W
21	39.40	S20°35'04.09"W
22	103.56	N0°06'09.96"W
23	33.27	S3°01'17.21"E
24	118.60	N0°06'09.96"W
25	27.49	S3°44'10.21"E
26	101.89	N0°06'09.96"W
27	27.49	S3°44'10.21"E
28	5.05	N36°58'06.32"E
29	5.00	S76°13'03.94"E
30	49.75	S61°00'22.81"E
31	35.88	S61°00'22.81"E
32	119.74	S61°00'22.81"E
33	5.00	N13°13'36.86"E
34	120.32	N0°06'09.96"W
35	27.49	S3°44'10.21"E
36	4.71	N36°52'07.11"E
40	23.66	S61°00'22.81"E
41	35.49	S66°16'18.65"E
42	7.33	N89°55'54.53"E
43	11.33	N89°55'54.53"E
45	119.74	S61°00'22.81"E
46	119.14	S57°39'37.99"E
47	111.71	S57°40'47.43"E
48	21.36	S43°19'23.32"E
49	4.92	N13°14'14.06"E
50	24.45	N10°13'46.93"E
51	120.32	N0°06'09.96"W
52	31.99	N89°53'50.00"E
53	118.24	N89°53'50.00"E
54	77.10	S89°57'38.64"W
55	136.93	S89°53'50.00"W
56	146.54	N89°53'50.00"E



**LEGEND:**

- SAWCUT
- PROPOSED HOT MIX ASPHALT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED CONCRETE CURB RAMP
- PROPOSED CONCRETE TRUCK APRON
- PROPOSED CENTRAL ISLAND COVER
- PROPOSED SOD
- GRAVEL ACCESS (SEE ON-SITE PLANS FOR ADDITIONAL DETAILS)
- RAISED GUTTER PAN

**PHOTOMETRIC PLAN WAS PROVIDED WITH THE SDP. WE HAVE ADDRESSED COMMENTS RECEIVED.**

Review 3 comment: Provide photometric plan and show the light pole locations.  
Lighting plan to meet CDOT lighting Design Guidelines.  
Review 4: unresolved. Please provide a photometric plan to ensure the proposed light locations are adequate and meet the CDOT guidelines

A transition is needed from the vertical curb/inlet to the ramp curb. revise the inlet/emergency access/ramp accordingly so that this works.

**THE EMERGENCY ACCESS WAS SHIFTED TO PROVIDE ROOM FOR A CURB TRANSITION.**

**2.2.6 ROUNDABOUTS**

When to Light

- Lighting should be considered at all roundabouts with pedestrian usage and adjacent electrical services.
- See ANSIES RP-8-18 Chapter 12 for additional roundabout design information.
- See Section 2.2.9 for information about lighting crosswalks.

Lighting Criteria

Lighting levels will be considered as meeting the criteria if the calculated values are within ten percent (10%) of the criteria or do not exceed the criteria by more than two times (2x).

Intersecting Roads	Average Illuminance with minimal pedestrian activity (fc)	Average Illuminance with anticipated pedestrian activity (fc)	Uniformity (avg:min)
Major/Major	1.7	2.4	3
Major/Collector	1.4	2.0	3
Major/Local	1.2	1.9	3
Collector/Collector	1.1	1.7	4
Collector/Local	0.9	1.5	4
Local/Local	0.7	1.3	6

Best Practices

- Light standards should not be located in the center of the roundabout.
- Locate light standards on the approach side of each entry such that the maximum amount of vertical light falls on vehicles entering the roundabout and on crosswalks when present.
- Approach lighting should be considered for a minimum of 400 feet in front of the roundabout.
- Light standards should be located at least 4 feet (6 feet is preferred) away from the front edge of the curb to minimize the chance of the pole being struck by a vehicle.

Special Considerations

- Lighted features in the center of the roundabout may increase the ambient brightness. Care must be given to not cause glare for any of the motorists.

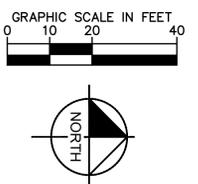
DESIGN EXAMPLES

Figure 13: Roundabout, Plan View  
Figure 14: Roundabout, Isometric View

TANGENT	CURVE	RADIUS	CHORD BEARING	CHORD	DELTA	TANGENT
21.94'	32	88.00'	S2°29'34"W	32.11'	32.11'	32.11'
49.84'	33	28.00'	S42°27'48"E	84.15'	64°49'33"	49.84'
18.48'	32	88.00'	S78°20'47"W	18.15'	37°48'45"	9.59'
7.18'	32	88.00'	N35°05'21"E	7.17'	6°44'25"	3.59'
4.02'	32	88.00'	S89°18'55"W	3.38'	115°11'33"	3.15'
50.16'	32	88.00'	N36°06'33"E	48.83'	45°45'34"	26.50'
7.45'	32	88.00'	S5°35'34"E	7.44'	11°14'18"	3.74'
82.10'	32	88.00'	N9°30'36"W	81.72'	18°58'03"	41.43'
42.33'	32	88.00'	N9°26'44"E	42.13'	19°05'47"	21.36'
62.88'	32	88.00'	S44°55'44"W	56.60'	90°03'49"	40.04'
7.82'	32	88.00'	S3°06'53"W	7.82'	11°4'34"	3.91'
43.39'	32	88.00'	N15°32'12"W	42.58'	38°32'45"	22.55'
28.23'	32	88.00'	S49°16'02"W	28.08'	20°20'45"	14.27'
12.87'	32	88.00'	S78°20'47"W	12.64'	37°48'45"	6.68'
22.29'	32	88.00'	N80°04'50"W	22.29'	5°20'00"	11.15'
94.10'	32	88.00'	N71°52'37"W	93.54'	21°44'28"	47.62'
33.43'	32	88.00'	N70°17'18"W	33.29'	18°33'50"	16.86'
19.98'	32	88.00'	S47°02'51"E	19.78'	27°55'04"	10.19'

**CURVE TABLE**

CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
63	252.00'	23.16'	S63°38'21"E	23.15'	5°15'56"	11.59'
64	76.00'	34.69'	N79°20'52"E	34.39'	26°09'06"	17.65'
65	10.00'	7.18'	S76°21'29"E	7.02'	41°07'11"	3.75'
66	48.00'	18.49'	N72°02'39"E	18.38'	22°04'33"	9.36'
67	33.79'	18.62'	N73°21'46"W	18.38'	31°34'06"	9.55'
68	25.00'	8.75'	N80°02'35"E	8.70'	20°03'00"	4.42'
70	25.00'	6.26'	S50°30'05"E	6.25'	14°21'24"	3.15'
71	41.50'	17.46'	N23°15'57"E	17.33'	24°06'28"	8.86'
72	21.50'	4.22'	S5°35'34"E	4.21'	11°14'18"	2.12'
73	231.50'	50.92'	N6°19'39"W	50.82'	12°36'09"	25.56'
74	25.00'	3.03'	N13°42'11"E	3.03'	6°56'49"	1.52'
75	140.50'	42.37'	N8°32'13"E	42.21'	17°16'46"	21.35'



- NOTES:**
- LINE AND CURVE DATA PROVIDED FOR CURB IS AT THE FLOWLINE OF PROPOSED CURB.
  - GUARDRAIL TO BE INSTALLED WITH 7' POST PER RESTRICTIVE ROADSIDE INSTALLATION CRITERIA PER CDOT M-606-1.
  - ALONG THE ACCESS DRIVE, THE FACE OF GUARDRAIL SHALL BE PARALLEL TO THE FLOWLINE OF THE CURB, AND THE TOP OF GUARDRAIL SHALL BE 27" HIGHER THAN THE FLOWLINE PER URBAN ROADSIDE INSTALLATION WITH CURB & GUTTER CRITERIA PER CDOT M-606-1.
  - SEE ON-SITE PLANS FOR ADDITIONAL INFORMATION ON SIDEWALK ALONG CONSTITUTION AVE.

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

CALL UTILITY NOTIFICATION CENTER OF COLORADO  
1-800-922-1987  
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

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4882 South Ulster Street, Suite 1500  
Denver, CO 80237 (303) 228-2300

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DRAWN BY: TL  
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DATE: 9/9/2022

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EL PASO COUNTY, COLORADO  
ROADWAY CONSTRUCTION DOCUMENTS  
ROADWAY PLAN

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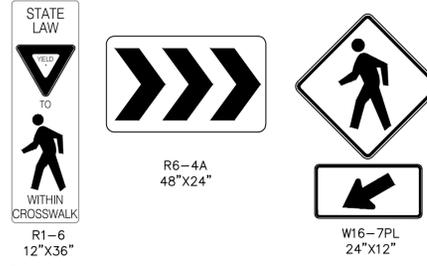
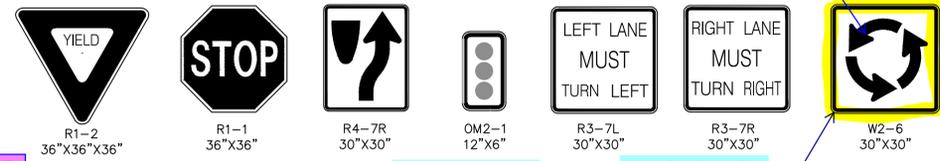
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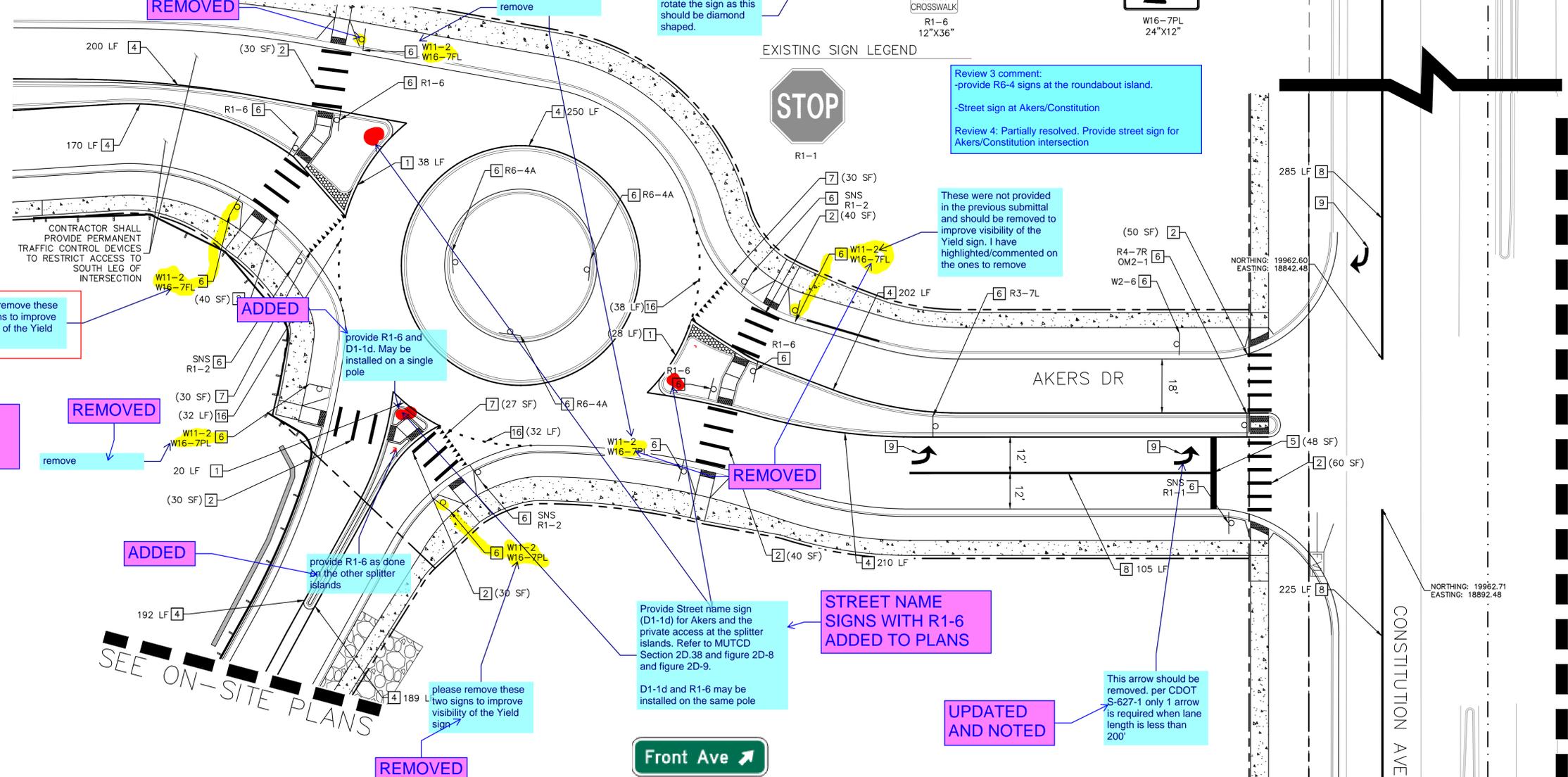


NOTES:  
 1. CONTRACTOR SHALL CONFER WITH EL PASO COUNTY PRIOR TO FABRICATION OF STREET NAME SIGNS.

PROPOSED SIGN LEGEND



EXISTING SIGN LEGEND



please remove these two signs to improve visibility of the Yield sign

W11-2 AND W16-7PL REMOVED.

REMOVED

ADDED

ADDED

REMOVED

STREET NAME SIGNS WITH R1-6 ADDED TO PLANS

UPDATED AND NOTED

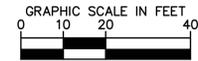
FY: Comments provided include recommendations received from DPW.

SIGNING AND STRIPING NOTES

- |  |  |
|--|--|
| 1 EDGE LINE: SOLID WHITE, 4" WIDE (EPOXY)  | 9 TURN ARROW: WHITE, 16.1 SF (PER CDOT S-627-1) (THERMOPLASTIC)                |
| 2 CROSSWALK MARKING: 10 SF, 1"x10" SOLID WHITE, SPACING AS NEEDED PER AND WHEEL PATH (THERMOPLASTIC) | 10 RESET SIGN ON NEW POST  |
| 3 THRU-TURN ARROW: WHITE, 27.5 SF (PER CDOT S-627-1) (THERMOPLASTIC)                                 | 11 EXISTING SIGN AND POST TO REMAIN  |
| 4 EDGE LINE: SOLID YELLOW, 4" WIDE (EPOXY)   | 12 CHEVRON: WHITE, 8" WIDE, 5 SF, 25' SPACING (THERMOPLASTIC)                  |
| 5 STOP BAR: WHITE, 2' WIDE (THERMOPLASTIC)   | 13 TURN ARROW: WHITE, 16.1 SF (PER CDOT S-627-1) (THERMOPLASTIC)               |
| 6 NEW SIGN PANEL WITH NEW POST   | 14 STOP MARKING: WHITE, 8' TALL, 7'-4" WIDE (PER CDOT S-627-1) (THERMOPLASTIC) |
| 7 YIELD TEETH: WHITE TRIANGLES, 1' WIDE AND 1.5' TALL, 0.75 SF (THERMOPLASTIC)                       | 15 RUBBER CURB: 1' WIDE  |
| 8 CHANNELIZING LINE: SOLID WHITE, 8" WIDE (EPOXY)  | 16 ROUNDABOUT LINE: WHITE, 6" WIDE, 1 SF, 2' PAINT, 4' SPACING                 |



D1-1d



MATCHLINE A

NO.	REVISION	BY	DATE	APPR.

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**ROUNDAABOUT ANALYSIS – PCD ENGINEERING  
COMMENT RESPONSE**

## MEMORANDUM

To: El Paso County

From: Sean Hays, PE  
Kimley-Horn and Associates, Inc.

Date: September 9, 2022

Subject: Design Documentation - Proposed Roundabout at Constitution Ave and Akers Dr

A new roundabout is proposed at the intersection of Akers Dr and Access Rd in El Paso County, Colorado. This memo summarizes the design criteria and critical design parameters for the proposed roundabout.

The design of this roundabout is based upon the criteria established in the Wisconsin Department of Transportation Facilities Development Manual, Chapter 11 Section 26 (Wisconsin DOT FDM 11-26).

### Lane Configuration and Geometrics

The Citizen on Constitution Traffic Study Letter (dated 4-8-2022) prepared by Kimley-Horn recommends a roundabout with a single circulatory lane and one lane entering on each approach at the project intersection. The report shows that the roundabout will operate at a Level of Service (LOS) of A in design year 2045. Refer to the traffic impact study for additional details.

To meet the criteria in the Wisconsin DOT FDM 11-26, the proposed roundabout was designed with the geometry displayed in Table 1. A graphical representation of the roundabout with supporting dimensions, is included as Exhibit 2 at the end of this memo.

**TABLE 1 ROUNDABOUT GEOMETRICS**

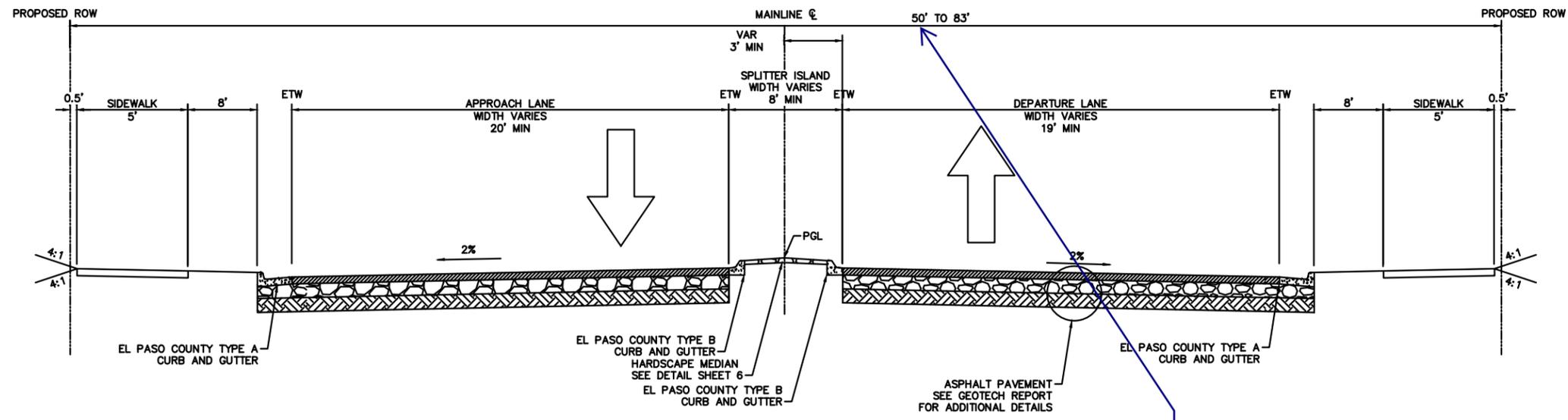
Inscribed Circle Diameter (ICD)	120 feet
Minimum Lane Width (on approach)	16 feet
Entry Width	19 feet
Circulatory Roadway Width	20 feet
Truck Apron Width	15.5 feet
SB Entry Angle, PHI	16.2 deg
WB Entry Angle, PHI	24.7 deg
NB Entry Angle, PHI	17.3 deg

### Fastest Path Speeds

Fastest path performance is an evaluation of the geometric elements that control driver negotiation speeds. Two primary elements were evaluated to determine the fastest path speed:

- Estimated vehicle speeds at critical path radii on the fastest path
- Speed consistency between the critical path radii

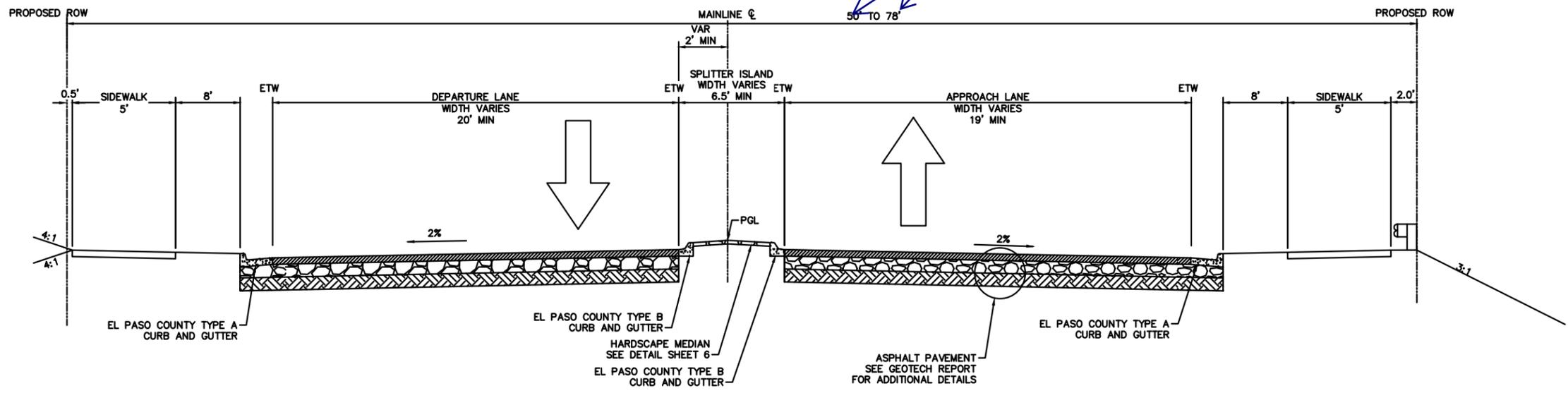
Fastest paths were reviewed in CADD with spline curves based on a technique described in the Wisconsin DOT FDM 11-26 Attachment 50.2.



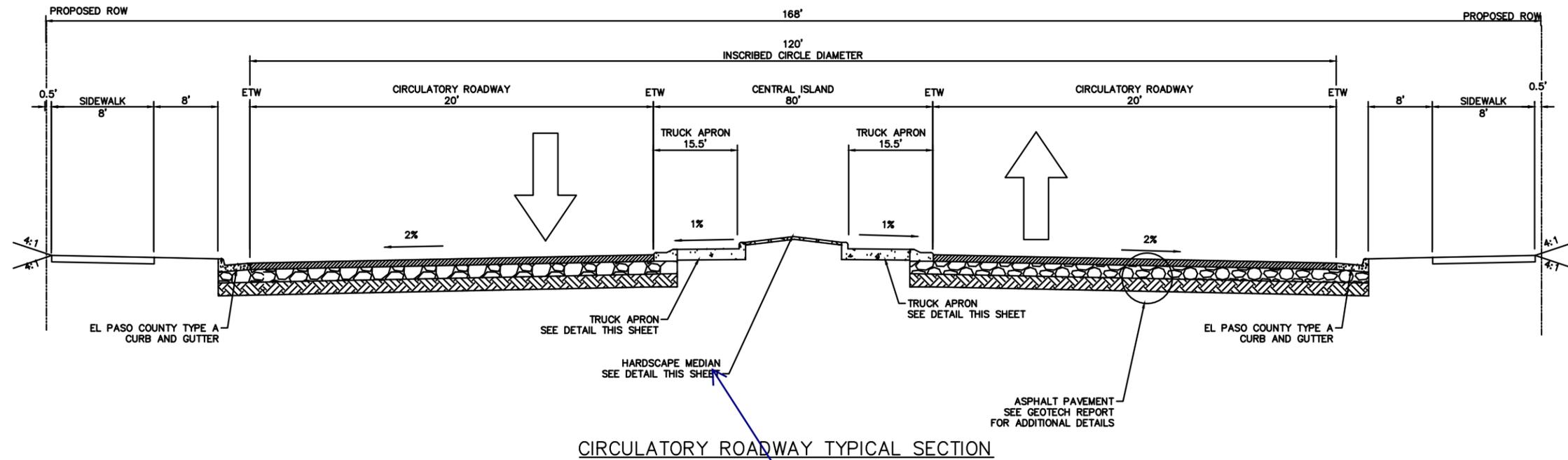
NORTH LEG TYPICAL SECTION APPROACH

ROW width shall be 80' min. per the roadway classification. Revise

ROW WIDTHS UPDATED ACCORDINGLY



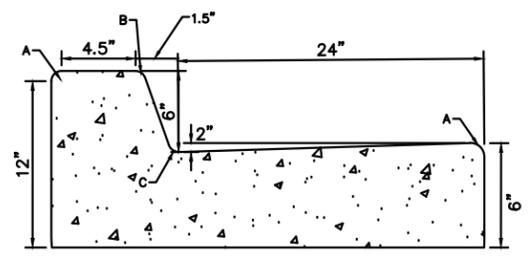
SOUTH LEG TYPICAL SECTION APPROACH



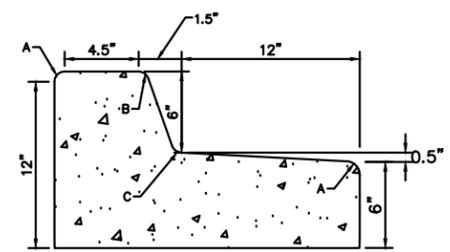
see comment on CDs

UPDATED ACCORDINGLY

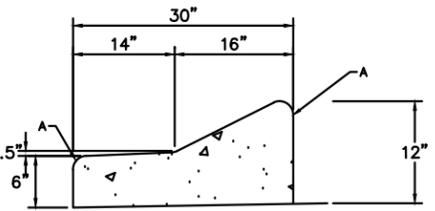
LEGEND FOR RADII	
A	= 1/8" TO 1/4"
B	= 1 1/2"
C	= 1 1/2" TO 2"



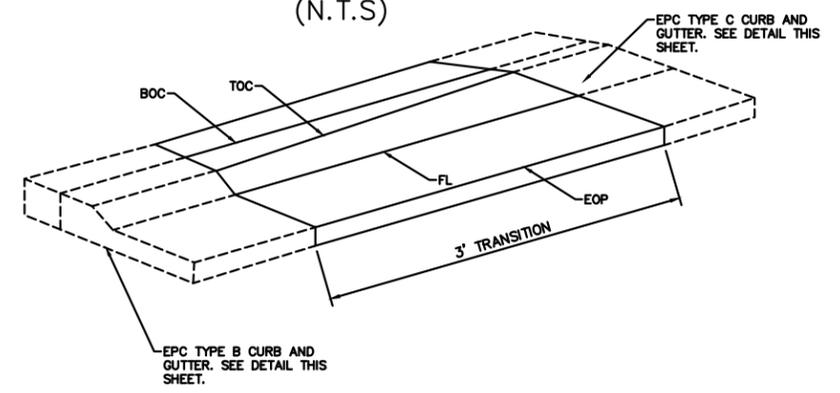
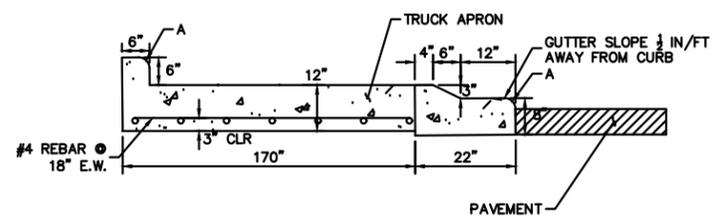
TRUCK APRON DETAIL (N.T.S)

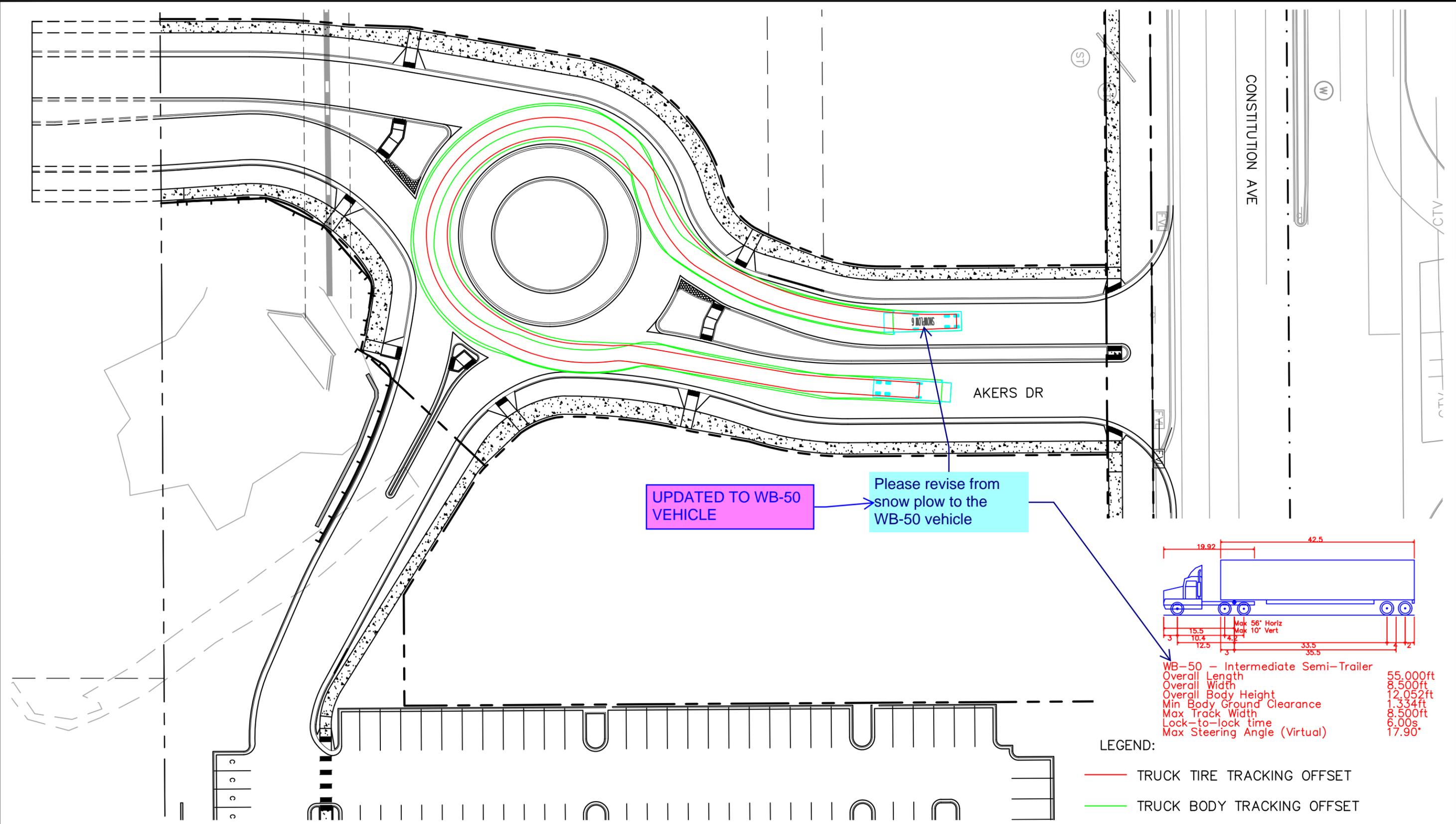


TRUCK APRON DETAIL (N.T.S)



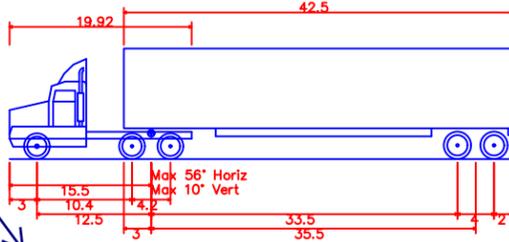
CURB TRANSITION DETAIL (N.T.S)





UPDATED TO WB-50 VEHICLE

Please revise from snow plow to the WB-50 vehicle

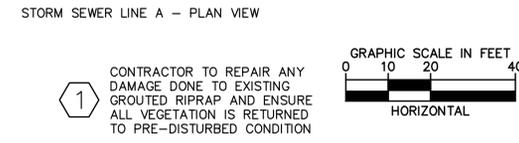
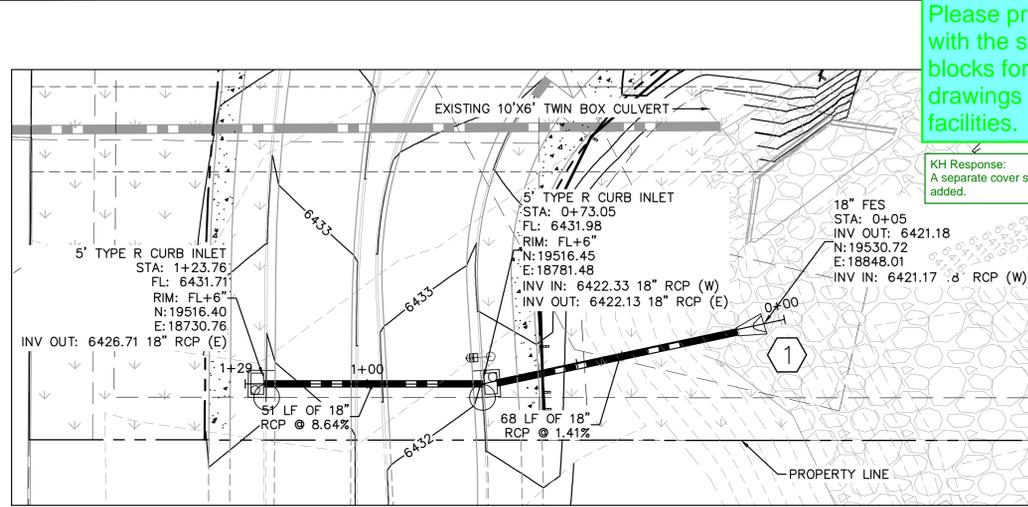


WB-50 - Intermediate Semi-Trailer  
 Overall Length 55.000ft  
 Overall Width 8.500ft  
 Overall Body Height 12.052ft  
 Min Body Ground Clearance 1.334ft  
 Max Track Width 8.500ft  
 Lock-to-lock time 6.00s  
 Max Steering Angle (Virtual) 17.90°

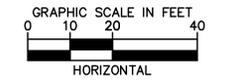
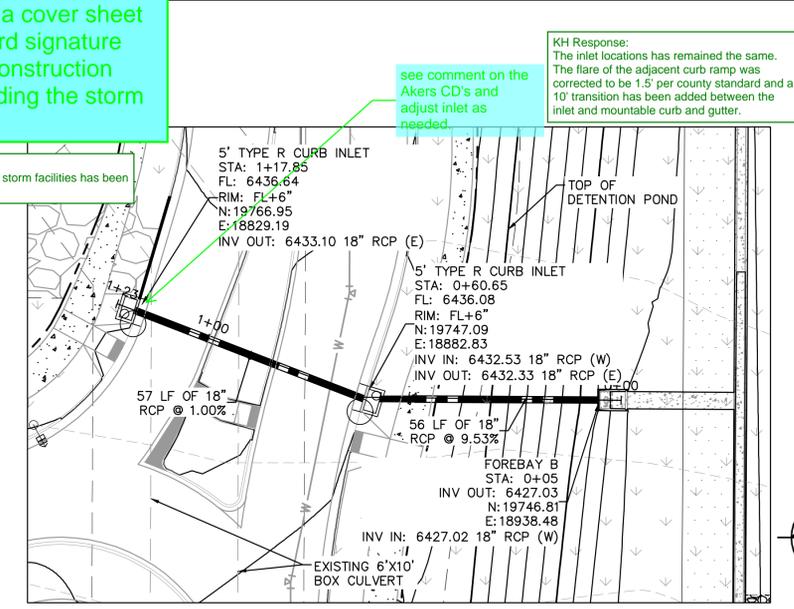
LEGEND:  
 — TRUCK TIRE TRACKING OFFSET  
 — TRUCK BODY TRACKING OFFSET

**ONSITE CD'S – PCD ENGINEERING  
COMMENT RESPONSE**

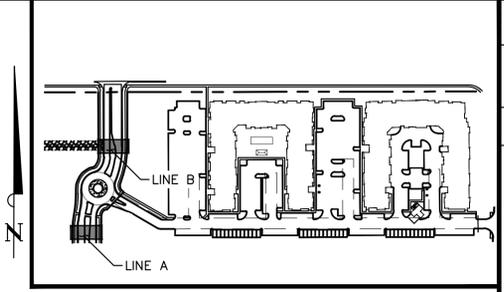
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STORM SEWER LINE A - PLAN VIEW



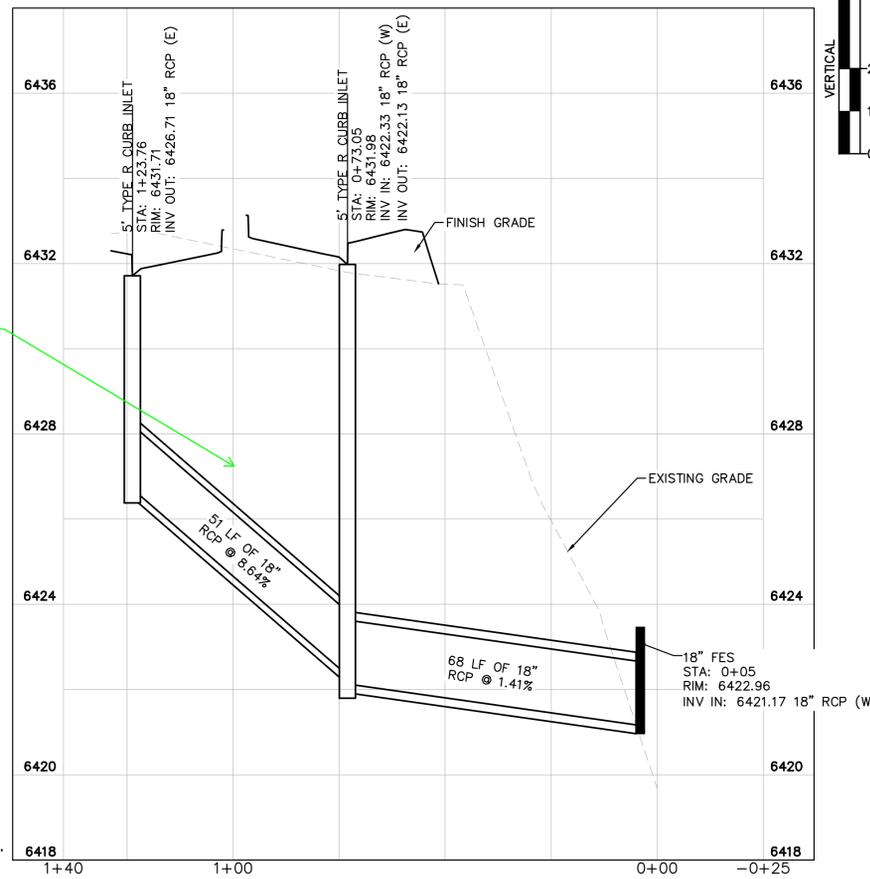
STORM SEWER LINE B - PLAN VIEW



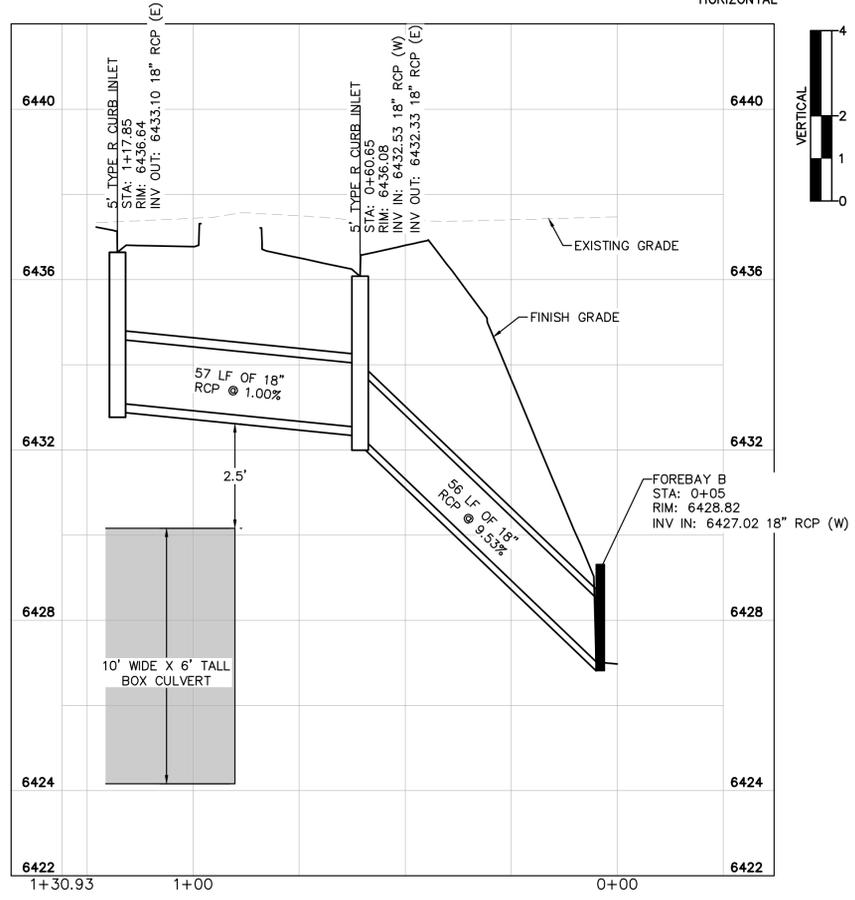
- LEGEND:**
- PROPERTY LINE
  - EXISTING EASEMENT LINE
  - PROPOSED EASEMENT LINE
  - EXISTING STORM SEWER
  - PROPOSED STORM SEWER
  - EXISTING WATER LINE
  - PROPOSED WATER LINE
  - EXISTING FIRE HYDRANT
  - PROPOSED FIRE HYDRANT
  - PROPOSED FIRE DEPARTMENT CONNECTION W/ APPROVED KNOX HARDWARE
  - S --- EXISTING SANITARY SEWER
  - S --- PROPOSED SANITARY SEWER
  - ⊙ SANITARY SEWER MANHOLE
  - ⊙ PROPOSED STORM MANHOLE
  - ⊙ EXISTING STORM MANHOLE
  - PROPOSED CURB INLET
  - EXISTING CURB INLET
  - PROPOSED GRATE INLET

- STORM SEWER NOTES**
- MANHOLE RIM ELEVATIONS PROVIDED FOR REFERENCE ONLY. CONTRACTOR SHALL INSTALL MANHOLES IN ACCORDANCE WITH APPLICABLE DETAILS BASED UPON FINAL FINISH GRADING AT MANHOLE LOCATION. CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTMENTS TO ACCOMMODATE DEVIATIONS IN SITE GRADING AT NO COST TO THE OWNER.
  - CONTRACTOR SHALL MODIFY STANDARD INLET STRUCTURE DIMENSIONS AND STRUCTURAL COMPONENTS TO ACCOMMODATE ASSOCIATED ENTRY AND OUTLET PIPES.
  - ALL STORM SEWER MAINS PIPE, INLETS AND MANHOLES ARE PRIVATELY OWNED AND MAINTAINED BY THE OWNER UP UNTIL THE PUBLIC CONNECTION POINT, UNLESS OTHERWISE NOTED ON THE PLANS.
  - ALL CURB INLET STATIONS ARE BASED ON THE MIDPOINT OF THE CURB INLET AT THE FLOWLINE.
  - ALL CURB INLET FL ELEVATIONS AND STATIONING ARE BASED ON THE MIDPOINT OF THE CURB INLET AT FLOWLINE.
  - ALL STORM SEWER PIPE 12" AND GREATER SHALL BE HDPE UNLESS OTHERWISE NOTED.
  - ALL PRIVATE LANDSCAPE DRAINS SHALL BE NYLOPLAST TYPE OR APPROVED EQUIVALENT. RE: UTILITY DETAILS FOR NYLOPLAST DETAILED DRAWINGS.
  - CONTRACTOR SHALL VERIFY LOCATIONS AND ELEVATIONS OF EXISTING STORM SEWER AT ALL CONNECTION POINTS AND NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
  - CONTRACTOR TO MODIFY EXISTING MANHOLE RIM ELEVATIONS TO MATCH PROPOSED FINISH GRADE AS NECESSARY.

- review 1 comment: show 100 year HGL on all storm profiles.
  - review 2: unresolved
  - Review 3: storm profiles not provided.
  - review 4: Please provide the 100 yr HGL on all storm profiles as indicated in the review 1 comment.
- KH Response: 100-yr HGL's have been added to each profile.



STORM SEWER LINE A - PROFILE VIEW



STORM SEWER LINE B - PROFILE VIEW



NO.	REVISION	BY	DATE	APPR.

**Kimley»Horn**  
2022 KIMLEY-HORN AND ASSOCIATES, INC.  
2 North Nevada Avenue, Suite 300  
Colorado Springs, CO 80903 (303) 228-2300

DESIGNED BY: MOH  
DRAWN BY: JWM  
CHECKED BY: DLS  
DATE: 9/15/2022

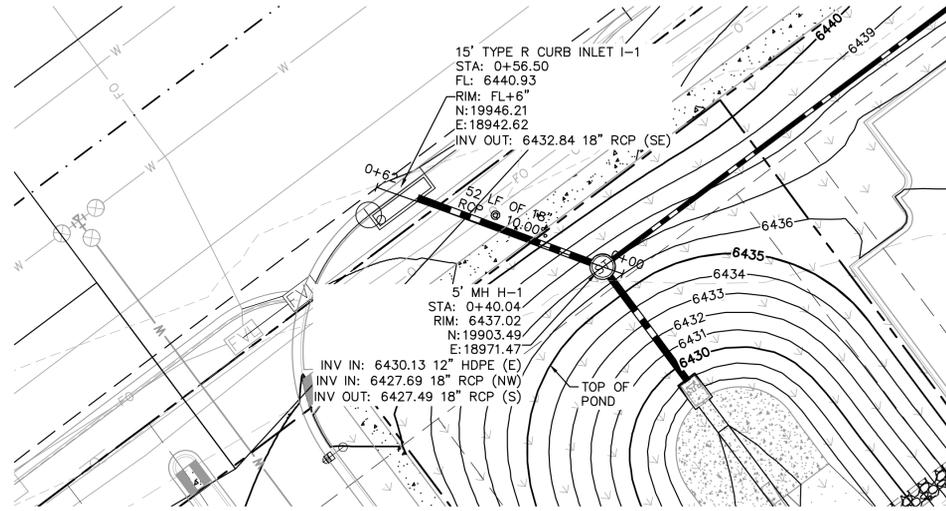
THE CITIZEN ON CONSTITUTION  
EL PASO COUNTY, COLORADO  
UTILITY AND WATER SERVICE PLANS  
STORM PLAN AND PROFILE LINE A



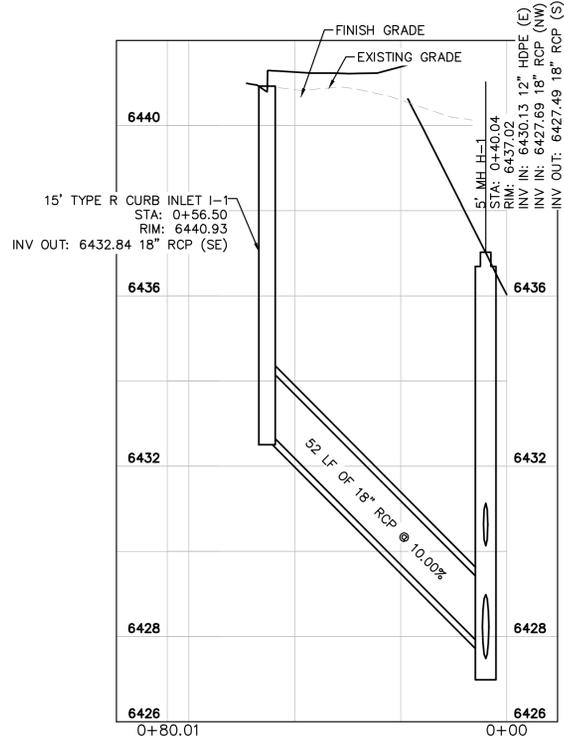
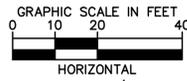
PROJECT NO.  
096481004

SHEET

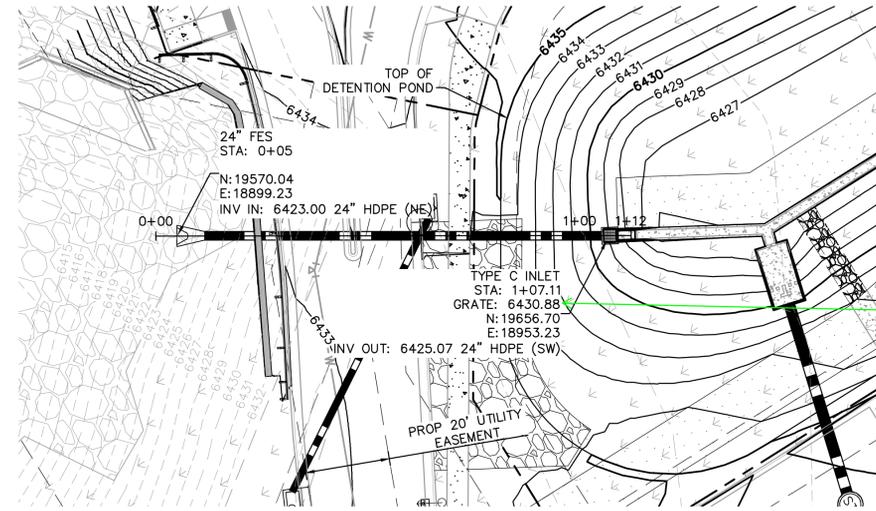
C4.3



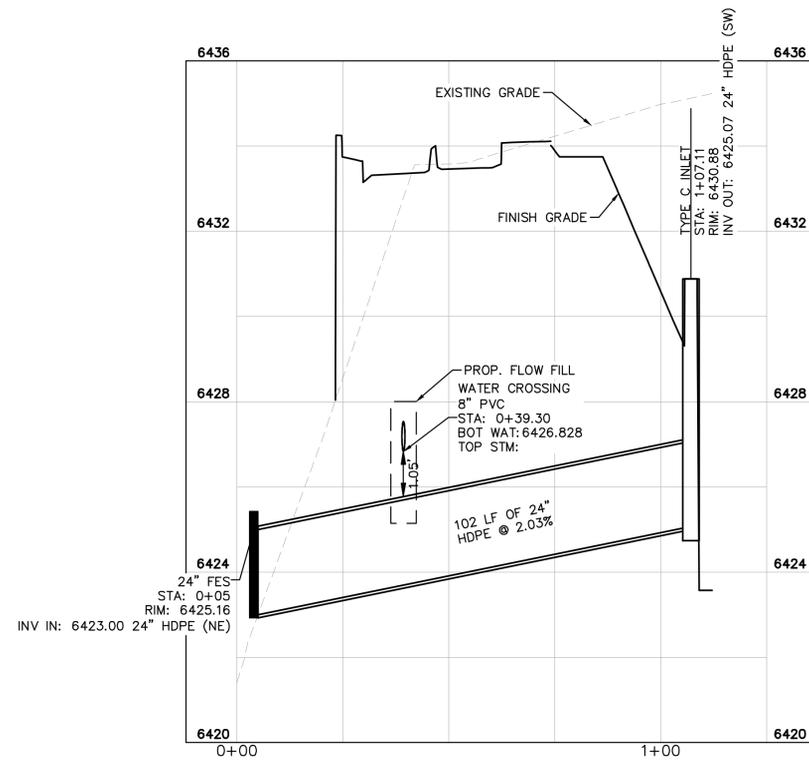
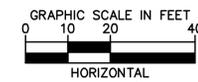
STORM SEWER LINE I - PLAN VIEW



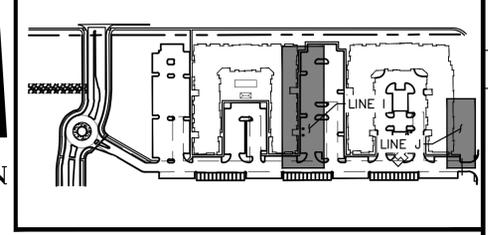
STORM SEWER LINE I - PROFILE VIEW



STORM SEWER LINE J STA 0+00-1+66 PLAN VIEW



STORM SEWER LINE J - PROFILE VIEW



KEY MAP  
NOT TO SCALE

- LEGEND:**
- PROPERTY LINE
  - - - EXISTING EASEMENT LINE
  - - - PROPOSED EASEMENT LINE
  - EXISTING STORM SEWER
  - PROPOSED STORM SEWER
  - EXISTING WATER LINE
  - PROPOSED WATER LINE
  - EXISTING FIRE HYDRANT
  - PROPOSED FIRE HYDRANT
  - PROPOSED FIRE DEPARTMENT CONNECTION W/ APPROVED KNOX HARDWARE
  - EXISTING SANITARY SEWER
  - PROPOSED SANITARY SEWER
  - SANITARY SEWER MANHOLE
  - PROPOSED STORM MANHOLE
  - EXISTING STORM MANHOLE
  - PROPOSED CURB INLET
  - EXISTING CURB INLET
  - PROPOSED GRATE INLET

Revise as needed per comment on next sheet.

KH Response: Grate elevation has been revised to 6431.10 to match UD Detention and the details that follow.

- STORM SEWER NOTES**
- MANHOLE RIM ELEVATIONS PROVIDED FOR REFERENCE ONLY. CONTRACTOR SHALL INSTALL MANHOLES IN ACCORDANCE WITH APPLICABLE DETAILS BASED UPON FINAL FINISH GRADING AT MANHOLE LOCATION. CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTMENTS TO ACCOMMODATE DEVIATIONS IN SITE GRADING AT NO COST TO THE OWNER.
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  - CONTRACTOR TO MODIFY EXISTING MANHOLE RIM ELEVATIONS TO MATCH PROPOSED FINISH GRADE AS NECESSARY.

NO.	REVISION	BY	DATE	APPR.

**Kimley»Horn**  
2022 KIMLEY-HORN AND ASSOCIATES, INC.  
2 North Nevada Avenue, Suite 300  
Colorado Springs, CO 80903 (303) 228-2300

DESIGNED BY: MOH  
DRAWN BY: JWM  
CHECKED BY: DLS  
DATE: 9/15/2022

THE CITIZEN ON CONSTITUTION  
EL PASO COUNTY, COLORADO  
UTILITY AND WATER SERVICE PLANS  
**STORM PLAN AND PROFILE LINE I & J**

PROFESSIONAL ENGINEER  
53916  
9/09/2022

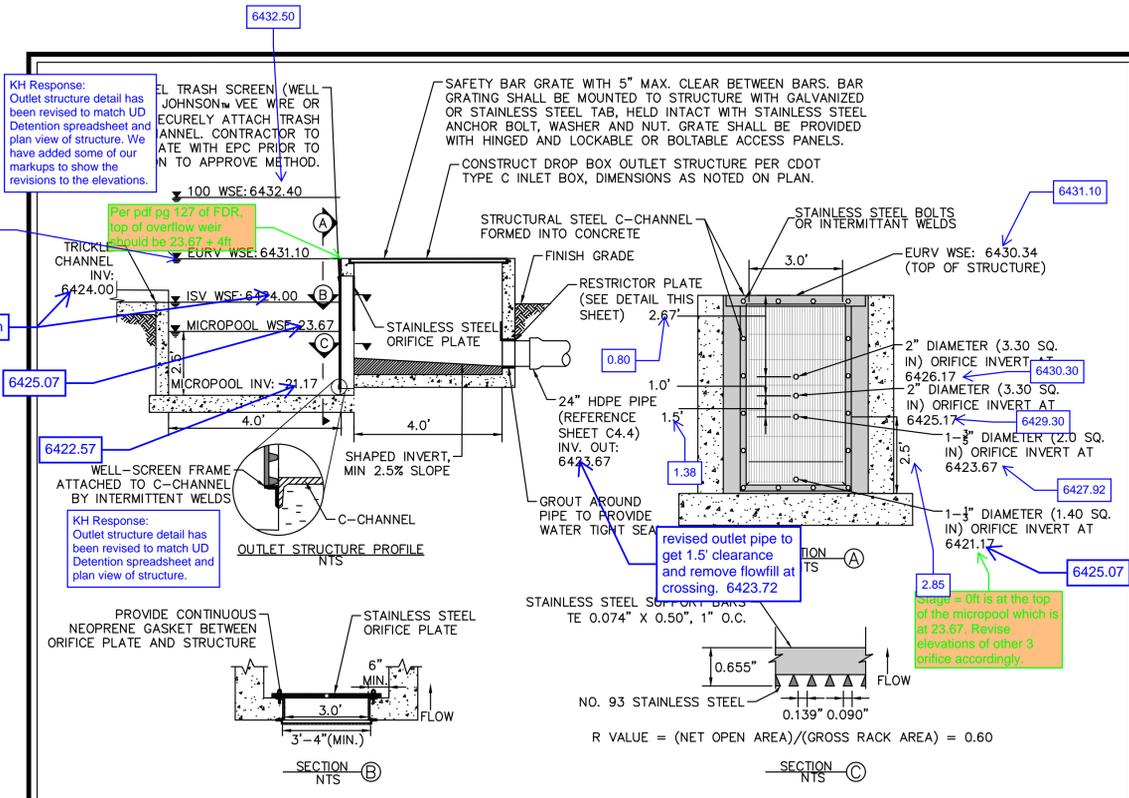
PROJECT NO.  
096481004

SHEET  
**C4.12**

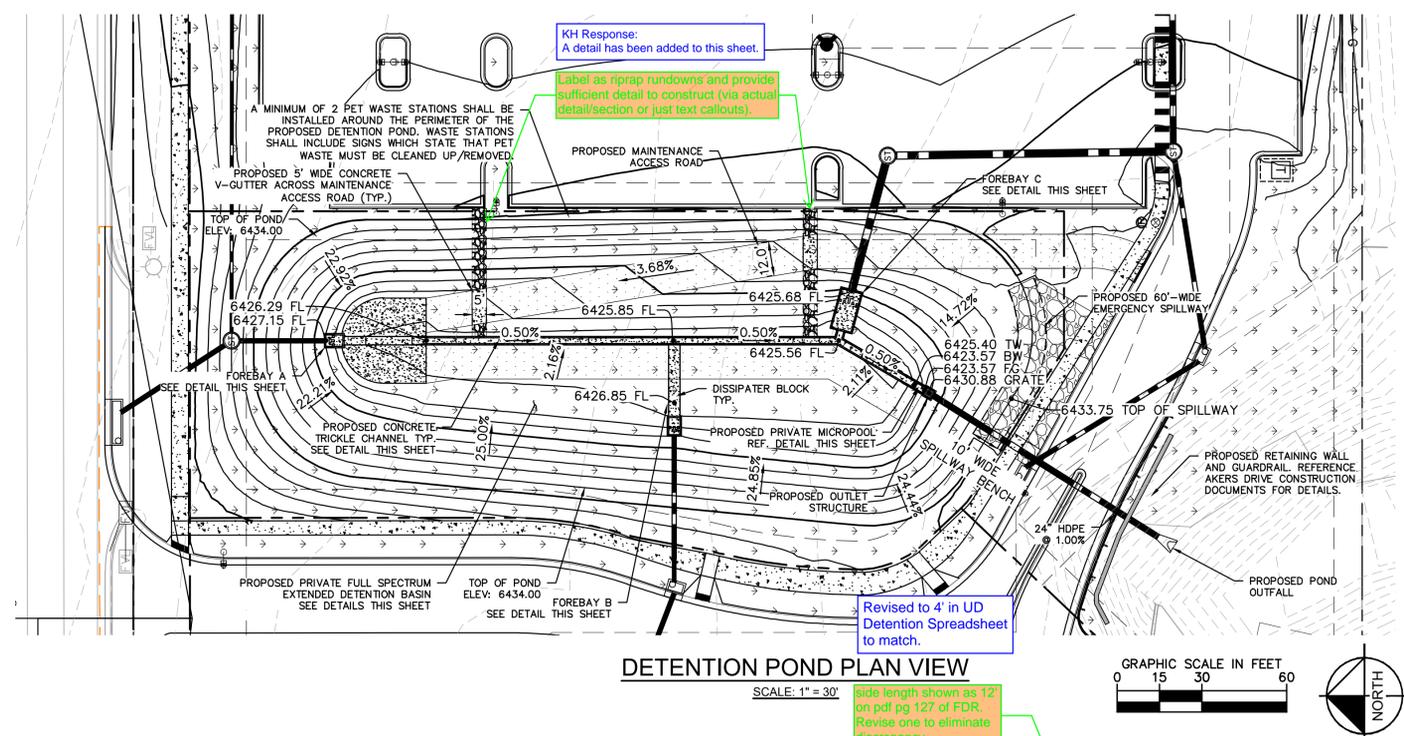
K:\DEN\_Civil\096481004 - El Paso Constitution\CADD\PlanSheets\CD\096481004\UT\_STPP.dwg Hess, Mitchell 9/9/2022 9:31 PM

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

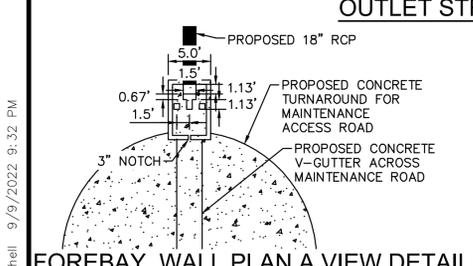
CALL UTILITY NOTIFICATION  
CENTER OF COLORADO  
1-800-922-1987  
CALL 3-BUSINESS DAYS IN ADVANCE  
BEFORE YOU DIG, GRADE, OR EXCAVATE  
FOR THE MARKING OF UNDERGROUND  
MEMBER UTILITIES



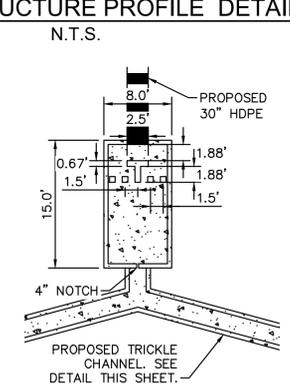
OUTLET STRUCTURE PROFILE DETAIL



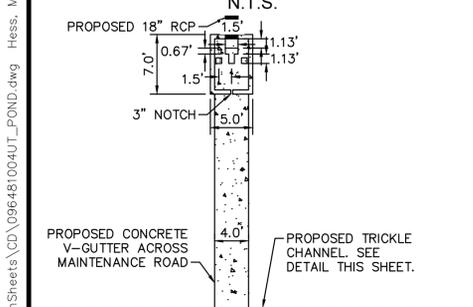
DETENTION POND PLAN VIEW



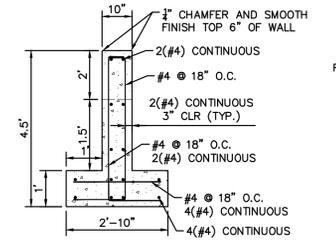
FOREBAY WALL PLAN A VIEW DETAIL



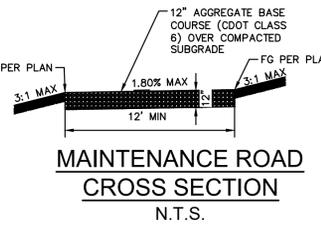
FOREBAY WALL PLAN C VIEW DETAIL



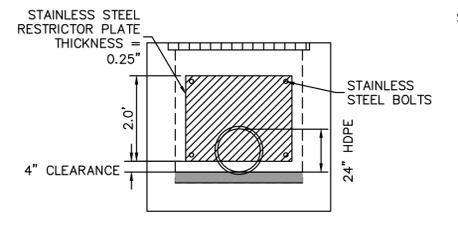
FOREBAY WALL PLAN B VIEW DETAIL



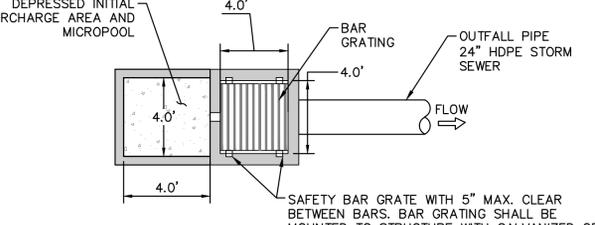
EMERGENCY OVERFLOW CUT-OFF WALL SECTION D



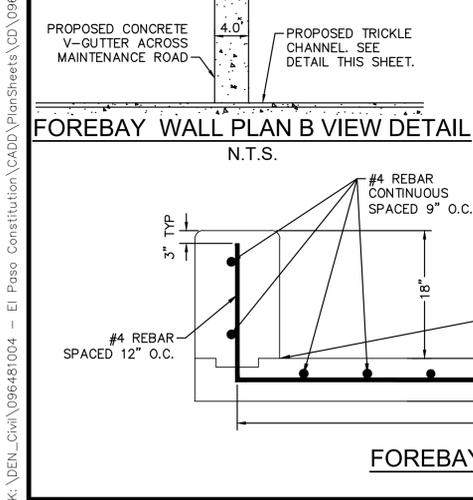
MAINTENANCE ROAD CROSS SECTION



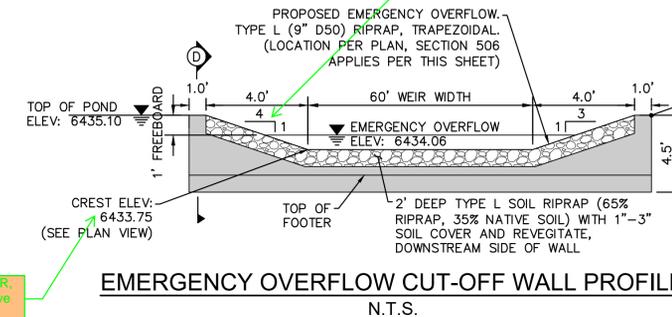
100-YEAR FLOW RESTRICTOR DETAIL



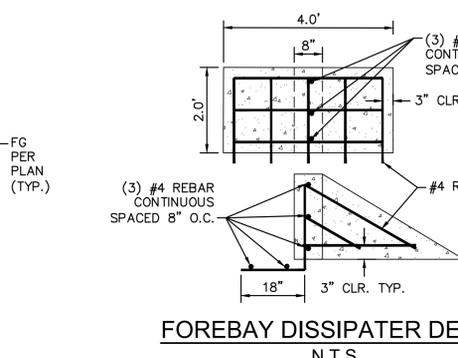
OUTLET STRUCTURE PLAN VIEW DETAIL



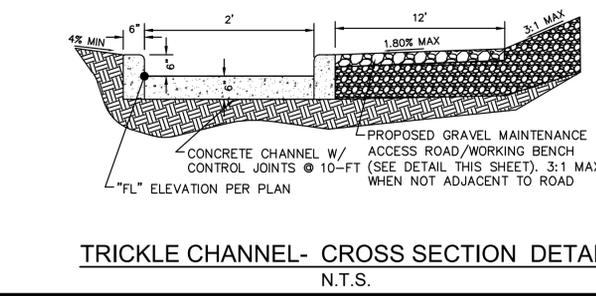
FOREBAY WALL SECTION E



EMERGENCY OVERFLOW CUT-OFF WALL PROFILE



FOREBAY DISSIPATER DETAIL



TRICKLE CHANNEL- CROSS SECTION DETAIL

Table 506-2

Pay Item	Stone Size d50 <sup>1</sup> (Inches)	Percent of Material Smaller Than Typical Stone <sup>2</sup>	Typical Stone Dimensions <sup>3</sup> (Inches)	Typical Stone Weight <sup>4</sup> (Pounds)
Riprap 6	6	70-100	12	85
		50-70	9	35
		35-50	6	10
		2-10	2	0.4
Riprap 9	9	70-100	15	160
		50-70	12	85
		35-50	9	35
		2-10	3	1.3
Riprap 12	12	70-100	21	440
		50-70	18	275
		35-50	12	85
		2-10	4	3
Riprap 18	18	100	30	1280
		50-70	24	650
		35-50	18	275
		2-10	6	10
Riprap 24	24	100	42	3500
		50-70	33	1700
		35-50	24	650
		2-10	9	35

<sup>1</sup>d50 = nominal stone size  
<sup>2</sup>based on typical rock mass  
<sup>3</sup>equivalent spherical diameter  
<sup>4</sup>based on a specific gravity = 2.5

Nominal stone size and total thickness of the riprap shall be as shown on the plans.

DESIGNED BY: MOH  
 DRAWN BY: JWM  
 CHECKED BY: DLS  
 DATE: 9/15/2022

THE CITIZEN ON CONSTITUTION  
 EL PASO COUNTY, COLORADO  
 UTILITY AND WATER SERVICE PLANS  
 DETENTION POND PLAN AND DETAILS

PROJECT NO. 096481004  
 SHEET C4.13

Kimley-Horn  
 2022 KIMLEY-HORN AND ASSOCIATES, INC.  
 2 North Nevada Avenue, Suite 300  
 Colorado Springs, CO 80903 (303) 228-2300

BY: DATE APPR.  
 NO. REVISION

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**DRAINAGE REPORT – PCD ENGINEERING  
COMMENT RESPONSE**

**CERTIFICATION**

**DESIGN 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 the 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 preparation of this report.

SIGNATURE (Affix Seal): \_\_\_\_\_

Colorado P.E. No. 53916



**OWNER/DEVELOPER'S STATEMENT**

I, the developer, have read and will comply with all of the requirements specified in this Drainage Report and Plan.

The Citizen on Constitution, LLC.  
Name of Developer

\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Address:

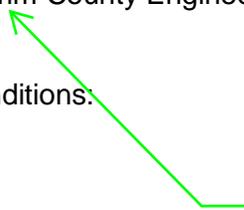
**EL PASO COUNTY**

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

\_\_\_\_\_  
Joshua Palmer, P.E.  
Interim County Engineer/ ECM Administrator

\_\_\_\_\_  
Date

Conditions:



Please remove interim label

KH Response:  
Label has been updated.

Conditions Drainage Map.

2.15 per drainage plan and calculations. Sub-basin OB1 Please revise.

KH Response:  
The report has been revised to match calculations and drainage map.

Sub-Basin OS3 consists of an offsite basin to the northeast of the Property. Drainage flows overland from north to south and conveys to the northern line of Sub-basin EX2 at Design Point OS3. Direct runoff during the 5-year and 100-year events are 0.20 cfs and 1.33 cfs, respectively. Runoff from this basin into the Sub-basin EX2, which is impervious value for this basin is 2%.

KH Response:  
The report has been revised to match calculations and drainage map.

KH Response:  
The report has been revised to match calculations and drainage map.

0.97 cfs per drainage plan and calculations. please revise.

Cumulative flows per the drainage plan and calculations are 0.86cfs and 1.60 cfs. Please revise.

**PROPOSED RATIONAL SUB-BASIN DESCRIPTIONS**

Sub-Basin A1 consists of landscaping and a gravel emergency access road and is the westmost portion of the site which will have minimal grading to tie into the rest of the multi-family development on site. Runoff from this basin will be directed to design point A1 and will follow the historical drainage pattern by sheet flowing from north to south and eventually flowing to the existing gulch. This sub-basin has an area of 0.87 acres. The impervious value for this basin is 2%. The basin will generate runoff of 0.26 cfs and 1.92 cfs in the minor and major storm event. Cumulative flows from this basin, including the flows from Sub-Basins OA1 and OA2, are 0.75 and 2.15 cfs, respectively. Please see below discussion in the Municipal Separate Storm Sewer System (MS4) discussion for additional information on how stormwater quality is being addressed for basins that run offsite.

Sub-Basin A2 consists of a portion of landscaping and the existing gulch on the south side of the site. Runoff from this basin will follow the historical drainage pattern by sheet flowing to adjacent southern property and eventually flowing to the gulch. This sub-basin has an area of 0.41 acres. The impervious value for this basin is 42%. The basin will generate runoff of 0.89 cfs and 2.27 cfs in the minor and major storm event. Please see below discussion in the Municipal Separate Storm Sewer System (MS4) discussion for additional information on how stormwater quality is being addressed for basins that run offsite.

Sub-Basin B1 consists of a portion of landscaping, roadway, and sidewalk. Runoff from this basin will be directed into design point B1 where it will be captured by inlet B1 and directed to the West Pond located in sub-basin C1 via storm drain system. Inlet B1 has been adequately sized to convey anticipated onsite flows from this sub-basin. This sub-basin has an area of 0.13 acres. The impervious value for this basin is 83%. The basin will generate runoff of 0.51 cfs and 2.15 cfs in the minor and major storm event. Cumulative flows from this basin, including the flows from Sub-Basin OB1, are 0.78 and 1.47 cfs, respectively.

Sub-Basin B2 consists of a portion of landscaping, roadway, and sidewalk. Runoff from this basin will be directed into design point B2 where it will be captured by inlet B2 and directed to the West Pond located in sub-basin C1 via storm drain system. Inlet B2 has been sized to accept the 5-year flow completely and will allow approximately 0.2 cfs to bypass onto inlet D1a in the 100-year event. This sub-basin has an area of 0.17 acres. The impervious value for this basin is 79%. The basin will generate runoff of 0.62 cfs and 1.20 cfs in the minor and major storm event. Cumulative flows from this basin, including the flows from Sub-Basin OB2, are 0.96 and 1.82 cfs, respectively.

Sub-Basin E2 consists of a portion of landscaping and roof area. Runoff from this basin will be captured by inlet E2 and directed to the West Pond located in sub-basin C1 via storm drain system. Inlet E2 has been adequately sized to convey anticipated onsite flows from this sub-basin. This sub-basin has an area of 0.21 acres. The impervious value for this basin is 39%. The basin will generate runoff of 0.38 cfs and 0.98 cfs in the minor and major storm event. Cumulative flows from this basin, including the flows from Sub-Basin OE2, are 0.57 and 1.56 cfs, respectively.

Sub-Basin E3 consists of a portion of landscaping and roof area. Runoff from this basin will be captured by inlet E3 and directed to the West Pond located in sub-basin C1 via storm drain system. Inlet E3 has been adequately sized to convey anticipated onsite flows from this sub-basin. This sub-basin has an area of 0.22 acres. The impervious value for this basin is 40%. The basin will generate runoff of 0.41 cfs and 1.04 cfs in the minor and major storm event. Cumulative flows from this basin, including the flows from Sub-Basin OE3, are 0.60 and 1.63 cfs, respectively.

Sub-Basin E4 consists of a portion of landscaping and roof area. Runoff from this basin will be captured by inlet E4 and directed to the West Pond located in sub-basin C1 via storm drain system. Inlet E4 has been adequately sized to convey anticipated onsite flows from this sub-basin. This sub-basin has an area of 0.18 acres. The impervious value for this basin is 46%. The basin will generate runoff of 0.38 cfs and 0.92 cfs in the minor and major storm event. Cumulative flows from this basin, including the flows from Sub-Basin OE4, are 0.53 and 1.34 cfs, respectively.

Sub-Basin OA1 consists of landscaping offsite to the north of the Property. Runoff from this basin will be directed into design point A1 and travels through Basin A1 to follow the historical drainage pattern by sheet flowing from north to south and eventually flowing to the existing gulch. This sub-basin has an area of 0.05 acres. The impervious value for this basin is 46%. The basin will generate runoff of 0.1 cfs and 0.24 cfs in the minor and major storm event.

Sub-Basin OA2 consists of landscaped area, sidewalks, and 1,870 square feet of asphalt roadway within Urban Collection at Palmer Village offsite to the west of the Property. Runoff from this basin will be directed to design point A1 and travels through Basin A1 to follow the historic drainage pattern by sheet flowing north to south and eventually flowing to the existing gulch. Runoff values for basin OA2 were obtained from the approved Final Drainage Report for Urban Collection at Palmer Village by JR Engineering dated April 2021. The Final Drainage Report states that basins B14, B15, and B16 total 0.45 acres and will generate runoff of 0.50 cfs and 1.60 cfs in the minor and major storm events. Design Points 28, 29, and 30 correspond to basins B14, B15, and B16 on the Final Drainage Report.

Does not match what is shown on Drainage Map

Sub-Basin OB1 consists of a portion Constitution Avenue to the north of the Property. Runoff from this basin will be directed into design point B1 and Basin B1 to a curb inlet at design point B1. This sub-basin has an area of 0.08 acres. The impervious value for this basin is 96%. The basin will generate runoff of 0.63 cfs in the minor and major storm event.

KH Response: 0.6 cfs and 1.90 cfs are used to match the previously approved drainage report for the adjacent property. The runoff values in the previously approved report are inconsistent so the most conservative values are used.

Sub-Basin OB2 consists of a portion of Constitution Avenue to the north of the Property. Runoff from this basin will be directed into design point B2 and travels via curb and gutter through Basin B2 to a curb inlet at design point B2. This sub-basin has an area of 0.08 acres. The impervious value for this basin is 90%. The basin will generate runoff of 0.34 cfs and 0.62 cfs in the minor and major storm event.

Citizen on Constitution - Drainage Report												
Proposed Runoff Calculations												
(Rational Method Procedure)												
Design Storm 5 Year												
BASIN INFORMATION				DIRECT RUNOFF				CUMULATIVE RUNOFF				NOTES
DESIGN POINT	DRAIN BASIN	AREA ac.	RUNOFF COEFF	T(c) min	C x A	I in/hr	Q cfs	T(c) min	C x A	I in/hr	Q cfs	
A1*	A1*	0.87	0.08	12.5	0.07	3.75	0.26				0.75	A1 + OA1 + OA2
A2*	A2*	0.41	0.42	5.0	0.17	5.16	0.89					
B1	B1	0.13	0.76	5.0	0.10	5.16	0.51				0.86	B1 + OB1
B2	B2	0.17	0.72	5.0	0.12	5.16	0.62				0.96	B2 + OB2
B3*	B3*	0.35	0.77	5.0	0.26	5.16	1.36					
B4*	B4*	0.18	0.77	5.0	0.14	5.16	0.72					
B5*	B5*	0.03	0.69	5.0	0.02	5.16	0.11					
C1	C1	0.84	0.10	5.0	0.08	5.16	0.43				0.60	C1 + OC1
C2	C2	0.26	0.66	5.0	0.17	5.16	0.89				0.97	C2 + OC2
C3	C3	0.62	0.81	5.0	0.51	5.16	2.61					
D1	D1	0.58	0.87	5.0	0.51	5.16	2.61					
D1a	D1a	0.18	0.79	5.0	0.14	5.16	0.73					
D2	D2	1.08	0.79	5.0	0.86	5.16	4.42					
D3	D3	0.30	0.48	5.2	0.14	5.09	0.72					
D4	D4	0.30	0.48	5.2	0.14	5.09	0.73					
D5	D5	0.51	0.79	5.0	0.40	5.16	2.08					
D6	D6	0.81	0.80	5.0	0.64	5.16	3.32					
D7	D7	0.39	0.75	5.0	0.30	5.16	1.53					
D8	D8	0.54	0.75	5.0	0.40	5.16	2.07					
D9	D9	0.43	0.72	5.0	0.31	5.16	1.58					
D10	D10	0.37	0.71	5.0	0.26	5.16	1.33					
D11	D11	0.50	0.79	5.0	0.39	5.16	2.03					
D12	D12	0.66	0.29	5.0	0.19	5.16	0.99				0.99	D12 + OD12
E1	E1	0.18	0.40	5.0	0.07	5.16	0.37				0.49	E1 + OE1
E2	E2	0.21	0.35	5.0	0.07	5.16	0.38				0.57	E2 + OE2
E3	E3	0.22	0.36	5.0	0.08	5.16	0.41				0.60	E3 + OE3
E4	E4	0.18	0.40	5.0	0.07	5.16	0.38				0.53	E4 + OE4
OA1*	OA1*	0.05	0.45	6.8	0.02	4.71	0.10					
OA2*^	OA2*^	0.45	0.00		0.00	4.00					0.50	Flows from previous FDR
OB1	OB1	0.08	0.87	5.0	0.07	5.16	0.35					
OB2	OB2	0.08	0.82	5.0	0.07	5.16	0.34					
OC1	OC1	0.08	0.41	5.0	0.03	5.16	0.17					
OC2	OC2	0.06	0.27	5.0	0.02	5.16	0.08					
OD12	OD12	0.01	0.08	5.5	0.00	5.02	0.01					
OE1	OE1	0.09	0.27	5.0	0.02	5.16	0.13					
OE2	OE2	0.14	0.27	5.0	0.04	5.16	0.19					
OE3	OE3	0.14	0.27	5.0	0.04	5.16	0.19					
OE4	OE4	0.09	0.30	5.0	0.03	5.16	0.14					
OF1	OF1	1.12	0.90	14.4	1.01	3.52	3.56					
OF2	OF2	0.42	0.08	8.1	0.03	4.45	0.15					
OS1*	OS1*	0.25	0.76	5.0	0.19	5.16	0.99					

KH Response:  
 Markups in blue are  
 Kimley-Horn markups showing  
 what changed and changes we  
 made to address other  
 comments from the county.

Updated to 0.6 cfs to  
 match plan

Citizen on Constitution - Drainage Report												
Proposed Runoff Calculations												
Design Storm 100 Year												
(Rational Method Procedure)												
BASIN INFORMATION				DIRECT RUNOFF				CUMULATIVE RUNOFF				NOTES
DESIGN POINT	DRAIN BASIN	AREA ac.	RUNOFF COEFF	T(c) min	C x A	I in/hr	Q cfs	T(c) min	C x A	I in/hr	Q cfs	
A1*	A1*	0.87	0.35	12.5	0.31	6.29	1.92				3.09	A1 + OA1 + OA2
A2*	A2*	0.41	0.60	5.0	0.25	8.65	2.15					
B1	B1	0.13	0.85	5.0	0.11	8.65	0.97				1.60	B1 + OB1
B2	B2	0.17	0.83	5.0	0.14	8.65	1.20				1.82	B2 + OB2
B3*	B3*	0.35	0.86	5.0	0.30	8.65	2.57					
B4*	B4*	0.18	0.86	5.0	0.16	8.65	1.36					
B5*	B5*	0.03	0.80	5.0	0.02	8.65	0.21					
C1	C1	0.84	0.36	5.0	0.31	8.65	2.64				3.07	C1 + OC1
C2	C2	0.26	0.78	5.0	0.20	8.65	1.76				2.01	C2 + OC2
C3	C3	0.62	0.89	5.0	0.55	8.65	4.79					
D1	D1	0.58	0.93	5.0	0.55	8.65	4.72					
D1a	D1a	0.18	0.88	5.0	0.16	8.65	1.37					
D2	D2	1.08	0.88	5.0	0.94	8.65	8.17					
D3	D3	0.30	0.63	5.2	0.19	8.54	1.59					
D4	D4	0.30	0.63	5.2	0.19	8.54	1.63					
D5	D5	0.51	0.87	5.0	0.45	8.65	3.85					
D6	D6	0.81	0.88	5.0	0.71	8.65	6.11					
D7	D7	0.39	0.84	5.0	0.33	8.65	2.88					
D8	D8	0.54	0.84	5.0	0.45	8.65	3.92					
D9	D9	0.43	0.81	5.0	0.35	8.65	3.00					
D10	D10	0.37	0.80	5.0	0.29	8.65	2.54					
D11	D11	0.50	0.87	5.0	0.44	8.65	3.78					
D12	D12	0.66	0.50	5.0	0.33	8.65	2.86				2.90	D12 + OD12
E1	E1	0.18	0.58	5.0	0.10	8.65	0.88				1.27	E1 + OE1
E2	E2	0.21	0.54	5.0	0.11	8.65	0.98				1.56	E2 + OE2
E3	E3	0.22	0.55	5.0	0.12	8.65	1.04				1.63	E3 + OE3
E4	E4	0.18	0.58	5.0	0.11	8.65	0.92				1.34	E4 + OE4
OA1*	OA1*	0.05	0.63	6.8	0.03	7.90	0.24					
OA2*^	OA2*^	0.45	0.00	10.7	0.00	6.71					1.90	Flows from previous FDR
OB1	OB1	0.08	0.94	5.0	0.07	8.65	0.63					
OB2	OB2	0.08	0.90	5.0	0.07	8.65	0.62					
OC1	OC1	0.08	0.59	5.0	0.05	8.65	0.42					
OC2	OC2	0.06	0.49	5.0	0.03	8.65	0.25					
OD12	OD12	0.01	0.35	5.5	0.01	8.43	0.04					
OE1	OE1	0.09	0.49	5.0	0.05	8.65	0.39					
OE2	OE2	0.14	0.49	5.0	0.07	8.65	0.58					
OE3	OE3	0.14	0.49	5.0	0.07	8.65	0.59					
OE4	OE4	0.09	0.51	5.0	0.05	8.65	0.41					
OF1	OF1	1.12	0.96	14.4	1.08	5.90	6.36					
OF2	OF2	0.42	0.35	8.1	0.15	7.46	1.09					
OS1*	OS1*	0.25	0.85	5.0	0.22	8.65	1.87					

KH Response:  
 Markups in blue are  
 Kimley-Horn markups showing  
 what changed and changes we  
 made to address other  
 comments from the county.

Updated to 1.9  
 cfs to match plan



KH Response:  
Markups in blue are  
Kimley-Horn markups showing  
what changed and changes we  
made to address other  
comments from the county.

SUMMARY - PROPOSED RUNOFF TABLE						
DESIGN POINT	BASIN DESIGNATION	BASIN AREA (ACRES)	DIRECT 5-YR RUNOFF (CFS)	DIRECT 100-YR RUNOFF (CFS)	CUMULATIVE 5-YR RUNOFF (CFS)	CUMULATIVE 100-YR RUNOFF (CFS)
A1*	A1*	0.87	0.26	1.92	0.75	3.09
A2*	A2*	0.41	0.89	2.15	0.89	2.15
B1	B1	0.13	0.51	0.97	0.86	1.60
B2	B2	0.17	0.62	1.20	0.96	1.82
B3*	B3*	0.35	1.36	2.57	1.36	2.57
B4*	B4*	0.18	0.72	1.36	0.72	1.36
B5*	B5*	0.03	0.11	0.21	0.11	0.21
C1	C1	0.84	0.43	2.64	0.60	3.07
C2	C2	0.26	0.89	1.76	0.97	2.01
C3	C3	0.62	2.61	4.79	2.61	4.79
D1	D1	0.58	2.61	4.72	2.61	4.72
D1a	D1a	0.18	0.73	1.37	0.73	1.37
D2	D2	1.08	4.42	8.17	4.42	8.17
D3	D3	0.30	0.72	1.59	0.72	1.59
D4	D4	0.30	0.73	1.63	0.73	1.63
D5	D5	0.51	2.08	3.85	2.08	3.85
D6	D6	0.81	3.32	6.11	3.32	6.11
D7	D7	0.39	1.53	2.88	1.53	2.88
D8	D8	0.54	2.07	3.92	2.07	3.92
D9	D9	0.43	1.58	3.00	1.58	3.00
D10	D10	0.37	1.33	2.54	1.33	2.54
D11	D11	0.50	2.03	3.78	2.03	3.78
D12	D12	0.66	0.99	2.86	0.99	2.90
E1	E1	0.18	0.37	0.88	0.49	1.27
E2	E2	0.21	0.38	0.98	0.57	1.56
E3	E3	0.22	0.41	0.60	0.60	1.63
E4	E4	0.18	0.38	0.60	1.90	1.34
OA1*	OA1*	0.05	0.10	0.24	0.10	0.24
OA2*^	OA2*^	0.45	0.00	0.00	0.50	1.60
OB1	OB1	0.08	0.35	0.63	0.35	0.63
OB2	OB2	0.08	0.34	0.62	0.34	0.62
OC1	OC1	0.08	0.17	0.42	0.17	0.42
OC2	OC2	0.06	0.08	0.25	0.08	0.25
OD12	OD12	0.01	0.01	0.04	0.01	0.04
OE1	OE1	0.09	0.13	0.39	0.13	0.39
OE2	OE2	0.14	0.19	0.58	0.19	0.58
OE3	OE3	0.14	0.19	0.59	0.19	0.59
OE4	OE4	0.09	0.14	0.41	0.14	0.41
OF1	OF1	1.12	3.56	6.36	3.56	6.36
OF2	OF2	0.42	0.15	1.09	0.15	1.09
OS1*	OS1*	0.25	0.99	1.87	0.99	1.87

\*flows from sub-basin are undetained

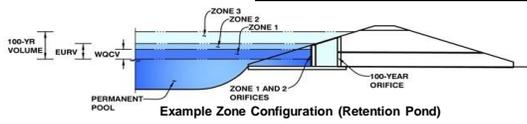
^sub-basin area and flows were obtained from previously approved drainage report from adjacent property

# DETENTION BASIN STAGE-STORAGE TABLE BUILDER

MHFD-Detention, Version 4.04 (February 2021)

Project: **Citizen On Constitution (El Paso)**

Basin ID: **West Pond**



**Watershed Information**

Selected BMP Type =	<b>EDB</b>
Watershed Area =	11.25 acres
Watershed Length =	1,200 ft
Watershed Length to Centroid =	600 ft
Watershed Slope =	0.020 ft/ft
Watershed Imperviousness =	71.00% percent
Percentage Hydrologic Soil Group A =	66.5% percent
Percentage Hydrologic Soil Group B =	33.5% percent
Percentage Hydrologic Soil Groups C/D =	0.0% percent
Target WQCV Drain Time =	40.0 hours
Location for 1-hr Rainfall Depths =	User Input

After providing required inputs above including 1-hour rainfall depths, click 'Run CUHP' to generate runoff hydrographs using the embedded Colorado Urban Hydrograph Procedure.

**Optional User Overrides**

	acre-feet
1.19	inches
	inches
	inches
	inches
	inches

**Define Zones and Basin Geometry**

Zone 1 Volume (WQCV) =	0.262	acre-feet
Zone 2 Volume (EURV - Zone 1) =	0.708	acre-feet
Zone 3 Volume (100-year - Zones 1 & 2) =	0.496	acre-feet
Total Detention Basin Volume =	1.466	acre-feet
Initial Surcharge Volume (ISV) =	user	ft <sup>3</sup>
Initial Surcharge Depth (ISD) =	user	ft
Total Available Detention Depth (H <sub>total</sub> ) =	user	ft
Depth of Trickle Channel (H <sub>TC</sub> ) =	user	ft
Slope of Trickle Channel (S <sub>TC</sub> ) =	user	ft/ft
Slopes of Main Basin Sides (S <sub>main</sub> ) =	user	H:V
Basin Length-to-Width Ratio (R <sub>L/W</sub> ) =	user	

Initial Surcharge Area (A <sub>ISV</sub> ) =	user	ft <sup>2</sup>
Surcharge Volume Length (L <sub>ISV</sub> ) =	user	ft
Surcharge Volume Width (W <sub>ISV</sub> ) =	user	ft
Depth of Basin Floor (H <sub>FLOOR</sub> ) =	user	ft
Length of Basin Floor (L <sub>FLOOR</sub> ) =	user	ft
Width of Basin Floor (W <sub>FLOOR</sub> ) =	user	ft
Area of Basin Floor (A <sub>FLOOR</sub> ) =	user	ft <sup>2</sup>
Volume of Basin Floor (V <sub>FLOOR</sub> ) =	user	ft <sup>3</sup>
Depth of Main Basin (H <sub>MAIN</sub> ) =	user	ft
Length of Main Basin (L <sub>MAIN</sub> ) =	user	ft
Width of Main Basin (W <sub>MAIN</sub> ) =	user	ft
Area of Main Basin (A <sub>MAIN</sub> ) =	user	ft <sup>2</sup>
Volume of Main Basin (V <sub>MAIN</sub> ) =	user	ft <sup>3</sup>
Calculated Total Basin Volume (V <sub>total</sub> ) =	user	acre-feet

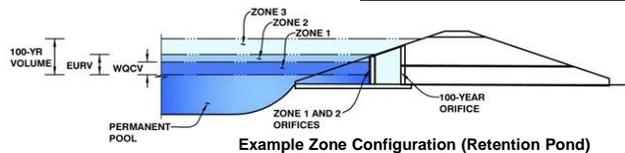
Stage - Storage Description	Stage (ft)	Optional Override Stage (ft)	Length (ft)	Width (ft)	Volume (ft <sup>3</sup> )	Area (ft <sup>2</sup> )	Depth (ft)
<b>Top of Micropool</b>	--	0.00	--	--	0	0	0
6425.4	--	0.10	--	--	105	0.001	12
6425.5	--	0.20	--	--	216	0.005	28
6425.6	--	0.30	--	--	306	0.007	54
6425.7	--	0.40	--	--	366	0.008	88
6425.8	--	0.50	--	--	443	0.010	129
6425.9	--	0.60	--	--	581	0.013	180
6426	--	0.70	--	--	794	0.018	249
6426.1	--	0.80	--	--	1,075	0.025	342
6426.2	--	0.90	--	--	1,409	0.032	466
6426.3	--	1.00	--	--	1,874	0.043	630
6426.4	--	1.10	--	--	2,385	0.055	843
6426.5	--	1.20	--	--	2,845	0.065	1,105
6426.6	--	1.30	--	--	3,303	0.076	1,412
6426.7	--	1.40	--	--	3,778	0.087	1,766
6426.8	--	1.50	--	--	4,309	0.099	2,170
6426.9	--	1.60	--	--	4,843	0.111	2,628
6427	--	1.70	--	--	5,343	0.123	3,137
6427.1	--	1.80	--	--	5,842	0.134	3,697
6427.2	--	1.90	--	--	6,190	0.142	4,298
6427.3	--	2.00	--	--	6,514	0.150	4,933
6427.4	--	2.10	--	--	6,828	0.157	5,601
6427.5	--	2.20	--	--	7,114	0.163	6,298
6427.6	--	2.30	--	--	7,380	0.169	7,022
6427.7	--	2.40	--	--	7,628	0.175	7,773
6427.8	--	2.50	--	--	7,861	0.180	8,547
6427.9	--	2.60	--	--	8,064	0.185	9,343
6428	--	2.70	--	--	8,268	0.190	10,160
6428.1	--	2.80	--	--	8,472	0.194	10,997
6428.2	--	2.90	--	--	8,677	0.199	11,854
6428.3	--	3.00	--	--	8,883	0.204	12,732
6428.4	--	3.10	--	--	9,090	0.209	13,631
6428.5	--	3.20	--	--	9,298	0.213	14,550
6428.6	--	3.30	--	--	9,507	0.218	15,491
6428.7	--	3.40	--	--	9,720	0.223	16,452
6428.8	--	3.50	--	--	9,934	0.228	17,435
6428.9	--	3.60	--	--	10,149	0.233	18,439
6429	--	3.70	--	--	10,364	0.238	19,464
6429.1	--	3.80	--	--	10,582	0.243	20,512
6429.2	--	3.90	--	--	10,812	0.248	21,581
6429.3	--	4.00	--	--	11,033	0.253	22,674
6429.4	--	4.10	--	--	11,255	0.258	23,788
6429.5	--	4.20	--	--	11,478	0.264	24,925
6429.6	--	4.30	--	--	11,703	0.269	26,084
6429.7	--	4.40	--	--	11,928	0.274	27,265
6429.8	--	4.50	--	--	12,155	0.279	28,469
6429.9	--	4.60	--	--	12,382	0.284	29,696
6430	--	4.70	--	--	12,610	0.289	30,946
6430.1	--	4.80	--	--	12,841	0.295	32,218
6430.2	--	4.90	--	--	13,075	0.300	33,514
6430.3	--	5.00	--	--	13,309	0.306	34,834
6430.4	--	5.10	--	--	13,545	0.311	36,176
6430.5	--	5.20	--	--	13,781	0.316	37,543
6430.6	--	5.30	--	--	14,019	0.322	38,933
6430.7	--	5.40	--	--	14,258	0.327	40,346
6430.8	--	5.50	--	--	14,497	0.333	41,784
6430.9	--	5.60	--	--	14,739	0.338	43,246
6431	--	5.70	--	--	14,981	0.344	44,732
6431.1	--	5.80	--	--	15,225	0.350	46,242
6431.2	--	5.90	--	--	15,470	0.355	47,777
6431.3	--	6.00	--	--	15,716	0.361	49,336
6431.4	--	6.10	--	--	15,963	0.366	50,920
6431.5	--	6.20	--	--	16,212	0.372	52,529
6431.6	--	6.30	--	--	16,461	0.378	54,163
6431.7	--	6.40	--	--	16,712	0.384	55,821
6431.8	--	6.50	--	--	16,964	0.389	57,505
6431.9	--	6.60	--	--	17,219	0.395	59,214
6432	--	6.70	--	--	17,474	0.401	60,949
6432.1	--	6.80	--	--	17,729	0.407	62,709
6432.2	--	6.90	--	--	17,985	0.413	64,495
6432.3	--	7.00	--	--	18,242	0.419	66,306
6432.4	--	7.10	--	--	18,499	0.425	68,143
6432.5	--	7.20	--	--	18,757	0.431	70,006
6432.6	--	7.30	--	--	19,018	0.437	71,895
6432.7	--	7.40	--	--	19,281	0.443	73,810
6432.8	--	7.50	--	--	19,545	0.449	75,751
6432.9	--	7.60	--	--	19,811	0.455	77,719
6433	--	7.70	--	--	20,079	0.461	79,713
6433.1	--	7.80	--	--	20,348	0.467	81,734
6433.2	--	7.90	--	--	20,618	0.473	83,783
6433.3	--	8.00	--	--	20,892	0.480	85,858
6433.4	--	8.10	--	--	21,167	0.486	87,961
6433.5	--	8.20	--	--	21,446	0.492	90,092
6433.6	--	8.30	--	--	21,727	0.499	92,251
6433.7	--	8.40	--	--	22,010	0.505	94,437
6433.8	--	8.50	--	--	22,296	0.512	96,653
6433.9	--	8.60	--	--	22,584	0.518	98,897
6434	--	8.70	--	--	22,876	0.525	101,170
6434.1	--	8.80	--	--	23,172	0.532	103,472
6434.2	--	8.90	--	--	23,472	0.539	105,804
6434.3	--	9.00	--	--	23,775	0.546	108,167
6434.4	--	9.10	--	--	24,082	0.553	110,560
6434.5	--	9.20	--	--	24,396	0.560	112,984
6434.6	--	9.30	--	--	24,716	0.567	115,439
6434.7	--	9.40	--	--	25,044	0.575	117,927
6434.8	--	9.50	--	--	25,384	0.583	120,449
6434.9	--	9.60	--	--	25,734	0.591	122,987
6435	--	9.70	--	--	26,084	0.599	125,534
6435.1	--	9.80	--	--	26,434	0.607	128,084

**KH Response:**  
 Markups in blue are Kimley-Horn markups showing what changed and changes we made to address other comments from the county. We marked up the top of micropool elevation on this page so it's easier to understand what elevation stage 0 is.

# DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.04 (February 2021)

**Project: Citizen On Constitution (El Paso)**  
**Basin ID: West Pond**



	Estimated Stage (ft)	Estimated Volume (ac-ft)	Outlet Type
Zone 1 (WQCV)	3.05	0.262	Orifice Plate
Zone 2 (EURV)	5.74	0.708	Orifice Plate
Zone 3 (100-year)	7.07	0.496	Weir&Pipe (Restrict)
<b>Total (all zones)</b>		<b>1.466</b>	

**KH Response:**  
 Markups in blue are Kimley-Horn markups showing what changed and changes we made to address other comments from the county.

**User Input: Orifice at Underdrain Outlet (typically used to drain WQCV in a Filtration BMP)**

Underdrain Orifice Invert Depth =	N/A	ft (distance below the filtration media surface)	Underdrain Orifice Area =	N/A	ft <sup>2</sup>
Underdrain Orifice Diameter =	N/A	inches	Underdrain Orifice Centroid =	N/A	feet

**Calculated Parameters for Underdrain**

**User Input: Orifice Plate with one or more orifices or Elliptical Slot Weir (typically used to drain WQCV and/or EURV in a sedimentation BMP)**

Invert of Lowest Orifice =	0.00	ft (relative to basin bottom at Stage = 0 ft)	WQ Orifice Area per Row =	N/A	ft <sup>2</sup>
Depth at top of Zone using Orifice Plate =	6.00	ft (relative to basin bottom at Stage = 0 ft)	Elliptical Half-Width =	N/A	feet
Orifice Plate: Orifice Vertical Spacing =	N/A	inches	Elliptical Slot Centroid =	N/A	feet
Orifice Plate: Orifice Area per Row =	N/A	inches	Elliptical Slot Area =	N/A	ft <sup>2</sup>

**Calculated Parameters for Plate**

**User Input: Stage at top of Each Orifice Row (numbered from lowest to highest)**

	Row 1 (required)	Row 2 (optional)	Row 3 (optional)	Row 4 (optional)	Row 5 (optional)	Row 6 (optional)	Row 7 (optional)	Row 8 (optional)
Stage of Orifice Centroid (ft)	0.00	2.50	4.00	5.00				
Orifice Area (sq. inches)	1.40	2.00	3.30	3.30				

	Row 9 (optional)	Row 10 (optional)	Row 11 (optional)	Row 12 (optional)	Row 13 (optional)	Row 14 (optional)	Row 15 (optional)	Row 16 (optional)
Stage of Orifice Centroid (ft)								
Orifice Area (sq. inches)								

**User Input: Vertical Orifice (Circular or Rectangular)**

Invert of Orifice =	Not Selected	Not Selected	ft (relative to basin bottom at Stage = 0 ft)	Vertical Orifice Area =	Not Selected	Not Selected	ft <sup>2</sup>
Depth at top of Zone using Orifice =	6.03	N/A	ft (relative to basin bottom at Stage = 0 ft)	Vertical Orifice Centroid =	N/A	N/A	feet
Vertical Orifice Diameter =	N/A	N/A	inches				

**Shown as 4' on sheet C4.13 of CDs. Revise one to eliminate discrepancy.**

**Calculated Parameters for Vertical Orifice**

**User Input: Overflow Weir (Dropbox with Flat or Sloped Grate and Outlet Pipe OR Rectangular/Trapezoidal Weir (and No Outlet Pipe))**

Overflow Weir Front Edge Height, H <sub>o</sub> =	Zone 3 Weir	Not Selected	ft (relative to basin bottom at Stage = 0 ft)	Weir Upper Edge, H <sub>u</sub> =	Zone 3 Weir	Not Selected	ft
Overflow Weir Front Edge Length =	4.00	N/A	feet	Weir Slope Length =	4.00	N/A	feet
Overflow Weir Grate Slope =	4.00	N/A	H:V	Grate Open Area / 100-yr Orifice Area =	12.00	N/A	ft <sup>2</sup>
Horiz. Length of Weir Sides =	0.00	N/A	feet	Overflow Grate Open Area w/o Debris =	97.07	N/A	ft <sup>2</sup>
Overflow Grate Type =	12.00	N/A	feet	Overflow Grate Open Area w/ Debris =	33.41	N/A	ft <sup>2</sup>
Debris Clogging % =	Type C Grate	N/A	%		16.70	N/A	ft <sup>2</sup>
	50%	N/A					

**KH Response: Revised to 4' to match plan**

**Calculated Parameters for Overflow Weir**

**User Input: Outlet Pipe w/ Flow Restriction Plate (Circular Orifice, Restrictor Plate, or Rectangular Orifice)**

Depth to Invert of Outlet Pipe =	Zone 3 Restrictor	Not Selected	ft (distance below basin bottom at Stage = 0 ft)	Outlet Orifice Area =	Zone 3 Restrictor	Not Selected	ft <sup>2</sup>
Outlet Pipe Diameter =	0.00	N/A	inches	Outlet Orifice Centroid =	0.34	N/A	feet
Restrictor Plate Height Above Pipe Invert =	24.00	N/A	inches	Half-Central Angle of Restrictor Plate on Pipe =	0.20	N/A	radians
	4.00	N/A	inches		0.84	N/A	

**8.68**

**Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate**

**User Input: Emergency Spillway (Rectangular or Trapezoidal)**

Spillway Invert Stage =	8.45	ft (relative to basin bottom at Stage = 0 ft)	Spillway Design Flow Depth =	0.31	feet
Spillway Crest Length =	60.00	feet	Stage at Top of Freeboard =	9.76	feet
Spillway End Slopes =	3.00	H:V	Basin Area at Top of Freeboard =	0.58	acres
Freeboard above Max Water Surface =	1.00	feet	Basin Volume at Top of Freeboard =	2.80	acre-ft

**Calculated Parameters for Spillway**

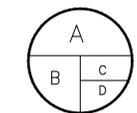
**Routed Hydrograph Results**

*The user can override the default CUHP hydrographs and runoff volumes by entering new values in the Inflow Hydrographs table (Columns W through AF).*

	WQCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
Design Storm Return Period =	N/A	N/A	1.19	1.52	1.75	2.00	2.25	2.55	3.14
One-Hour Rainfall Depth (in) =	N/A	N/A	0.746	0.986	1.177	1.437	1.663	1.974	2.537
CUHP Runoff Volume (acre-ft) =	0.262	0.970	0.746	0.986	1.177	1.437	1.663	1.974	2.537
Inflow Hydrograph Volume (acre-ft) =	N/A	N/A	0.746	0.986	1.177	1.437	1.663	1.974	2.537
CUHP Predevelopment Peak Q (cfs) =	N/A	N/A	0.1	0.2	1.4	4.4	6.2	9.3	14.2
OPTIONAL Override Predevelopment Peak Q (cfs) =	N/A	N/A		5.4	7.8			16.9	
Predevelopment Unit Peak Flow, q (cfs/acre) =	N/A	N/A	0.01	0.48	0.69	0.39	0.55	1.50	1.27
Peak Inflow Q (cfs) =	N/A	N/A	11.8	15.3	18.1	23.0	26.7	32.2	41.4
Peak Outflow Q (cfs) =	0.1	3.9	3.3	3.5	3.7	3.9	4.1	4.4	4.7
Ratio Peak Outflow to Predevelopment Q =	N/A	N/A	N/A	0.7	0.5	0.9	0.7	0.3	0.3
Structure Controlling Flow =	Plate	Outlet Plate 1							
Max Velocity through Gate 1 (fps) =	N/A	0.10	0.09	0.1	0.1	0.1	0.1	0.1	0.1
Max Velocity through Gate 2 (fps) =	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time to Drain 97% of Inflow Volume (hours) =	40	54	56	55	54	53	52	51	49
Time to Drain 99% of Inflow Volume (hours) =	42	58	59	59	59	59	59	59	59
Maximum Ponding Depth (ft) =	3.05	5.74	4.18	4.62	5.06	5.85	6.35	7.10	8.18
Area at Maximum Ponding Depth (acres) =	0.20	0.34	0.25	0.27	0.30	0.34	0.37	0.41	0.48
Maximum Volume Stored (acre-ft) =	0.262	0.973	0.513	0.631	0.754	1.006	1.184	1.481	1.957



**LEGEND**



A = BASIN DESIGNATION  
 B = AREA (ACRES)  
 C = 100-YR COMPOSITE RUNOFF COEFFICIENT  
 D = 100-YR DESIGN STORM RUNOFF (CFS)

- # DESIGN POINT
- FLOW DIRECTION
- - - DRAINAGE BASIN BOUNDARY
- PROPERTY LINE
- XXXX— PROPOSED MAJOR CONTOUR
- XXXX— PROPOSED MINOR CONTOUR
- - - - - EXISTING MAJOR CONTOUR
- - - - - EXISTING MAJOR CONTOUR

**NOTES**

- THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID DETAILED PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE ESTABLISHED CRITERIA FOR DETAILED DRAINAGE PLANS AND SPECIFICATIONS, AND SAID DETAILED PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH THE MASTER PLAN OF THE DRAINAGE BASIN. SAID DETAILED DRAINAGE PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR DRAINAGE FACILITY(S) IS DESIGNED. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR COMMISSIONS ON MY PART IN PREPARATION OF THE DETAILED DRAINAGE PLANS AND SPECIFICATIONS.
- PLAN REVIEW BY EL PASO COUNTY IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH DESIGN CRITERIA. EL PASO COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. EL PASO COUNTY, THROUGH APPROVAL OF THIS DOCUMENT, ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

KH Response:  
 Markups in blue are Kimley-Horn markups showing what changed and changes we made to address other comments from the county.

0.6, 1.9

**SUMMARY - PROPOSED RUNOFF TABLE**

DESIGN POINT	BASIN DESIGNATION	BASIN AREA (ACRES)	DIRECT 5-YR RUNOFF (CFS)	DIRECT 100-YR RUNOFF (CFS)	CUMULATIVE 5-YR RUNOFF (CFS)	CUMULATIVE 100-YR RUNOFF (CFS)
A1*	A1*	0.87	0.26	1.92	0.75	3.09
A2*	A2*	0.41	0.89	2.15	0.89	2.15
B1	B1	0.13	0.51	0.97	0.86	1.60
B2	B2	0.17	0.62	1.20	0.96	1.82
B3*	B3*	0.35	1.36	2.57	1.36	2.57
B4*	B4*	0.18	0.72	1.36	0.72	1.36
B5*	B5*	0.03	0.11	0.21	0.11	0.21
C1	C1	0.84	0.43	2.64	0.60	3.07
C2	C2	0.26	0.89	1.76	0.97	2.01
C3	C3	0.62	2.61	4.79	2.61	4.79
D1	D1	0.58	2.61	4.72	2.61	4.72
D1a	D1a	0.18	0.73	1.37	0.73	1.37
D2	D2	1.08	4.42	8.17	4.42	8.17
D3	D3	0.30	0.72	1.59	0.72	1.59
D4	D4	0.30	0.73	1.63	0.73	1.63
D5	D5	0.51	2.08	3.85	2.08	3.85
D6	D6	0.81	3.32	6.11	3.32	6.11
D7	D7	0.39	1.53	2.88	1.53	2.88
D8	D8	0.54	2.07	3.92	2.07	3.92
D9	D9	0.43	1.58	3.00	1.58	3.00
D10	D10	0.37	1.33	2.54	1.33	2.54
D11	D11	0.50	2.03	3.78	2.03	3.78
D12	D12	0.66	0.99	2.86	0.99	2.90
E1	E1	0.18	0.37	0.88	0.49	1.27
E2	E2	0.21	0.38	0.98	0.57	1.56
E3	E3	0.22	0.41	1.04	0.60	1.63
E4	E4	0.18	0.38	0.92	0.53	1.34
OA1*	OA1*	0.05	0.10	0.24	0.10	0.24
OA2*^	OA2*^	0.45	0.00	0.00	0.56	1.60
OB1	OB1	0.08	0.35	0.63	0.35	0.63
OB2	OB2	0.08	0.34	0.62	0.34	0.62
OC1	OC1	0.08	0.17	0.42	0.17	0.42
OC2	OC2	0.06	0.08	0.25	0.08	0.25
OD12	OD12	0.01	0.01	0.04	0.01	0.04
OE1	OE1	0.09	0.13	0.39	0.13	0.39
OE2	OE2	0.14	0.19	0.58	0.19	0.58
OE3	OE3	0.14	0.19	0.59	0.19	0.59
OE4	OE4	0.09	0.14	0.41	0.14	0.41
OF1	OF1	1.12	3.56	6.36	3.56	6.36
OF2	OF2	0.42	1.15	1.09	1.15	1.09
OS1*	OS1*	0.25	0.99	1.87	0.99	1.87

\*flows from sub-basin are undetained  
 ^sub-basin area and flows were obtained from previously approved drainage report from adjacent property

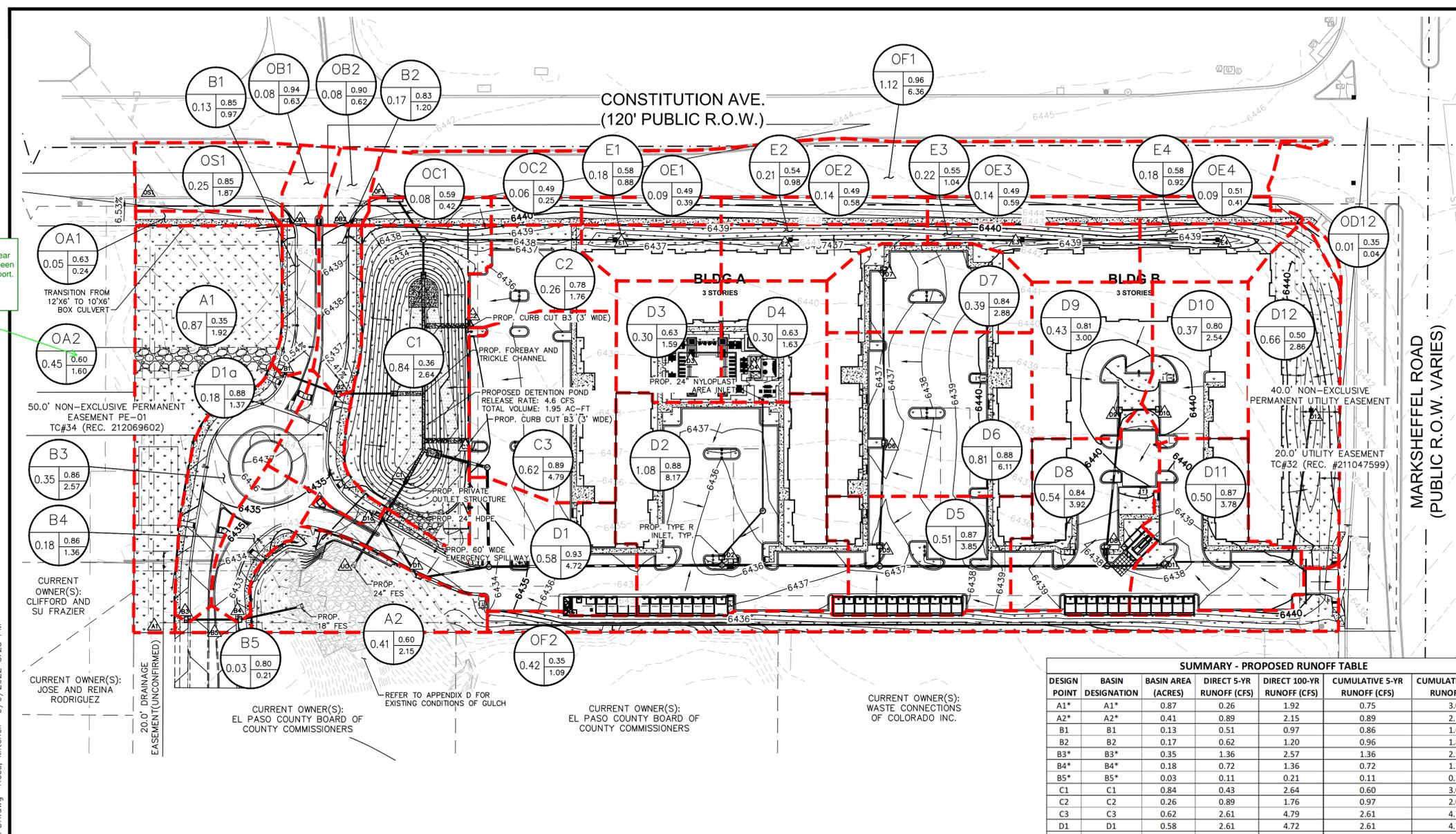
**ONSITE PBMP SUMMARY TABLE**

BASIN	PBMP TRIBUTARY AREA (ACRES)	PBMP
B1, B2, C1-C4, D1-D12, E1-E4, OB1-2, OC1-2, OD12, OE1-4, OF1	11.17	EDB
A1, A2	1.29	EXCLUDED PER ECM APPENDIX I.7.1.B.7
OF2, B3, B4, B5	0.98	EXCLUDED PER ECM APPENDIX I.7.1.C.1

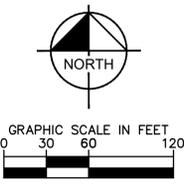
**RUNOFF SUMMARY: EXISTING VS PROPOSED**

	5-YEAR STORM (CFS)	100-YEAR STORM (CFS)
TOTAL EXISTING ON-SITE FLOWS:	8.17	33
EXISTING ON-SITE FLOWS AT DP EX1:	5.35	16.9
EXISTING ON-SITE FLOWS AT DP EX2:	2.8	18.81
*PROPOSED TOTAL ON-SITE FLOWS AT DP UO:	7.33	13.78
NET RESULT:	1.98	-3.12

\*PROPOSED FLOWS INCLUDE POND DISCHARGE AND BASINS A1, A2, B3, B4, B5  
 \*ADDITIONAL FLOWS THROUGH THE SITE WITHIN EXISTING GULCH EQUAL TO APPROXIMATELY 1076 CFS IN THE 100-YEAR EVENT PER "HYDROLOGY ANALYSIS EAST FORK SAND CREEK TRIBUTARY 6 (MP96001)", THIS INCLUDES THE FLOWS ENTERING THE CULVERT FROM THE NORTH SIDE OF CONSTITUTION, NOT THE OVERLAND FLOWS ENTERING THE GULCH TO THE SOUTH OF CONSTITUTION FROM THE EXISTING SITE.



MARKSHEFFEL ROAD  
 (PUBLIC R.O.W. VARIES)



THE CITIZEN ON CONSTITUTION  
 EL PASO COUNTY, COLORADO  
 GRADING EROSION CONTROL AND  
 CONSTRUCTION DOCUMENTS  
 PROPOSED DRAINAGE MAP

**Kimley»Horn**  
 2022 KIMLEY-HORN AND ASSOCIATES, INC.  
 2 North Nevada Avenue, Suite 300  
 Colorado Springs, CO 80903 (303) 228-2300

DESIGNED BY: MOH  
 DRAWN BY: JWM  
 CHECKED BY: DLS  
 DATE: 9/09/2022

PROJECT NO.  
 096481004

SHEET  
**C7.1**

PROFESSIONAL ENGINEER  
 53916  
 9/09/2022

REVISION NO. BY DATE APPR.

KH Response:  
 The 0.6 is referring to the 100-year coefficient, not the CFS. It has been revised to match the existing report. The bottom number has been updated to 1.90cfs to show the 100-year flow.  
 This is shown as 0.50cfs on pages 10 and 152 above. Revise accordingly.

K:\DEN\_Civil\096481004 - El Paso Constitution\CADD\PlanSheets\DR\096481004\_PDR.dwg Hess, Mitchell 9/9/2022 8:23 PM



CALL UTILITY NOTIFICATION CENTER OF COLORADO  
 1-800-922-1987  
 CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

**FINANCIAL ASSURANCE ESTIMATE – PCD ENGINEERING  
COMMENT RESPONSE**



PROJECT INFORMATION		
Citizen on Constitution	9/9/2022	SF226
Project Name	Date	PCD File No.

Description	Quantity	Units	Unit Cost		Total	(with Pre-Plat Construction)	
						% Complete	Remaining
RAB Central Island Cover	1,818	SF	\$ 9.00	=	\$ 16,362.00		\$ 16,362.00
RAB Concrete Truck Apron	286	SY	\$ 80.00	=	\$ 22,880.00		\$ 22,880.00
<b>STORM DRAIN IMPROVEMENTS</b>							
Concrete Box Culvert (M Standard), Size ( W x H )		LF		=	\$ -		\$ -
18" Reinforced Concrete Pipe	284	LF	\$ 70.00	=	\$ 19,880.00		\$ 19,880.00
24" Reinforced Concrete Pipe	102	LF	\$ 83.00	=	\$ 8,466.00		\$ 8,466.00
30" Reinforced Concrete Pipe		LF	\$ 104.00	=	\$ -		\$ -
36" Reinforced Concrete Pipe		LF	\$ 128.00	=	\$ -		\$ -
42" Reinforced Concrete Pipe		LF	\$ 171.00	=	\$ -		\$ -
48" Reinforced Concrete Pipe		LF	\$ 209.00	=	\$ -		\$ -
54" Reinforced Concrete Pipe		LF	\$ 272.00	=	\$ -		\$ -
60" Reinforced Concrete Pipe		LF	\$ 319.00	=	\$ -		\$ -
66" Reinforced Concrete Pipe		LF	\$ 368.00	=	\$ -		\$ -
72" Reinforced Concrete Pipe		LF	\$ 421.00	=	\$ -		\$ -
18" Corrugated Steel Pipe		LF	\$ 90.00	=	\$ -		\$ -
24" Corrugated Steel Pipe		LF	\$ 103.00	=	\$ -		\$ -
30" Corrugated Steel Pipe		LF	\$ 131.00	=	\$ -		\$ -
36" Corrugated Steel Pipe		LF	\$ 157.00	=	\$ -		\$ -
42" Corrugated Steel Pipe		LF	\$ 180.00	=	\$ -		\$ -
48" Corrugated Steel Pipe		LF	\$ 190.00	=	\$ -		\$ -
54" Corrugated Steel Pipe		LF	\$ 278.00	=	\$ -		\$ -
60" Corrugated Steel Pipe		LF	\$ 300.00	=	\$ -		\$ -
66" Corrugated Steel Pipe		LF	\$ 364.00	=	\$ -		\$ -
72" Corrugated Steel Pipe		LF	\$ 428.00	=	\$ -		\$ -
78" Corrugated Steel Pipe		LF	\$ 492.00	=	\$ -		\$ -
84" Corrugated Steel Pipe		LF	\$ 588.00	=	\$ -		\$ -
Flared End Section (FES) RCP Size = 18 <i>(unit cost = 6x pipe unit cost)</i>	1	EA	\$ 420.00	=	\$ 420.00		\$ 420.00
Flared End Section (FES) RCP Size = 24 <i>(unit cost = 6x pipe unit cost)</i>	1	EA	\$ 498.00	=	\$ 498.00		\$ 498.00
Flared End Section (FES) CSP Size = <i>(unit cost = 6x pipe unit cost)</i>		EA		=	\$ -		\$ -
End Treatment- Headwall		EA		=	\$ -		\$ -
End Treatment- Wingwall		EA		=	\$ -		\$ -
End Treatment - Cutoff Wall		EA		=	\$ -		\$ -
Curb Inlet (Type R) L=5', Depth < 5'	2	EA	\$ 6,138.00	=	\$ 12,276.00		\$ 12,276.00
Curb Inlet (Type R) L=5', 5' ≤ Depth < 10'	2	EA	\$ 7,981.00	=	\$ 15,962.00		\$ 15,962.00
Curb Inlet (Type R) L=5', 10' ≤ Depth < 15'		EA	\$ 9,242.00	=	\$ -		\$ -
Curb Inlet (Type R) L=10', Depth < 5'		EA	\$ 8,447.00	=	\$ -		\$ -
Curb Inlet (Type R) L=10', 5' ≤ Depth < 10'		EA	\$ 8,706.00	=	\$ -		\$ -
Curb Inlet (Type R) L=10', 10' ≤ Depth < 15'		EA	\$ 10,898.00	=	\$ -		\$ -
Curb Inlet (Type R) L=15', Depth < 5'	1	EA	\$ 10,984.00	=	\$ 10,984.00		\$ 10,984.00
Curb Inlet (Type R) L=15', 5' ≤ Depth < 10'		EA	\$ 11,775.00	=	\$ -		\$ -
Curb Inlet (Type R) L=15', 10' ≤ Depth < 15'		EA	\$ 12,876.00	=	\$ -		\$ -
Curb Inlet (Type R) L=20', Depth < 5'		EA	\$ 11,706.00	=	\$ -		\$ -
Curb Inlet (Type R) L=20', 5' ≤ Depth < 10'		EA	\$ 12,920.00	=	\$ -		\$ -
Grated Inlet (Type C), Depth < 5'	1	EA	\$ 5,138.00	=	\$ 5,138.00		\$ 5,138.00
Grated Inlet (Type D), Depth < 5'		EA	\$ 6,347.00	=	\$ -		\$ -
Storm Sewer Manhole, Box Base		EA	\$ 12,876.00	=	\$ -		\$ -
Storm Sewer Manhole, Slab Base		EA	\$ 7,082.00	=	\$ -		\$ -
Geotextile (Erosion Control)		SY	\$ 7.00	=	\$ -		\$ -
Soil Rip Rap, Type L, size from 3" to 15"	102	Tons	\$ 75.00	=	\$ 7,650.00		\$ 7,650.00
Rip Rap, Grouted		Tons	\$ 105.00	=	\$ -		\$ -
Drainage Channel Construction, Size ( W x H )		LF	\$ -	=	\$ -		\$ -
Drainage Channel Lining, Concrete		CY	\$ 631.00	=	\$ -		\$ -
Drainage Channel Lining, Rip Rap		CY	\$ 124.00	=	\$ -		\$ -
Drainage Channel Lining, Grass		AC	\$ 1,626.00	=	\$ -		\$ -
Drainage Channel Lining, Other Stabilization				=	\$ -		\$ -
				=	\$ -		\$ -
				=	\$ -		\$ -
<i>[insert items not listed but part of construction plans]</i>				=	\$ -		\$ -
* - Subject to defect warranty financial assurance. A minimum of 20% shall be retained until final acceptance (MAXIMUM OF 80% COMPLETE ALLOWED)							
<b>Section 2 Subtotal</b>					<b>=</b>	<b>\$ 509,042.00</b>	<b>\$ 509,042.00</b>



**PROJECT INFORMATION**

Citizen on Constitution	9/9/2022	SF226
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	\$ 3,500.00	=	\$ 3,500.00	\$	3,500.00
POND/BMP CERTIFICATION (inc. elevations and volume calculations)		LS	\$ 1,500.00	=	\$ 1,500.00	\$	1,500.00
<b>Total Construction Financial Assurance</b>						<b>\$ 1,401,475.00</b>	
(Sum of all section subtotals plus as-builts and pond/BMP certification)							
<b>Total Remaining Construction Financial Assurance (with Pre-Plat Construction)</b>						<b>\$ 1,401,475.00</b>	
(Sum of all section totals less credit for items complete plus as-builts and pond/BMP certification)							
<b>Total Defect Warranty Financial Assurance</b>						<b>\$ 140,553.40</b>	
(20% of all items identified as (*). To be collateralized at time of preliminary acceptance)							

**Approvals**

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 (P.E. Seal Required)

Approved by Owner / Applicant

Date

Approved by El Paso County Engineer / ECM Administrator

Date

**FINAL PLAT – PCD ENGINEERING & PLANNING  
COMMENT RESPONSE**

FINAL PLAT

CITIZEN ON CONSTITUTION FILING No. 1
A REPLAT OF TRACTS M & N, URBAN COLLECTION AT PALMER VILLAGE
A PORTION OF THE NORTHEAST QUARTER OF
SECTION 5, TOWNSHIP 14 SOUTH, RANGE 65 WEST OF THE 6TH P.M.
COUNTY OF EL PASO, STATE OF COLORADO

KNOW ALL BY THESE PRESENTS:

That Citizen on Constitution, LLC, being the owner of the following described tract of land to wit:

LEGAL DESCRIPTION:

Tracts M and N, Urban Collection at Palmer Village, County of El Paso, State of Colorado.
Containing a calculated area of 534,215 square feet (12.264 acres) of land, more or less.

DEDICATION

The above owner has caused said parcel of land to be platted into a lot, tracts and easements as shown hereon. The undersigned does hereby grant and convey to the County of El Paso all right-of-way dedications and easements for public use. The tract of land herein platted shall be known as CITIZEN ON CONSTITUTION FILING No. 1 in the County of El Paso, State of Colorado.

OWNERSHIP AND ACKNOWLEDGMENT STATEMENT:

The aforementioned, Citizen on Constitution, LLC, has executed this instrument this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, A.D.

Eric Garrett, Manager

OWNERS CERTIFICATE

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 a lot, tracts, a street and easements, as shown hereon under the name and subdivision of CITIZEN ON CONSTITUTION 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 within the public right-of-way will become matters of maintenance by El Paso County, Colorado. However, El Paso County shall NOT maintain the easements, private access into Lot 1 or any improvements within Tracts A and B. 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.

By: Eric Garrett, Manager, Citizen on Constitution, LLC, a Dela

FEATHERGRASS INVESTMENTS, LLC
ATTN: KENNETH DRISCOLL
719-651-9133
kdriscoll719@gmail.com
4715 N. CHESTNUT ST
COLORADO SPRINGS, CO 80907

By:
Title:

ATTEST: (if corporation)

Secretary/Treasurer

STATE OF
COUNTY OF } SS

The above and aforementioned instrument was acknowledged before me and me by \_\_\_\_\_

By: Eric Garrett, Manager

Witness my hand and seal:

My Commission expires \_\_\_\_\_

Notary Public \_\_\_\_\_

the owner of record is Kenneth; add a owners cert for the owner etc...

KH Response: Plat will be signed by the developer/buyer, not the current owner.

EASEMENT STATEMENT:

Unless otherwise indicated, all side, front and rear lot lines are hereby platted on either side with a 10 foot public utility and drainage easement. All exterior subdivision boundaries are hereby platted with a 20 foot public utility and drainage easement. The sole responsibility for maintenance of these easements is hereby vested with the property owner.

All easements shown or dedicated hereon for public utility purposes shall be subject to those terms and conditions as specified in the instrument recorded at Reception No. 212112548 of the records of El Paso County, Colorado. All other easements or interests of record affecting any of the platted property depicted hereon shall not be affected and shall remain in full force and effect.

EASEMENT AND TRACT MAINTENANCE NOTES:

Tract A shall be utilized as an open space. Ownership and maintenance of Tract A shall be vested to Citizen on Constitution, LLC.

Tract B shall be utilized as a drainage tract. Ownership and maintenance of Tract B shall be vested to Citizen on Constitution, LLC. Tract B is subject to a Private Detention Basin/Stormwater Quality BMP Maintenance Agreement and Easement as recorded at Reception No. \_\_\_\_\_ of the records of El Paso County. Citizen on Constitution, LLC, will be responsible for maintenance of the subject drainage facilities.

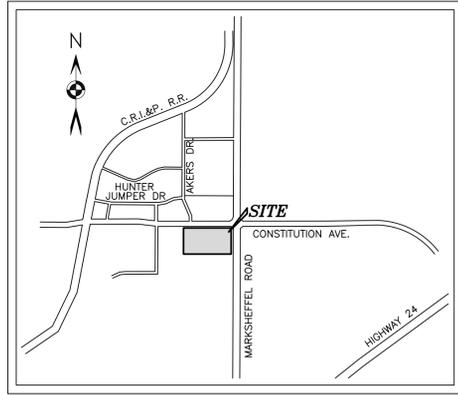
SUMMARY:

Table with 3 columns: Item, Acres, Percentage. Rows: 1 LOT (9.009 ACRES, 73.46%), 2 TRACTS (1.640 ACRES, 13.37%), DEDICATED RIGHT-OF-WAY (1.615 ACRES, 13.17%), TOTAL (12.264 ACRES, 100.00%)

KH Response: Text has been revised.

FLOOD PLAIN CERTIFICATION:

The Federal Emergency Management Agency, Flood Insurance Rate Map No. 08041C0756G, effective date December 7, 2018, indicates this parcel of land to be located in Zone X (Areas determined to be outside the 0.2% annual chance floodplain).



VICINITY MAP (NOT TO SCALE)

SURVEYOR'S CERTIFICATE:

I Spencer J. Barron, 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 October 6, 2021, by me or under my direct supervision and that the monuments exist as shown hereon; that mathematical closure errors are less than 1:10,000; and that said plat has been prepared in compliance with the applicable laws of the State of Colorado dealing with monuments, subdivision, or surveying of land and the applicable provisions of the El Paso County Land Development Code.

This certification is neither a warranty nor guarantee, either expressed or implied.

Spencer J. Barron
Colorado Professional Land Surveyor No. 38141
For and on behalf of Barron Land, LLC

COUNTY APPROVAL

This plat for CITIZEN ON CONSTITUTION FILING No. 1 was approved for filing by the El Paso County, Colorado Planning and Community Development Department this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

and Community Development Department this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

Planning and Community Development Director Date

This plat for CITIZEN ON CONSTITUTION FILING No. 1 was approved for filing by the El Paso County, Colorado Board of County Commissioners on the \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, subject to any notes specified hereon and any conditions included in the resolution of approval. The dedications of land to the public (right-of-way, street, tracts and easements) are accepted, but public improvements thereon will not become the 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.

Urban Collection at Palmer Village is vacated and amended for the areas described by this replat subject to all covenants, conditions, and restrictions recorded against and appurtenant to the original plat recorded in the Office of the El Paso County Clerk and Recorder, Reception #221714832.

Chair, Board of County Commissioners Date

RECORDING

STATE OF COLORADO }
COUNTY OF EL PASO } SS

I hereby certify that this instrument was filed for record at my office at \_\_\_\_ O'clock \_\_M., this day of \_\_\_\_\_, 2022 A.D., and is duly recorded under Reception Number \_\_\_\_\_ of the records of El Paso County, Colorado.

Fee: \_\_\_\_\_

Surcharge: \_\_\_\_\_

Chuck Broerman, Recorder

By: Deputy

FEES:

- School Fee (School District 49): \_\_\_\_\_
Bridge Fee (Sand Creek Drainage Basin): \$64,334.83
Urban Park Fee: \_\_\_\_\_
Regional Park Fee: \_\_\_\_\_
Drainage Fee (Sand Creek Drainage Basin): \$157,278.94

SHEET INDEX

- SHEET 1 - COVER, LEGAL DESCRIPTION, VICINITY MAP
SHEET 2 - GENERAL NOTES
SHEET 3 - AS PLATTED BOUNDARY
SHEET 4 - AS RE-PLATTED BOUNDARY

Table with columns: No., Date, By, Remarks. Rows: 1 (5/16/22 KPB), 2 (6/03/22 KPB), 3 (9/09/22 KPB)

PCD File No. SF-22-06

BARRON LAND logo and contact information: 2790 N. Academy Blvd, Suite 311, Colorado Springs, CO 80917. P: 719.360.6827, F: 719.466.6527. PROJECT No.: 21-048 SHEET 1 OF 4

FINAL PLAT

CITIZEN ON CONSTITUTION FILING No. 1  
 A REPLAT OF TRACTS M & N, URBAN COLLECTION AT PALMER VILLAGE  
 A PORTION OF THE NORTHEAST QUARTER OF  
 SECTION 5, TOWNSHIP 14 SOUTH, RANGE 65 WEST OF THE 6TH P.M.  
 COUNTY OF EL PASO, STATE OF COLORADO

**SURVEYOR'S NOTES**

1. 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.
2. The approval of this Replat vacates all prior plats for the area described by this plat.
3. The lineal units used in this drawing are U.S. Survey Feet. A U.S. Survey Foot is defined as 1200/3937 meters.
4. This survey does not constitute a title search by Barron Land, LLC to determine ownership, rights-of-way, or easements of record. For information regarding ownership, rights-of-way, and easements of record, Barron Land, LLC relied upon Title Commitment No. NCS-1074278-INDY, with an effective date of January 19, 2022 as provided by First American Title Insurance Company.
5. This survey was performed in the field on October 6, 2021.
6. The overall subject parcel contains a calculated area of 534,215 square feet (12.264 acres) of land, more or less.
7. BASIS OF BEARINGS: Bearings are based upon the South Right-of-Way line of Constitution Avenue, as described in "Parcel B" within the Warranty Deed recorded under Reception No. 210085356, monumented on the West with a #4 rebar with yellow plastic cap stamped "PLS 4842" and on the East with a #5 rebar with yellow plastic cap stamped "Aztec PLS 36567" and is assumed to bear N 89°53'50" E, a distance of 1691.84 feet.
8. The subject property shown herein lies within Zone X, areas determined to be outside the 0.2% annual chance floodplain, as shown on Federal Emergency Management Agency flood insurance rate map number 08041C0756G, effective December 7, 2018.
9. This site is not within a designated F.E.M.A. floodplain as determined by the flood insurance rate map number 08041C0756G, effective December 7, 2018.
10. There shall be no direct lot access to Constitution Avenue. Access to Marksheffel Road will be via Lot 1. This access point is limited to right out access only.
11. Geologic hazard note:  
  
Per the geotechnical investigation report prepared by CTL Thompson, Inc., dated May 27, 2022, (CTL Thompson Project No. CS19460-125) the subject Lot and tracts were not identified as having geologic hazards at the time of the report. The report (PCD File No. SF226) is on file at the El Paso County Planning and Community Development Department.
12. The parties responsible for this plan have familiarized themselves with all current accessibility criteria and specifications and the proposed plan reflects all site elements required by the applicable ADA design standards and guidelines as published by the United States Department of Justice, approval of this plan by El Paso County does not assure compliance with the ADA or any regulations or guideline enacted or promulgated under or with respect to such laws.
13. Snow storage shall be accommodated on site at the ends of the Private drive aisles, not in the Public Right-of-Way.
14. Emergency access gates are to be designed by the Developer and must include the Diablo Control Proximity Auto Opening System ([www.diablocontrols.com](http://www.diablocontrols.com)) and override to provide emergency and Fire Department ingress and egress.
15. Any person who knowingly removes or knowingly causes to be removed any Public land survey monument, as defined by Section 38-53-103 (18), C.R.S., or control corner, as defined in Section 38-53-103 (6), C.R.S., or a restoration of any such monument or who knowingly removes or knowingly causes to be removed any bearing tree knowing such is a bearing tree or other accessory, as defined by Section 38-53-103(1), C.R.S., even if said person has Title to the land on which said monument or accessory is located, commits a class 2 misdemeanor unless, prior to such removal, said person has caused a Colorado professional land surveyor to establish at least two witness corners or reference marks for each such monument or accessory removed and has filed or caused to be filed a monument record pursuant to Article 53 of Title 38, C.R.S.
16. A standard Avigation Easement conveyed to the City of Colorado Springs, appurtenant to the Colorado Springs Airport recorded April 19, 1988 in Book 5497 at Page 502 covers the subject Property but is not shown herein.
17. A standard Avigation Easement conveyed to the City of Colorado Springs, appurtenant to the Colorado Springs Airport recorded March 14, 1989 in Book 5612 at Page 726 covers the subject Property but is not shown herein.
18. A standard Avigation Easement recorded March 20, 2014 at Reception No. 214022685 covers the subject Property but is not shown herein.
19. No Lots shall be sold, conveyed, or transferred to a Party other than one that purchases the entire Subdivision, whether by Deed or by Contract, unless and until the required Public and Common development improvements for the Subdivision have been constructed and completed in accordance with the Subdivision Improvements Agreement recorded at Reception No. 221188154 and Reception No. \_\_\_\_\_, the approved construction plans and preliminary acceptance of said improvements has been received from El Paso county. Should a Party purchase the entire Subdivision, Lots within the Subdivision may be sold, conveyed, or transferred and have building permits issued upon receipt of collateral acceptable to the County which is sufficient to guarantee construction of the improvements in the approved financial assurance estimate. If subdivider or a purchaser posts collateral more than ninety (90) days following plat recording, an updated financial assurance estimate may be required. 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.

**SURVEYOR'S NOTES (CONTINUED)**

20. The Subdivider(s) agrees on behalf of him/herself and any developer or builder successors and assigns 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. 19-471), or any amendments thereto, at or prior to the time of building permit submittal. 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.
21. Notice of potential aircraft overflight and noise impact associated with airport: this serves as notice of potential aircraft overflight and noise impacts on this property due to its close proximity to an airport, which is being disclosed to all prospective purchasers considering the use of this property for residential and other purposes. This property is subject to the overflight and associated noise of arriving and departing aircraft during the course of normal airport operations.
22. 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.
23. No driveway shall be established unless an access permit has been granted by the City of Colorado Springs.
24. Mailboxes shall be installed in accordance with all El Paso County and United States Postal Service regulations.
25. 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 Planning and Community Development Department: transportation impact study; drainage report; water resources report; wastewater disposal report; geology and soils report; fire protection report; noise report.
26. 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 Parks and 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 (e.g., Preble's Meadow jumping mouse).
27. The addresses exhibited on this Plat are for informational purposes only. They are not the legal description and are subject to change.
28. The property shown hereon is located within the Constitution Heights Metropolitan District per the document recorded at Reception No. 210099703 of the El Paso County Clerk and Recorder.
29. Pikes Peak Regional Building Enumerations approval provided by email dated \_\_\_\_\_ and recorded in the El Paso County Clerk and Recorder records at Reception No. \_\_\_\_\_.
30. At the time of post construction (when proposed improvements have been installed/constructed) the paved areas within Lot 1 that are intended for vehicular travel shall be encumbered with a blanket-in-nature easement for ingress and egress.
31. Noise mitigation techniques shall be completed by the developer in accordance with the Noise Analysis Report by Kimley-Horn and Associates, Inc., dated April 5, 2022, and shall be incorporated into the multifamily development.
32. The public utility easement that is shown throughout Lot 1 is to be utilized for all necessary utilities. It is not exclusive to the Cherokee Metropolitan District utilities.
33. Utility Providers:  
  
Sanitary Sewer: Cherokee Metropolitan District  
Water: Cherokee Metropolitan District  
Electric: Colorado Springs Utilities  
Gas: Colorado Springs Utilities

PCD File No. SF-22-06

DATE: 04/04/2022 REVISIONS			
No.	Remarks	Date	By
1	COUNTY COMMENTS	5/16/22	KPB
2	ADDRESS COMMENTS	6/03/22	KPB
3	ADDRESS COMMENTS	9/09/22	KPB

**BARRON LAND**  
 BOUNDARY & MAPPING & SURVEYING & CONSTRUCTION  
 2790 N. Academy Blvd. Suite 311 P: 719.360.6827  
 Colorado Springs, CO 80917 F: 719.466.6527  
[www.BARRONLAND.com](http://www.BARRONLAND.com)  
 PROJECT No.: 21-048 SHEET 2 OF 4

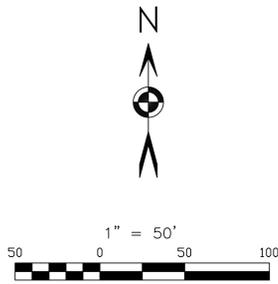
FINAL PLAT

CITIZEN ON CONSTITUTION FILING No. 1

A REPLAT OF TRACTS M & N, URBAN COLLECTION AT PALMER VILLAGE  
 A PORTION OF THE NORTHEAST QUARTER OF  
 SECTION 5, TOWNSHIP 14 SOUTH, RANGE 65 WEST OF THE 6TH P.M.  
 COUNTY OF EL PASO, STATE OF COLORADO

LEGEND:

- FOUND SECTION MONUMENT AS NOTED
- FOUND #5 REBAR WITH YELLOW PLASTIC CAP STAMPED "AZTEC PLS 36567" UNLESS NOTED OTHERWISE
- FOUND REFERENCE MONUMENT AS NOTED
- (M) FIELD-MEASURED DIMENSIONS
- (R) RECORD DIMENSIONS
- (C) CALCULATED DIMENSIONS
- R.O.W. RIGHT-OF-WAY
- (XXXX) LOT ADDRESS
- SUBDIVISION BOUNDARY LINES
- - - ADJACENT PARCEL LINES
- SECTION LINES
- - - EASEMENT LINES

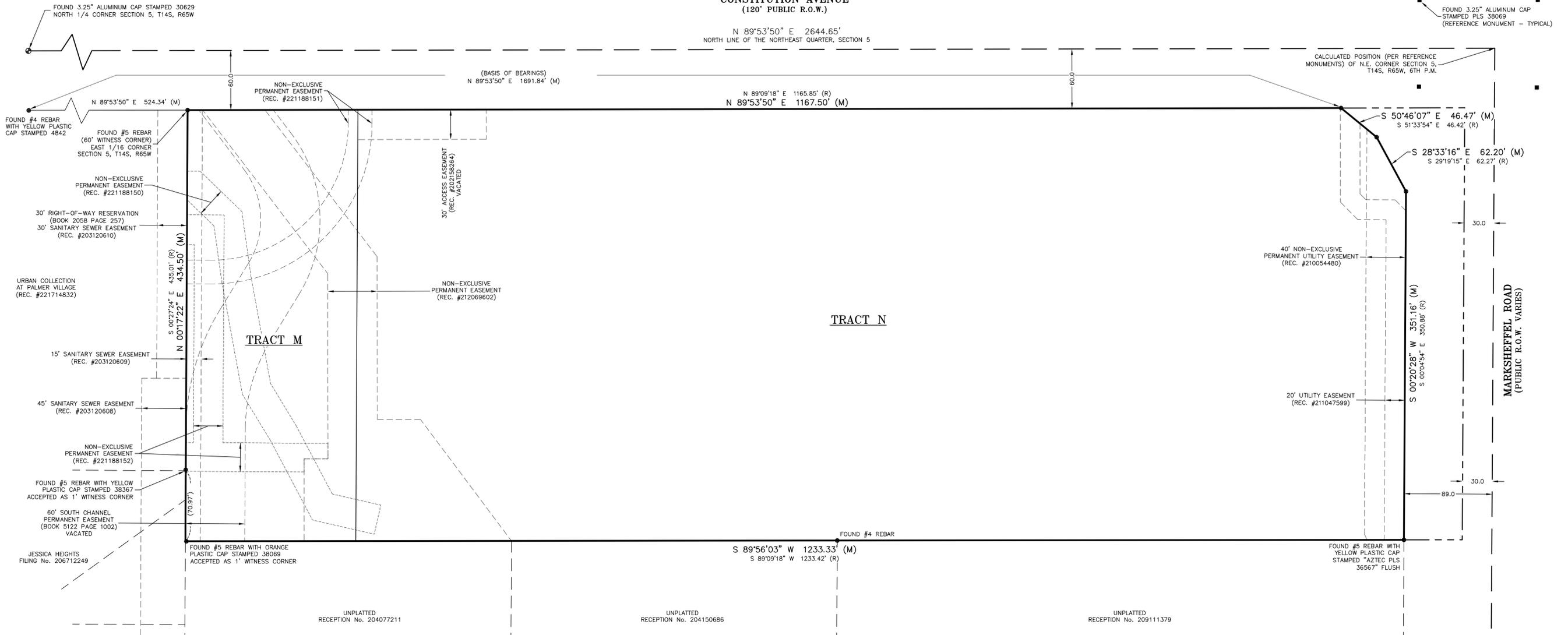


AS PLATTED

CONSTITUTION AVENUE  
 (120' PUBLIC R.O.W.)

N 89°53'50" E 2644.65'  
 NORTH LINE OF THE NORTHEAST QUARTER, SECTION 5

FOUND 3.25" ALUMINUM CAP STAMPED PLS 38069  
 (REFERENCE MONUMENT - TYPICAL)



UNPLATTED  
 RECEPTION No. 204077211

UNPLATTED  
 RECEPTION No. 204150686

UNPLATTED  
 RECEPTION No. 209111379

PCD File No. SF-22-06

DATE: 04/04/2022		REVISIONS	
No.	Remarks	Date	By
1	COUNTY COMMENTS	5/16/22	KPB
2	ADDRESS COMMENTS	6/03/22	KPB
3	ADDRESS COMMENTS	9/09/22	KPB

**BARRON LAND**

BOUNDARY & MAPPING & SURVEYING & CONSTRUCTION  
 2790 N. Academy Blvd., Suite 311 P: 719.360.6827  
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PROJECT No.: 21-048 SHEET 3 OF 4

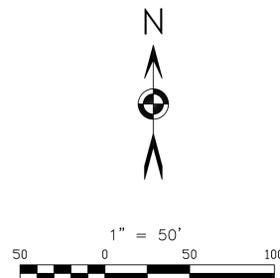
FINAL PLAT

# CITIZEN ON CONSTITUTION FILING No. 1

A REPLAT OF TRACTS M & N, URBAN COLLECTION AT PALMER VILLAGE  
 A PORTION OF THE NORTHEAST QUARTER OF  
 SECTION 5, TOWNSHIP 14 SOUTH, RANGE 65 WEST OF THE 6TH P.M.  
 COUNTY OF EL PASO, STATE OF COLORADO

LEGEND:

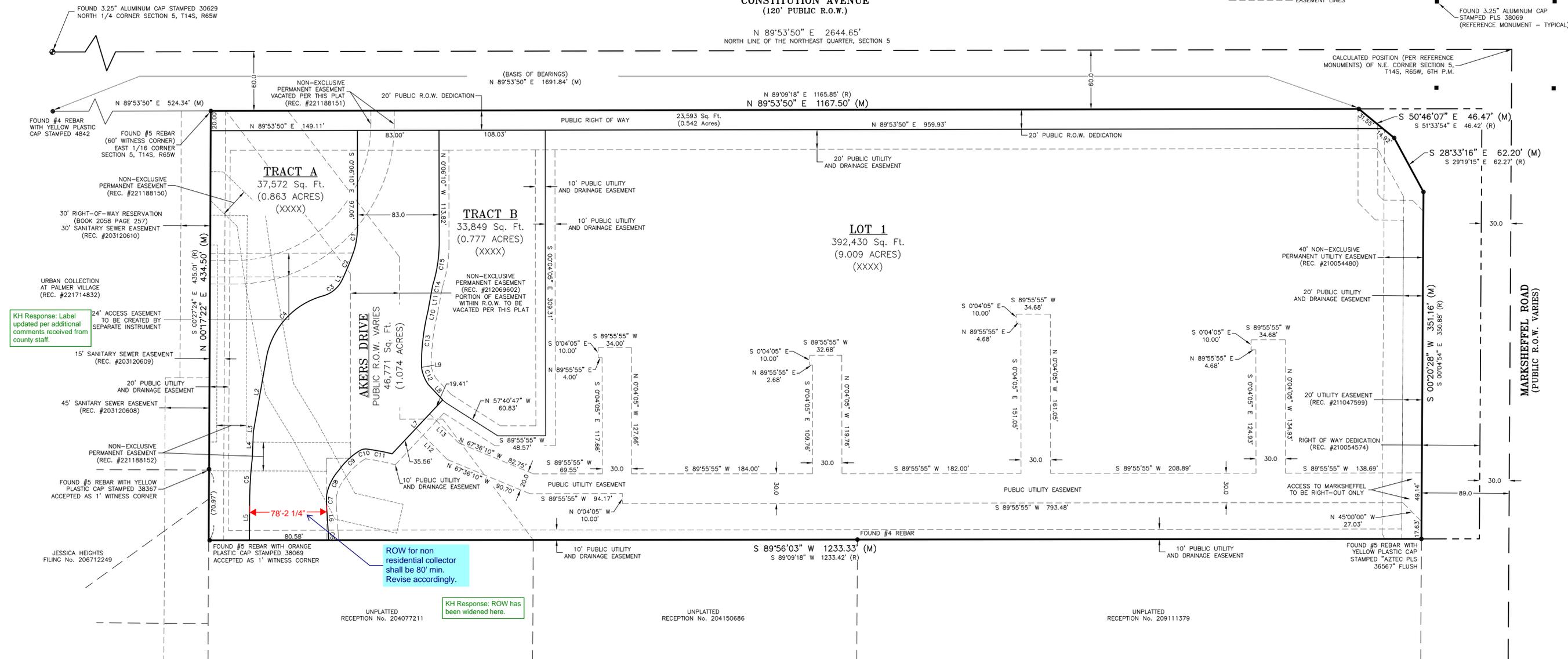
- FOUND SECTION MONUMENT AS NOTED
- FOUND #5 REBAR WITH YELLOW PLASTIC CAP STAMPED "AZTEC PLS 36567" UNLESS NOTED OTHERWISE
- FOUND REFERENCE MONUMENT AS NOTED
- (M) FIELD-MEASURED DIMENSIONS
- (R) RECORD DIMENSIONS
- (C) CALCULATED DIMENSIONS
- R.O.W. RIGHT-OF-WAY
- (XXXX) LOT ADDRESS
- SUBDIVISION BOUNDARY LINES
- LOT/TRACT LINES
- DEDICATION LINES
- - - ADJACENT PARCEL LINES
- SECTION LINES
- - - EASEMENT LINES



AS RE-PLATTED

CONSTITUTION AVENUE  
 (120' PUBLIC R.O.W.)

N 89°53'50" E 2644.65'  
 NORTH LINE OF THE NORTHEAST QUARTER, SECTION 5



KH Response: Label updated per additional comments received from county staff.

ROW for non residential collector shall be 80' min. Revise accordingly.

KH Response: ROW has been widened here.

LINE	BEARING	DISTANCE	CURVE	RADIUS	ARC LENGTH	CHORD BEARING	CHORD LENGTH	DELTA ANGLE
L1	S 27°45'20" W	4.35	C1	85.58	24.15	S 07°59'06" W	24.07	16°09'58"
L2	S 10°03'02" W	70.86	C2	299.43	31.58	S 22°02'00" W	31.66	06°03'40"
L3	S 09°56'25" W	5.14	C3	30.50	22.90	S 53°21'45" W	22.37	43°01'39"
L4	S 02°14'16" W	26.61	C4	79.50	89.95	S 42°27'48" W	85.23	64°49'33"
L5	S 02°17'22" W	39.22	C5	385.52	43.82	S 03°32'43" W	43.84	06°31'11"
L6	N 03°44'10" W	27.49	C6	368.50	3.21	N 03°05'41" W	8.20	01°16'58"
L7	N 43°19'47" E	74.98	C7	58.91	10.86	N 01°33'49" E	10.84	10°33'44"
L8	N 43°19'23" W	21.36	C8	52.50	27.62	N 26°48'27" E	27.30	30°08'32"
L9	N 06°55'34" W	41.01	C9	69.97	29.71	N 47°19'56" E	29.48	24°19'56"
L10	N 13°13'19" E	14.96	C10	10.50	6.93	N 78°20'47" E	6.80	37°48'45"
L11	N 01°13'47" E	24.45	C11	230.50	26.27	S 79°28'57" E	26.25	06°31'47"
L12	N 45°08'10" W	44.97	C12	40.73	16.90	N 23°08'03" W	16.78	23°46'32"
L13	N 45°08'10" W	41.54	C13	230.50	50.70	N 06°19'39" E	50.60	12°58'09"
L14	N 00°04'54" E	350.88	C14	24.00	2.91	N 13°42'11" E	2.91	06°56'49"
L15	N 00°04'54" E	350.88	C15	141.50	42.67	N 08°32'13" E	42.51	17°16'46"

PCD File No. SF-22-06

No.	Remarks	Date	By
1	COUNTY COMMENTS	5/16/22	KPB
2	ADDRESS COMMENTS	6/03/22	KPB
3	ADDRESS COMMENTS	9/09/22	KPB

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 Colorado Springs, CO 80917 F: 719.466.6527  
 www.BARRONLAND.com

PROJECT No.: 21-048 SHEET 4 OF 4

**AKERS DR. CD'S – TRAFFIC STUDY  
COMMENT RESPONSE**

## Daniel Torres

---

**From:** Hess, Mitchell <Mitchell.Hess@kimley-horn.com>  
**Sent:** Tuesday, August 16, 2022 3:53 PM  
**To:** Daniel Torres  
**Cc:** Menke, Joseph  
**Subject:** RE: Citizen on Constitution - SDP and Traffic Study

**CAUTION: This email originated from outside the El Paso County technology network. Do not click links or open attachments unless you recognize the sender and know the content is safe. Please call IT Customer Support at 520-6355 if you are unsure of the integrity of this message.**

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Thank you for your email Dan. The traffic study is for both the Final Plat and the SDP. Can we just have it approved with the Final Plat and removed from the SDP submittal? It doesn't make sense to have it re-reviewed for the same project.

Thank you for reminding me of the left-turn comment. We will have that adjusted in the Traffic Report.

**Mitchell Hess, P.E. (CO & WY)**

**Kimley-Horn** | 2 N Nevada Ave., Suite 300, Colorado Springs, CO 80903  
Direct: 719 284 7281 | [www.kimley-horn.com](http://www.kimley-horn.com)

---

**From:** Daniel Torres <DanielTorres@elpasoco.com>  
**Sent:** Tuesday, August 16, 2022 3:18 PM  
**To:** Hess, Mitchell <Mitchell.Hess@kimley-horn.com>  
**Cc:** Menke, Joseph <Joseph.Menke@kimley-horn.com>  
**Subject:** RE: Citizen on Constitution - SDP and Traffic Study

Hi Mitchell,

As the final plat is further ahead than the PPR project I believe that comment was intended for you to look at the final plat project for any comments that I may have had.

Regarding the traffic study, I believe that the traffic study needs to be amended due to the changes to the roundabout. In our previous meeting I indicated that the north bound left turn recommendations at Akers/Constitution did not match what was proposed on the CD's. Please be sure that this is updated so that they are consistent with each other. If amending the previous traffic study submitted (from the rezone project, P218), then please revise the title on the cover page to reflect that. Also, a separate traffic memo may be submitted identifying the changes made to the original study.

Respectfully,



**Daniel Torres**

Engineer III

Planning & Community Development

719.520.6305 (Office) | 719.208.6783 (Cell)

<https://planningdevelopment.elpasoco.com/>

---

**From:** Hess, Mitchell <[Mitchell.Hess@kimley-horn.com](mailto:Mitchell.Hess@kimley-horn.com)>  
**Sent:** Monday, August 15, 2022 5:03 PM  
**To:** Daniel Torres <[DanielTorres@elpasoco.com](mailto:DanielTorres@elpasoco.com)>  
**Cc:** Menke, Joseph <[Joseph.Menke@kimley-horn.com](mailto:Joseph.Menke@kimley-horn.com)>  
**Subject:** Citizen on Constitution - SDP and Traffic Study

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Good afternoon Daniel.

I hope your day has been going well. We received the following comment (see screenshot below) on the traffic study for Citizen on Constitution on the SDP Portion of the Project. All of the traffic comments (outside of deviations submitted with the plat) were addressed in April as part of the Final Plat Submittal. Can you please confirm what comment may be outstanding on the Traffic Study? I could not find any outstanding comments on my end.

Thank you for your time.



## Master Traffic Impact Study

See comment on the final plat application (SF226) regarding the traffic study

KH Response: Per coordination with staff, the revised report cover sheet was updated to identify that it is an amendment to the Master Traffic Impact Study.

# Citizen on Constitution El Paso County, Colorado

PCD File No. P218

Prepared for:

The Garrett Companies, Inc.



Mitchell Hess, P.E. (CO & WY)

**Kimley-Horn** | 2 N Nevada Ave., Suite 300, Colorado Springs, CO 80903

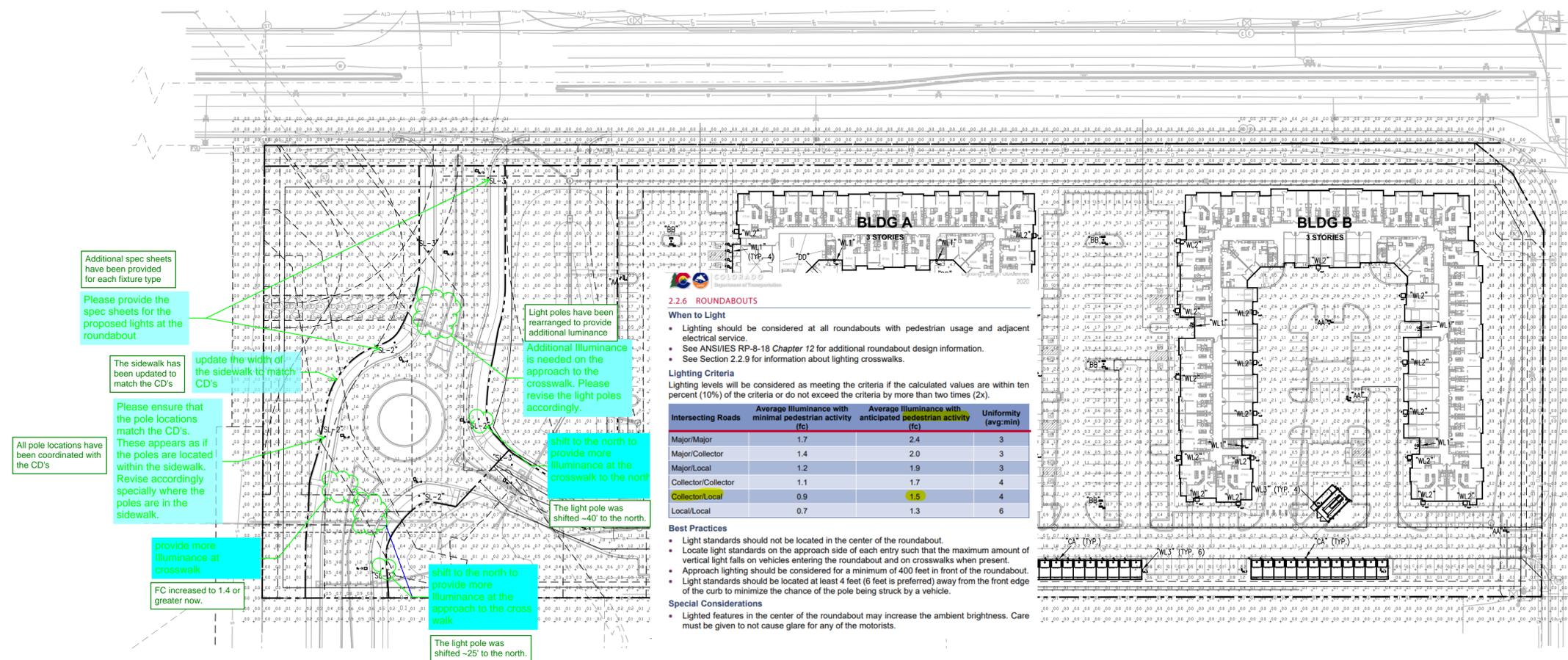
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**PHOTOMETRIC PLAN – PCD ENGINEERING  
COMMENT RESPONSE**

# THE CITIZEN ON CONSTITUTION SITE DEVELOPMENT PLAN

A PORTION OF THE NORTHEAST QUARTER OF SECTION 5, TOWNSHIP 14 SOUTH, RANGE 65 WEST OF THE 6TH P.M.,  
CITY OF COLORADO SPRINGS, COUNTY OF EL PASO, STATE OF COLORADO



## 2.2.6 ROUNDABOUTS

### When to Light

- Lighting should be considered at all roundabouts with pedestrian usage and adjacent electrical service.
- See ANSI/IES RP-8-18 Chapter 12 for additional roundabout design information.
- See Section 2.2.9 for information about lighting crosswalks.

### Lighting Criteria

Lighting levels will be considered as meeting the criteria if the calculated values are within ten percent (10%) of the criteria or do not exceed the criteria by more than two times (2x).

Intersecting Roads	Average Illuminance with minimal pedestrian activity (fc)	Average Illuminance with anticipated pedestrian activity (fc)	Uniformity (avg:min)
Major/Major	1.7	2.4	3
Major/Collector	1.4	2.0	3
Major/Local	1.2	1.9	3
Collector/Collector	1.1	1.7	4
Collector/Local	0.9	1.5	4
Local/Local	0.7	1.3	6

### Best Practices

- Light standards should not be located in the center of the roundabout.
- Locate light standards on the approach side of each entry such that the maximum amount of vertical light falls on vehicles entering the roundabout and on crosswalks when present.
- Approach lighting should be considered for a minimum of 400 feet in front of the roundabout.
- Light standards should be located at least 4 feet (6 feet is preferred) away from the front edge of the curb to minimize the chance of the pole being struck by a vehicle.

### Special Considerations

- Lighted features in the center of the roundabout may increase the ambient brightness. Care must be given to not cause glare for any of the motorists.

PHOTOMETRIC STATISTICS (fc)				
Description	Avg	Max	Min	Average/Min
Roundabout	1.6	2.7	0.4	4.0:1
Collector Roads	1	2	0.3	3.4:1
Site	0.9	18.3	0	-

1 SITE PLAN  
1"=60'-0" PHOTOMETRIC  
NORTH

Additional spec sheets have been provided for each fixture type

Please provide the spec sheets for the proposed lights at the roundabout

The sidewalk has been updated to match the CD's

update the width of the sidewalk to match CD's

Please ensure that the pole locations match the CD's. These appears as if the poles are located within the sidewalk. Revise accordingly specially where the poles are in the sidewalk.

All pole locations have been coordinated with the CD's

provide more illuminance at crosswalk

FC increased to 1.4 or greater now.

Light poles have been rearranged to provide additional luminance

Additional illuminance is needed on the approach to the crosswalk. Please revise the light poles accordingly.

shift to the north to provide more illuminance at the crosswalk to the north

The light pole was shifted -40' to the north.

shift to the north to provide more illuminance at the approach to the cross walk

The light pole was shifted -25' to the north.

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

CALL UTILITY NOTIFICATION CENTER OF COLORADO  
1-800-922-1987  
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES



08-19-22

THE CITIZEN ON CONSTITUTION  
EL PASO COUNTY, COLORADO  
SITE DEVELOPMENT PLAN  
SITE PLAN - PHOTOMETRICS

PRELIMINARY  
FOR REVIEW ONLY  
NOT FOR CONSTRUCTION  
Kimley-Horn & Associates, Inc.

PROJECT NO.  
096481004  
SHEET

E0-02

3838 SW Summerfield Drive, Suite A  
Overland Park, Kansas 66210  
Telephone: (785) 233-3252  
Email: info@ksa.com  
LS#PROJECT NO: 220704



DESIGNED BY: DBE  
DRAWN BY: CAD  
CHECKED BY: DBE  
DATE: 04/18/2022

NO.	REVISION	BY	DATE	APPR.

**LANDSCAPE PLAN – PCD ENGINEERING  
COMMENT RESPONSE**

LANDSCAPE DEVELOPMENT PLANS

# THE CITIZEN ON CONSTITUTION

## PCD PROJECT NUMBER: PPR-22-29

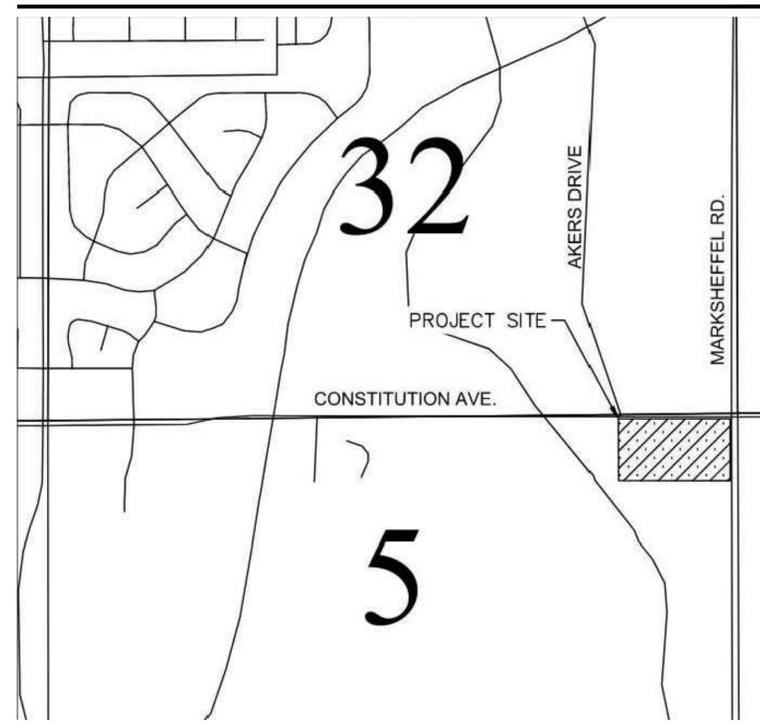
A PORTION OF THE NORTHEAST QUARTER OF SECTION 5, TOWNSHIP 14 SOUTH, RANGE 65 WEST OF THE 6TH P.M.,  
CITY OF COLORADO SPRINGS, COUNTY OF EL PASO, STATE OF COLORADO

DATE: 08.19.2022

### SHEET INDEX

FINAL LANDSCAPE & IRRIGATION PLANS	
SHEET NUMBER	SHEET TITLE
--	COVER SHEET
L600	OVERALL LANDSCAPE PLAN
L601	LANDSCAPE PLAN
L602	LANDSCAPE PLAN
L603	LANDSCAPE PLAN
L604	LANDSCAPE PLAN
L605	LANDSCAPE PLAN
L606	LANDSCAPE PLAN
L607	COURTYARD ENLARGEMENT
L608	NOTES AND TABULATIONS
L609	LANDSCAPE DETAILS
L610	LANDSCAPE DETAILS
L611	FENCE AND DOG PARK DETAILS

### VICINITY MAP



SCALE: NTS  
(NOT TO SCALE)

### PROJECT TEAM

#### OWNER/DEVELOPER

THE GARRETT COMPANIES  
1051 GREENWOOD SPRINGS BLVD  
GREENWOOD, INDIANA 46143  
317.886.7923

#### DIRECTOR OF CIVIL ENGINEERING

KARL STOUT  
1051 GREENWOOD SPRINGS BLVD  
GREENWOOD, INDIANA 46143  
317.886.7926

#### LANDSCAPE ARCHITECT

THE GARRETT COMPANIES  
1051 GREENWOOD SPRINGS BLVD  
GREENWOOD, INDIANA 46143  
765.748.9506  
CONTACT NAME: NICK SMITH

#### CIVIL ENGINEERING MANAGER

ANDREW WHITE  
1051 GREENWOOD SPRINGS BLVD  
GREENWOOD, INDIANA 46143  
317.497.8275

#### IRRIGATION DESIGN

SETH HEIDMAN IRRIGATION DESIGN  
6009 W. PARKER RD. #149-221  
PLANO, TEXAS 75093  
972.816.5141  
CONTACT NAME: SETH HEIDMAN

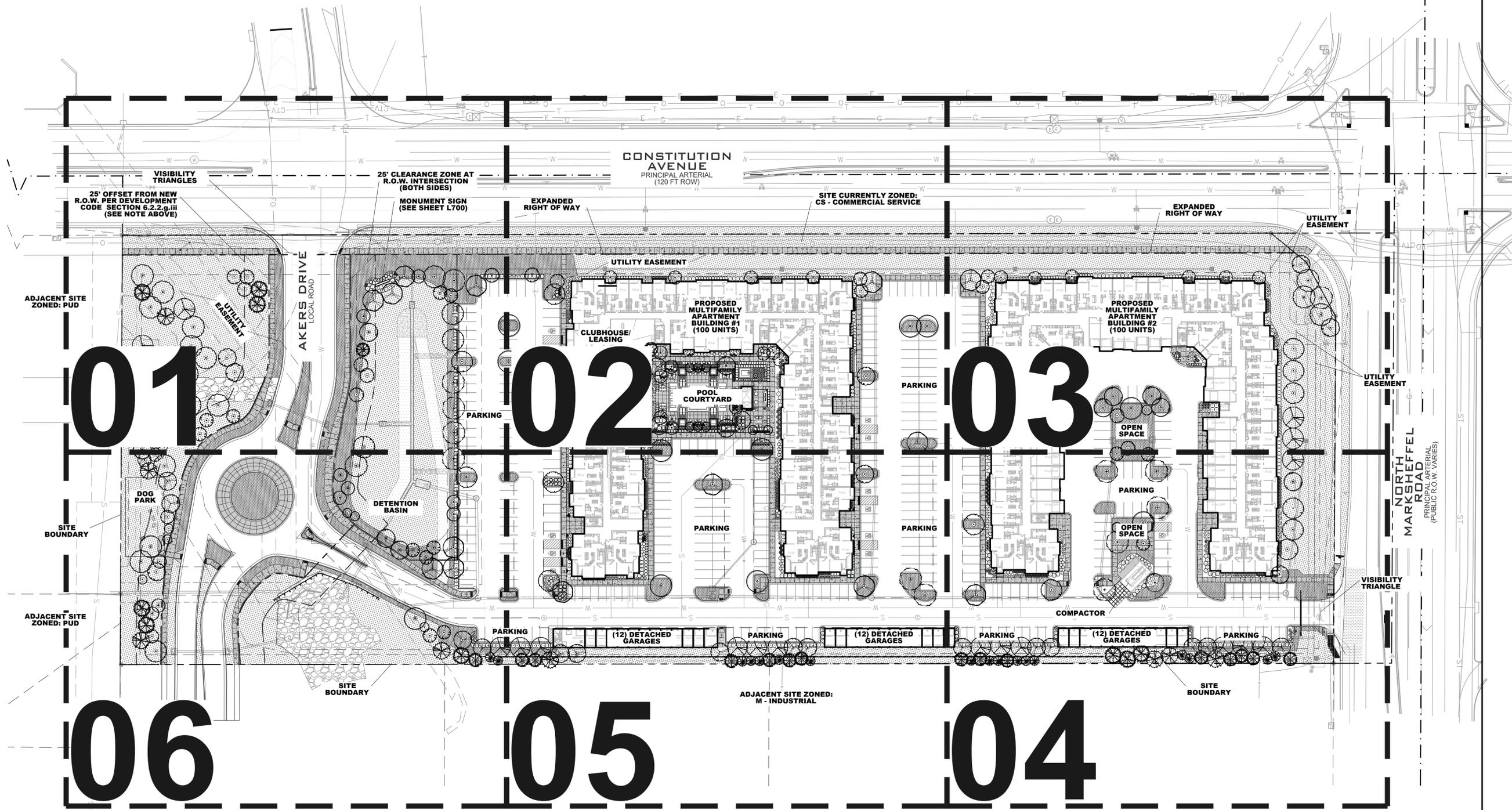


08/19/2022



PCD PROJECT NUMBER: PPR-22-029

25' SETBACK ALONG THE R.O.W.  
 PER SECTION 6.2.2.g.iii OF THE EL PASO COUNTY DEVELOPMENT ORDINANCE:  
 "USE OF BOX ALDER, SALIX, AND POPULUS LIMITED. BOX ELDER (ACER NEGUNDAO)  
 AND ALL TREES OF THE SALIX AND POPULUS GENUS, EXCEPT ASPEN (POPULUS  
 TREMULOIDES), SHALL NOT BE PLANTED WITHIN 25 FEET OF A RIGHT-OF-WAY."



**NOT FOR CONSTRUCTION**

PROJECT #: 21-06  
 DRAWN BY: TB / PR

PERMIT SUBMITTAL 03/25/2022  
 SITE DEVELOPMENT PLAN 05/23/2022  
 COUNTY COMMENTS 08/19/2022

REVISION SCHEDULE

#	DATE	DESCRIPTION

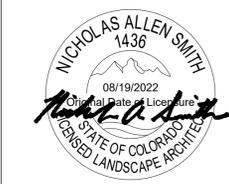
**THE CITIZEN ON CONSTITUTION**  
 OVERALL SITE  
 A PORTION OF THE NORTHEAST QUARTER OF SECTION 5,  
 TOWNSHIP 14 SOUTH, RANGE 66 WEST OF THE 6TH P.M.  
 EL PASO COUNTY, COLORADO  
 PCD PROJECT NUMBER: PPR-22-29  
 LANDSCAPE PLANS

**OVERALL LANDSCAPE PLAN**



THE GARRETT COMPANIES  
LANDSCAPE ARCHITECTURE

317-866-7923  
1051 GREENWOOD SPRINGS BLVD #101  
GREENWOOD, IN 46143  
www.thegarrettco.com



08/19/2022

**NOT FOR CONSTRUCTION**

PROJECT #: 21-06  
DRAWN BY: TB / PR

PERMIT SUBMITTAL 03/25/2022  
SITE DEVELOPMENT PLAN 05/23/2022  
COUNTY COMMENTS 08/19/2022

REVISION SCHEDULE  
# DATE DESCRIPTION

**PLANT SCHEDULE**

SYMBOL	TAG	QTY.	COMMON NAME	BOTANIC NAME
<b>DECIDUOUS CANOPY TREES</b>				
AF	15	AUTUMN BLAZE MAPLE	ACER X FREEMANII 'AUTUMN BLAZE'	
AG	8	OHIO BUCKEYE	AESCULUS GLABRA	
BF	12	NATIVE RIVERBIRCH	BETULA FONTINALIS	
CS	16	WESTERN CATALPA	CATALPA SPECIOSA	
CO	7	WESTERN HACKBERRY	CELTIS OCCIDENTALIS	
GT	12	IMPERIAL HONEYLOCUST	GLEDITSIA TRICANTHOS 'IMPERIAL'	
PT	18	QUAKING ASPEN	POPULUS TREMULOIDES	
QR	17	RED OAK	QUERCUS RUBRA	
TA	12	REDMOND LINDEN	TILIA AMERICANA 'REDMOND'	
UM	14	ACCOLADE ELM	ULMUS MORTON 'ACCOLADE'	
SUBTOTAL 131				

<b>ORNAMENTAL TREES</b>				
AT	11	HOT WINGS TATARIAN MAPLE	ACER TATARICUM 'GARANN'	
AX	15	AUTUMN BRILLIANCE SERVICEBERRY	AMELACHIER X GRANDIFLORA X 'AUTUMN BRILLIANCE'	
CE	15	EASTERN REDBUD	CERCIS CANADENSIS	
CK	9	KOUSA DOGWOOD	CORNUS KOUSA	
CC	13	THORNLESS COCKSPUR HAWTHORN	CRATAEGUS CRUS GALLII 'INERMIS'	
PS	16	PINK FLAIR CHERRY	PRUNUS SARGENTII 'PINK FLAIR'	
SUBTOTAL 79				

<b>EVERGREEN TREES</b>				
AC	11	CONCOLOR FIR	ABIES CONCOLOR	
PC	10	LODGEPOLE PINE	PINUS CONTORTA	
PF	16	VANDERWOLF'S PINE	PINUS FLEXILIS 'VANDERWOLF'S PYRAMID'	
JS	17	MOONGLOW JUNIPER	JUNIPERUS SCOPULORUM 'MOONGLOW'	
SUBTOTAL 54				

<b>DECIDUOUS &amp; EVERGREEN SHRUBS (TO INCLUDE PARKING LOT SCREENING &amp; FOUNDATION SHRUBS)</b>				
CCB	56	BLUE MIST CARYOPTERIS	CARYOPTERIS X CLANDONENSIS 'BLUE MIST'	
CSK	178	ARCTIC FIRE DOGWOOD	CORNUS STOLONIFERA 'FARROW'	
COR	58	BAILEYS REDOSIER DOGWOOD	CORNUS STOLONIFERA 'BAILEY'	
WSW	46	SPILLED WINE WEIGELA	WEIGELA FLORIDA 'SPILLED WINE'	
FOR	21	KUMSON FORSYTHIA	FORSYTHIA VIRIDISSIMA 'KUMSON'	
HQR	74	RUBY SLIPPERS HYDRANGEA	HYDRANGEA QUERCIFOLIA 'RUBY SLIPPERS'	
PAT	34	BLUE SPIRES RUSSIAN SAGE	PEROVSKIA ATRIPLICIFOLIA 'BLUE SPIRES'	
GVB	135	GREEN VELVET BOXWOOD	BUXUS X 'GREEN VELVET'	
PAG	64	GNOME FIRETHORN	PYRACANTHA ANGUSTIFOLIA 'GNOME'	
RKO	50	KNOCK OUT PINK ROSE	ROSA 'KNOCK OUT PINK ROSE'	
SJG	55	'GOLDFLAME' SPIREA	SPIREA JAPONICA 'GOLDFLAME'	
SMP	27	BLOOMERANG LILAC	SYRINGA X 'BLOOMERANG'	
TXM	204	DENSE YEW	TAXUS X MEDIA 'DENSIFORMIS'	
VCA	72	DWARF KOREANSPICE VIBURNUM	VIBURNUM CARLESII 'COMPACTUM'	
SUBTOTAL 1,074				

<b>LOW/SPREADING SHRUBS</b>				
JPW	40	PRINCE OF WALES JUNIPER	JUNIPERUS HORIZONTALIS 'PRINCE OF WALES'	
JST	60	NEW BLUE JUNIPER	JUNIPERUS SABINA 'TAMARISCIFOLIA NEW BLUE'	
MDP	110	SIBERIAN CYPRESS	MICROBIOTA DECUSSATA 'PRIDES'	
PBP	42	CREEPING WESTERN SAND CHERRY	PRUNUS BESSEYI 'PAWNEE BUTTES'	
SUBTOTAL 252				

<b>GRASSES</b>				
AS	38	BLUE AVENA GRASS	HELICOTRICHON SEMPERVIRENS	
L	19	MORNING LIGHT MAIDEN GRASS	MISCANTHUS SINENSIS 'MORNING LIGHT'	
S	59	SHENANDOAH SWITCHGRASS	PANICUM VIRGATUM 'SHENANDOAH'	
F	53	FEATHER REED GRASS	CALAMAGROSTIS ACUTIFOLIA 'KARL FOERSTER'	
BAM	129	BLONDE AMBITION GRASS	BOUTELOUA GRACILIS	
PRD	52	PRAIRIE DROPSEED GRASS	SPOROBOLUS HETEROLEPSIS	
SUBTOTAL 350				

<b>PERENNIALS</b>				
CGE	44	EARLY SUNRISE COREOPSIS	COREOPSIS GRANDIFLORA 'EARLY SUNRISE'	
HOS	43	PATRIOT HOSTA	HOSTA X 'PATRIOT'	
HPM	72	PARDON ME DAYLILY	HEMEROCALLIS 'PARDON ME'	
RFG	35	BLACK EYED SUSAN	RUDBECKIA FULGIDA 'GOLDSTRUM'	
SAJ	51	AUTUMN JOY SEDUM	SEDUM 'AUTUMN JOY'	
SNM	39	MAY NIGHT SALVIA	SALVIA NEMEROSA 'MAY NIGHT'	
SUBTOTAL 284				

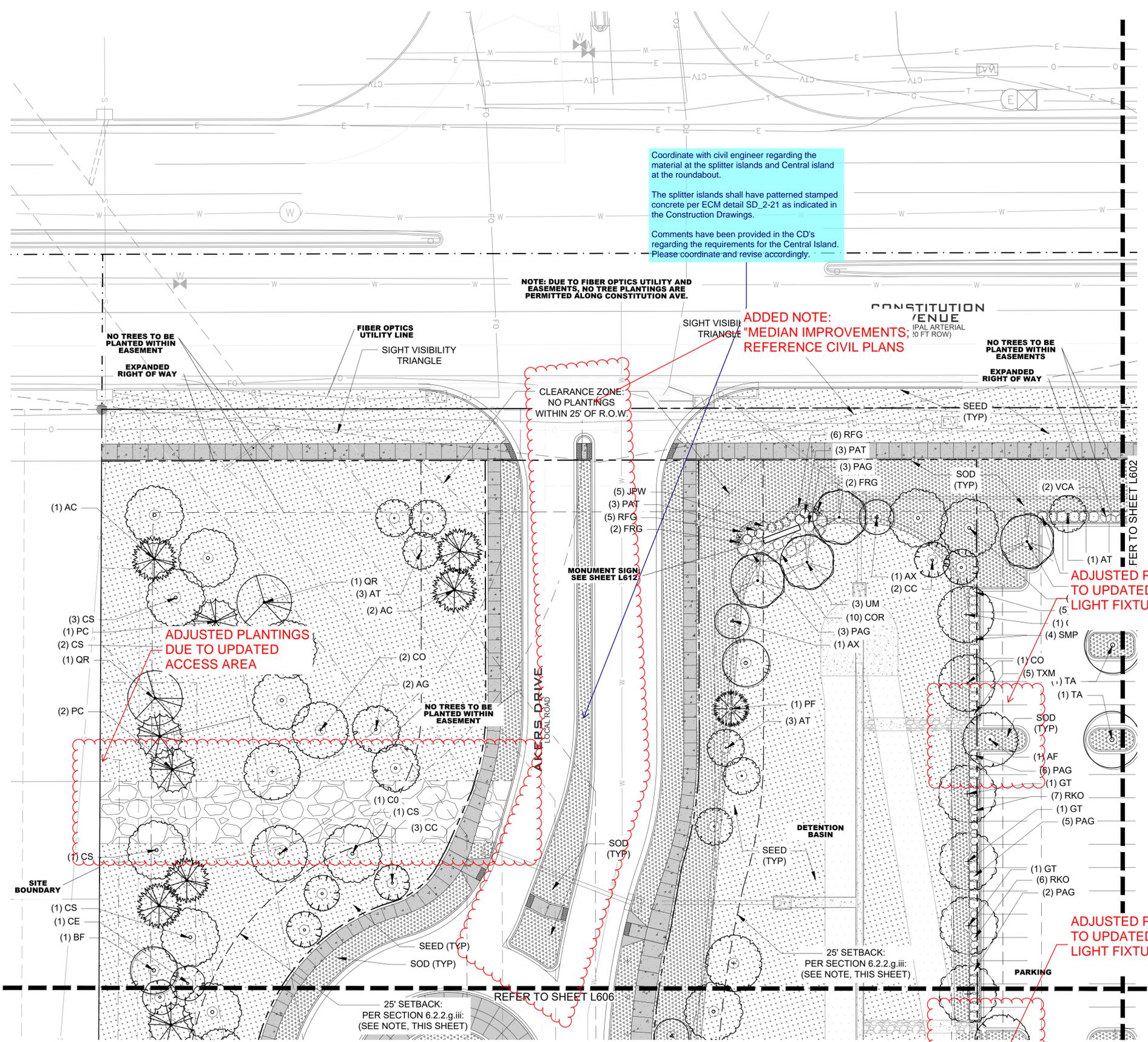
<b>TURF GRASSES</b>				
SOD	36,604 SQ. FT.	ECOLOTURF™ SOD	VERSATILE BLUEGRASS/FESCUE SOD MIX (SEE NOTE BELOW)	
SEED	134,984 SQ. FT.	TURF SEED MIX	"50/50 KENTUCKY BLUEGRASS/PERENNIAL RYEGRASS" TURF MIX; SEE NOTE BELOW)	
SUBTOTAL: 171,588 SQ. FT.				

GROSS SITE AREA: 9.82 ACRES (427,759 SQ FT)  
REQUIRED OPEN SPACE: 64,164 SQ FT PROVIDED OPEN SPACE: 124,126 SQ FT  
REQUIRED TREES: 128.3 TREES PROVIDED TREES: 128 OPEN SPACE TREES

REFERENCE SHEET L608 FOR COMPLETE LANDSCAPE PLANT SCHEDULE, NOTES, & TABULATIONS. SEE SHEETS L609 - L611 FOR PLANTING DETAILS.

NOTE: A FINAL LANDSCAPE AND IRRIGATION PLAN SHALL BE SUBMITTED AND REVIEWED CONCURRENT WITH BUILDING PERMIT SUBMITTAL AND APPROVED PRIOR TO ISSUANCE OF A BUILDING PERMIT.

BACK ALONG THE R.O.W. SECTION 6.2.2.g.iii OF THE EL PASO COUNTY DEVELOPMENT ORDINANCE: "USE OF BOX ALDER, SALIX, AND POPULUS LIMITED. BOX ELDER (ACER NEGUNDOA) AND ALL TREES OF THE SALIX AND POPULUS GENUS, EXCEPT ASPEN (POPULUS TREMULOIDES), SHALL NOT BE PLANTED WITHIN 25 FEET OF A RIGHT-OF-WAY."



Coordinate with civil engineer regarding the material at the splitter islands and Central island at the roundabout.

The splitter islands shall have patterned stamped concrete per ECM detail SD\_2-21 as indicated in the Construction Drawings.

Comments have been provided in the CD's regarding the requirements for the Central Island. Please coordinate and revise accordingly.

NOTE: DUE TO FIBER OPTICS UTILITY AND EASEMENTS, NO TREE PLANTINGS ARE PERMITTED ALONG CONSTITUTION AVE.

ADDED NOTE: MEDIAN IMPROVEMENTS; REFERENCE CIVIL PLANS

ADJUSTED PLANTINGS DUE TO UPDATED ACCESS AREA

ADJUSTED PLANTINGS DUE TO UPDATED PARKING LIGHT FIXTURES

ADJUSTED PLANTINGS DUE TO UPDATED PARKING LIGHT FIXTURES

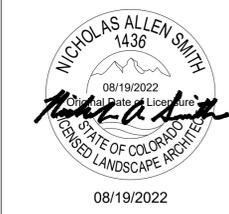


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TOWNSHIP 14 SOUTH, RANGE 65 WEST OF THE 6TH P.M.  
EL PASO COUNTY, COLORADO  
PCD PROJECT NUMBER: PPR-22-29  
LANDSCAPE PLANS  
LANDSCAPE PLAN  
L601





317-886-7923  
1051 GREENWOOD SPRINGS BLVD #101  
GREENWOOD, IN 46143  
www.thegarrettco.com



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PROJECT #: 21-06  
DRAWN BY: TB / PR

PERMIT SUBMITTAL 03/25/2022  
SITE DEVELOPMENT PLAN 05/23/2022  
COUNTY COMMENTS 08/19/2022

REVISION SCHEDULE		
#	DATE	DESCRIPTION

**THE CITIZEN ON CONSTITUTION**

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EL PASO COUNTY, COLORADO  
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LANDSCAPE PLANS

LANDSCAPE PLAN

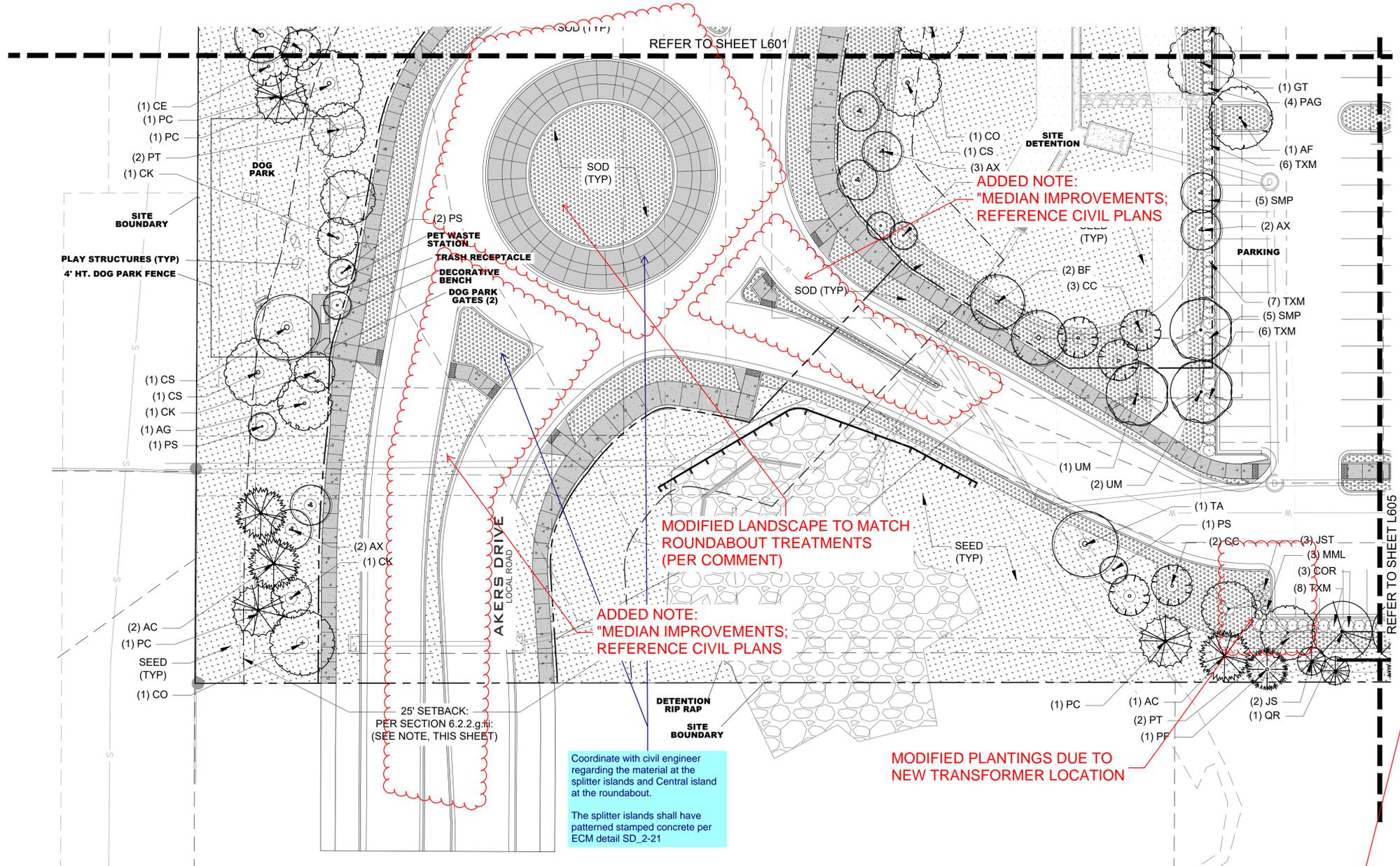
L606

SYMBOL	TAG	QTY.	COMMON NAME	BOTANIC NAME
<b>DECIDUOUS CANOPY TREES</b>				
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QR	17		RED OAK	QUERCUS RUBRA
TA	12		REDMOND LINDEN	TILIA AMERICANA 'REDMOND'
UM	14		ACCOLADE ELM	ULMUS MORTON 'ACCOLADE'
SUBTOTAL		131		
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PS	16		PINK FLAIR CHERRY	PRUNUS SARGENTII 'PINK FLAIR'
SUBTOTAL		79		
<b>EVERGREEN TREES</b>				
AC	11		CONCOLOR FIR	ABIES CONCOLOR
PC	10		LODGEPOLE PINE	PINUS CONTORTA
PF	16		VANDERWOLF'S PINE	PINUS FLEXILIS 'VANDERWOLF'S PYRAMID'
JS	17		MOONGLOW JUNIPER	JUNIPERUS SCOPULORUM 'MOONGLOW'
SUBTOTAL		54		
<b>DECIDUOUS &amp; EVERGREEN SHRUBS (TO INCLUDE PARKING LOT SCREENING &amp; FOUNDATION SHRUBS)</b>				
CCB	56		BLUE MIST CARYOPTERIS	CARYOPTERIS X CLANDONENSIS 'BLUE MIST'
CSK	178		ARCTIC FIRE DOGWOOD	CORNUS STOLONIFERA 'FARROW'
COR	58		BAILEYS REDOSIER DOGWOOD	CORNUS STOLONIFERA 'BAILEY'
WSW	46		SPILLED WINE WEIGELA	WEIGELA FLORIDA 'SPILLED WINE'
FOR	21		KUMSON FORSYTHIA	FORSYTHIA VIRIDISSIMA 'KUMSON'
HQR	74		RUBY SLIPPERS HYDRANGEA	HYDRANGEA QUERCIFOLIA 'RUBY SLIPPERS'
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GVB	135		GREEN VELVET BOXWOOD	BUXUS X 'GREEN VELVET'
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RKO	50		KNOCK OUT PINK ROSE	ROSA 'KNOCK OUT PINK ROSE'
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PBP	42		CREeping WESTERN SAND CHERRY	PRUNUS BESSEYI 'PAWNEE BUTTES'
SUBTOTAL		252		
<b>ORNAMENTAL GRASSES</b>				
BLU	38		BLUE AVENA GRASS	HELICTOTRICHON SEMPERVIRENS
MML	19		MORNING LIGHT MAIDEN GRASS	MISCANTHUS SINENSIS 'MORNING LIGHT'
SHE	59		SHENANDOAH SWITCHGRASS	PANICUM VIRGATUM 'SHENANDOAH'
FRG	53		FEATHER REED GRASS	CALAMAGROSTIS ACUTIFOLIA 'KARL FOERSTER'
BAM	129		BLONDE AMBITION GRASS	BOUTELOUA GRACILIS
PRD	52		PRAIRIE DROPSEED GRASS	SPOROBOLUS HETEROLEPSIS
SUBTOTAL		350		
<b>PERENNIALS</b>				
CGE	44		EARLY SUNRISE COREOPSIS	COREOPSIS GRANDIFLORA 'EARLY SUNRISE'
HOS	43		PATRIOT HOSTA	HOSTA X 'PATRIOT'
HPM	72		PARDON ME DAYLILY	HEMEROCALLIS 'PARDON ME'
RFG	35		BLACK EYED SUSAN	RUDBECKIA FULGIDA 'GOLDSTRUM'
SAJ	51		AUTUMN JOY SEDUM	SEDUM 'AUTUMN JOY'
SNM	39		MAY NIGHT SALVIA	SALVIA NEMEROSA 'MAY NIGHT'
SUBTOTAL		284		
<b>TURF GRASSES</b>				
SOD	36,604		ECOLOTURF™ SOD	VERSATILE BLUEGRASS/FESCUE SOD MIX (SEE NOTE BELOW)
SEED	134,984		TURF SEED MIX	"50/50 KENTUCKY BLUEGRASS/PERENNIAL RYEGRASS" TURF MIX; SEE NOTE BELOW)
SUBTOTAL:		171,588	SQ. FT.	
GROSS SITE AREA: 9.82 ACRES (427,759 SQ FT)				
REQUIRED OPEN SPACE: 64,164 SQ FT		PROVIDED OPEN SPACE: 124,126 SQ FT		
REQUIRED TREES: 128.3 TREES		PROVIDED TREES: 128 OPEN SPACE TREES		

REFERENCE SHEET L608 FOR COMPLETE LANDSCAPE PLANT SCHEDULE, NOTES, & TABULATIONS. REFERENCE SHEETS L609 - L611 FOR LANDSCAPE DETAILS.

NOTE: A FINAL LANDSCAPE AND IRRIGATION PLAN SHALL BE SUBMITTED AND REVIEWED CONCURRENT WITH BUILDING PERMIT SUBMITTAL AND APPROVED PRIOR TO ISSUANCE OF A BUILDING PERMIT.

**25' SETBACK ALONG THE R.O.W.**  
PER SECTION 6.2.2.g.iii OF THE EL PASO COUNTY DEVELOPMENT ORDINANCE: "USE OF BOX ALDER, SALIX, AND POPULUS LIMITED. BOX ELDER (ACER NEGUNDOA) AND ALL TREES OF THE SALIX AND POPULUS GENUS, EXCEPT ASPEN (POPULUS TREMULOIDES), SHALL NOT BE PLANTED WITHIN 25 FEET OF A RIGHT OF WAY."



ADDED NOTE:  
"MEDIAN IMPROVEMENTS;  
REFERENCE CIVIL PLANS"

MODIFIED LANDSCAPE TO MATCH  
ROUNDABOUT TREATMENTS  
(PER COMMENT)

ADDED NOTE:  
"MEDIAN IMPROVEMENTS;  
REFERENCE CIVIL PLANS"

MODIFIED PLANTINGS DUE TO  
NEW TRANSFORMER LOCATION

ADDITIONAL PLANTINGS FOR  
ROUNDABOUT ENHANCEMENTS

ADDITIONAL MATERIALS FOR  
ROUNDABOUT ENHANCEMENTS

**LABORATORY ROADWAY TYPICAL**

Provide landscape at the central island in lieu of the proposed stamped concrete/hardscape.

Consider native vegetation, landscape rock, Boulders as done on recent roundabouts. See the Rolling Thunder Way/McLaughlin Roundabout (see pic) as an example.

Per Wisconsin DOT (see excerpt) the center shall be raised a min. of 3.5 ft and max 6ft. (ground slope not to exceed 6:1). Please provide the proposed ground slope and landscaping at the central island. The intent as indicated in Wisconsin DOT 30.5.11 (see also (11-26-40) is to enhance driver recognition and limit the ability of the approaching driver to see through the other side.



COMMENT FROM "PCD ENGINEERING - AKERS CD'S"  
(REFERENCE PAGE #5)

